TRI·COUNTY ACCESS

MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Executive Report

January 2020

Illinois Tollway

U.S. Department of Transportation
Federal Highway Administration

Illinois Department of Transportation

Contents

Acronyms and Abbreviations ..... **ii**

1.0 Project Introduction **1**

2.0 Transportation Needs **3**
2.1 TCA Draft Purpose and Need 6

3.0 Alternatives Development **7**
3.1 Preliminary Corridor Improvement Concepts 9
3.1.1 Existing Roadway Expansion Corridors 10
3.1.2 New Roadway Corridors 10
3.2 Initial System Scenarios Development and Evaluation 12
3.2.1 Roadway-Only System Scenarios 13
3.2.2 Transit-Only System Scenario 13
3.3 Initial Range of Alternatives Identified for Consideration 15

4.0 Environmental Considerations **19**

5.0 Public Involvement and Agency Coordination **20**

6.0 TCA Project Suspension **22**

Appendices

A. Project History Fact Sheet
B. Stakeholder and Public Involvement Plan and Summary
C. Transportation System Performance Report
D. Draft Purpose and Need
E. Alternatives Development and Evaluation Report
F. Natural and Socioeconomic Resource Methodologies for the System Alternatives Evaluation Memorandums
G. Travel Demand Modeling Strategy and Methodology
H. Travel Demand Modeling and Travel Forecasting Technical Report
I. Socioeconomic Forecast and Allocation Methodology Memorandum
J. Affected Environment Memorandums
K. Initial System Scenarios: Development of Transit-Only Scenario Technical Memorandum

Acronyms and Abbreviations

ALM	added lane mile(s)
ART	Arterial Rapid Transit
BRAC	IL 53/120 Blue Ribbon Advisory Council
BRT	bus rapid transit
CAV	Connected and Autonomous Vehicle
CMAP	Chicago Metropolitan Area Planning
CMAP Region	CMAP seven-county region (Cook, DuPage, Kane, Kendall, Lake, McHenry and Will)
CPC	Route 120 Corridor Planning Council
CTA	Chicago Transit Authority
CTPP	Census Transportation Planning Package
CVMT	congested vehicle miles of travel
DOT	Department of Transportation
EIS	Environmental Impact Statement
FAP	Federal-Aid Primary
FHWA	Federal Highway Administration
GIS	geographic information system
HAA	Highway Authority Agreement
HBO	Home-Based Other
HBW	Home-Based Work
HSPRA	Human Skeletal Remains Preservation Act
I	Interstate
IL	Illinois Route
IDOT	Illinois Department of Transportation
INAI	Illinois Natural Areas Inventory
ISS	Initial System Scenarios
LCTIP	Lake County Transportation Improvement Project
LOS	Level of Service
MOU	memorandum of understanding
mph	mile(s) per hour
N/A	not applicable
NCS	North Central Service
NEPA	National Environmental Policy Act of 1969
NHB	Non-Home Based

NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
O-D	origin and destination
ON TO 2050	*ON TO 2050 Comprehensive Regional Plan*
PIM	public information meeting
PTI	planning time index
ROM	rough order-of-magnitude
ROW	right-of-way
RSP	Regionally Significant Project
RTA	Regional Transportation Authority
RTP	Regional Transportation Plan
SAV	shared autonomous vehicles
SIA	Statewide Implementation Agreement
SIP	Stakeholder Involvement Plan
SMC	Stormwater Management Commission
SPG	Stakeholder Participation Group
SRA	Strategic Regional Arterial
STOPS	Simplified Trips on Project Software
TBD	To be determined
TCA	Tri-County Access
TDM	transportation demand management
T&E	threatened and endangered
TIP	Transportation Improvement Program
TNC	transportation network company
TSM	transportation system management
TTI	travel time index
TSPR	Draft Transportation System Performance Report
VHD	vehicle hours of delay
VHT	vehicle hours of travel
VMT	vehicle miles of travel

Disclaimer

Due to the Tri-County Access Project suspension in July 2019, Project studies were halted early in the Environmental Impact Statement (EIS) process. As such, all materials included in this TCA Executive Report should be considered draft. This TCA Executive Report serves as documentation of the planning studies completed prior to suspension of the TCA EIS and is intended to serve as a reference for the area's future transportation improvement initiatives.

This Tri-County Access Project Executive Report serves as documentation and summation of the planning studies completed prior to suspension of the TCA Environmental Impact Statement in July of 2019. It will address the Project process developed and methodology used; the transportation system needs assessment; goals and objectives and Draft Purpose and Need; the Initial Range of Alternatives to be Considered; the environmental characteristics identified along proposed improvement corridors; and how the public and agencies were engaged throughout the process and will conclude with the Project's next steps.

1.0 Tri-County Access Project Overview

Begun in 2017, the Tri-County Access (TCA) Project, led by the Illinois Tollway in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), was intended to evaluate the existing and future transportation needs of the TCA Project study area and explored potential solutions to alleviate and address those issues. The TCA Project was developed under the National Environmental Policy Act of 1969 and Section 109(h) of Title 23 of the United States Code, which requires transportation officials to consider social, economic, and natural environmental factors when making decisions about transportation projects and engineering requirements, as well as provide opportunities for public review and comment throughout the project process.

The TCA Project study area boundary covered approximately 1,000 square miles, as shown in ***Figure 1***. Located between Wisconsin and the City of Chicago, this area is in a strategic geographic position as a gateway to the Chicago metropolitan area as well as greater Illinois. The TCA Project study area included three primary counties in northeastern Illinois—Lake County, eastern McHenry County, and northern Cook County—which were the focus for analyzing the area's travel patterns, transportation needs, and potential solutions. Portions of adjoining southern Kenosha County in Wisconsin and northeastern DuPage County were also included in the TCA Project study area to capture their effect on the area's current and future travel patterns.

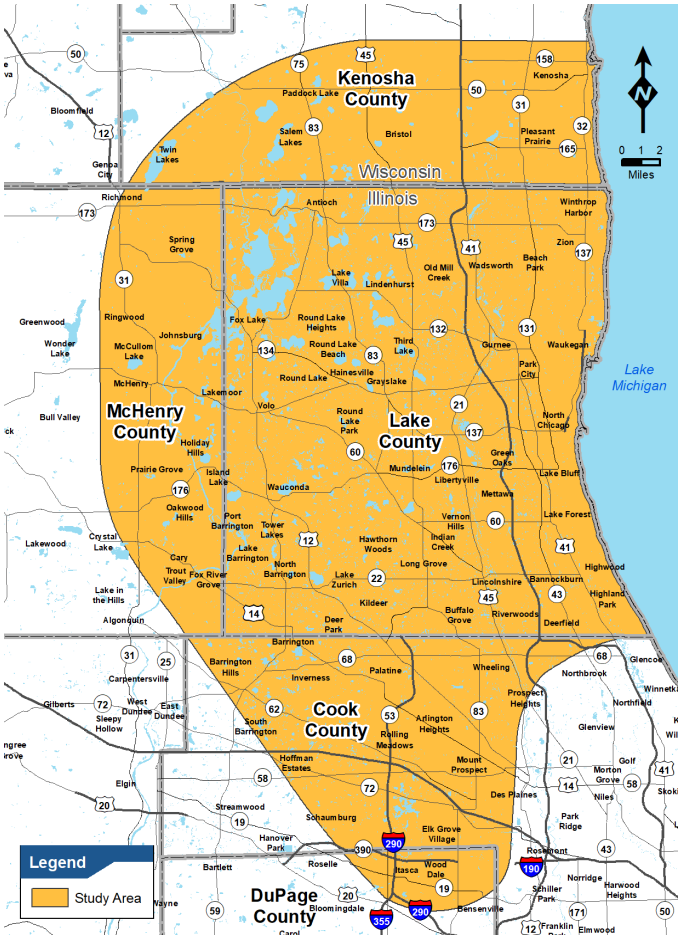
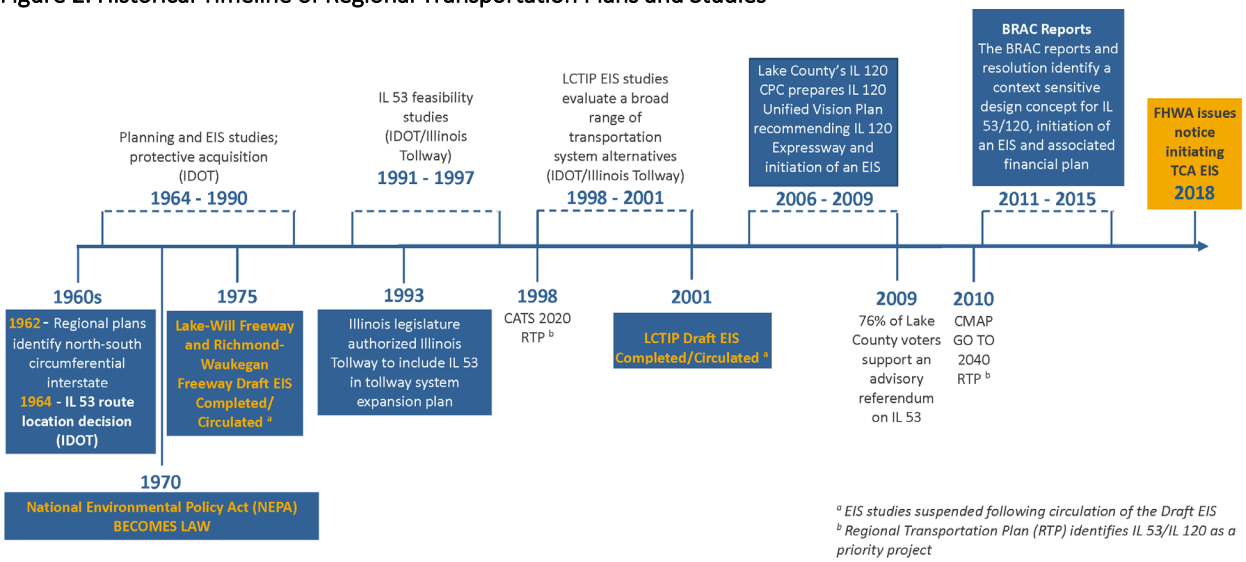


Figure 1. Tri-County Access Project Study Area

The need for an improved transportation system in Lake County and its surrounding area has been the focus of years of planning and study. As early as the 1960s, regional plans identified the need for improved transportation linkages between Lake and McHenry counties and the rest of northeastern Illinois. Federal, state, and local agencies have been involved in various planning studies related to a potential extension of Illinois Route (IL) 53 to provide that linkage. ***Figure 2*** shows a historical timeline of these transportation plans and studies.

*A complete historical timeline of prior studies can be found in **Appendix A** of this report.*

Figure 2. Historical Timeline of Regional Transportation Plans and Studies

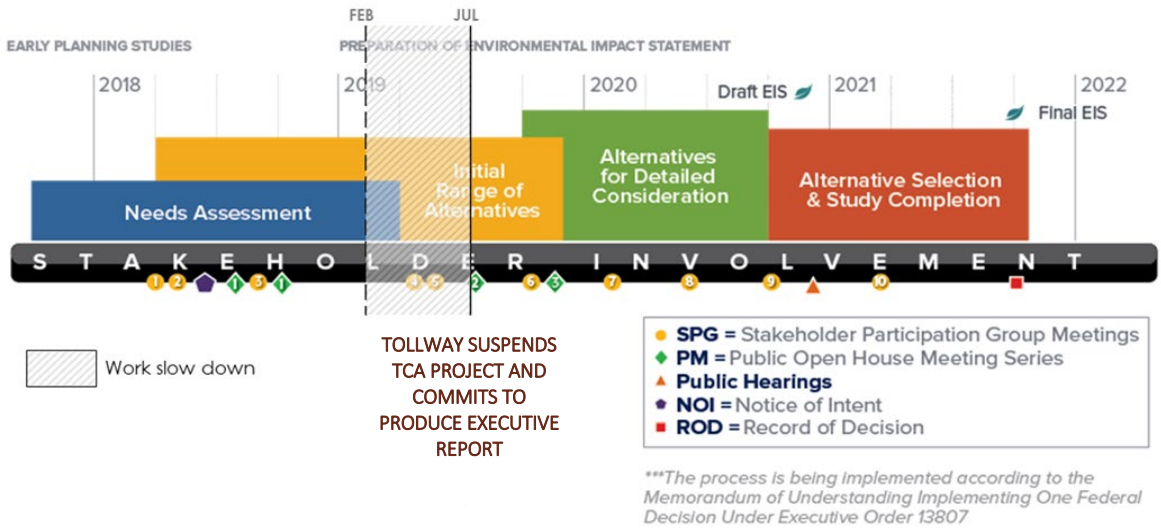


The TCA Project was initiated with the objective of delivering an Environmental Impact Statement (EIS) documenting a recommended and federally approved transportation solution to the traffic congestion in Lake, northern Cook, and eastern McHenry counties. Following mobilization of the TCA's early planning studies, a comprehensive TCA Stakeholder Involvement Plan (SIP) was prepared, describing the overall study process and schedule, and establishing the framework for stakeholder and public involvement. FHWA subsequently issued a Notice of Intent to prepare an EIS on July 16, 2018. See ***Figure 3***.

*A full copy of the TCA SIP can be found in **Appendix B** of this Report.*

In consultation with FHWA and IDOT, in July 2019, the Illinois Tollway announced that—based on a careful evaluation of Illinois Tollway resources and feedback from local stakeholders—the agency had decided to suspend the TCA Project, with a commitment to share findings of TCA studies completed to date with local and regional planning agencies, including county departments of transportation, IDOT, transit agencies, forest preserve districts and stormwater management agencies. This TCA Executive Report serves as documentation of the planning studies completed prior to suspension of the TCA EIS and is intended to serve as a reference for the area's future transportation improvement initiatives.

Figure 3. Tri-County Access Project Schedule



1.1 TCA Project Planning and Methodology

The TCA Project's development process (***Figure 3***) was structured and advanced to meet state and federal requirements meant to integrate environmental values and public interaction into transportation improvements. These requirements include the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act, and provisions governing the Efficient Environmental Reviews for Project Decision-Making, as specified in U.S. Code Title 23, Section 139.

Since the mid-1990s, Illinois has had a Statewide Implementation Agreement (SIA) that provides for concurrent NEPA and Section 404 of the Clean Water Act (Section 404) processes on federally aided highway projects in Illinois. The purpose of the SIA is to verify appropriate consideration of the concerns of the U.S. Army Corps of Engineers, the U.S. Coast Guard, the U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service as early as is practical in highway project development. The intent is also to involve these agencies at key decision points (concurrence points) early in project development to minimize the potential for unforeseen issues arising during the NEPA or Section 404 permitting processes. This is known in Illinois as the "NEPA/404 Merger" process. Four concurrence points were planned for the TCA Project:

1) Purpose and Need
2) Initial Range of Alternatives to be Considered
3) Alternatives to be Carried Forward
4) Preferred Alternative

Recognizing the scale and complexity of the Project study area, procedures for advancing planning and environmental studies were established, providing an early opportunity for project lead and sponsor agencies (FHWA, Illinois Tollway and IDOT) to confirm compliance with NEPA requirements.

1.1.1 Planning Framework

The TCA planning framework established the basic planning assumptions and guiding principles that were used to develop and evaluate alternative transportation solutions. The planning framework addressed the following questions:

- What planned regional transportation improvements and land-use assumptions should be considered?
- What are the transportation problems to be addressed by the Project?
- What principles will be used to develop effective transportation solutions for identified problems?
- What approach and procedures will be used to evaluate alternative transportation solutions?

The first two questions were thoroughly covered through the completed analysis and findings of the TCA *Transportation System Performance Report* (TSPR) and the TCA *Draft Purpose and Need*. Guiding principles, along with a structured approach for the Alternatives Development and Evaluation Process, were established and employed to initiate development of the Initial Range of Alternatives to be Considered.

Full copies of the TSPR and Draft Purpose and Need are included as Appendix C and Appendix D, respectively, of this Report.

1.1.2 Study Methodology

A series of planning and environmental methodology memorandums and reports were prepared to establish methods for advancing the overall TCA Project process.

- The *Alternatives Development and Evaluation Report* includes the initial planning assumptions, guiding principles, and processes used to develop and evaluate the alternative transportation solutions within the TCA Project study area.

  *Full report included as **Appendix E**.*

- The *Natural and Socioeconomic Resource Methodologies for the System Alternatives Evaluation Memorandum* includes a definition of the resource analysis area to be studied and the proposed methodology for identifying and comparing the system alternatives for 14 resource topics. The Memorandum describes the data to be collected, tools, criteria, and the review and decision process for the evaluation. In addition to the methodologies for evaluating potential resource impacts, consideration was also given to determining the range of enhancement and mitigation needs associated with the system alternatives.

  *Full memorandum included as **Appendix F**.*

- The *Travel Demand Modeling Strategy and Methodology* documents considerations and strategies for developing the sub-area focus travel demand model used to evaluate multimodal travel demand characteristics and to support transportation performance studies for the TCA Project. The proposed approach takes advantage of the existing capabilities of the Chicago Metropolitan Area Planning (CMAP) travel model (i.e., the regional travel model) to develop a sub-area focus model for the Project. The intent of the sub-area focus model is to increase understanding of travel patterns and origin-destination trip exchanges within the Project study area. The CMAP travel model process, procedures and data were used to refine the TCA Project travel demand model to provide model outputs to match the Project requirements.

  *Full memorandum included as **Appendix G**. For further information refer to the **Travel Demand Modeling and Travel Forecasting Technical Report** included as **Appendix H**.*

- The *Socioeconomic Forecast and Allocation Memorandum* describes the methodology for preparing the socioeconomic forecasts and land use assumptions that supported travel demand modeling for the TCA Project. The memorandum discusses the development of the socioeconomic forecasts for the 2050 No-Build Alternative, the Initial Range of Alternatives to be Considered and the Alternatives to be Carried Forward (No-Build Alternative and Build Alternatives). The methodology relies on the use of UrbanSim, which is a cloud-based socioeconomic forecasting model at the Census block level, and a regional real estate forecast modeling process by land use developed for the TCA Project. The Memorandum provides a description of the models, the data inputs necessary to run the models, the key drivers of the models and the model output data.

  *Full memorandum included as **Appendix I**.*

1.1.1 Regional Planning Input and Assumptions

The TCA Project considered base year (2015) and forecast year (2050) conditions to determine transportation problems. The performance analysis for 2015 assumed existing transportation system conditions, and the 2050 analysis assumed expected improvements to the future transportation system would be in place by 2050, as identified in the Chicago Metropolitan Agency for Planning (CMAP) *ON TO 2050 Comprehensive Regional Plan* (*ON TO 2050 Plan*; CMAP 2018). The level of improvements identified for the 2050 forecasted year represented the No-Build Alternative for the TCA Project.

2.0 Transportation Needs

Defining the TCA Project study area's transportation problems, both today and in the forecast year 2050 planning horizon, required an examination of all surface transportation modes through technical analysis of travel performance, complemented by stakeholder input on the topic of transportation problems. The TCA Project was suspended before the Draft Purpose and Need was released for stakeholder and public review, however this early input helped validate that analytical findings were consistent with the viewpoint of existing system users. In combination, technical analyses findings and stakeholder perspectives of travel-related problems provided the foundation for the Draft Purpose and Need for improvements in the TCA Project study area.

A comprehensive evaluation of current and future transportation conditions within the TCA Project limits was performed to understand travel patterns and performance characteristics under current (2015 base year) and future (2050 No-Build Alternative) conditions. The No-Build Alternative was established with input from local and regional transportation agencies (e.g. FHWA, IDOT, Tollway, County DOT's and Transit Service Providers) and with consideration of ongoing project development. In addition to the base year (2015) transportation system, the No-Build Alternative includes Regionally Significant Projects (as identified by CMAP's *ON TO 2050 Plan*) and projects included in CMAP's Transportation Improvement Program (TIP) across all modes of transportation. This process identified and evaluated travel patterns and trip characteristics, as well as the location and extent of the major travel-related problems. These evaluation findings (when combined with travel-related problems identified by stakeholders) provide an understanding of why and where the problems exist.

For a roadway system to function most effectively, longer-distance trips are best accommodated on primary roads for more efficient travel with fewer interruptions and higher speeds. This is particularly relevant in the TCA Project study area, where Home-Based Work (HBW) trips average 15.7 miles in the base year (2015), almost twice the average 8-mile distance across the CMAP Region. However, the spacing between Strategic Regional Arterials (SRAs) in the TCA Project study area, designed to accommodate long-distance travel and connections to major transit and highway facilities, requires drivers to travel farther to connect to these higher-type facilities within the TCA Project study area.

In the TCA Project study area, a lack of efficient connections to regional destinations, high levels of congestion, and unreliable travel are problems affecting the transportation system today. These issues are expected to worsen by 2050. The area's land development patterns, the characteristics of the base year (2015) transportation system, and travel behaviors of residents and other system users are influential factors. The TCA Purpose and Need provides the framework for developing transportation solutions that improve transportation conditions for travel to and within the TCA Project study area.

Steady population and employment growth are anticipated into 2050. Population is expected to continue spreading into areas where there is less density, particularly the northern and western portions of the TCA Project study area. Employment is also growing but is primarily concentrated in southeastern Lake County and in Cook and DuPage counties. Large employment centers located in this area serve as regional destinations, along with specialized attractions such as shopping or entertainment within the TCA Project study area or adjacent to it (for example, in downtown Chicago).

Transit service (Metra) is oriented towards downtown Chicago and bus service (Pace) is located where there is denser development in northern Cook County and eastern Lake County. Transit usage has been hindered by low-density residential development, gaps in the transit network (such as absence of first- and last-mile service), poor connectivity between stations and destinations, and the availability of free and accessible parking in the TCA Project study area.

Longer trips should generally use higher capacity, limited access roadways for more efficient travel with fewer interruptions and higher speeds. However, these primary roadways have an unbalanced

orientation of north-south and east-west roadways in the TCA Project study area that creates inefficient travel. Also, the spacing between SRAs, designed to accommodate long-distance travel and connections to major transit and highway facilities, requires drivers to travel farther to connect to higher type facilities. Freight truck traffic is also a factor in the efficiency of the roadway network, in that truck traffic to industrial and commercial land uses spread throughout the TCA Project study area requires longer trips on the local roadway network (minor arterials and collectors) which are slower, have more points of conflict, and are thereby less efficient.

Inefficiencies and lack of capacity in the roadway network result in widespread congestion during peak travel periods. The primary roadways (freeways/tollways/expressways and principal arterials) account for the greatest amount of congested travel during peak travel periods, especially in southeastern and central Lake County and northern Cook County. A total of 180 miles of roadways in the TCA Project study area are severely or extremely congested during peak travel periods. By 2050, severe and extreme roadway congestion is projected to encompass much of the TCA Project study area, increasing to 365 miles of roadways by 2050.

The congested roadways cause motorists to also experience unreliable travel times. Within the TCA Project study area, travel during peak periods is unreliable and is expected to worsen in future years due to growth in travel demand. Reliability of travel is important for commuters and for businesses. Travel time can vary up to 70 percent depending on the roadway conditions.

Public and stakeholder input was an essential part of the process for developing the Draft Purpose and Need for the TCA Project. FHWA, IDOT, and the Illinois Tollway were committed to identifying a transportation solution that met the Draft Purpose and Need of the TCA Project, while also minimizing environmental impacts.

Considering both the technical analyses and the stakeholder input, the primary findings of the TCA transportation system performance analysis include the following:

- Roadways in the TCA Project study area currently experience severe congestion in peak periods, imposing significant delays and impairing mobility for northeastern Illinois.
- The existing problems are expected to be exacerbated by the projected travel demand and anticipated socioeconomic growth, which results in a 28 percent increase in vehicle trips and a doubling of congested vehicle miles traveled during peak hours by the forecast year (2050).
- Reduced travel efficiency on the roadway system is affected by several factors, including out-of-direction travel caused by lack of connections to the interstate system, periodic delays caused by at-grade railroad crossings, and lack of options for major travel movements.
- Transit only serves two percent of the area's trips and is hindered by low-density development, gaps in the network such as last-mile service, required transfers between buses and trains, and the prevalence of free parking at places of employment within the TCA Project study area.

Given the extent and magnitude of congestion on TCA Project area roadways, it is unlikely that one single transportation solution will address all problems. Transportation solutions must focus on strategic investments to support multiple modes of travel and reduce congestion, improve reliability of travel, improve travel options connecting regional destinations, and improve local and regional travel efficiency. Any solutions must also be fiscally responsible.

*Full copy of the TSPR is provided as **Appendix C** of this Report.*

2.1 TCA Draft Purpose and Need

Establishing a Purpose and Need statement is a fundamental element of the NEPA process and typically the first chapter of a NEPA document, in the case of the TCA Project, an Environmental Impact

Statement. The Purpose and Need establishes the overarching purpose of a project or study, identifies the problems to be addressed, defines performance objectives that alternatives should achieve and is a starting point for development and evaluation of alternatives.

The TCA Draft Purpose and Need was developed through research and information gathered through initial planning studies, as well as from input received from the Stakeholder Participation Group and public meetings. The Project's Purpose and Need served as the guide for the Project's Alternatives Development and Evaluation Process for addressing the transportation issues in the TCA Project study area.

It should be noted that the Draft Purpose and Need was not yet finalized when the Project was suspended. The Draft Purpose and Need was ready for comment but had not yet been issued for review by stakeholders and the general public.

TCA Project Needs:

1. Inadequate travel options to reach regional destinations
2. Widespread congestion and unreliable travel

The **Purpose** of the TCA Project is to propose efficient travel options that meet current and future transportation needs by improving access to regional destinations and by reducing congestion. The TCA Project area is home to many sensitive environmental and community resources, including state and federally listed species; wetlands; surface waters; historical and archaeological resources; and community resources. The residents and other stakeholders in the area value a strong environmental policy and care deeply about environmental preservation. As such, the TCA Project recognizes the area's unique environmental resources and is committed to developing transportation solutions that minimize environmental impacts.

*Full copy of the Draft Purpose and Need is provided as **Appendix D** of this Report.*

3.0 Alternatives Development and Evaluation

The TCA Alternatives Development and Evaluation Process (***Figure 4***) was structured to encourage consideration of a full range of multimodal transportation solutions and assessed the relative ability of alternatives to address the TCA Draft Purpose and Need, along with their overall environmental/socioeconomic impacts, transportation performance and design, financial and implementation criteria. Alternatives were to be developed and evaluated through four separate but interrelated steps that aligned with the NEPA/Section 404 merger process concurrence points.

*See **Appendix E. Alternatives Development and Evaluation Report** for full details on the Alternatives Development and Evaluation Process.*

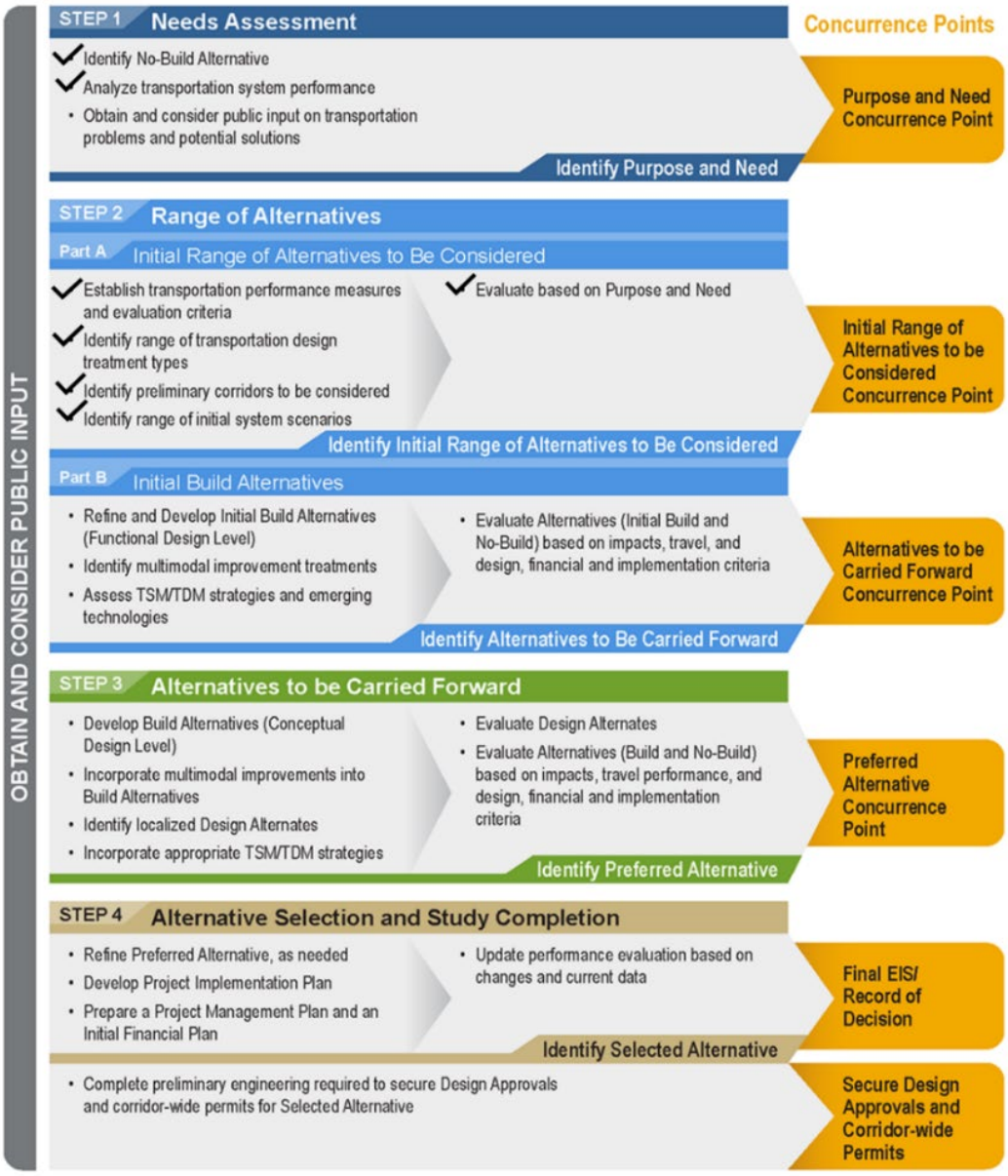
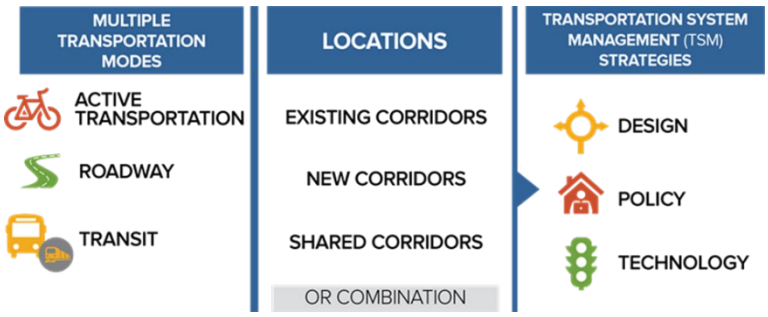


Figure 4. Alternatives Development and Evaluation Process

3.1 Types of Improvements to be Considered

Improvement Components for the TCA Project served as the building blocks for multi-modal alternatives and aligned with emerging transportation technologies and mobility trends. These building blocks were identified through technical findings of the transportation system performance analyses, evaluation of prior studies including transit agency plans and consideration of stakeholder input.

Figure 5. Improvement Components



The following types and locations of improvements were identified for consideration:

- **Roadway improvements**, including widening of existing roadways, improvements to interchanges and major intersections, grade-separating existing railroad crossings, and constructing new roadways
- **Transit improvements** such as expanding existing transit services, consideration of station and platform improvements, operational and schedule improvements, and various ridership enhancement strategies; also considered were constructing new transit facilities along selected corridors, including consideration of heavy rail, light rail, electric, rubber tire, and other technologies
- **Active Transportation** options that included expanding pedestrian and bicycle facilities, with a focus on improving transportation connections and community connectivity
- **Transportation Planning Scenarios**, which would employ Transportation Systems Management (TSM) strategies that mitigate transportation impediments and operating barriers by managing the physical transportation system through low-cost capital investments (such as information management systems/intelligent transportation systems); or Transportation Demand Management (TDM) strategies that alter travel characteristics by influencing intensity, timing, and distribution of travel by mode (such as ridesharing services)

Current and emerging technologies (such as connected and autonomous vehicles and shared mobility technologies) and their potential to provide a transportation solution to congestion concerns in the study area were considered during the TCA Alternatives Development and Evaluation Process. While on their own emerging technologies would likely not have addressed the TCA Purpose and Need, they do offer the ability to optimize operations across a right-sized transportation network. The integration of emerging technologies and mobility trends to help solve area transportation needs were advocated for and endorsed by Project stakeholders.

3.2 Preliminary Corridor Improvement Concepts

Preliminary Corridor Improvement Concepts (Improvement Concepts) are the general types of improvements identified for consideration along existing and new transportation. The Improvement Concepts were identified based on public input, findings of early travel demand modeling efforts, and early input from municipal officials along the improvement corridors. These corridors, when combined into complete networks of roadway improvements, with complementary multi-modal improvement features, would form the initial build alternatives to be evaluated in the EIS.

As a first step, sketch-level improvement cross-section treatments and representative layouts were developed for 15 roadway corridors (12 existing and 3 new) identified for improvement. The cross-section treatments represent the type of improvements identified along each corridor—for example, adding lanes to an existing two-lane or four-lane arterial roadway or building a new access-controlled roadway. The number of travel lanes was determined based on the Draft design year (2050) traffic forecasts. The representative layouts are the siting for the improvements—for example, widening an existing roadway on both sides to minimize impacts to adjoining neighborhoods or routing a new roadway to avoid or minimize impacts to adjoining environmentally sensitive areas. An initial evaluation of potential environmental impacts was performed along each corridor, along with a programmatic-level cost analysis.

These 15 preliminary corridors were identified through an iterative process of travel demand modeling. In subsequent phases of the alternatives development process these corridors were packaged into a network of roadway improvements to address the Draft Purpose and Need.

3.2.1 Existing Roadway Expansion Corridors

Twelve existing roadway corridors were identified for expansion – that is, widening and where appropriate new grade separations to accommodate current and projected travel demand; see ***Figure 6***. These corridors were identified based on early modeling efforts and public input.

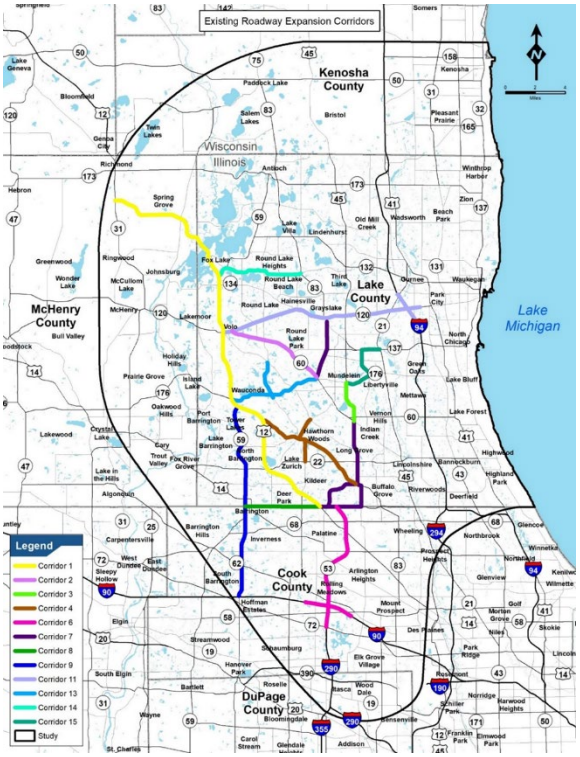


Figure 6. Existing Roadway Expansion Corridors Considered for Improvement

Each of the identified corridors represents a link on the existing roadway system where expansion improvements are needed to accommodate regional travel patterns and traffic forecasts.

Five representative cross-section treatments were developed for existing roadway corridor improvements. At this initial stage, four illustrative treatments were identified for arterial roadway widening improvements – arterials widened to 4 travel lanes (2 in each direction) or to 6 travel lanes (3 in each direction), with complementary active transportation features such as sidewalks and bikeways. These treatments represent widened arterial roadways in both an urban setting (for example, in community downtown areas) and in a suburban or rural setting. A fifth illustrative treatment was identified for widening along the existing IL 53 Expressway (8-Lane Access-Controlled Facility). The representative cross-section includes new and existing frontage roads, the construction footprint needed to accommodate future transit opportunities and representative active transportation accommodations. Bus only lanes have been illustrated on the inside shoulder. Further study of transit needs would have informed a multimodal solution along the existing IL 53 Expressway; see ***Figure 7***.

Representative Cross-Section Treatments – Existing Corridors	
4-Lane Closed Drainage Arterial • Two lanes in each direction • Mountable median • Curb and gutter • Sidewalk • Multi-use path	
4-Lane Open Drainage Arterial • Two lanes in each direction • Wide grass median • Ditch • Sidewalk	
6-Lane Closed Drainage Arterial • Three lanes in each direction • Curbed median • Curb and gutter • Sidewalk • Multi-use path	
6-Lane Open Drainage Arterial • Three lanes in each direction • Wide grass median • Ditch • Sidewalk	
8-Lane Access-Controlled Facility • Four lanes in each direction • Barrier median • Frontage roads for local access • Access-controlled • Interchanges • Bus Only lane on inside shoulder	

Figure 7. Existing Corridors Representative Cross-Section Treatments

Sensitive environmental and socioeconomic resources were also considered in the development of the preliminary corridor layouts. Locations of these resources were identified through a review of published data augmented by windshield surveys. Along the existing road expansion corridors, alignments were shifted where possible to avoid these resources.

Refer to ***Appendix J. Affected Environment Memorandums.***

Fact Sheets for each of the 12 existing roadway expansion corridors considered for improvement are included in ***Appendix E. Alternatives Development and Evaluation Report; Attachment II: Preliminary***

Corridor Improvement Concept Fact Sheets. Each corridor Fact Sheet describes the design characteristics, key engineering design components, potential impacts, and costs associated with the corridor. The programmatic-level cost estimates included with each Fact Sheet enables potential implementing agencies to better understand the level of effort and investment needed for future improvements in the corridor. The range of potential cost for Existing Roadway Corridors ranges from a low of $70 million to a high of $1.3 billion. It is important to note, these totals were identified for individual corridors. The Initial Build Alternative needed to address the Project's Purpose and Need would have been a combination of the individual corridor improvements. Additionally, the Fact Sheets note which elements of the corridor may require refinement (for example, based on Final Year 2050 traffic forecasts) or may need more detailed consideration should work in a given corridor be undertaken in the future. For example, the Fact Sheets may note where additional care and investigation should focus on avoidance of sensitive community or environmental resources.

3.2.2 New Roadway Corridors

Three new roadway corridor links were identified for consideration—that is, construction of new roadways to accommodate current and projected regional travel patterns and demand; see Figure 11. When developing these corridor links, a variety of representative facility types, layouts and location options were considered. Three new access-controlled corridors (Corridor 16 – IL 53 Extension, Corridor 20 – IL 120 Expressway to I-94, and Corridor 21 – IL 120 Expressway to US 12) were identified as representative facility types and layouts for the new roadway corridors. Two corridor facility type and location options were identified along the IL 53 Extension (Corridors 17 and 18). A series of corridor location options was also identified for the IL 120 Expressway to US 12 (Corridors 22, 23, 24, and 25). These corridors were identified based on early modeling efforts, public input and consideration of prior studies.

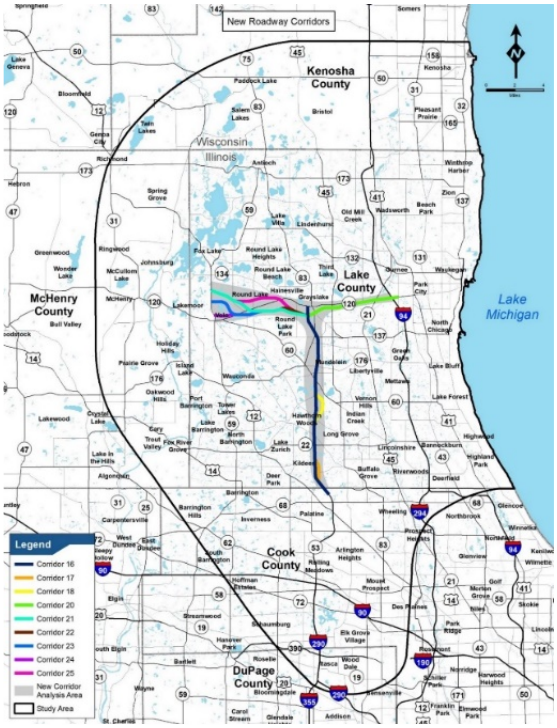


Figure 8. New Roadway Corridors Considered for Improvement

Each identified new roadway corridor represents a new link on the roadway system needed to accommodate regional travel patterns and traffic forecasts. These individual new links, when combined into a complete network of roadway improvements with complementary multi-modal improvement features, would form an Initial Build Alternative.

At this initial stage, three illustrative treatments were identified for new corridors – a 4-lane access-controlled facility, a 6-lane access-controlled facility and a 6-lane new arterial/parkway facility. The access-controlled facilities provided accommodations for future transit opportunities. Representative bus only lanes have been illustrated on the inside shoulder and further study of transit needs would have informed a multimodal solution along these new corridors. While active transportation features are illustrated alongside the new arterial/parkway facility, active transportation connections would also be accommodated along new access-controlled facilities, where appropriate. See ***Figure 9***.

Sensitive environmental and socioeconomic resources were also considered in the development of the preliminary corridor layouts. Locations of these resources were identified through a review of published data augmented by windshield surveys. Along the new corridors, alignments were shifted where possible to avoid these resources.

*Refer to **Appendix J. Affected Environment Memorandums.***

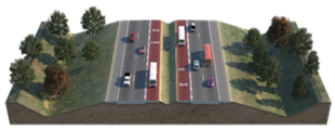
Representative Cross-Section Treatments – New Corridors	
4-Lane Access-Controlled Facility • Two lanes in each direction • Wide grass median • Ditch • Access-controlled • Interchanges • Bus Only lane on inside shoulder	
6-Lane Access-Controlled Facility • Three lanes in each direction • Wide grass median • Ditch • Access-controlled • Interchanges • Bus Only lane on inside shoulder	
6-Lane New Arterial Facility • Four lanes in each direction • Barrier median • Limited to full access • Intersections • Multi-use path	

Figure 9. New Corridors Representative Cross-Section Treatments

Fact Sheets for each of the three new roadway corridors considered are included as ***Appendix E. Alternatives Development and Evaluation Report; Attachment II: Preliminary Corridor Improvement Concept Fact Sheets***. Each corridor Fact Sheet describes the design characteristics, key engineering design components, potential impacts, and costs associated with the corridor. The programmatic-level cost estimate included with each Fact Sheet enables potential implementing agencies to better understand the level of effort and investment needed for future improvements in the corridor. The range of potential cost for New Roadway Corridors ranges from a low of $440 million to a high of $1.9 billion. It is important to note, these totals were identified for individual corridors. The Initial Build Alternative needed to address the Project's Purpose and Need would have been a combination of the individual corridor improvements. Additionally, the Fact Sheets note which elements of the corridor may need more detailed consideration should work in a given corridor be undertaken in the future. For example, the Fact Sheets may note where additional care and investigation should focus on avoidance of sensitive community or environmental resources.

3.3 System Scenario Development and Evaluation

Initial System Scenarios (ISS) tested the ability of combinations of corridor improvements to address the Project's Draft Purpose and Need. They were developed using transportation performance modeling efforts, input from stakeholders and an evaluation of prior studies. The TCA Project Team developed a broad range of ISS to test the effectiveness of system strategies, with a focus on identifying the sets of corridor improvements which, when combined, would address the Project Draft Purpose and Need.

The improvement features considered for developing the ISS included the following:

- Locations of existing or new corridors proposed for improvement
- Improvement termini
- Roadway improvement type, including proposed facility type (arterial or freeway)
- Proposed number of through traffic lanes
- Proposed post speed
- Interchange locations and types (full versus partial)
- Tolling options
- Potential for multimodal improvement opportunities

ISS were evaluated using the TCA travel demand model. Each proposed ISS was coded onto the 2050 No-Build Baseline network, and the travel performance was compared against the 2050 No-Build Alternative. A comparative assessment of system-wide travel performance among the ISS was used to assess ISS effectiveness in addressing the Draft Purpose and Need. At this early stage, ISS were developed independently for each mode (transit-only and roadway-only) to understand utilization and performance of transit-only and roadway-only scenarios.

*Refer to **Appendix H: Travel Demand Modeling and Travel Forecasting Technical Report** for further information on the TCA travel demand model.*

3.3.1 Transit-Only System Scenario

A Transit-Only Scenario was developed to attempt to optimize transit ridership and address the TCA Draft Purpose and Need. The transit-only ISS represented a 'best-case scenario' to assess and evaluate the extent of potential transit ridership and mode shift from automobile. The Transit-Only Scenario evaluation used regional transit mode share benchmarks and sketch-level modeling using the STOPS model to evaluate the viability of the Transit-Only Scenario. The Transit-Only scenario was developed in coordination with Pace, Metra, and RTA.

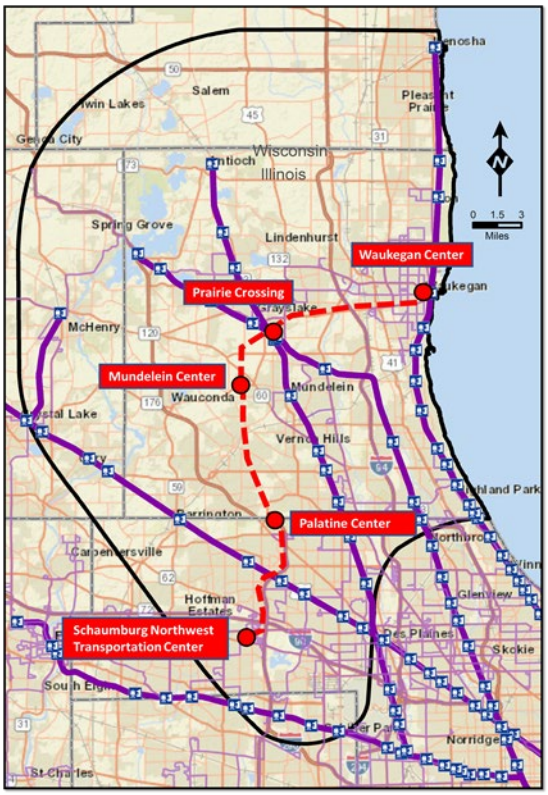


Figure 10. Transit-Only Option Route Plan

The Transit-Only Scenario was a mode agnostic option constructed along the protected right-of-way for the IL 53 Extension and existing IL 53 corridor connecting major residential centers in Waukegan and Schaumburg. It provided direct access and connections to existing transit opportunities and avoided duplication of service. The Transit-Only Scenario included approximately 33 route miles of new service and had service oriented in the north-south direction from Waukegan to Schaumburg, with dedicated stops along the route at Prairie Crossing, Mundelein, and Palatine. In addition, it provided transfers at Waukegan via an UP-N line to Kenosha and at Prairie Crossing via a MD-N line to Fox Lake and North-Central service to Antioch.

The proposed Transit-Only Scenario concept represents an optimistic and aggressive scenario for a stand-alone transit improvement for the TCA Project. However, based on land use characteristics, demographics, and consumer behavior, the findings from both the STOPS model and the benchmarking approach do not demonstrate significant transit ridership demand in the TCA Project study area; which is similar to findings from other studies undertaken by RTA and other transit agencies in the region. In addition, the analysis of costs and service effectiveness for a Transit-Only Scenario suggests that the capital and operational costs of a transit-only service outweigh the utilization in the TCA Project study area.

*See **Appendix K. Initial System Scenarios: Development of Transit-Only Scenario Technical Memorandum.***

3.3.2 Roadway-Only System Scenarios

Eleven Roadway Initial System Scenarios (ISS) were developed and evaluated to address the TCA Draft Purpose and Need, representing a broad range of roadway improvement networks grouped under the following three system strategies:

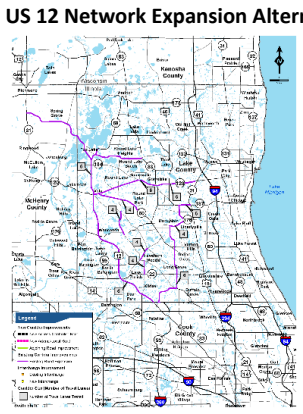
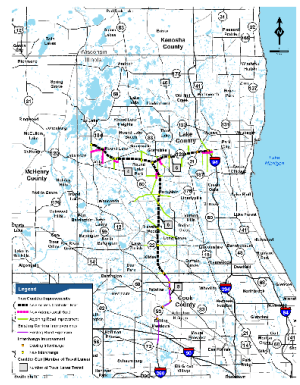
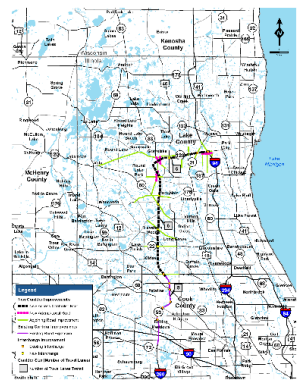
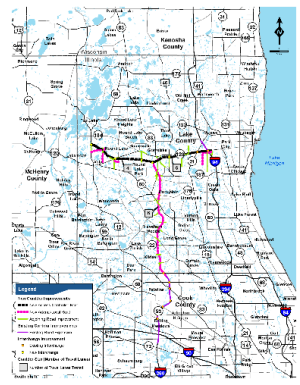
- **New Access-Controlled Facilities** - proposed a broad range of options to extend IL 53 from Lake Cook Road to a new IL 120 Expressway (an access-controlled facility parallel to existing IL 120)
  - ISS 100: IL 53 extension and IL 120 Expressway
  - ISS 120: IL 53 extension to Wisconsin with IL 120 Expressway and existing IL 53 Expressway widening
  - ISS 130: IL 53 extension, IL 120 Expressway and existing IL 53 Expressway widening
  - ISS 140: IL 53 extension with toll free IL 120 Expressway
- **Combination Strategy** - proposed a hybrid solution including both new access-controlled facilities and existing arterial improvements
  - ISS 110: Partial IL 53 extension and IL 120 Expressway
  - ISS 200: Existing IL 83/IL 120 Expressway
- **Existing Arterial Improvements** - aimed to address TCA Project needs by expanding existing major arterials and enhancing local network connections
  - ISS 300: IL 59 Network
  - ISS 410: US 12/US 14 Network
  - ISS 500: IL 83 Network
  - ISS 600: US 45 Network
  - ISS 700: Four Lane Arterials Network

The roadway ISS development and evaluation process utilized a range of systemwide travel performance measures, and an assessment of travel demand shifts between roadways and capacity utilization in the TCA Project study area. Key systemwide travel performance measures utilized to compare the ISS to the No-Build Alternative were:

- *Vehicle hours of delay (VHD)*, representing cumulative traveler delays caused by congestion
- *Congested vehicle miles of travel*, representing the amount of travel occurring in congested conditions
- *Study area travel time savings*, representing travel time savings for select trip pairs within the TCA Project study area
- *Regional travel time savings*, representing travel time savings for select trip pairs between the TCA Project study area and adjoining regional locations
- *Reduced traffic on major roads,* representing traffic reductions on major corridors which carry heavy daily commute traffic

The target of this preliminary evaluation was to identify combinations of improvements that could efficiently address the TCA Draft Purpose and Need. Qualified scenarios or combinations were to be carried forward for further development as the Initial Range of Alternatives to be Considered; see ***Table 1***.

Table 1. Initial Range of Alternatives Development

Initial System Scenario (ISS) Evaluated	Comparative Performance Highlights [a]	ISS Roadway Improvement Components to be Included with Initial Range of Alternatives	Initial Range of Alternatives (IRA)
ISS 300	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 996 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.	Based on the updated No-Build Projects, additional add lanes improvements on IL 59 north of Rollins Road, IL 173, IL 60 east of IL 83, and IL 83 north of IL 120 are not supported Expand IL 120 to 6 lanes from US 12 to I-94 Expand IL 59 to 6 lanes from I-90 to Rollins Road Expand IL 60 to 6 lanes from IL 120 to IL 83 Expand IL 176 from US 12 to IL 83 Expand US 12 to 6 lanes from IL 31 to Lake Cook Road Expand Old McHenry Road to 4-6 lanes from US 12 to IL 83	**IL 59 Network Expansion Alternative**
ISS 500	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 680 vehicle hours of delay in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.		
ISS 700	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 670 vehicle hours of in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.		
ISS 410	*Supports project need to reduce congestion on primary roads*. For each added lane mile, reduces 532 vehicle hours of delay in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.	Based on the updated No-Build Projects, additional add lanes improvements on IL 83 north of IL 120 are not supported Expand IL 120 to 6 lanes from US 12 to I-94. Expand IL 176 from US 12 to IL 83. Expand US 12 to 6 lanes from IL 31 to Lake Cook Road Expand US 45 to 6 lanes from IL 83 to IL 132 Expand Rollins Road, IL 176 and IL 132 as parallel routes to IL 120 Expand Butterfield Road as parallel route to US 45	**US 12 Network Expansion Alternative** 
ISS 600	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 892 vehicle hours of delay in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.		
ISS 100	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1174 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.	Expand existing IL 53 Expressway to 8 lanes (Higgins Road to Lake Cook Road) Provide new IL 120 Expressway (US 12 to I-94) and new IL 53 Extension (Lake Cook Road to IL 120) Improve existing roads at planned interchange locations along the IL 53 Extension and IL 120 Expressway	**IL 53/120 Extension (New Corridors) Alternative** 
ISS 130	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1218 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		
ISS 100	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1174 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.	Expand existing IL 53 Expressway to 8 lanes (Higgins Road to Lake Cook Road) Provide new IL 120 Expressway (IL 53 Extension to I-94) and new IL 53 Extension (Lake Cook Road to IL 120) Expand existing IL 120 to 6 lanes from US 12 to new IL 53 Extension/IL 120 Expressway junction Improve existing roads at planned interchange locations along the IL 53 Extension and IL 120 Expressway	**IL 53 Extension/IL 120 Expressway to I-94 Alternative** 
ISS 110	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 737 congested vehicle miles in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		
ISS 100	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1174 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.	Provide new IL 120 Expressway (US 12 to I-94) Improve existing roads at planned interchange locations along the IL 120 Expressway Expand existing IL 53 Expressway to 8 lanes from Higgins Road to Lake Cook Road Provide a new arterial along the preserved IL 53 Extension corridor from (Lake Cook Road to IL 120)	**IL 120 Expressway (New Corridor) Alternative** 
ISS 140	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 955 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		
ISS 200	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 776 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		

[a] Range of identified moderate benefits = 20% to 33%
Range of identified significant benefits = 45% to 85%
Notable travel time saving = Travel time savings of more than 10% to identified regional destinations

3.4 Initial Range of Alternatives Identified for Consideration

This first step of the TCA Alternatives Development and Evaluation Process was structured to encourage consideration of a full range of multimodal transportation solutions which would address the TCA Draft Purpose and Need, and assess their overall environmental/socioeconomic impacts, transportation performance, and financial considerations, as compared to the No-Build Alternative. Based on analysis findings described in the preceding sections, the following Initial Range of Alternatives to be Considered were identified for consideration.

3.4.1 No-Build Alternative

The No-Build Alternative included currently planned and programmed transportation improvements in place by 2050. The No-Build Alternative would have been carried forward throughout the NEPA process to serve as the baseline for comparing the performance of the build alternatives to the effect of taking no action and ultimately could have been selected as the Preferred Alternative.

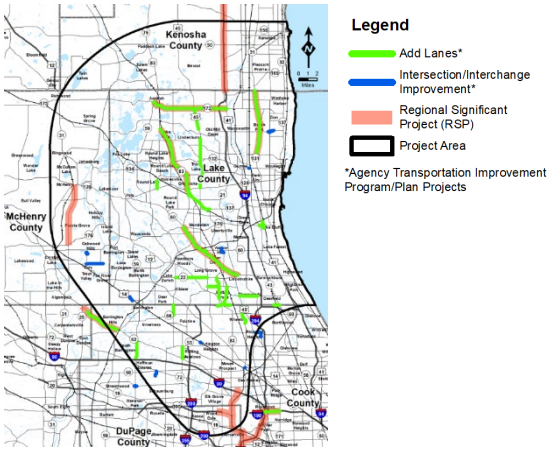


Figure 11. TCA No-Build Alternative

3.4.2 Initial Build Alternatives

Five overall Initial Build Alternatives were identified for consideration, each representing a network of corridor improvements across the area's transportation system:

- **IL 59 Network Expansion Alternative (Existing Roadway Improvements)**, consisted of arterial widening improvements and selected new grade separations along portions of IL 59, US 12, IL 120, IL 176, IL 60, IL 83, existing IL 53, Lake Cook Road, Old McHenry Road and Arlington Heights Road.

Figure 12. IL 59 Network Expansion Alternative by Number of Lanes

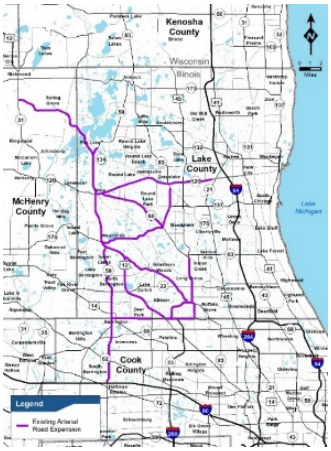


Figure 13. IL 59 Network Expansion Alternative by Facility Type

- **US 12 Network Expansion Alternative (Existing Roadway Improvements)**, consisted of arterial widening improvements and selected new grade separations along portions of US 12, IL 60, US 45, existing IL 53, IL 83, IL 176, IL 137, Quentin Road, Midlothian Road, Rollins Road and Butterfield Road.

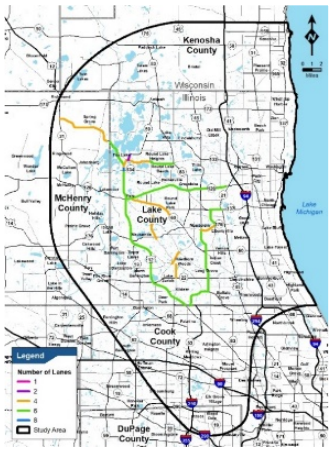


Figure 14. US 12 Network Expansion Alternative by Number

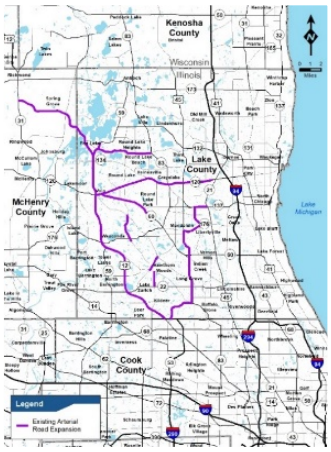


Figure 15. US 12 Network Expansion

- **IL 53/120 Extension (New Corridors) with Existing IL 53 Expressway Improvements**, consisted of a new IL 53 Extension from Lake Cook Road to IL 120 along with a new IL 120 Expressway from I-94 to US 12; these improvements supported widening of the existing IL 53 Expressway from Lake Cook Road to Higgins Road, with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new or improved system interchanges).

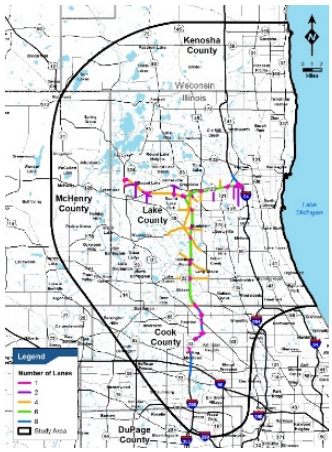


Figure 16. IL 53/120 Extension (New Corridors) Alternative by Number of Lanes

Figure 17. IL 53/120 Extension (New Corridors) Alternative by Facility Type

- **IL 53 Extension/IL 120 Expressway to I-94 Alternative (New Corridors and Existing Roadway Improvements)**, consisted of a new IL 53 Extension from Lake Cook Road to IL 120, a new partial IL 120 Expressway connecting to I-94, arterial widening improvements along IL 120 between IL 83 and US 12; these improvements supported widening of the existing IL 53 Expressway from Lake Cook Road to Higgins Road, with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new or improved system interchanges).

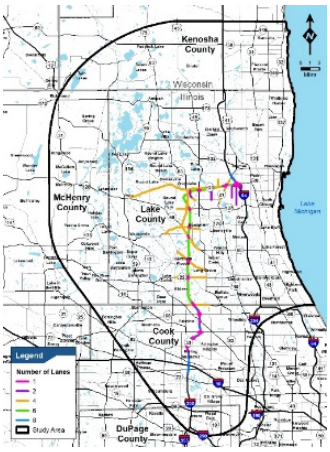


Figure 18. IL 53 Extension/IL 120 Expressway to I-94 Alternative by Number of Lanes

Figure 19. IL 53 Extension/IL 120 Expressway to I-94 Alternative by Facility Type

- **IL 120 Expressway (New Corridor) Alternative**, consisted of a new arterial roadway along the preserved IL 53 Extension corridor from Lake Cook Road to IL 120 along with a new IL 120 Expressway from I-94 to US 12; these improvements support widening of the existing IL 53 Expressway from Lake Cook Road to Higgins Road, with access to adjoining arterial roadways (via new signalized intersections) and adjoining expressways (via new or improved system interchanges).

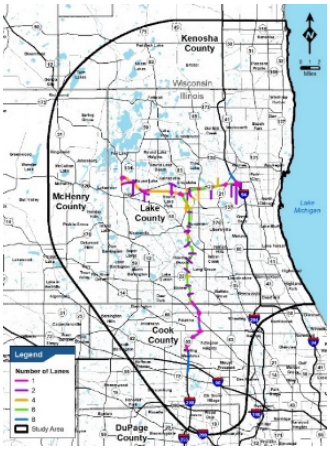


Figure 20. IL 120 Expressway (New Corridor) Alternative by Number of Lanes

Figure 21. IL 120 Expressway (New Corridor) Alternative by Facility Type

Preliminary Corridor Improvement Concepts were developed for each of the 12 existing and 3 new roadway corridors included in the five Initial Build Alternatives to be Considered, representing the type and general layout of corridor improvements. When combined with the planned multi-modal improvement features, these concepts would have served as the starting point for developing a range of multi-modal Initial Build Alternatives to be Considered.

Note, the Initial Range of Alternatives (No-Build and Initial Build Alternatives) would have been advanced for further development and evaluation as part of the TCA Environmental Impact Statement, as described by the Alternatives Development and Evaluation Process, had the Project not been suspended in July 2019.

4.0 Environmental Considerations

To support a broad alternatives analysis in such an expansive study area, the environmental approach required one that allowed detail to be added as the alternatives were refined and narrowed. In consultation with resource and regulatory agencies, it was determined that published data would be appropriate in evaluating the Initial Range of Alternatives and that field surveys to obtain more accurate, up-to-date, and detailed data were appropriate in evaluating the subsequent Alternatives to be Carried Forward stage. This phased approach for data collection was discussed with resource and regulatory agencies at coordination meetings, where they agreed that the level of consideration given in assessing social, economic, and environmental resources was appropriate and commensurate with the level of engineering in each phase of the Alternatives Development and Evaluation Process.

A series of memorandums were to be developed to document the evaluation of the environmental, social and economic effects during both alternatives development phases and to support the development of the Environmental Impact Statement (EIS). The memorandums were to be included in the appendices of the EIS and summarized in the body of the document.

The ***Affected Environment Memorandums*** developed for the Initial Range of Alternatives phase identified the environmental setting for each of the corridors that were developed to eventually be combined into the Initial Range of Alternatives. While the Environmental Consequences Memorandums were not yet developed for the Initial Range of Alternatives, a limited analysis was conducted to determine potential impacts that each of the initial 15 corridor's design footprint could have to sensitive resources.

Full ***Affected Environment Memorandum*** *included as* ***Appendix J****.*

The resources considered at this level of development focused on those that would require demonstration of efforts to avoid and minimize impacts (for example, forest preserves, wetlands, and historical resources) and those that could disrupt communities or access to services (for example, displacements and community or government facilities).

A summary of the resources present in the corridors and potential impacts to them is included in ***Appendix E. Alternatives Development and Evaluation Report****.*

The potential impacts identified for individual corridors are summarized and included in ***Table 2***. It is important to note these impacts were identified for individual corridors. The Initial Build Alternatives needed to address the Project's Purpose and Need would have been a combination of the individual corridor improvements.

As part of a separate initiative and contract, the Illinois Tollway engaged the Illinois Natural History Survey (INHS) to survey for biological resources along several routes in the TCA Project study area. INHS was conducting their work from public rights of way. The Illinois Tollway plans to share the results of the studies with partner agencies under a separate cover.

Table 2. Potential Impacts by Corridor

		US 12 (C-1)	IL 60 (C-2)	US 45 (C-3)	Old McHenry, Midlothian & Quentin Rds (C-4)	Existing IL 53 (C-6)	Lake Cook Rd, Arlington Heights Rd, IL 53, & IL 83 (C-7)	Lake Cook Rd (C-8)	IL 59 & Barrington Rd (C-9)	IL 120 (C-11)	IL 176 & Fairfield Rd (C-13)	IL 59 & Rollins Rd (C-14)	IL 176, Butterfield Rd, & IL 137 (C-15)	New Alignment: Lake Cook Rd to IL 120 (C-16)	New Alignment: N of Lake Cook Rd to Cuba Rd (C-17)	New Alignment: S of Gilmer Rd to Midlothian Rd (C-18)	New Alignment: W of IL 83 to E of I-94 (C-20)	New Alignment: US 12 to W of IL 83 (C-21)
Biologically Significant Stream	Sites	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Community Facility - Building	Count	0	0	3	1	0	0	3	4	0	0	1	3	0	0	0	0	0
Community Facility - Parcel	Count	10	5	8	12	4	9	9	13	13	8	6	10	8	2	2	5	1
Critical Habitat	Sites	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Displacement/Building - Commercial[a]	Count	43	1	25	3	4	7	16	26	15	18	39	17	5	0	0	1	2
Displacement/Building - Residential	Count	78	2	54	44	28	53	22	69	31	55	51	76	28	7	15	8	30
Displacement/Building - Residential Multi-unit	Count	0	0	10	0	0	0	0	2	3	3	0	1	0	0	0	0	2
Floodplain - Longitudinal	Sites	24	5	1	0	10	8	0	7	0	3	6	0	4	0	0	0	8
Floodplain - Transverse	Sites	17	5	1	7	3	5	1	9	8	10	3	3	12	1	3	3	12
Forested Area – 10 to 19 Acres	Sites	9	2	1	3	0	7	1	2	1	7	1	0	13	4	5	5	2
Forested Area – More than 20 Acres	Sites	19	2	0	4	1	9	2	7	4	7	2	3	8	1	1	6	5
Historic Site Building	Count	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Historic Site Parcel	Count	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HSRPA Archaeological Site	Sites	1	0	0	1	0	0	0	2	3	0	0	0	4	0	0	3	2
Noise Receptor	Count	1,595	224	614	651	825	894	656	941	987	417	1,074	635	1,432	52	140	503	336
Open Water	Sites	26	5	3	12	12	17	3	11	7	6	6	3	21	4	4	4	12
National Parks Service National Natural Landmark	Sites	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Natural Area (INAI)	Sites	3	0	0	1	0	1	0	2	1	2	0	0	1	0	0	1	0
Nature Preserve	Sites	0	0	0	2	1	0	0	1	0	1	0	0	0	0	0	0	0
Park or Preserve (local, county, state)	Sites	5	4	1	6	2	16	2	6	8	2	2	5	9	2	1	3	2
USFS National Wildlife Refuge (NWR)	Sites	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Special Waste Priority High Risk Site HAA	Sites	4	0	2	1	2	3	2	1	0	1	0	3	2	0	0	0	0
Special Waste Priority High Risk Site Non-HAA	Sites	1	1	0	0	1	2	0	1	2	0	0	0	1	0	0	1	0
Stream	Sites	8	2	1	3	7	7	1	5	3		4	1	7	1	2	3	3
Threatened and Endangered Species Records	Records	3	0	0	0	0	1	2	3	8	11	1	2	3	0	1	9	1
Wetland	Acres	37.7	2.9	0.0	10.4	2.4	17.0	1.5	12.3	8.9	4.9	4.3	3.5	70.7	14.9	11.4	27.0	43.8

[a]Some commercial building displacements are multi-unit.

5.0 Public Involvement and Agency Coordination

The TCA Project emphasized public and agency engagement as one of the essential means through which an acceptable solution could be identified. Several public engagement tools were utilized throughout the TCA Project. These included Stakeholder Participation Group meetings, public meetings, a project website, newsletters, resource agency group meetings and small group (one-on-one) meetings.

To assist in the development of the environmental and engineering studies for the TCA Project, a Stakeholder Participation Group (SPG) was established. The purpose of the SPG was to provide input throughout the Project process, including development of the Draft Purpose and Need, as well as development and evaluation of alternatives. It was important that the SPG be representative of all the varied interests that existed within the greater TCA Project study area.

The SPG consisted of a balanced representation of community leaders from the TCA Project study area, as well as stakeholders representing organizations with expertise or technical interest in environmental, land use, transportation, and economic issues. Over 150 people were invited throughout the Project study area to join the SPG. Community and stakeholder groups invited to serve as members of the SPG can be found in the Project's *Stakeholder Involvement Plan*. Three SPG meetings were held, with participants providing input on the performance of the transportation system, the potential Purpose and Need, the range of alternatives to be considered and suitable criteria for evaluating alternatives.

The first public meetings for the TCA Project were held on July 25, 2018, in Lakemoor and on September 6, 2018, in Kildeer. The Lakemore and Kildeer meetings were publicized through letters, emailed invitations, on the Tollway's Facebook page, the Project's and various municipality websites, and via press releases. Over 120 letters were mailed to local, federal and state elected officials. An additional 553 meeting announcements were sent to the stakeholder participation group, local agencies and interest groups and those who had asked to be on the TCA Project mailing list. In addition, targeting all zip codes in the project area, meeting announcements were sent to over 450,000 Tollway customers. Approximately 280 people attended the Lakemoor meeting, while 420 attended the meeting in Kildeer. All comments received during the public comment period are part of the official public information meeting (PIM) record and are considered part of the Project scoping process. A total of 620 comments were received at the PIMs and during the public comment period, with 546 unique commenters (74 submitted multiple comments) and 272 requested responses.

A series of meetings were also held with resource and regulatory agencies. Many of these meetings were held as part of the NEPA/404 Merger Process, and touched on Project methodology, the initial range of alternatives, the appropriate level of detail needed to evaluate the initial range of alternatives, the Draft Purpose and Need and the stakeholder engagement process.

In addition to their participating in the SPG, separate small group (one-on-one) meetings were held with municipal governments, county agencies, regional planning agencies, and transit service providers to discuss the status of the project and to allow them to provide feedback in a small group setting that allowed the discussion to focus on the individual concerns of their communities and organizations.

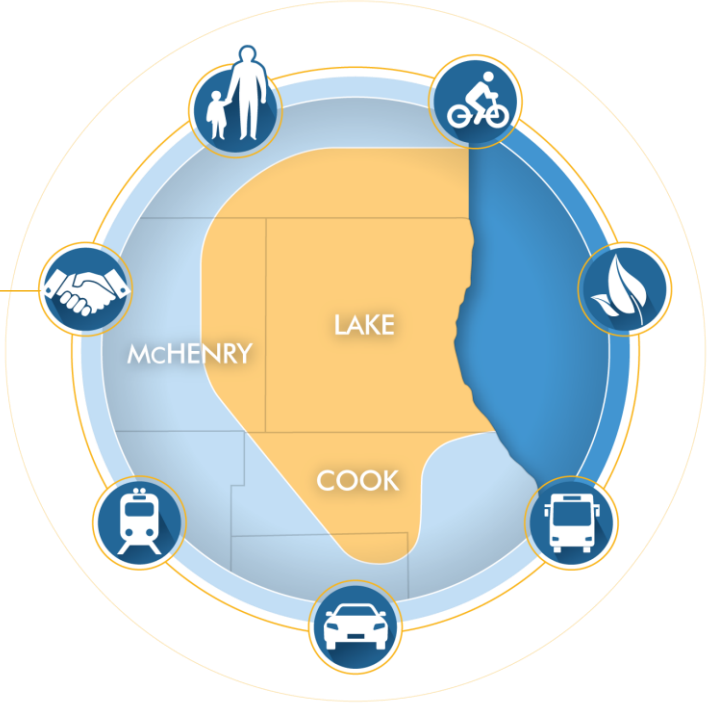
See Appendix B. Stakeholder and Public Involvement Plan and Summary for full details on the TCA Project Public Involvement and Agency Coordination efforts.

6.0 TCA Project Next Steps

With the suspension of the TCA Project in July 2019, this Executive Report was developed to honor Illinois Tollway's commitment to share findings of TCA studies completed to date with local and regional planning agencies, including County departments of transportation, IDOT, transit agencies, forest preserve districts, and stormwater management agencies.

Appendix A

Project History Fact Sheet



TRI·COUNTY ACCESS | LAKE McHENRY COOK

PROJECT HISTORY

1960s 1980s 1990s 2000s 2010s

1962

Regional plans first identify north-south circumferential interstate.

1964

IL 53 route location decision (IDOT).

1963-1976

As early as the 1960s, regional plans have singled out the need for an improved transportation link between Lake County and the rest of northeastern Illinois. IDOT recorded centerlines for the proposed Illinois Route 53/120 North Extension in Lake and McHenry Counties starting in 1963 and then began acquiring properties based on the recorded centerlines.

The enactment of NEPA in 1969 required the IL Route 53 proposal to be subject to further environmental analysis and documentation.

1964-1990

Two environmental studies initiated/suspended; protective acquisition advanced (IDOT).

1989-1997

FAP 432: Corridor Feasibility Study (IDOT)

This feasibility study evaluated eastern and western alignment alternatives alongside the recorded alignment corridor evaluated in a Draft Environmental Impact Statement (DEIS) prepared in the 1970s. The alternatives resulted in significantly greater impacts than the recorded alignment due to area development patterns.

In 1993, the Village of Long Grove proposed alternatives to be compared to FAP 342 (redesignated from FAP 432) and US Route 12. IDOT completed the requested evaluation in 1994 and found that the alternatives were not reasonable due to design viability concerns.

IDOT then completed the US 12 Freeway Proposal (Lake-Will Expressway North Study), a study of US Route 12 as an alternative to FAP 342. As compared to FAP 342, the US Route 12 Alternative was found to provide less transportation benefits, fewer potential impacts to natural resources, higher potential socio-economic impacts, and higher costs.

1991-1997

IL 53 Extension EIS initiated/suspended (IDOT/ISTHA).

1993

Illinois Legislature authorized ISTHA to include IL 53 in tollway system expansion plan.

1998-2001

Lake County Transportation Improvement Project (LCTIP) EIS

IDOT and the Illinois Tollway formed the Lake County Transportation Improvement Project (LCTIP). LCTIP advanced development of an Environmental Impact Statement (EIS) which identified three finalist alternatives: No-Action Alternative (Baseline), IL Route 53 Freeway/Tollway Alternative and IL 83/US 45 with US Route 12 Alternative.

The Draft EIS was circulated for comment in 2001, but the project did not advance due to conflicting priorities.

2000

CATS 2020 RTP - Regional Long Range Plan Identifies Illinois Route 53 as a priority project.

2006-2009

Lake County establishes IL 120 CPC which developed the IL 120 Unified Vision Plan.

2009

76% of Lake County voters support an advisory referendum on IL 53.

Central Lake Thruway: Unified Vision

Representatives from 11 municipalities formed the Corridor Planning Council (CPC) to establish a framework for a future Phase I study along the IL Route 120 corridor. An improved IL Route 120 would enhance east-west transportation across Lake County and expand economic development opportunities. The study concluded with identification of a locally preferred plan, and a recommendation to advance a Phase I study.

2010

CMAP's GO TO 2040 RTP - Regional Long Range Plan Identifies IL 53 as a priority project to address region-wide congestion.

2011-2015

Blue Ribbon Advisory Council (BRAC) Resolution and Summary Report – 2012

The Blue Ribbon Advisory Council (BRAC) was established by the Illinois Tollway in fall 2011. The Council consisted of public officials and representatives from business, labor, planning, and environmental groups, and was tasked with developing a regional consensus on whether the Tollway should move forward and providing guidance to the design features and financing of a potential IL 53/120 project.

Consensus: Council agreed a new Route 53/120 project should be advanced to enhance mobility, relieve congestion, promote orderly development and ensure environmental sensitivity.

Next steps: Initiate corridor plan, determine project financing, develop detailed design concept, secure local, state, and federal authorizations, with the involvement of local communities of Lake County.

In 2015, the Illinois Route 53/120 Corridor Land Use Strategy was advanced by CMAP to complement development of the Illinois Route 53/120 corridor project. It was meant to guide decision making and discussions with stakeholders and agencies while developing "the most balanced, context-sensitive, and asset-oriented corridor". At the Land Use Committee's final meeting, the Strategy was adopted with 15 votes in support and 5 votes against.

After the BRAC study was completed, a Finance Committee led by the Illinois Tollway was formed to provide an analysis and funding recommendations. The recommendations from the March 2015 Feasibility Analysis Report Illinois Route 53/120 included innovative local contributions, tolling, and federal/state funding contributions. At the Finance Committee's final meeting, the Final Report and Recommendations were approved with 22 votes in support, 1 vote against, 1 recuse and 2 abstentions.

The October 2015 Draft Feasibility Analysis Report evaluated project costs and viability of BRAC Resolution and Summary Report recommendations. It identified differences in BRAC recommendations and Tollway standards as potential risk areas.

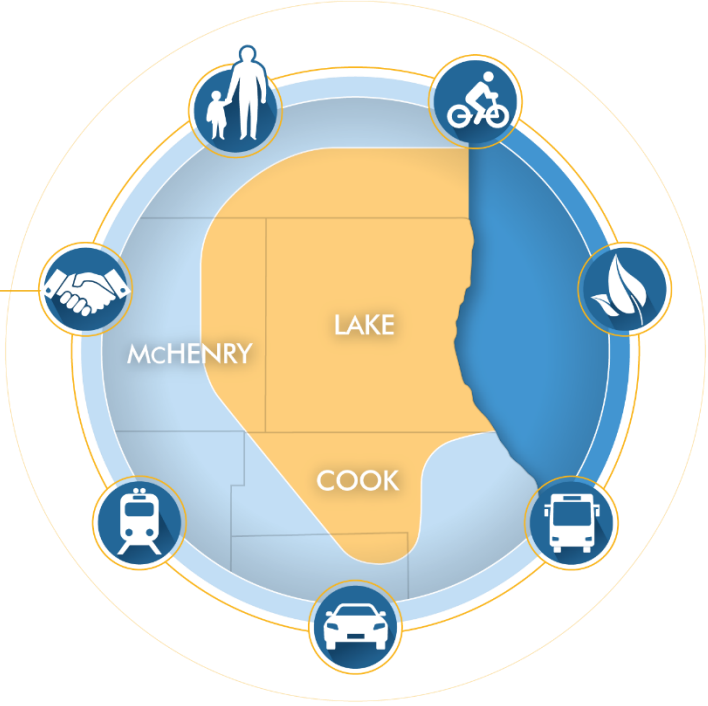
2017 - 2019

Tri-County Access (TCA) Project

The TCA Project, led by the Illinois Tollway in cooperation with FHWA and IDOT, was initiated with the objective of delivering an EIS documenting a recommended and federally approved transportation solution to the traffic congestion in Lake, northern Cook, and eastern McHenry counties. In July 2019, the agencies decided to suspend the TCA Project.

Appendix B

Stakeholder and Public Involvement Plan and Summary



TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Stakeholder and Public Involvement Plan and Summary

Illinois Tollway

U.S. Department of Transportation
Federal Highway Administration

Illinois Department of Transportation

Contents

A.1 Stakeholder Involvement Plan for Agency and Public Involvement

A.2 Stakeholder Participation Group Meeting #1 Summary

A.3 Stakeholder Participation Group Meeting #2 Summary

A.4 Stakeholder Participation Group Meeting #3 Summary

A.5 Public Information Meeting #1 Summary

A.6 Agency Coordination Meetings Summary

A.7 Small Group Meetings Summary

A.8 Speakers Bureau

Attachment 1:

Stakeholder Involvement Plan for Agency and Public Involvement

TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW
LAKE
McHENRY
COOK

Stakeholder Involvement Plan for Agency and Public Involvement

Prepared for:
Illinois State Toll Highway Authority and Federal Highway Administration

December 12, 2018

Table of Contents

Table of Contents ..... **iii**

List of Acronyms ..... **v**

1.0 Introduction **1-1**
1.1 Project Background and History 1-1
1.2 Legal Requirements 1-2
1.2.1 23 USC Section 139 – Efficient Environmental Reviews for Project Decision-making 1-2
1.2.2 Executive Order 13807, One Federal Decision 1-2
1.2.3 National Environmental Policy Act 1-3

2.0 Goals and Objectives **2-1**
2.1 Stakeholder Involvement Plan Goals 2-1
2.2 Stakeholder Identification Procedures 2-1
2.3 Stakeholder/Public Involvement 2-2
2.4 Stakeholder Involvement Ground Rules 2-2

3.0 Lead, Cooperating, and Participating Agencies **3-1**
3.1 Lead Agencies 3-1
3.2 Cooperating and Participating Agencies 3-1
3.2.1 Cooperating Agencies 3-1
3.2.2 Participating Agencies 3-2
3.2.3 Agencies Declining Invitation to Participate 3-2

4.0 Section 106 Consulting Parties **4-1**

5.0 Project Working Groups **5-1**
5.1 Project Study Team 5-1
5.2 Stakeholder Participation Group 5-1
5.2.1 Stakeholder Participation Group Ground Rules 5-2
5.3 Implementation 5-3
5.4 Dispute Resolution 5-3
5.4.1 Informal Dispute Resolution Process 5-3
5.4.2 Formal Dispute Resolution Process 5-3

6.0 Schedule of Project Development Activities/Stakeholder Involvement **6-1**
6.1 Project Initiation/Scoping/Purpose and Need 6-1
6.2 Initial Range of Alternatives Studies 6-3
6.3 Alternatives for Detailed Consideration Studies 6-5
6.4 Preferred Alternative Identification, Draft EIS Review and Study Completion 6-5

7.0 Stakeholder Involvement Plan Activities **7-1**
7.1 Public Outreach Meetings 7-1
7.1.1 Small Group Meetings 7-1
7.1.2 Speakers' Bureau 7-1
7.1.3 Agency Coordination 7-1
7.1.4 Elected Officials Briefings 7-1
7.1.5 Public Meeting and Hearing 7-1
7.2 Other Mechanisms for Public Involvement 7-2
7.2.1 Mailing List 7-2

7.2.2 Public Website 7-2
7.2.3 Factsheets 7-2
7.2.4 Media Outreach 7-3
7.2.5 Public Response and Communication 7-3

8.0 Plan Availability and Monitoring/Updates 8-1
8.1 Availability of the Stakeholder Involvement Plan 8-1
8.2 Modification of the Stakeholder Involvement Plan 8-1

List of Figures

Figure 1-1. Project Study Area 1-1
Figure 1-2. Historical Perspective 1-1
Figure 6-1. Project Development Process 6-1
Figure 6-2. Public and Agency Involvement Opportunities 6-2
Figure 6-3. Public and Agency Involvement Opportunities 6-4
Figure 6-4. Public and Agency Involvement Opportunities 6-4
Figure 6-5. Public and Agency Involvement Opportunities 6-5
Figure 6-6. Public and Agency Involvement Opportunities 6-6

Appendices

A Tables
Table 3-1. Lead Agencies
Table 3-2. Cooperating Agencies
Table 3-3. Participating Agencies
Table 3-4. Agencies Declining Cooperating or Participating Agency Status
Table 4-1. Section 106 Consulting Parties
Table 4-2. Agencies and Organizations Declining Section 106 Consulting Party Status
Table 5-1. Project Study Team Members
Table 5-2. Stakeholder Participation Group
Table 5-3. Stakeholder Participation Activities
Table 5-4. Study Milestones and Stakeholder Participation Activities
Table 8-1. Stakeholder Involvement Plan Revision History

B Glossary

List of Acronyms

APE	Area of Potential Effects
BRAC	Blue Ribbon Advisory Council (BRAC)
CATS	Chicago Area Transportation Study
CMAP	Chicago Metropolitan Agency for Planning
CP	Concurrence Point
EIS	Environmental Impact Statement
EO	Executive Order
FHWA	Federal Highway Administration
IDOT	Illinois Department of Transportation
IL	Illinois Route
LCTIP	Lake County Transportation Improvement Project
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
OFD	One Federal Decision
PIM	Public Information Meeting
Project	IL 53/IL 120 Environmental Impact Study/Tri-County Access Project
PST	Project Study Team
P&N	Purpose and Need
RTP	Regional Transportation Plan
SHPO	State Historic Preservation Officer
SIA	Statewide Implementation Agreement
SPG	Stakeholder Participation Group
SIP	Stakeholder Involvement Plan
Tollway, the	Illinois Tollway/Illinois State Toll Highway Authority
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code

1.0 Introduction

1.1 Project Background and History

Since the early 1960s, regional plans have singled out the need for an improved transportation link between Lake County and the northeastern Illinois region. Federal, state, and local agencies have been involved in various planning studies related to the potential Illinois Route 53 (IL 53) Extension. Over the last several decades, growth in population, increasing environmental pressures, economic development, and rising congestion have increased the need for discussion about transportation infrastructure improvements in the area to be completed. Currently, arterials in the study corridor experience significant congestion, especially eastbound and southbound in the morning, and westbound and northbound in the evening. Recent population and employment growth trends have added to the travel demands, with the greatest population growth occurring in the northern part of the area being studied (see Figure 1-1) and the greatest employment growth occurring in the southern part. The IL 53/IL 120 Environmental Impact Study, known as the Tri-County Access Project, will complete the environmental studies required to determine the right solution to address transportation needs and help improve the quality of life in Lake County, the northern portions of Cook County, and the eastern portions of McHenry County. The current Project represents a "fresh look," but the issues and objectives identified through past and current transportation initiatives in the area (see Figure 1-2) will be acknowledged and considered, as appropriate.

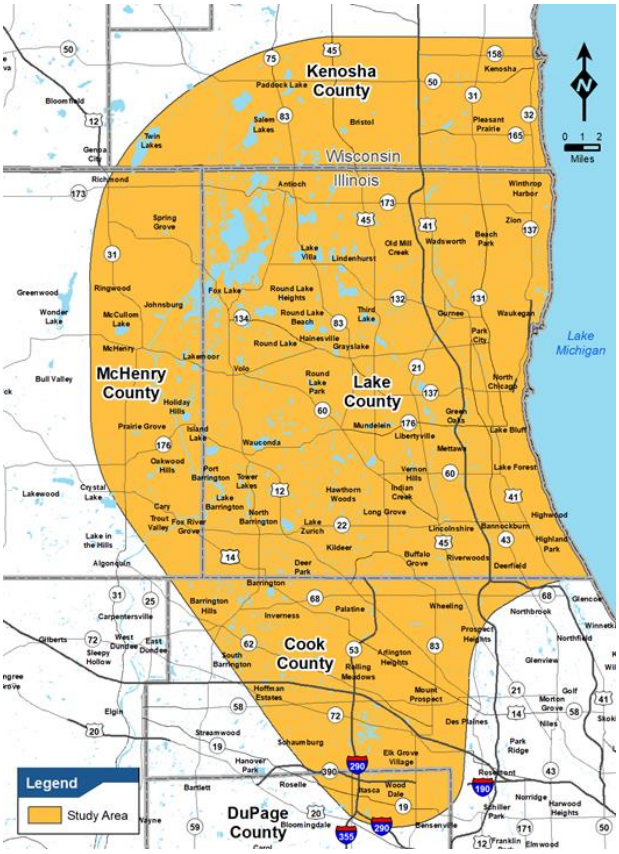
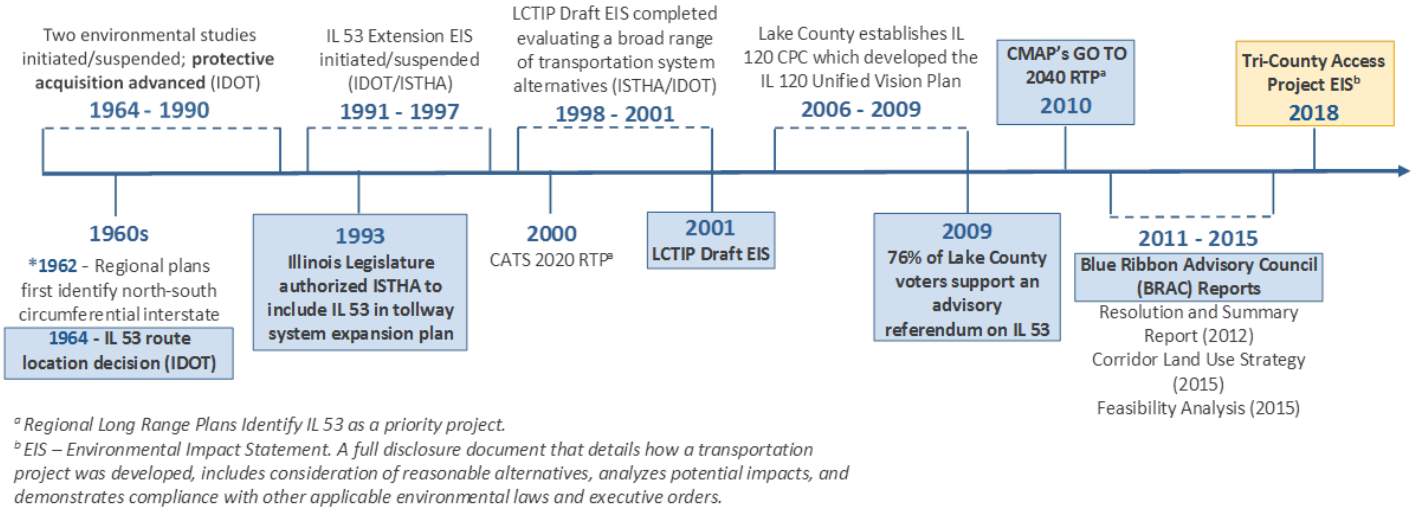


Figure 1-1. Project Study Area

Figure 1-2. Historical Perspective



[a] *Regional Long Range Plans Identify IL 53 as a priority project.*
[b] *EIS – Environmental Impact Statement. A full disclosure document that details how a transportation project was developed, includes consideration of reasonable alternatives, analyzes potential impacts, and demonstrates compliance with other applicable environmental laws and executive orders.*

The Tri-County Access Project study area consists of approximately 1000 square miles, shown on Figure 1-1, and encompasses three primary counties, including all of Lake County, northern portions of Cook County, and eastern portions of McHenry County, as well as portions of two adjoining counties (DuPage and Kenosha). With a 2016

population of 1,745,374 residents, the project area accounts for 879,172 employees, of which 834,577 commute to their employment locations. Of these commuters, 83.4 percent drive alone.[1]

The Tri-County Access Project is preceded by the Lake County Transportation Improvement Project (LCTIP), which concluded with circulation of the LCTIP Draft EIS in 2001, and by the Illinois Route 53/120 Blue Ribbon Advisory Council (BRAC), which was formed in 2011 to assist in the planning and potential implementation of the IL 53/120 project in Lake County. BRAC's Resolution and Summary Report[2] included a series of recommendations that encouraged the Tollway to proceed with further project development, revised scope, configuration, and design elements and proposed a financial framework. BRAC included local elected officials, transportation and planning agencies, and a diverse group of environmental, civic, business, and labor representatives that served in an advisory capacity. Building on BRAC's recommendations, the Tollway, the Chicago Metropolitan Agency for Planning (CMAP), and Lake County partnered on a feasibility analysis and corridor land use plan, both of which were recommended by BRAC as next steps for the IL 53/120 Project.

It is anticipated that many of the stakeholders involved in the LCTIP, the BRAC, and the ensuing feasibility and land use studies will again be engaged in the Tri-County Access Project. It is anticipated that the Tri-County Access Project will consider the groundwork laid by the BRAC in 2012 and build on studies performed as part of the LCTIP Draft EIS.

1.2 Legal Requirements

The Tri-County Access Project's study process will meet state and federal requirements meant to integrate environmental values and public interaction into transportation improvements. These requirements include the National Environmental Policy Act (NEPA), the National Historic Preservation Act, and provisions governing the Efficient Environmental Reviews for Project Decision-Making, as specified in U.S. Code Title 23, Section 139 (23 USC 139).

The Tollway (which serves as project sponsor), the Federal Highway Administration (FHWA), and the Illinois Department of Transportation (IDOT) developed this Stakeholder Involvement Plan (SIP) to address the coordination plan requirements of 23 USC 139(g) and One Federal Decision (OFD) within the context of the NEPA process.

1.2.1 23 USC Section 139 – Efficient Environmental Reviews for Project Decision-making

Title 23 Section 139 of the USC requires the establishment of a plan for coordinating the participation of the public and agencies. This Tri-County Access Project SIP addresses these requirements by describing the project, detailing the project's public involvement process (including opportunities at key project milestones where public input is most effective), identifying the process for engaging cooperating and participating agencies, and providing regular updates on project status and stakeholder involvement.

1.2.2 Executive Order 13807, One Federal Decision

Issued on August 15, 2017, *Executive Order (EO) 13807: Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects* requires Federal agencies to process environmental reviews and authorization decisions for "major infrastructure projects" as One Federal Decision. The EO directs federal agencies to expedite environmental review and permitting for major infrastructure projects; setting a general goal of reducing the average time to complete required environmental reviews and authorization decisions for major infrastructure projects to not more than two years from publication of a notice of intent to prepare an environmental impact statement (EIS) to issuance of a record of decision (ROD) prepared under the National Environmental Policy Act (NEPA). The two-year time period is a goal, not an absolute requirement. Agencies are encouraged to strive for that goal as an average, but the Memorandum of Understanding (MOU) signed on April 9, 2018 by the heads of a dozen federal agencies that provides

[1] U.S. Census. American Community Survey 2012-2016 5-year estimates.

[2] Blue Ribbon Advisory Council. 2012. *Resolution and Summary Report*. June.

guidance on how federal agencies will implement EO 13807 recognizes that in some cases a longer period will be needed to comply with applicable law.

The EO also requires that all federal permits for the project approved in the ROD be issued within 90 days after issuance of the ROD, subject to limited exceptions. One of the goals of the EO is to ensure that the Federal environmental review and permitting process for infrastructure projects is coordinated, predictable, and transparent.

Concurrence points are opportunities for lead and cooperating agencies to assess mutual understanding and agreement on fundamental elements of the EIS. Concurrence among lead and cooperating agencies establishes that agencies agree to a given decision described in the concurrence point, and to abide by the decision as analyses and EIS preparation progress. Importantly, the OFD identifies three concurrence points in the environmental review process where the lead Federal agency must request the concurrence of cooperating agencies with authorization decision responsibilities:

1. Purpose and need (suggested this be accomplished prior to the issuance of the notice of intent)

2. Alternatives to be carried forward for evaluation (prior to detailed analysis in the draft EIS)

3. Identified preferred alternative (prior to the final EIS)

The concurrence points will prevent delays to the permitting timetable by ensuring agencies address key concerns and issues early in the process. Aligned with the agency review process timeframes, public involvement events are scheduled to provide opportunities for the public at-large to provide input as well. These opportunities are detailed in section 6.0, *Schedule of Project Development Activities/Stakeholder Involvement.*

To minimize the potential for delays at concurrence points, the MOU directs cooperating agencies to respond to a request for concurrence within 10 business days and allows the lead agency to presume concurrence if the cooperating agency does not respond within that time. It also provides that concurrence simply means that "the information is sufficient for that stage, and the environmental review process may proceed to the next stage of the NEPA process."

As directed by 23 USC 139(g)(2), the lead agency is responsible for setting commenting deadlines for agencies and the public. For this project; those deadlines include a 30-day comment period for review of Purpose and Need, Alternatives to be Carried Forward, and Preferred Alternative and 60-days for review of the Draft Environmental Impact Statement (EIS) (see Section 6.0).

1.2.3 National Environmental Policy Act

NEPA is a federal law that requires environmental issues to be considered during the planning of projects that are federally funded or permitted. No federal funds are currently allocated to the Tri-County Access Project, but it is being developed to allow for them in the future. Under NEPA, the term "environment" refers not only to the natural environment (e.g., air, water, ecology, and geology) but also to the human environment (e.g., social, cultural, and economic issues). One of the basic principles of NEPA is to provide better decision-making by including the input of people, business, and other stakeholders that may be affected by a project. Project stakeholders are asked to provide input and to comment on project-specific information (including potential actions and the possible impacts associated with taking a given course of action) that is provided throughout the NEPA process.

The Tollway, FHWA, and IDOT will complete an environmental study for the Tri-County Access Project in compliance with NEPA requirements. Information received from stakeholders will be included in an extensive environmental document called an Environmental Impact Statement (EIS), which establishes the Purpose and Need for the project, analyzes a full range of alternatives (including a No-Build alternative), and documents potential effects to natural, community, and cultural resources.

The NEPA process requires federal agencies to integrate environmental values into their decision-making process by considering the environmental impacts of their proposed actions and reasonable alternatives to these actions. The Tollway, FHWA, and IDOT will assess the natural, built, and human environment to determine the extent of effects that may arise during construction and operation of a project. Environmental factors such as air quality, wildlife, vegetation, water quality, wetlands, geology, neighborhoods, park/recreation areas, utilities, visual quality, noise, and cultural resources will be assessed. NEPA encourages early and frequent coordination with the public and resource agencies

throughout the project development process. The Notice of Intent to prepare an Environmental Impact Statement was issued in the *Federal Register* on July 16, 2018. Public comments that are received throughout the study process and upon release of the draft EIS will be considered and, as applicable, incorporated into the Final EIS.

Since the mid-1990s, Illinois has had a Statewide Implementation Agreement (SIA) in place that provides for concurrent NEPA and Section 404 of the Clean Water Act processes on federally aided highway projects in Illinois. The purpose of the SIA is to ensure appropriate consideration of the concerns of the U.S. Army Corps of Engineers (USACE), the U.S. Coast Guard, the U.S. Environmental Protection Agency, and the U.S. Fish and Wildlife Service as early as is practical in highway project development. The intent is also to involve these agencies at key decision points (concurrence points) early in project development to minimize the potential for unforeseen issues arising during the NEPA or Section 404 permitting processes. This is known in Illinois as the "NEPA/404 Merger" process.

State highway projects that need an individual permit from the USACE under Section 404 of the Clean Water Act typically are processed under the NEPA/404 SIA.

The Tollway, FHWA, and IDOT intend to coordinate with other federal and state agency representatives to secure their concurrence as the study progresses.

Given the size of the study area and the numerous alternatives under consideration, rather than the three concurrence points required by One Federal Decision, the Tri-County Access Project will seek concurrence on four points:

- Purpose and Need,
- Initial Range of Alternatives to be Considered,
- Alternatives to be Considered in Detail, and
- Preferred Alternative.

Stakeholder input will be solicited in advance of each concurrence point.

2.0 Goals and Objectives

The purpose of this SIP is to provide a guide for implementing stakeholder involvement for the Tri-County Access Project. This SIP is a blueprint for defining methods and tools to educate and engage the public in the decision-making process for this project and has been designed to ensure that the general public and other stakeholders have opportunities to be informed and engaged as the project progresses.

2.1 Stakeholder Involvement Plan Goals

The goal of the SIP is to outline a program of activities to actively engage stakeholders throughout the study process. The SIP provides the framework for achieving a general understanding of the project and communicating the decision-making process between stakeholders to enhance awareness and understanding of the project. *General understanding* is defined as a general feeling of agreement where all input is heard and duly considered and the process as a whole is considered to be fair. The tools and techniques described in the SIP build on established relationships and will help create new partnerships to enable informed stakeholder involvement and meaningful participation.

The SIP will:

- Identify stakeholders
- Identify the Project Study Team (PST)
- Identify the roles and responsibilities of the joint lead agencies (see Table 3-1 in Appendix A)
- Identify the roles and responsibilities of the cooperating agencies (Table 3-2, Appendix A)
- Identify the roles and responsibilities of the participating agencies (Table 3-3, Appendix A)
- Identify the Stakeholder Participation Group and its members' roles and responsibilities (Table 5-2, Appendix A)
- Establish the timing and type of involvement activities with all stakeholders
- Establish stakeholder requirements for providing timely input to the project development process

2.2 Stakeholder Identification Procedures

The public is an individual citizen or group of citizens living in communities affected by a project and includes commuters and other users of existing transportation networks. A stakeholder can be an individual, group, organization, corporation, or agency identified to have a "stake" or vested interest in the outcome or that is directly affected by a project. Stakeholders are essential in providing opinions and insight to the PST that can lead to improved viable solutions. Stakeholders for this project may include, but are not limited to, the following:

- Residents
- Property owners
- Business owners
- Institutions (churches, schools, etc.)
- Advocates for community and historic interests
- Special interest groups (environmental, etc.)
- Elected and other community officials
- Government and transportation agencies
- Transportation system users/area motorists
- Chambers of commerce
- Neighborhood groups
- Environmental coalitions
- Bicycle groups
- Railroads and utilities
- Others with an interest in the project

Early coordination and/or meetings will be conducted with communities within the study area as a means of identifying interested parties and stakeholders. The identification of stakeholders for the Tri-County Access Project will build on stakeholder lists from prior efforts (BRAC, LCTIP, etc.) with updated research and input from local community leaders. New stakeholders may be added to the initial stakeholder database throughout the project.

Given the large size of the project study area (1000 square miles), a representative group of 151 stakeholders has been invited to participate on the Stakeholder Participation Group (SPG) for the Tri-County Access Project. SPG members serve as representatives of their communities, agencies and interest groups and act as liaisons between their organizations and the PST. See Section 5.2, *Stakeholder Participation Group*, for details on the role of the SPG.

2.3 Stakeholder/Public Involvement

All individuals and organizations expressing interest in the project will be added to the database and project mailing/email list and will be able to participate in the process through various public outreach opportunities (See Section 7). Any stakeholders that show interest in the project may sign up for the mailing list (via the project website or by email or other request), ensuring they will receive meeting invitations and project updates. The project mailing/email list will be updated and maintained for the duration of the project.

Stakeholders are encouraged to share project information and encourage others to get involved in opportunities to provide input. Stakeholders can stay connected via the project website, where they can access updated information and submit comments.

Additional public outreach opportunities include but are not limited to, public meetings and hearings, speakers' bureau events, and press releases (see Section 7).

Stakeholders may also attend Stakeholder Participation Group meetings (Section 5.2), even if they are not members. While there will not be time available for public comment, forms will be provided for comments and questions that will be shared with the Project Study Team (Section 5.1).

The project team will also be available to meet one-on-one with organizations throughout the project duration, if deemed necessary. Table 5-4 summarizes additional stakeholder involvement activities throughout the course of the Tri-County Access Project study.

2.4 Stakeholder Involvement Ground Rules

The public outreach efforts associated with this project will be conducted based on a set of ground rules that form the basis for respectful interaction between all parties involved in this process. The initial, established ground rules include the following:

- Input on the project from all stakeholders is duly considered in order to yield the best solutions to problems identified during the process.
- Input from all participants in the process is valued and considered.
- The list of stakeholders is subject to revision at any time as events warrant.
- All participants must keep an open mind and participate openly, honestly, and respectfully.
- All participants should work collaboratively and cooperatively.
- All participants in the process must treat each other with respect and dignity.
- The project must progress at a reasonable pace, based on the project schedule.
- Final project decisions will be made by the Tollway, FHWA, and IDOT, with consideration of process findings and stakeholder input.

3.0 Lead, Cooperating, and Participating Agencies

3.1 Lead Agencies

FHWA, as Lead Federal Agency with the Tollway and IDOT as joint project sponsors prepare the EIS. The FHWA Division Administrator, the Tollway Executive Director, and IDOT Secretary are the ultimate decision-makers for this project. The Tollway serves as the project sponsor agency responsible for delivery of the EIS and related studies. Table 3-1 in Appendix A lists the roles and responsibilities of the lead agencies.

3.2 Cooperating and Participating Agencies

Cooperating and/or participating agencies will be invited to participate in the Tri-County Access Project process. An agency's status as either a cooperating or participating agency is defined as follows:

- ***Cooperating Agency.*** Cooperating agencies are any federal agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in the proposed project. A state or local agency with similar qualifications may also be a cooperating agency.
- ***Participating Agency.*** Participating agencies are those with an interest in the project by virtue of their proximity to the project, or because of their interest in the regional and local benefits or impacts of the project.

Cooperating agencies have a higher degree of authority, responsibility, and involvement in the environmental review process in comparison to the Participating Agencies. For example, the lead agency may request that a cooperating agency develop information and prepare environmental analyses for inclusion the EIS for resource issues for which they have a concern or expertise. Additionally, a cooperating agency may adopt the EIS of the lead agency to support decisions that they will be required to make that are subject to review under NEPA (e.g., issuance of a federal regulatory permit).

The FHWA, Tollway, and IDOT have considered the respective definitions, and they have developed a list of agencies to be invited to participate as either a cooperating or participating agency. Appendix A includes tables that identify cooperating and participating agencies, including their responsibilities. Typical responsibilities are also identified in the sections below.

During the Tri-County Access Project, cooperating and participating agencies may participate in several different types of meetings. For example, participating agencies will take part in standing group meetings, such as the Stakeholder Participation Group. Those cooperating and participating agencies who are signatories to the SIA may meet as part of the NEPA/404 concurrence process. One-on-one meetings, small group gathering, and workshops will also take place throughout the NEPA process. There will be sufficient opportunities for both participating and cooperating agencies to fully discuss and evaluate their respective transportation and environmental resource issues.

3.2.1 Cooperating Agencies

Agencies invited to serve as cooperating agencies, along with responses received to date, are listed in Table 3-2 in Appendix A. The responsibilities shown in the table are in addition to those that are typical of cooperating agencies, such as:

- Identify as early as possible any issues of concern regarding the project's potential environmental and socioeconomic impact.
- Formally communicate issues of concern in the EIS scoping process.
- Provide input and comment on the project's Purpose and Need.
- Provide input and comment on the methodologies used to develop alternatives or analyze impacts.

- Provide input on the range of alternatives to be considered.
- Provide input and comment on the sufficiency of environmental impact analysis for resources of concern.

3.2.2 Participating Agencies

Agencies invited to serve as participating agencies, along with responses received to date, are listed in Table 3-3 in Appendix A. In addition to the responsibilities listed in Table 3-3, participating agencies, as part of the scoping process are responsible for identifying as early as possible any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or that could prevent an agency from granting a permit or other approval that is needed for the project. Further, they may provide comments on the Purpose and Need, study methodologies, range of alternatives, environmental impact analyses, and the preferred alternative.

3.2.3 Agencies Declining Invitation to Participate

Pursuant to 23 USC 139, a federal agency that declines to be a participating agency must specifically state in its response that it is declining for one or more of the following reasons:

- It has no jurisdiction or authority with respect to the project.
- It has no expertise or information relevant to the project.
- It does not intend to submit comments on the project.

A federal agency that does not respond to the invitation is assumed to have accepted the role of a participating agency.

Non-federal agencies must formally accept the invitation in order to be considered as a participating agency. If a non-federal agency declines to be a participating agency, its response should state the reason for declining the invitation. If it chooses not to be a participating agency, its comments regarding the process can still be recorded through available public involvement venues (e.g., public meetings). Non-federal agencies that do not respond to the invitation will not be considered a participating agency.

Table 3-4 in Appendix A lists the agencies that were invited to participate in the project but declined.

4.0 Section 106 Consulting Parties

FHWA is responsible for involving consulting parties in findings and determinations made during the Section 106 process. Section 106 regulations identify the following parties as potentially having a consultative role in the Section 106 process:

a) State Historic Preservation Officer (SHPO)

b) Native American tribes and Native Hawaiian Organizations

c) Representatives of local governments

d) Applicants for federal assistance, permits, licenses, and other approvals

e) Individuals and organizations with a demonstrated interest in the undertaking

FHWA has worked with the Tollway, IDOT and the SHPO to identify potential Section 106 consulting parties (see Table 4-1 in Appendix A). Individuals or organizations may request consulting party status for this project by contacting Reed Panther by email (RPanther@getipass.com). Consulting parties may provide input at key decision points in the Section 106 process, including the project's Area of Potential Effects, determinations of eligibility and finding of effect, and, if applicable, consulting to avoid adverse effects to historic properties. Agencies and organizations declining to participate in the Section 106 process are listed in Table 4-2 in Appendix A.

FHWA, the Tollway and IDOT will use the appropriate Tollway and IDOT public involvement procedures, under NEPA, to fulfill the Section 106 public involvement requirements.

5.0 Project Working Groups

Two project working groups will be involved in the Tri-County Access Project EIS process: the Project Study Team (PST) and the Stakeholder Participation Group (SPG).

5.1 Project Study Team

The PST is a multidisciplinary team of representatives from the Tollway, FHWA, IDOT, and the project consultant team (Jacobs | Knight E/A and its subconsultants) and is tasked with determining project recommendations based on study analyses and stakeholder input. The Tollway is the sponsor agency responsible for delivery of the Tri-County Access Project EIS. FHWA as lead agency, and the Tollway with IDOT as the joint lead agencies for the Tri-County Access Project will make final project decisions. IDOT and FHWA will support the project development process and provide required input and reviews.

The Tollway has formed the initial interdisciplinary PST; however, to maintain an optimal multidisciplinary team, membership may evolve as the study progresses and understanding of the project's context is clarified. Also, if determined necessary by the PST, additional project working groups may be formed.

The PST has primary responsibility for the project development process. This group meets throughout the study process to provide technical oversight and expertise in key areas, including study process, agency procedures and standards, and technical approaches. The PST also has primary responsibility for ensuring compliance with the SIP.

Other responsibilities of the PST include the following:

- Expedite the project development process.
- Identify and resolve project development issues.
- Promote partnerships with stakeholders to address identified project needs.
- Develop cooperation among stakeholders.

The organization and persons listed in Table 5-1 in Appendix A comprise PST for the Tri-County Access Project.

5.2 Stakeholder Participation Group

To assist in the development of the environmental and engineering studies for the Tri-County Access Project, the Tollway has established a SPG. The purpose of the SPG is to provide input throughout the study process, including development of the Purpose and Need, as well as development and evaluation of alternatives. It is important that the SPG be representative of all the varied interests that exist within the greater project study area. Membership is includes individuals from at least the following interests:

- County officials and local government councils
- Area communities
- Area chambers of commerce and education institutions
- Transportation and planning agencies
- Public land, water management, and resource agencies
- Policy and advocacy groups
- Industry organizations
- Others, as they are identified

The SPG consists of a balanced representation of community leaders from the study area as well as stakeholders representing organizations with expertise or technical interest in environmental, land use, transportation, and economic issues. Community and stakeholder groups invited to serve as members of the SPG are presented in Table 5-2 in Appendix A, and Table 5-4 summarizes SPG activities.

The SPG will meet approximately ten times during the project development process. The meeting agendas will be designed to encourage timely and meaningful opportunities for input, as well as information sharing and collaboration

between the Tollway and the SPG. As part of the SPG, stakeholder workshops may be conducted between key milestones as a means to obtain stakeholder input regarding various project issues and potential solutions.

SPG members are asked to represent their respective agency, group, or community and to be the conduit of information exchange. One of the objectives of the SPG is to facilitate effective communication with the general public and interested stakeholders. Consequently, SPG members are encouraged to attend other project-related public meetings (e.g., community or interest group-sponsored meetings) and to serve as a conduit to these groups. In addition, the Tollway asks that the SPG help to identify opportunities for small group meetings, speakers' bureau presentations, and other communication opportunities.

Any community or interest group outside the study area, that is not part of the SPG but that shows interest in the project, may be added to the stakeholder mailing list, ensuring it will receive public meeting invitations and project updates. The Tollway will also be available to meet with organizations on a one-on-one basis throughout the NEPA process.

5.2.1 Stakeholder Participation Group Ground Rules

The ground rules listed below will be used during the Tri-County Access Project as the basis for respectful interaction of all parties involved in the stakeholder process. The ground rules will initially be established in this SIP and then presented to SPG members for their understanding and acceptance. These ground rules include the following:

1. SPG meetings will be announced, and an agenda provided a minimum of four weeks in advance of each meeting.
2. Input from all stakeholders is valued and duly considered in order to yield the best solutions to problems identified through the process.
3. The list of SPG members is subject to change as the project warrants
4. Summaries of all SPG meetings will be maintained.
5. All participants must keep an open mind and participate openly, honestly, and respectfully.
6. All participants should work collaboratively and cooperatively to seek a general understanding of agreement. (A general understanding of agreement is when stakeholders agree that their input has been heard and duly considered and that the process as a whole is fair.)
7. All participants in the process must treat each other with respect and dignity.
8. The project must progress at a reasonable pace, based on the project schedule.
9. All participants must understand that once a general understanding of agreement is reached on a key project milestone (e.g., project Purpose and Need), that topic will not be readdressed.
10. The Tollway, FHWA, and IDOT will make final project decisions.

Furthermore, while representing the diverse ideas of their communities, agencies, and interest groups within the project study area, SPG members will:

- Candidly communicate local issues.
- Agree to act as a team in a spirit of collaboration. The responsibilities of this group include providing open and constructive input for consideration at key project milestones (e.g., project Purpose and Need, Initial Range of Alternatives studies, Alternatives for Detailed Consideration, and the Preferred Alternative).
- Provide timely input by meeting deadlines for requested information.
- Assist in the development of viable solutions and ultimately seek to reach a collective understanding of project recommendations and constraints. A collective understanding is NOT a vote.
- Agree to engage in discussions of the right issues at the right time in the process.

- Commit to attend all SPG meetings and public meetings.
- Serve as a conduit for factual communication between the project team and stakeholders.
- Provide insight and communicate issues.
- Actively participate in the overall project public involvement program.

5.3 Implementation

Public involvement begins as soon as the study starts and continues well after the planning process is complete. This SIP serves as a guide for public involvement during this study and includes strategies that can be used throughout subsequent project phases. Implementation of this SIP requires the commitment and efforts of all involved parties and includes the expected actions, responsibilities, and timing. As an implementation guide, this SIP links specific strategies and activities to the study schedule and identifies the audience that each strategy and activity is intended to reach. The Tollway is responsible for the overall development, implementation, and coordination of the SIP, with input and support from FHWA and IDOT.

5.4 Dispute Resolution

FHWA as the lead federal agency, is committed to working with all involved agencies and stakeholders in the study process to identify issues early and to seek collective understanding on disagreements. FHWA is committed to an open and transparent process. However, if there is an impasse after making good-faith efforts (through either the informal or formal dispute-resolution process) to address unresolved concerns, the FHWA may proceed to the next stage of project development. In the case of an unresolved dispute between agencies, FHWA will notify stakeholders of its decision and proposed course of action. The sections below describe the informal and formal dispute resolution processes.

5.4.1 Informal Dispute Resolution Process

In the case of an unresolved dispute, the FHWA will notify all agencies of its decisions and the proposed course of action. FHWA's decision to move an action forward without agreement will not eliminate an agency's statutory or regulatory authorities or the right to elevate the dispute through established agency dispute-resolution procedures. FHWA recognizes and accepts the risk of proceeding on an action without receiving a signatory agency's concurrence and will work with any agency to attempt to resolve a dispute.

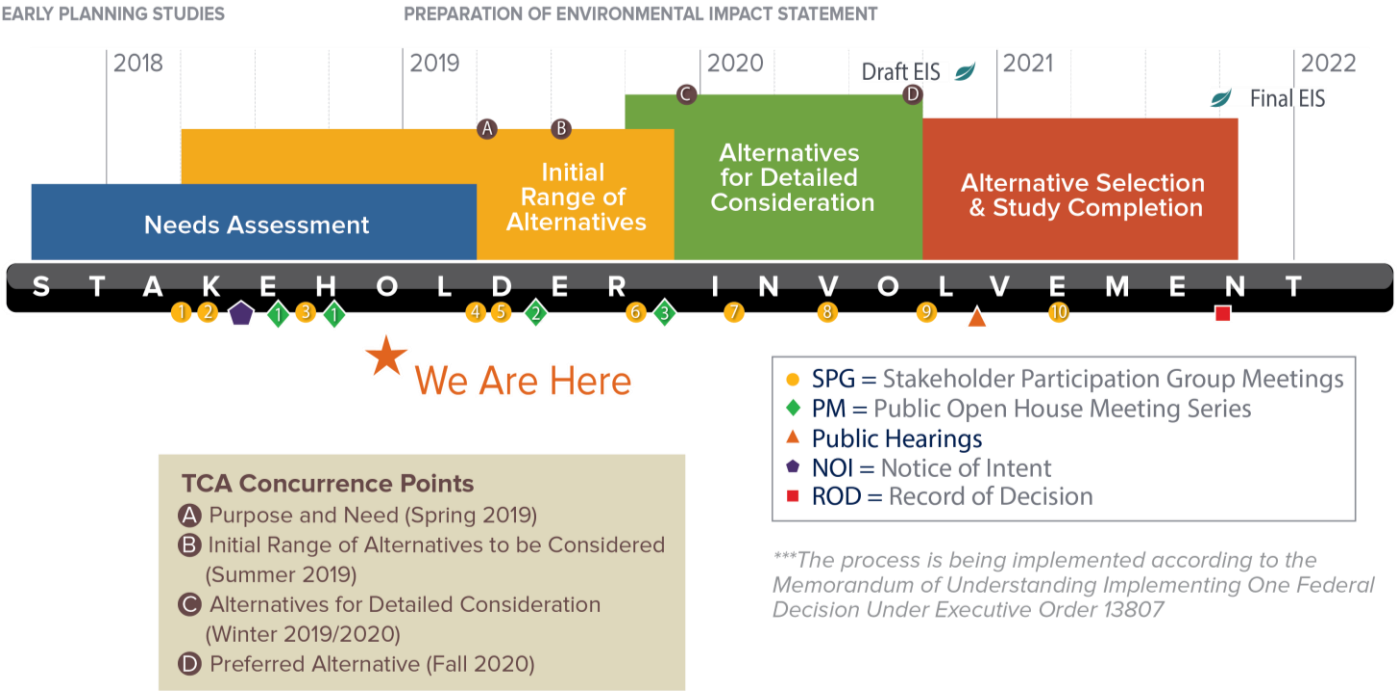
5.4.2 Formal Dispute Resolution Process

Per 23 USC 139(h), Issue Identification and Resolution, there is a formal dispute resolution procedure for the environmental review process. This process is only intended for use on disputes that may delay a project or result in the denial of approvals required for a project to proceed. Only a federal agency with jurisdiction, the project sponsors, or the Illinois State Governor may request an issue resolution meeting be conducted by the lead agency; these entities are encouraged to exhaust all other measures to achieve resolution prior to initiating this formal dispute resolution process.

6.0 Schedule of Project Development Activities/Stakeholder Involvement

The Tri-County Access Project will be advanced in conformance with NEPA and associated federal and state requirements described in Section 1.2. Major steps in the process and associated stakeholder involvement activities are illustrated in Figure 6-1 and discussed below.

Figure 6-1. Project Development Process



6.1 Project Initiation/Scoping/Purpose and Need

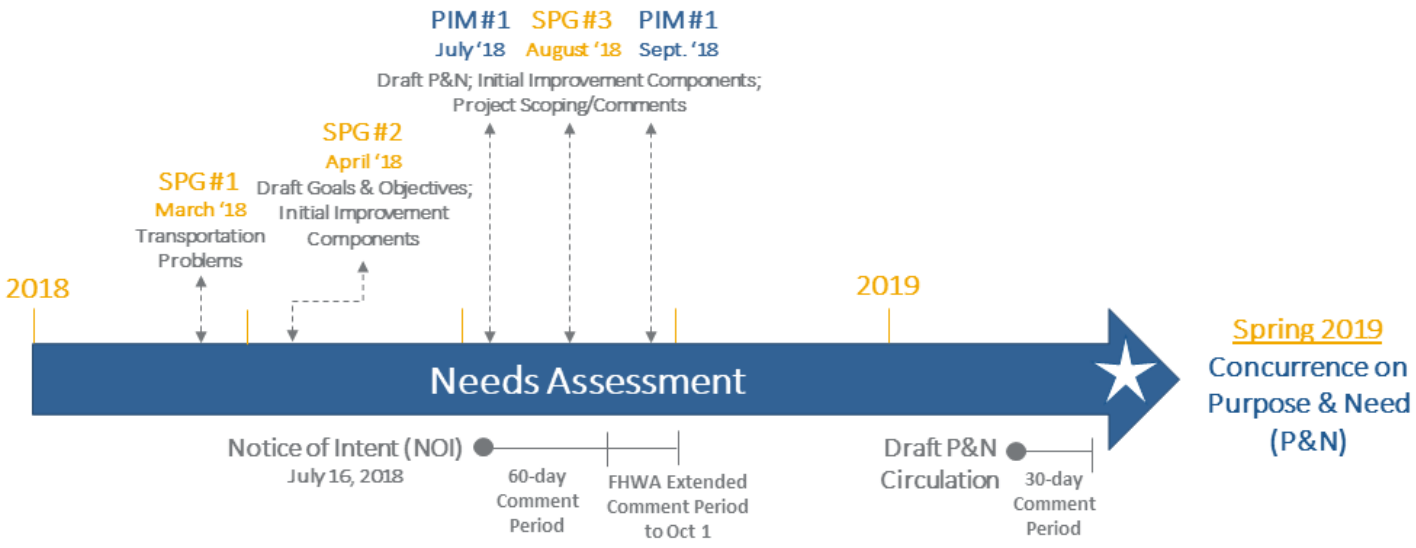
This step of the project development process begins with identifying stakeholders, notifying agencies of the study, establishing the PST and SPG, conducting formal or informal scoping activities that encourage all interested parties to provide comments and suggestions to ensure that the full range of issues related to the EIS process are addressed and all significant issues identified. The formal scoping process, per federal procedures, occurs after publication of the Notice of Intent in the Federal Register. However, early notification and coordination as well as early environmental studies are generally a part of the informal scoping process. Other activities during this step include collecting information about the study area, performing transportation system performance studies, and establishing the Purpose and Need statement for the Tri-County Access Project.

Activities during this step are described below and illustrated in Figure 6-2:

- Develop and make the SIP available on the project website.
- Assemble and organize the project working groups (i.e., PST and SPG).
- Identify the cooperating and participating agencies.
- Assemble information regarding environmental and community characteristics in the project study area (PST and project stakeholders).

- Develop the project Purpose and Need statement.
- Organize and hold SPG meetings:
  - SPG Meeting #1 will serve as a kickoff meeting during which: the *Project Team* will introduce the overall Tri-County Access Project study, share the SIP, and discuss findings of early transportation system performance studies; the *SPG* will be asked to share their views of transportation problems and areas of concern in the project study area.
  - The purpose of SPG Meeting #2 includes the following: the *Project Team* will present and discuss the draft goals and objectives statement and introduce the alternatives study process; the *SPG* will be asked *to* share their views on the draft goals and objectives statement and to suggest improvement components to be considered as part of the Initial Range of Alternatives studies.
  - The purpose of SPG Meeting #3 includes the following: the *Project Team* will describe the No-Build Alternative, review and solicit input on the draft Purpose and Need statement , and explain how environmental resources will be considered during the Initial Range of Alternatives studies; the *SPG* will be invited to provide input on the issues to be considered during development of the Environmental Impact Statement.
- Hold Public Information Meeting #1:
  - Conduct an open house format Public Information Meeting (PIM) to introduce the overall Tri-County Access Project study, introduce the alternatives study process and the No-Build Alternative, present the draft Purpose and Need statement, share information on environmental resources to be considered, to seek public input on improvement components to be considered, and to provide an opportunity for comments and feedback from the public.
- Circulate the Draft Purpose and Need to stakeholders and agencies for review and comment.
- Hold meetings with involved regulatory and resource agencies related to project initiation and scoping, including NEPA/404 agency coordination activities required to secure agency concurrence with the Purpose and Need statement through the NEPA/404 merger process.

Figure 6-2. Public and Agency Involvement Opportunities



6.2 Initial Range of Alternatives Studies

This step will identify and evaluate a broad range of Initial Alternatives to address the project Purpose and Need through an iterative process. During this step, agency concurrence will be requested on two points through the NEPA/404 merger process – first on the Initial Range of Alternatives to be Considered, and then on the Alternatives to be Considered in Detail. Stakeholder input will be solicited in advance of each concurrence point as described in the following sections.

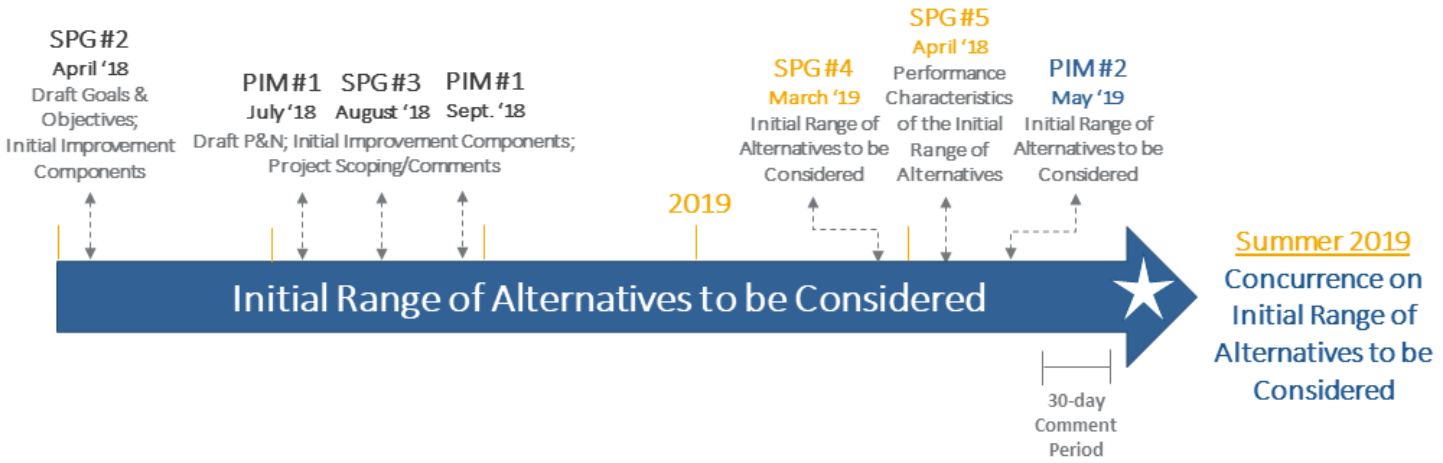
Determine Initial Range of Alternatives to be Considered

This step begins with the identification of a broad range of Initial Improvement Components (that is, elements of potential alternatives) including potential improvements to various existing and new roadways, active transportation, and transportation management strategies. The Initial Improvement Components will be combined and tested as potential Initial System Strategies (that is, improvements which in combination may be considered as Initial Alternatives). This step concludes with identification of the Initial Range of Alternatives (Initial Alternatives) to be considered to address the project Purpose and Need. The Initial Range of Alternatives will be developed by leveraging information gathered from previous study efforts, input from stakeholders, and an understanding of existing and future travel patterns. The Initial System Strategies will be developed and evaluated at a schematic level, to allow an initial evaluation of their ability to address the project Purpose and Need and their relative performance characteristics as compared to the No-Build Alternative. This step concludes with agency concurrence on the Initial Range of Alternatives to be Considered.

Activities in this step of the process are described below and illustrated in Figure 6-3:

- Identify and evaluate potential Initial Improvement Components including potential improvements to various existing and new roadways, active transportation, and transportation management strategies. This step will consider public input received to date on improvement components to be considered, including input from SPG Meeting #2 and Public Information Meeting #1.
- Hold one-on-one technical meetings with involved local agencies and obtain input from each regarding the characteristics and types of improvements to be considered along corridors being considered for improvement.
- Combine the Initial Improvement Components into Initial System Strategies and evaluate their ability to address the project Purpose and Need, as compared to the No-Build Alternative.
- Hold SPG Meetings to identify and discuss the Initial Range of Alternatives to be Considered:
  - SPG Meeting #4 will introduce the Initial Improvement Components and Initial System Strategies under review with the Initial Range of Alternatives to be Considered;
  - SPG Meeting # 5 will share and invite input on the Initial Range of Alternatives to be Considered.
- Hold Public Information Meeting #2 to present and invite public input of the Initial Range of Alternatives to be Considered. All stakeholders will be encouraged to attend and comment on the alternatives presented.
- Hold meetings with involved regulatory and resource agencies, including NEPA/404 agency coordination activities required to secure agency concurrence with the Initial Range of Alternatives to be Considered.

Figure 6-3. Public and Agency Involvement Opportunities



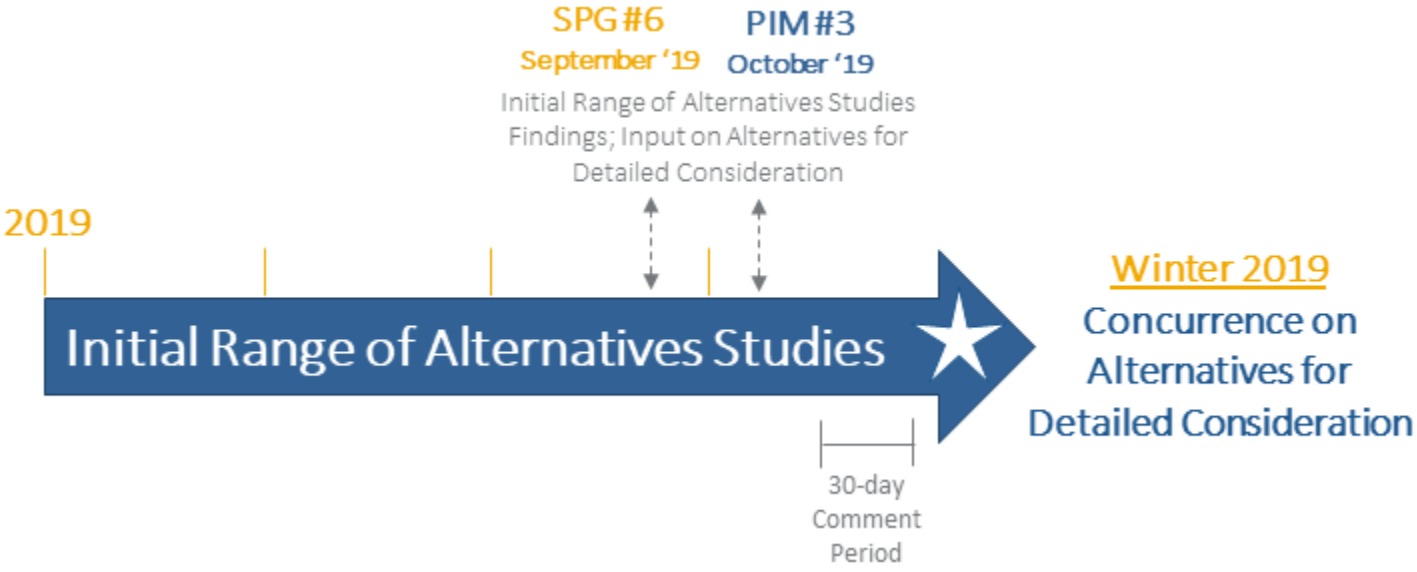
Determine Alternatives for Detailed Consideration

The identified Initial Range of Alternatives (Initial Alternatives) will now be refined and evaluated at a conceptual level to allow an initial evaluation of their relative performance characteristics and environmental consequences, as compared to the No-Build Alternative. Information gathered from previous study efforts, input from stakeholders, as well as available information regarding potentially affected environmental resources will be used during the Initial Alternatives refinement and evaluation. This step concludes with agency concurrence on the Alternatives for Detailed Consideration in the Draft EIS.

Activities in this step of the process are described below and illustrated in Figure 6-4:

- Hold one-on-one technical meetings with involved local agencies and obtain input from each regarding the characteristics and types of improvements to be considered along corridors being considered for improvement.
- Hold SPG Meeting #6 to share and invite input on the features and relative performance characteristics of the Initial Alternatives, including input on the Alternatives for Detailed Consideration.
- Hold Public Information Meeting #3 to present and invite public input on the features and relative performance characteristics of the Initial Alternatives and the No-Build Alternative, including input on the Alternatives for Detailed Consideration. All stakeholders will be encouraged to attend and comment on the alternatives.

Figure 6-4. Public and Agency Involvement Opportunities



- Hold meetings with involved regulatory and resource agencies, including agency coordination activities required to secure agency concurrence on the Alternatives for Detailed Consideration in the Draft EIS through the NEPA/404 merger process.

6.3 Alternatives for Detailed Consideration Studies

The identified Alternatives for Detailed Consideration (Build Alternatives) will now be developed and evaluated at a more detailed level to allow a refined evaluation of their performance characteristics and environmental consequences, as compared to the No-Build Alternative.

Activities in this stage include the following, as illustrated in Figure 6-5:

- Refine and further develop design characteristics of the Build Alternatives.
- Hold one-on-one technical meetings with involved agencies to invite input on the Build Alternative studies.
- Evaluate the environmental consequences and performance characteristics of the No-Build Alternative and Build Alternatives and identify measures to avoid, minimize, or mitigate environmental effects.
- Organize and hold multiple SPG meetings or workshops (SPG Meetings #7 and #8) to discuss and invite input on the Build Alternatives studies.
- Hold meetings with involved regulatory and resource agencies to invite input on the Build Alternatives and No-Build Alternative.

Figure 6-5. Public and Agency Involvement Opportunities

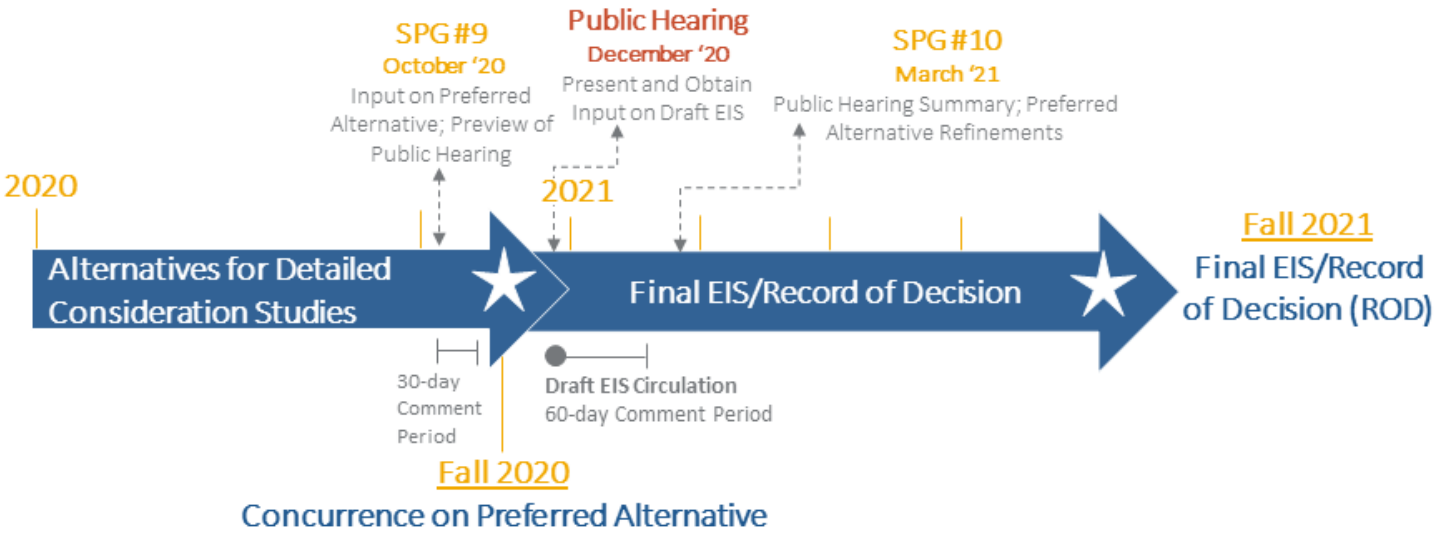
6.4 Preferred Alternative Identification, Draft EIS Review and Study Completion

This step of the process includes the following primary activities - the Preferred Alternative will be identified, the Draft EIS will be circulated for comment, Draft EIS review comments will be reviewed and addressed, and the Final EIS/Record of Decision will be prepared and issued. Preliminary engineering studies for the Preferred Alternative, including development of the Project Implementation Plan and Financial Plan, will also be prepared. Agency concurrence on the Preferred Alternative will be requested through the NEPA/404 merger process. Stakeholder input on the Draft EIS and the identified Preferred Alternative will be solicited.

Activities during this step are described below and illustrated in Figure 6-6.

- Identify the Preferred Alternative based upon findings of the Alternatives for Detailed Consideration studies, including consideration of agency and public comments.
- Organize and hold SPG Meeting #9 to present and obtain input on the Preferred Alternative, and to preview the Draft EIS and Public Hearing.
- Hold meetings with involved regulatory and resource agencies, including agency coordination activities required to secure agency concurrence with the Preferred Alternative through the NEPA/404 merger process.
- Complete the Draft EIS and circulate for 60-day public comment period.
- Organize and hold a series of Public Hearings throughout the project study area to present and seek public and agency input on the Draft EIS.
- Review and respond to Draft EIS review comments from the public and agencies. This includes meeting with agencies to discuss and resolve Draft EIS review comments and any necessary modifications to the Preferred Alternative prior to inclusion in the Final EIS.
- Organize and hold SPG Meeting #10 to present a summary of Draft EIS comments and to provide an opportunity for input to Preferred Alternative refinements.
- Complete the Final EIS/Record of Decision and make it available to the public after approval by FHWA.
- Limitation of claims notification is filed; any claims seeking judicial review must be filed within 150 days of filing.

Figure 6-6. Public and Agency Involvement Opportunities



7.0 Stakeholder Involvement Plan Activities

The stakeholder involvement activities described in this section are planned for the Tri-County Access Project and are meant to be flexible to meet project and stakeholder needs. The Tollway, in coordination with FHWA and IDOT, is responsible for stakeholder involvement activities and coordination. The sections below each describe a stakeholder involvement activity, identify a target audience, and include an implementation schedule.

7.1 Public Outreach Meetings

Stakeholder involvement for the Tri-County Access Project will be an ongoing process from project initiation through completion. Various meetings will be held throughout the project development process to provide outreach opportunities to all stakeholders. The sections below describe additional meeting opportunities.

7.1.1 Small Group Meetings

Small group meetings may be necessary to engage stakeholders, share information. and foster discussion. These meetings may include addressing specific project issues, allowing for more specialized discussions and input, and aiding the general public in developing a better understanding of the project. Small group meetings will be held throughout the project as the need for them is identified. These meetings could include the project team, local agencies and organizations, members of the business community, and affected property owners. Project handouts or other appropriate meeting materials will be prepared for distribution at these meetings.

7.1.2 Speakers' Bureau

A speakers' bureau, consisting of Tollway and consultant staff, will be maintained to present project-related information to interested local civic or service organizations, such as Rotary Clubs and Kiwanis. Relevant and available project information will be assembled and updated by the speakers' bureau on a regular basis for presentation at meetings, as requested.

7.1.3 Agency Coordination

Preparing an EIS requires compliance with many local, state, and federal rules, regulations, and laws. As the study progresses, the project team will advance coordination with a broad range of agencies, whether they are involved as cooperating agencies, participating agencies, or others with an interest in the project.

7.1.4 Elected Officials Briefings

Briefings may be conducted with local and regional elected officials, including legislators, regarding project updates and progress. These meetings may be held as appropriate or requested, in advance of public meetings and the hearing or at major milestones in the project. Appropriate project summary materials will be prepared for distribution at these meeting

7.1.5 Public Meeting and Hearing

Public involvement for the Tri-County Access Project will include opportunities for broader public meetings in the form of three public information meetings and a public hearing. These large-scale meetings, held in an open house format, encourage public attendance and foster public awareness of project developments and alternatives that are being evaluated. These meetings also will provide a forum for general public input, including concerns and comments regarding project alternatives. The following events are anticipated:

- **Public Meeting #1 (July 25, 2018 and September 6, 2018) to introduce the Tri-County Access Project study to the public.** Information will be shared regarding the alternatives study process, the No-Build Alternative, environmental resources to be considered and opportunities for public involvement throughout the study. The

public will have the opportunity to view and provide their input on area transportation issues, the draft Purpose and Need Statement, and on potential improvement components to be considered.

- **Public Meeting #2 (May 2019) to present the Initial Range of Alternatives to be Considered.** The public will have the opportunity to view and provide their comments on the Initial Range of Alternatives to be Considered.
- **Public Meeting #3 (October 2019) to present findings of Initial Range of Alternatives Studies.** Alternatives for Detailed Consideration will be identified. The public will have the opportunity to view and provide their comments on the Initial Range of Alternatives studies' findings and on the proposed Alternatives for Detailed Consideration.
- **Public Hearing (December 2020) to present the Draft EIS.** This meeting is part of a federal requirement for the Draft EIS under NEPA. The public will have the opportunity to view and provide comments on the Draft EIS.

These meetings will use a range of presentation methods and techniques, including project boards, handouts, and an audio-visual or multimedia presentation. The meetings will be advertised by email invitations and by notices placed on the project and Tollway websites, and on third-party websites such as community and county websites. Meetings will also be announced via press release, and paid advertisements. Opportunities for the public to provide written comments (i.e., comment forms) will be available at the meetings and on the project website. Language translation, disabled-person assistance, and other similar services will be provided when requested.

7.2 Other Mechanisms for Public Involvement

In addition to the meeting and hearing described in the preceding section, there will be several other methods for the public to obtain and provide information about the project. These methods, described in the sections below, will provide information and opportunities for feedback regarding upcoming public meeting events, project schedule, and general project status updates in the study area.

7.2.1 Mailing List

To support public meeting invitations and other direct public contact, a mailing list will be developed and updated. Phone numbers and email addresses will be added to (or removed from) the list as available or requested. The mailing list is intended to include contact information for the following stakeholder types: affected landowners; federal, state, and local officials; special interest groups; resource agencies; businesses and business leaders; and members of the public. The list will be developed initially using existing resources (e.g., assessor data, names and addresses of officials from other recent projects in the area) and will be maintained throughout the project via ongoing outreach, sign-in sheets, project website, and other methods.

7.2.2 Public Website

In an effort to use electronic media to disseminate information to the public and receive input and comments, a public website has been developed. This website provides a central source for project study information and is available to anyone with access to the internet at any time. The Tri-County Access Project website is a cost-effective tool to maintain a history of the study. To maintain project identity and facilitate access to project information, this website will be separate from the Tollway website, with links connecting the two. Information posted on the website will include project history, study process and information, maps, photos, reports, and electronic versions of printed material. The website will also allow for two-way communication (comment forms), through the use of email. For consistency, major website updates will coincide with the project's major milestones. The website address is www.TriCountyAccess.org.

7.2.3 Factsheets

Factsheets are a common project communication tool. To assist with consistent delivery of project information and progress updates, as well as to solicit input, factsheets will be written at key project milestones. Factsheets will contain project and public meeting information and may be prepared to summarize outcomes of public involvement events,

such as SPG and public meetings. Hardcopies may be provided at public meetings and gatherings. Electronic versions of factsheets will be distributed to those who provide an email address and will also be posted on the project website.

7.2.4 Media Outreach

Broadcast and print media offer an effective method of informing the general public about a project and its progress. To effectively use the media for this study, several media strategies will be employed to promote frequent coverage of the project; these strategies include press releases, media briefings, publication pieces, media correspondence, and one-on-one briefings with agency-designated spokespersons.

Press releases will be issued throughout the study period to announce public meetings, study progress to date, important results, and next steps.

7.2.5 Public Response and Communication

Throughout this study, both direct and indirect public comment is anticipated. Direct public comment will come as email (by a direct link from the website), standard mail, phone calls, and comment forms issued at meetings and briefings. Indirect public comment will come through the media, non-agency sponsored meetings, and third-party websites. It is important to monitor both direct and indirect public comment and address when appropriate to ensure the public that its concerns and opinions are being recognized, and to respond to potentially problematic issues such as misinformation.

A centralized comment response management system will be implemented. The goal of this system is to provide a secure and electronically accessible repository for comments. It will be capable of categorizing the comment types and issues, tracking the status of comment responses, and maintaining a comment record for environmental documentation. The system will also collect and maintain stakeholder contact information for mailing list automation.

The PST will respond to public inquiries in a timely manner. Monitoring third-party meetings, activities, websites, and media reports related to the project will continue throughout the study. Reports on third-party activity will be detailed and added to the comment record as they occur.

8.0 Plan Availability and Monitoring/Updates

This SIP is a dynamic document that will be available to the public and updated as appropriate through the duration of the project. This section describes SIP stakeholder review opportunities and plan update procedures.

8.1 Availability of the Stakeholder Involvement Plan

The Tollway will make the SIP available to stakeholders for review at the public meetings, public hearing, and on the project website. As the project proceeds, the Tollway will update the SIP as needed to reflect appropriate changes or additions. The Tollway will advise stakeholders of future SIP updates via email and post updates on the project website.

8.2 Modification of the Stakeholder Involvement Plan

The SIP will be reviewed on a regular basis for effectiveness and will be updated as appropriate. Plan administration includes, but is not limited to, the following:

- Maintaining a current list of project stakeholders
- Maintaining a detailed public involvement record (i.e., log) that includes records of all stakeholder contacts, meetings, and comments
- Ensuring two-way communication and timely responses to stakeholders through formal and informal channels

The Tollway will provide updated versions of the SIP to all agencies involved, as necessary. Cooperating and participating agencies should notify Carla Mykytiuk (Carla.Mykytiuk@jacobs.com) of staffing and contact information changes in a timely manner. SIP updates will be tracked in Table 7-1 in Appendix A.

Appendix A
Tables

Table 3-1. Lead Agencies

Agency Name	Role	Responsibilities
Federal Highway Administration	Lead Agency	Provide oversight of NEPA process Provide oversight, input, and approval of EIS Provide oversight for public involvement Provide opportunity for cooperating and participating agency involvement Manage Section 106 consultation
Illinois Tollway	Joint Lead Agency	Prepare EIS and associated preliminary engineering studies Provide opportunity for public and for participating and cooperating agency involvement
Illinois Department of Transportation	Joint Lead Agency	Provide review and input to EIS and associated preliminary engineering studies Provide opportunity for public and for participating and cooperating agency involvement

Table 3-2. Cooperating Agencies

Agency Name	Role	Responsibilities	Date Accepted
U.S. Environmental Protection Agency (Region 5)	Cooperating Agency	Environmental Impact Statement Review and Rating	8/23/2018
U.S. Army Corps of Engineers (Chicago District)	Cooperating Agency	Section 404 permit jurisdiction	10/19/2018
U.S. Fish and Wildlife Services (Chicago Office)	Cooperating Agency	Provide comment and input on fish & wildlife resources; endangered & threatened species; migratory birds; wetlands Provide input to USACE on Section 404 jurisdiction	9/6/2018
U.S. Coast Guard (9th District)	Cooperating Agency	Provide comments specific to USCG regulated areas.	No response
Federal Transit Administration	Cooperating Agency	Provide comments specific to FTA regulated areas.	09/11/2018
Illinois Department of Natural Resources	Cooperating Agency	Provide comment and input on fish & wildlife resources; endangered & threatened species; natural areas & nature preserves; wetlands; prairies; forests Provide input to USACE on Section 404 jurisdiction	10/30/2018
Illinois Environmental Protection Agency	Cooperating Agency	401 Water quality certification; TMDLs, NPDES permitting; hazmat and air quality	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
U.S. Environmental Protection Agency (Region 5)	Participating Agency	Environmental Impact Statement review and rating	8/23/2018
U.S. Army Corps of Engineers (Chicago District)	Participating Agency	Section 404 permit jurisdiction	8/23/2018
U.S. Fish and Wildlife Services (Chicago Office)	Participating Agency	Provide comment and input on fish & wildlife resources; endangered & threatened species; migratory birds; wetlands	9/6/2018

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
		Provide input to USACE on Section 404 jurisdiction	
U.S. Coast Guard (9th District)	Participating Agency	Provide comments specific to USCG regulated areas.	9/6/2018
Federal Transit Administration	Participating Agency	Provide comments and input on transit feature of the plan	09/11/2018
Illinois Department of Natural Resources	Participating Agency	Provide comment and input on fish & wildlife resources; endangered & threatened species; natural areas & nature preserves; wetlands; prairies; forests Provide input to USACE on Section 404 jurisdiction	10/30/2018
Illinois Environmental Protection Agency	Participating Agency	401 Water quality certification; TMDLs, NPDES permitting; hazmat and air quality	No response
Illinois Department of Agricultural	Participating Agency	Agricultural Land	No response
Chicago Metropolitan Agency for Planning	Participating Agency	Provides regional transportation planning and travel forecasting, and consistency with regional plans	No response
Pace Suburban Bus Service	Participating Agency	Provide input for transit-oriented solutions	No response
Southeastern Wisconsin Regional Planning Commission	Participating Agency	Provides regional transportation planning and travel forecasting, and consistency with regional plans	No response
Metra	Participating Agency	Provide input for transit-oriented solutions	No response
Lake County Board	Participating Agency	Provide comments and input related to county facilities and properties; land use and economic development plans; environmental issues	9/27/2018
DuPage County	Participating Agency	Provide comments and input related to county facilities and properties; land use and economic development plans; environmental issues	No response
McHenry County	Participating Agency	Provide comments and input related to county facilities and properties; land use and economic development plans; environmental issues	No response
Cook County	Participating Agency	Provide comments and input related to county facilities and properties; land use and economic development plans; environmental issues	10/5/2018
Kenosha County	Participating Agency	Provide comments and input related to county facilities and properties; land use and economic development plans; environmental issues	10/9/2018
Village of Island Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Trout Valley	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Third Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Village of Bull Valley	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Kildeer	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Des Plaines	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/12/2018
Village of Lincolnshire	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Winthrop Harbor	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Vernon Hills	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Waukegan	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Hainesville	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Barrington	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/18/2018
Village of Bensenville	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Spring Grove	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/11/2018
Village of Holiday Hills	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Northbrook	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Antioch	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Village of Arlington Heights	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Prospect Heights	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Volo	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Johnsburg	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/14/2018
City of Zion	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Round Lake Beach	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Wheeling	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Beach Park	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/18/2018
Village of Long Grove	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/25/2018
City of McHenry	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Elk Grove Village	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Mt. Prospect	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Wauconda	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Gurnee	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Village of Cary	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Richmond	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Lake Forest	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/27/2018
Village of Schaumburg	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Mundelein	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Round Lake Park	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Round Lake Heights	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Round Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Ringwood	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Roselle	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Hawthorn Woods	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/27/2018
Village of Lindenhurst	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of South Barrington	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Lake Villa	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Village of Barrington Hills	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Hoffman Estates	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Riverwoods	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Fox River Grove	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Lake Bluff	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Park City	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Tower Lakes	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Highwood	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of North Barrington	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/18/2018
Village of Lake Zurich	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Rolling Meadows	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Itasca	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Wood Dale	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Lake Barrington	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Village of Prairie Grove	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/28/2018
North Chicago	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Deerfield	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Highland Park	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/19/2018
Village of Bannockburn	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Lake in the Hills	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Wadsworth	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Deer Park	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	10/1/2018
Village of Fox Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Algonquin	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Palatine	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of McCullom Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Crystal Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Oakwood Hills	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Village of Old Mill Creek	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Indian Creek	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Buffalo Grove	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	9/20/2018
Village of Inverness	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Grayslake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Wonder Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Mettawa	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Addison	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Lakemoor	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Libertyville	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Green Oaks	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Port Barrington	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Salem Lakes	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village and Town of Somers	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Village of Bristol	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Twin Lakes	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
City of Kenosha	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Pleasant Prairie	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Village of Paddock Lake	Participating Agency	Provide comments and input related to local agency facilities and properties; land use and economic development plans; environmental issues	No response
Addison Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Algonquin Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Antioch Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Avon Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Barrington Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Benton Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Bloomingdale Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Burton Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Cuba Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Ela Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Elk Grove Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Fremont Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	9/14/2018

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
Grant Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Hanover Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Lake Villa Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Libertyville Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	10/2/2018
Maine Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
McHenry Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Moraine Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
New Trier Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Newport Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Northfield Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Nunda Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Palatine Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Richmond Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	10/1/2018
Schaumburg Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Shields Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Vernon Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	10/3/2018
Warren Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Wauconda Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Waukegan Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response

Table 3-3. Participating Agencies

Agency Name	Role	Responsibilities	Date Accepted
West Deerfield Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Wheeling Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Zion Township	Participating Agency	Provide comments and input related to township facilities and properties; land use; environmental issues	No response
Town of Randall	Participating Agency	Provide comments specific to local road systems, utilities, land use and economic development, and environmental protection	No response
Town of Wheatland	Participating Agency	Provide comments specific to local road systems, utilities, land use and economic development, and environmental protection	No response
Town of Brighton	Participating Agency	Provide comments specific to local road systems, utilities, land use and economic development, and environmental protection	No response
Town of Paris	Participating Agency	Provide comments specific to local road systems, utilities, land use and economic development, and environmental protection	No response

Table 3.4. Agencies Declining Cooperating or Participating Agency Status

Agency Name	Reason for Declining	Date Declined
TBD		

Table 4-1. Section 106 Consulting Parties

Agency Name	Consulting Party Response	Contact Person/Title	Email and Mailing Address
Lake County Discovery Museum	**No response**		27277 N Forest Preserve Rd, Wauconda, IL 60084
McHenry County Historical Society	9/11/2018	Nancy Roozee/Office Manger	6422 Main Street, Union, IL 60180
Wauconda Historical Society	**No response**		711 North Main Street, Wauconda, IL 60084
Lake Villa Historical Society	**No response**		113 Cedar Avenue, Lake Villa, IL 60046
Libertyville-Mundelein Historical Society	**No response**	Jenny Barry/President	413 North Milwaukee Avenue, Libertyville, IL 60048
Long Grove Historical Society	**No response**		348 Old McHenry Road, Long Grove, IL 60047
Arlington Heights Historical Society	**No response**	Carol Frieburg	110 West Fremont Street, Arlington Heights, IL 60004
Barrington Area Historical Society	9/14/2018		212 West Main Street, Barrington, IL 60010
Palatine Historical Society	**No response**	Joe Petykowaski/President	224 East Palatine Road, Palatine, IL 60067
Mount Prospect Historical Society	**No response**		101 South Maple Street, Mount Prospect, IL 60056
Grayslake Historical Society	**No response**		164 Hawley Street, Grayslake, IL 60030

Table 4-1. Section 106 Consulting Parties

Agency Name	Consulting Party Response	Contact Person/Title	Email and Mailing Address
Lakes Region Historical Society	**No response**		977 Main Street, Antioch, IL 60002
Ela Historical Society	**No response**	Ray Syverson/President	95 East Main Street, Lake Zurich, IL 60047
The Delaware Tribe of Indians	10/1/2018	Larry Heady/THPO	lheady@delawaretribe.org
Ho Chunk Nation	No response[3]	William Quackenbush	Bill.Quackenbush@ho-chunk.com
Miami Tribe of Oklahoma	10/1/2018	Diane Hunter/THPO	dhunter@miamination.com
Peoria Tribe of Indians of Oklahoma	No response[3]	John Froman/Chief	jfroman@peoriatribe.com
Potawatomi – Citizen Potawatomi Nation	No response	Keli Mosteller	Kelli.Mosteller@potawatomi.org
Potawatomi – Forest County Potawatomi	10/1/2018	Michael LaRonge/THPO	Michael.LaRonge@FCPotawatomi-nsn.gov
Potawatomi – Hannahville Indian Community	No response[3]	Earl Meshigaud	earlmeshigaud@hannahville.org
Potawatomi – Pokagon Band of Potawatomi	No response[3]	Jason Wesaw/THPO	Jason.Wesaw@PokagonBand-nsn.gov
Potawatomi – Prairie Band of Potawatomi	No response[3]	Zach Pahmahmie/Vice Chairperson	ZachPahmahmie@pbpnation.org
Sac and Fox Tribe of the Mississippi in Iowa	No response[3]	March Runner	Director.exec@meskwaki-nsn.gov
Sac and Fox Nation of Missouri	No response[3]	Tiauna Carnes	tcarnes@sacandfoxcasino.com
Sac and Fox Nation of Oklahoma	No response[3]	Sandra Massey/THPO	smassey@sacandfoxnation-nsn.gov
Illinois Department of Natural Resources	No response	Wayne Rosenthal/State Historic Preservation Officer	DNR.Director@illinois.gov
Lake County Board	9/27/2018	Carol Calabresa/Vice Chairwoman	18 North County Street, 10th Floor, Waukegan, IL 60085
DuPage County	No response	Dan Cronin/County Board Chairman	chairman@dupageco.org
McHenry County	No response	Jack Franks/McHenry County Board Chairman	jdfranks@co.mchenry.il.us
Cook County	10/5/2018	Toni Preckwinkle/Cook County Board President	Pamela.Cummings@cookcountyil.gov
Kenosha County	No response	Jim Kreuser/County Executive	1010 56th Street, Kenosha, WI 53140
Village of Island Lake	No response	Charles Amrich/Mayor	charles.amrich@voislk.com
Village of Trout Valley	No response	Bob Baker/Mayor	troutvalleyblasts@gmail.com
Village of Third Lake	No response	Gary Beggan/Mayor	gbeggan@thirdlakevillage.com
Village of Bull Valley	No response	Emily Berendt/President	berendt.president.bv@gmail.com
Village of Kildeer	No response	Nandia Black/President	nblack@villageofkildeer.com

[3] Although the Tribe has not responded, FHWA and IDOT will coordinate with the Tribes in accordance with the Tribal MOU.

Table 4-1. Section 106 Consulting Parties

Agency Name	Consulting Party Response	Contact Person/Title	Email and Mailing Address
City of Des Plaines	9/12/2018	Matthew Bogusz/Mayor	mbogusz@desplaines.org
Village of Lincolnshire	No response	Elizabeth Brandt/Mayor	bburke@lincolnshireil.gov
Village of Winthrop Harbor	No response	Michael Bruno/Mayor	mbruno@winthropharbor.com
Village of Vernon Hills	No response	Roger Byrne/President	rogerb@vhills.org
City of Waukegan	No response	Sam Cunningham/Mayor	mayor.cunningham@waukeganil.gov
Village of Hainesville	No response	Gerry Daley/Mayor	geralddaley@hainesville.org
Village of Barrington	No response	Karen Darch/President	vobvm@barrington-il.gov.
Village of Bensenville	No response	Frank DeSimone/President	VillagePresident@bensenville.il.us
Village of Spring Grove	9/14/2018	Mark Eisenburg/President	meisenberg@springgrovevillage.com
Village of Holiday Hills	No response	Louis French/President	hhpresident@villageofholidayhills.com
Village of Northbrook	No response	Sandra Frum/President	sandy.frum@northbrook.il.us
Village of Antioch	No response	Lawrence Hanson/Mayor	lhanson@antioch.il.gov
Village of Arlington Heights	No response	Tom Hayes/Mayor	thayes@vah.com
City of Prospect Heights	No response	Nicholas Helmer/Mayor	nhelmer@prospect-heights.org
Village of Volo	No response	Stephen Henley/President	shenley.volo@gmail.com
Village of Johnsburg	No response	Edwin Hettermann/President	ehettermann@johnsburg.org
City of Zion	No response	Al Hill/Mayor	alh@zion.il.us
Village of Round Lake Beach	No response	Rich Hill/Mayor	MayorRLBeach@ameritech.net
Village of Wheeling	No response	Patrick Horcher/President	phorcher@wheelingil.gov
Village of Beach Park	9/18/2018	John Hucker/President	john.hucker@villageofbeachpark.com
Village of Long Grove	9/25/2018	Bill Jacob/President	billjacob@comcast.net
City of McHenry	No response	Wayne Jett/Mayor	wjett@ci.mchenry.il.us
Elk Grove Village	No response	Craig Johnson/Mayor	info@johnsoninsuranceil.com
Village of Mt. Prospect	No response	Arlene Juracek/Mayor	ajuracek@mountprospect.org
Village of Wauconda	No response	Lincoln Knight/Mayor	lknight@wauconda-il.gov
Village of Gurnee	No response	Kristina Kovarik/Mayor	mayor@village.gurnee.il.us
Village of Cary	No response	Mark Kownick/Mayor	mkownick@caryillinois.com
Village of Richmond	No response	Craig Kunz/President	villagepresident@richmond-il.com
City of Lake Forest	9/27/2018	Robert Lansing/Mayor	lansingr@cityoflakeforest.com
Village of Schaumburg	No response	Al Larson/President	alarson@schaumburg.com
Village of Mundelein	No response	Steve Lentz/Mayor	slentz@mundelein.org
Village of Round Lake Park	No response	Linda Lucassen/Mayor	llucassen@villageofroundlakepark.com
Village of Round Lake Heights	No response	Terrance Lumpkins/Mayor	rlh@villageofroundlakeheights.org
Village of Round Lake	No response	Daniel MacGillis/President	dmacgillis@eroundlake.com
Village of Ringwood	No response	Rick Mack/Mayor	6000 Barnard Mill Road, Ringwood, IL 60073

Table 4-1. Section 106 Consulting Parties

Agency Name	Consulting Party Response	Contact Person/Title	Email and Mailing Address
Village of Roselle	No response	Andy Maglio/Mayor	amaglio@roselle.il.us
Village of Hawthorn Woods	9/27/2018	Joseph Mancino/Mayor	jmancino@vhw.org
Village of Lindenhurst	No response	Dominic Marturano/Mayor	mayormarturano@lindenhurstil.org
Village of South Barrington	No response	Paula McCombie/Mayor	pmccombie@southbarrington.org
Village of Lake Villa	No response	James McDonald/Mayor	jmcdonald@lake-villa.org
Village of Barrington Hills	No response	Martin McLaughlin/President	village@vbhil.gov
Village of Hoffman Estates	No response	William McLeod/Mayor	bill.mcleod@hoffmanestates.org
Village of Riverwoods	No response	John Norris/Mayor	jnorris@riverwoods-il.net
Village of Fox River Grove	No response	Robert Nunamaker/President	r.nunamaker@foxrivergrove.org
Village of Lake Bluff	No response	Kathleen O'Hara/President	vlb@lakebluff.org
City of Park City	No response	Steve Pannell/Mayor	steve.pannell@parkcityil.org
Village of Tower Lakes	No response	David Parro/President	dparro@towerlakes-il.gov
City of Highwood	No response	Charlie Pecaro/Mayor	cpecaro@cityofhighwood.org
Village of North Barrington	9/18/2018	Albert Pino/President	m.peleaz.peterson@gmail.com; apino@northbarrington.org
Village of Lake Zurich	No response	Tom Poynton/President	Tom.Poynton@LakeZurich.org
City of Rolling Meadows	No response	Len Prejna/Mayor	mayor@cityrm.org
Village of Itasca	No response	Jeffrey Pruyn/Mayor	mayor@itasca.com
City of Wood Dale	No response	Nunzio Pulice/Mayor	npulice@wooddale.com
Village of Lake Barrington	No response	Kevin Richardson/President	lakebarrington@lakebarrington.org
Village of Prairie Grove	9/28/2018	David Robak/President	drobak@prairiegrove.org
North Chicago	No response	Leon Rockingham/Mayor	leoroc@northchicago.org
Village of Deerfield	No response	Harriet Rosenthal/Mayor	harrietrose@comcast.net
City of Highland Park	9/19/2018	Nancy Rotering/Mayor	nrotering@cityhphil.com
Village of Bannockburn	No response	Frank Rothing/President	frothing@villageofbannockburn.org
Village of Lake in the Hills	No response	Russ Ruzanski/President	rruzanski@lith.org
Village of Wadsworth	No response	Glenn Ryback/President	gryback@villageofwadsworth.org
Village of Deer Park	No response	Dale Sands/President	dsands@vodp.net
Village of Fox Lake	No response	Donny Schmit/Mayor	schmitd@foxlake.org
Village of Algonquin	No response	John Schmitt/President	johnschmitt@algonquin.org
Village of Palatine	No response	Jim Schwantz/Mayor	jschwantz@palatine.il.us
Village of McCullom Lake	No response	Marilyn Shepit/President	mccullomlake@comcast.net
City of Crystal Lake	No response	Aaron Shepley/Mayor	comments@crystallake.org
Village of Oakwood Hills	No response	Paul Smith/President	psmith@oakwoodhills.org
Village of Old Mill Creek	No response	Tim Smith/President	villageofoldmillcreek@gmail.com
Village of Indian Creek	No response	Steven Starykowicz/President	s_starykowicz@etymotic.com
Village of Buffalo Grove	9/20/2018	Beverly Sussman/President	bsussman@vbg.org

Table 4-1. Section 106 Consulting Parties

Agency Name	Consulting Party Response	Contact Person/Title	Email and Mailing Address
Village of Inverness	No response	John Tatooles/Mayor	contact@inverness-il.gov
Village of Grayslake	No response	Rhett Taylor/Mayor	mayortaylor@hotmail.com
Village of Wonder Lake	No response	Anthony Topf/President	ttopf@wlvillage.org
Village of Mettawa	No response	Casey Urlacher/President	curlacher@mettawa.org
Village of Addison	No response	Rich Veenstra/Mayor	Mayor@addison-il.org
Village of Lakemoor	No response	Ryan Weihofen/President	todd@lakemoor.net
Village of Libertyville	No response	Terry Weppler/President	tweppler@libertyville.com
Village of Green Oaks	No response	Bernie Wysocki/President	bernard.wysocki@greenoaks.org
Village of Port Barrington	No response	Shannon Yeaton/President	vpyeaton@portbarrington.net
Village of Salem Lakes	No response	Cindi Dulaney/Clerk	9814 Antioch Rd (Hwy 83), PO Box 443, Salem, WI 53168
Village and Town of Somers	No response	Timothy Kitzman/Clerk, Treasurer	PO Box 197, Somers, WI 53171
Village of Bristol	No response	Amy Klemko/Clerk, Treasurer	19801 83rd St, Bristol, WI 53104
Village of Twin Lakes	No response	Laura Roesslein/Clerk	108 Main St, Twin Lakes, WI 53181
City of Kenosha	No response	Deb Salas/Clerk, Treasurer	625 52nd St Room 105, Kenosha, WI 53140
Village of Pleasant Prairie	No response	Jane Snell/Clerk	9915 39th Ave, Pleasant Prairie, WI 53158
Village of Paddock Lake	No response	Emily Uhlenhake/Clerk, Treasurer	6969 236th Ave, Salem, WI 53168
Addison Township	No response	Pamela Moretti/Clerk	401 N. Addison Road, Addison, IL 60101
Algonquin Township	No response	Karen Lukasik/Township Clerk	3702 US Highway 14, Crystal Lake, IL 60014
Antioch Township	No response	Anita Merkel/Clerk	1625 Deep Lake Rd, Lake Villa, IL 60046
Avon Township	No response	Jeanne Kearby/Clerk	433 E Washington St, Round Lake Beach, IL 60073
Barrington Township	No response	Robert Alberding/Clerk	602 S Hough St, Barrington, IL 60010
Benton Township	No response	Larry Booth/Supervisor	40020 N Green Bay Rd, Beach Park, IL 60099
Bloomingdale Township	No response	Joyce Hundhausen/Clerk	123 Rosedale Ave, Bloomingdale, IL 60108
Burton Township	No response	April Shetsky/Clerk	1917 Main St, Spring Grove, IL 60081
Cuba Township	No response	Nicole Knapik/Clerk	28000 W Cuba Rd, Barrington, IL 60010
Ela Township	No response	Lucy Prouty/Clerk	1155 E Il Route 22, Lake Zurich, IL 60047
Elk Grove Township	No response	George Busse/Clerk	2400 S Arlington Heights Rd, Arlington Heights, IL 60005
Fremont Township	9/14/2018	Christina McCann/Clerk	22385 W Il Route 60, Mundelein IL 60060
Grant Township	No response	Barbara Schau/Clerk	26725 W Molidor Rd, Ingleside, IL 60041
Hanover Township	No response	Katy Baumer/Clerk	250 S IL Route 59, Bartlett, IL 60103
Lake Villa Township	No response	Jean Smuda/Clerk	37908 N Fairfield Rd, Lake Villa, IL 60046
Libertyville Township	10/2/2018	Anne Hansen/Clerk	359 Merrill Ct, Libertyville, IL 60048
Maine Township	No response	Peter Gialamas/Clerk	1700 Ballard Rd, Park Ridge, IL 60068
McHenry Township	No response	Dan Alyward/Clerk	3703 N Richmond Rd, Johnsburg, IL 60051

Table 4-1. Section 106 Consulting Parties

Agency Name	Consulting Party Response	Contact Person/Title	Email and Mailing Address
Moraine Township	No response	Gail Brown/Clerk	800 Central Ave, Highland Park, IL 60035
New Trier Township	No response	Jerome Hoynes/Clerk	739 Elm Street, Winnetka, IL 60093
Newport Township	No response	Debbie Spurgeon/Clerk	PO Box 312, Russell, IL 60075
Northfield Township	No response	Patti Lechner/Clerk	2559 Waukegan Rd, Suite 100, Glenview, IL 60025
Nunda Township	No response	Lee Jennings/Supervisor	3510 Bay Rd, Crystal Lake, IL 60012
Palatine Township	No response	Lisa Moran/Clerk	721 S. Quentin Rd, Palatine, IL 60067
Richmond Township	10/1/2018	Kathleen Hellman/Clerk	7812 S. Rt 31, Richmond, IL 60071
Schaumburg Township	No response	Timothy Heneghan/Clerk	1 Illinois Blvd, Hoffman Estates, IL 60169
Shields Township	No response	Joy Gayter/Clerk	906 Muir Ave, Lake Bluff, IL 60044
Vernon Township	No response	Barbara Barnabee/Clerk	3050 N Main St, Buffalo Grove, IL 60089
Warren Township	No response	George Iler/Clerk	17801 W Washington St, Gurnee, IL 60031
Wauconda Township	No response	Chris Rowe/Clerk	505 W Bonner Rd, Wauconda, IL 60084
Waukegan Township	No response	Rose Staben/Clerk	149 S Genesee St, Waukegan, IL 60085
West Deerfield Township	No response	Alyson Feiger/Supervisor	601 Deerfield Rd, Deerfield, IL 60015
Wheeling Township	No response	Joanna Gauza/Clerk	1616 N Arlington Heights Rd, Arlington Heights, IL 60004
Zion Township	No response	Sheryl Spooner/Clerk	2816 Sheridan Rd, Zion, IL 60099
Town of Randall	No response	Callie Rucker/Clerk	34530 Bassett Rd, Burlington, WI, 53105
Town of Wheatland	No response	Sheila Siegler/Clerk	34315 Geneva Rd, PO Box 797, New Munster, WI 53152
Town of Brighton	No response	Linda Perona/Clerk, Treasurer	25000 Burlington Rd, PO Box 249, Kansasville, WI 53139
Town of Paris	No response	Beverly McCumber/Clerk, Treasurer	16607 Burlington Rd, Union Grove, WI 53182

Table 4-2. Agencies and Organizations Declining Section 106 Consulting Party Status

Agency Name	Reason for Declining	Date Declined
TBD		

Table 5-1. Project Study Team Members

Agency Name	Contact Person/Title	Email
FHWA	Jon-Paul Kohler	Jon-Paul.Kohler@dot.gov
FHWA	Matt Fuller	Matt.Fuller@dot.gov
FHWA	Omar Qudus	Omar.Qudus@dot.gov
FHWA	Craig Cassem	Craig.Cassem@dot.gov
IDOT	John Baczek	John.Baczek@illinois.gov
IDOT	Steven Schilke	Steven.Schilke@illinois.gov
IDOT	Issam Rayyan	Issam.Rayyan@illinois.gov
IDOT	Anna Kutryn	Ann.Kutryn@illinois.gov
IDOT	John Sherrill	John.Sherrill@Illinois.gov
IDOT	Felecia Hurley	Felecia.Hurley@illinois.gov
IDOT	Dwayne Ferguson	Dwayne.Gerguson@illinois.gov
Tollway	Rocco Zucchero	rzuccher@getipass.com
Tollway	Aimee Lee	alee@getipass.com
Tollway	Reed Panther	rpanther@getipass.com
Tollway	Bryan Wagner	bwagner@getipass.com
Jacobs	Jeff Frantz	Jeff.Frantz@jacobs.com
Jacobs	Lidia Pilecky	Lidia.Pilecky@jacobs.com
Jacobs	Athreya Sreenivasan	Athreya.Sreenivasan@jacobs.com
Jacobs	Carla Mykytiuk	Carla.Mykytiuk@jacobs.com
Jacobs	Brian Connor	Brian.Connor@jacobs.com
Knight	Chris Reed	creed@knightea.com

Table 5-2. Stakeholder Participation Group

Agency Name	Contact Person/Title
Addison	Rich Veenstra/Mayor
Algonquin	John Schmitt/President
Antioch	Lawrence Hanson / Mayor
Arlington Heights	Tom Hayes / Mayor
Bannockburn	Frank "Bud" Rothing / President
Barrington	Karen Darch / President
Barrington Hills	Martin J. McLaughlin / President
Beach Park	John Hucker / President
Bensenville	Frank DeSimone/President
Buffalo Grove	Beverly Sussman / President
Bull Valley	Emily Berendt / President
Cary	Mark Kownick/Mayor
Crystal Lake	Aaron Shepley/Mayor

Table 5-2. Stakeholder Participation Group

Agency Name	Contact Person/Title
Deer Park	Dale Sands / President
Deerfield	Harriet Rosenthal / Mayor
Elk Grove Village	Craig Johnson/Mayor
Fox Lake	Donny Schmit, Jr. / President
Fox River Grove	Robert Nunamaker / President
Grayslake	Rhett Taylor / Mayor
Green Oaks	Bernie Wysocki / President
Gurnee	Kristina Kovarik / Mayor
Hainesville	Gerald Daley / Mayor
Hawthorn Woods	Joseph Mancino / Mayor
Highland Park	Nancy R. Rotering / Mayor
Highwood	Charlie Pecaro / Mayor
Hoffman Estates	William McLeod / Mayor

Table 5-2. Stakeholder Participation Group

Agency Name	Contact Person/Title
Holiday Hills	Louis French / President
Indian Creek	Steven Starykowicz / President
Inverness	John "Jack" Tatooles / Mayor
Island Lake	Charles R. Amrich / Mayor
Itasca	Jeff Pruyn/Mayor
Johnsburg	Edwin Hettermann / President
Kildeer	Nandia Black / President
Lake Barrington	Kevin Richardson / President
Lake Bluff	Kathleen O'Hara / President
Lake Forest	Robert Lansing / Mayor
Lake in the Hills	Russ Ruzanski/President
Lake Villa	James McDonald / Mayor
Lake Zurich	Tom Poynton / President
Lakemoor	Ryan "Todd" Weihofen / President
Libertyville	Terry Weppler / President
Lincolnshire	Elizabeth Brandt / Mayor
Lindenhurst	Dominic Marturano / Mayor
Long Grove	Bill Jacob / President
McCullom Lake	Marilyn Shepit / President
McHenry	Wayne Jett / Mayor
Mettawa	Casey Urlacher / President
Mt. Prospect	Arlene Juracek / Mayor
Mundelein	Steve Lentz / Mayor
North Barrington	Albert Pino / President
North Chicago	Leon Rockingham, Jr. / Mayor
Northbrook	Sandra E. Frum/President
Oakwood Hills	Paul Smith / President
Old Mill Creek	Tempel (Tim) Smith, Jr. / President
Palatine	Jim Schwantz / Mayor
Park City	Steve Pannell / Mayor
Port Barrington	Shannon Yeaton/President
Prairie Grove	David Robak / President
Prospect Heights	Nicholas Helmer / Mayor
Richmond	Craig Kunz / President
Ringwood	Rick Mack / Mayor
Riverwoods	John Norris / Mayor
Rolling Meadows	Len Prejna / Mayor
Roselle	Andy Maglio/Mayor
Round Lake	Daniel MacGillis / President
Round Lake Beach	Rich Hill / Mayor
Round Lake Heights	Terrance Lumpkins / Mayor
Round Lake Park	Linda Lucassen / Mayor

Table 5-2. Stakeholder Participation Group

Agency Name	Contact Person/Title
Schaumburg	Al Larson / President
South Barrington	Paula McCombie / Mayor
Spring Grove	Mark Eisenberg / President
Third Lake	Gary Beggan / Mayor (President)
Tower Lakes	David Parro / President
Trout Valley	Bob Baker/Mayor
Vernon Hills	Roger Byrne / President
Volo	Stephen Henley / President
Wadsworth	Glenn Ryback / President
Wauconda	Lincoln Knight / President
Waukegan	Sam Cunningham / Mayor
Wheeling	Patrick Horcher / President
Winthrop Harbor	Michael Bruno / Mayor
Wonder Lake	Anthony Topf / President
Zion	Al Hill / Mayor
Cook County	Toni Preckwinkle / Cook County Board President
Cook County Department of Transportation	John Yonan / Superintendent
Cook County Planning and Development	Susan Campbell / Director
Forest Preserve District of Cook County	Arnold Randall / General Superintendent
Lake County	Aaron Lawlor /Board Chairman
Lake County	David Stolman / Lake County Treasurer
Lake County Council of Mayors	Leon Rockingham, Jr. / Mayor of North Chicago
Lake County Division of Transportation	Shane Schneider / Director
Lake County Forest Preserves	Alex Ty Kovach / Executive Director
Lake County Planning, Building and Development Department,	Eric Waggoner / Director
Lake County Stormwater Management Commission	Michael Warner / Executive Director
McHenry County	Jack D. Franks / McHenry County Board Chairman
McHenry County - Stormwater Management	Joanna Colletti / Water Resources Manager/Chief Stormwater Engineer
McHenry County Conservation District	Elizabeth Kessler / Executive Director
McHenry County Department of Planning and Development	Dennis Sandquist / P&D Director
McHenry County Division of Transportation	Joseph Korpalski / Director of Transportation/County Engineer
Metropolitan Water Reclamation District of Greater Chicago	David St. Pierre / Executive Director

Table 5-2. Stakeholder Participation Group

Agency Name	Contact Person/Title
DuPage County	Dan Cronin/County Board Chairman
Kenosha County	Jim Kreuser/County Executive
CMAP	Joseph Szabo / Executive Director
Lake County Schools	Roycalee Wood / Lake County Regional Superintendent of Schools
METRA	James Derwinski / CEO/Executive Director
Pace Suburban Bus	Thomas J. Ross / Executive Director
Regional Transportation Authority	Leanne Redden / Executive Director
Wisconsin Department of Transportation, Southeast Region	Tony Barth/Systems Planning Chief
IDNR	Wayne Rosenthal/Director
Illinois Nature Preserves Commission	Steve Byers/Preservation Specialist (Area 2)
Active Transportation Alliance	Ron Burke / Executive Director
American Council of Engineering Companies-IL	Dave Bender / Executive Director
Black Chamber of Commerce of Lake County	Arthur Gass Sr. / President
Buffalo Grove Lincolnshire Chamber of Commerce	Roger Sosa /Executive Director
Center for Neighborhood Technology	Linda Young / Executive Director & Managing Director
Chicago Federation of Labor	Jorge Ramirez / President
College of Lake County	Jerry Weber / President
Environmental Law and Policy Center	Howard Learner / Executive Director
GLMV Chamber of Commerce	Scott Adams / President/CEO
Grayslake Chamber	Karen Christian-Smith / Executive Director
IL Road and Transportation Builders Association (IRTBA)	Michael J. Sturino / President & CEO
Illinois Chamber of Commerce	Todd Maisch / President and CEO
Illinois Black Chamber of Commerce	Larry D. Ivory/President and CEO
Illinois Finance Authority	Chris Meister / Executive Director
Illinois Hispanic Chamber of Commerce	Omar Duque / President & CEO
Illinois Manufacturers' Association	Greg Baise/President & CEO

Table 5-2. Stakeholder Participation Group

Agency Name	Contact Person/Title
International Union of Operating Engineers Local 150	James M. Sweeney / Vice President of Governmental Affairs
Lake County Audubon Society	Chris Geiselhart / President
Lake County Building and Construction Trades Council	Pete Olson / President
Lake County Chamber of Commerce	Stewart Kerr /Executive Director
Lake County Contractors Association	Tim Marabella / Executive Vice President
Lake County Municipal League	Mandi Florip/Executive Director
Lake County Partners	Kevin Considine / President and CEO
Lake County Transportation Alliance	Pete Manhard / President
Liberty Prairie Foundation	Brad Leibov / President and CEO
Long Grove Business and Community Partners	Jim Uszler / Events Coordinator
Mano a Mano	Lourdes Shanjani / Executive Director
McHenry County Chamber of Commerce	Kay Rial Bates /President
McHenry County EDC	Jim McConoughey /Interim President
Metropolitan Planning Council	Mary Sue Barrett / President
Northwest Council of Mayors	Karen Darch/Technical Committee Chair
Northwest Municipal Conference	Harriet Rosenthal / President
Openlands	Gerald Adelmann / President and CEO
Southeastern Wisconsin Regional Planning Commission (SEWRPC)	Michael G. Hahn / Executive Director
Transportation Management Association of Lake Cook (TMA)	Tim Grzesiakowski / President Executive Director
United States Minority Contractors Association (USMCA)	Rev. Larry S. Bullock / CEO
Voices for Illinois Children	Tasha Green Cruzat / President
Sierra Club of Illinois	Jack Darin/Chapter Director
Midwest Sustainability Group	Barbara Klipp/Executive Director

Table 5-3. Agencies and Organizations Declining Membership in the Stakeholder Participation Group

Agency	Date Declined
City of Des Plaines	3/6/2017
Village of Wood Dale	3/12/2017

Table 5-4. Study Milestones and Stakeholder Participation Activities

The Tri-County Access Project is subject to NEPA regulations. One of the basic principles of NEPA is to provide better decision-making by including the input of those who may be affected by a project. Project stakeholders are asked to provide input and to comment on project-specific information throughout the NEPA process. Additional input opportunities are listed in Section 7.2 of this document.

	Schedule	Stakeholder Coordination Activity	Comment Period (if applicable)	Input Received	Status
Early Planning Studies/Scoping	Fall 2017	**Stakeholder Involvement Plan (SIP) Development -** Develop initial SIP to document outreach goals, objectives, stakeholders, tools, and participation opportunities			Complete
	Winter 2017/2018	**Stakeholder Briefings -** Offer the opportunity and hold initial project briefings with legislative officials, village/city mayors/presidents, village/city managers/administrators, counties, and other interest groups.			Complete
	Winter 2018	**Tollway forms Stakeholder Participation Group (SPG)**			Complete
	Winter 2018	**Project Website - TriCountyAccess.org** is launched.			Complete
	March 2018	**SPG Meeting #1** - Project introduction; transportation performance findings		Stakeholder identified transportation problems, area characteristics/issues (CP #1)	Complete
	April 2018	**SPG Meeting #2** - Draft Goals and Objectives, introduced alternatives study process		Comments on Goals and Objectives; stakeholder identified improvement components (CP #1, CP #2)	Complete
	July 16, 2018	**Notice of Intent to prepare an EIS**			Complete
	July 2018	**PIM #1- Public Information Meeting #1** – Project Introduction (process and objectives) and draft Purpose and Need, and input on improvement components to be considered		Input on draft Purpose and Need, transportation concerns and areas for potential improvement in the project area (CP #1, CP #2)	Complete
	August 14, 2018	**FHWA publishes notice of extension of scoping comment period from August 24, 2018 to October 1, 2018 in Federal Register.**			Complete
	August 2018	FHWA to send participating and cooperating agencies invitation letters to federal and state agencies.			Complete

	Schedule	Stakeholder Coordination Activity	Comment Period (if applicable)	Input Received	Status
Early Planning Studies/Scoping	August 2018	**SPG Meeting #3 -** No-Build Alternative; Draft Purpose and Need; introduced environmental study considerations; introduced alternatives evaluation considerations		Comments on Purpose and Need and SPG engagement (CP #1)	Complete
	September 2018	FHWA and Tollway to send Section 106 consulting party invitations.			Complete
	September 2018	**PIM #1- Public Information Meeting #1** – Project Introduction (process and objectives) and draft Purpose and Need, and input on improvement components to be considered		Same material as July 2018 meeting. Input on draft Purpose and Need, transportation concerns and areas for potential improvement in the project area (CP #1, CP #2)	Complete
	September 2018	Tollway to send participating agency letters to state and local agencies.			Complete
	September 2018	Resource Agency Scoping Meeting to provide participating and cooperating agencies opportunity to give input on methodologies and level of detail, identification of potential environmental resource issues.			Complete
	October 1, 2018	**Scoping period ends**			Complete
Purpose and Need (Concurrence Point #1)	Fall 2018 through Winter 2018/2019	**One-on-One Agency Meetings** – Meet with Local Agencies, Others		Stakeholder input on Concurrence Points #2 and #3	Initiated but suspended
	Fall 2018	Tollway sends letter to notify cooperating and participating agencies the Draft SIP is available review and comment (revisit as needed)	30		Not Initiated
	Winter 2019	Tollway provides Draft Purpose and Need for public and cooperating and participating agency review. The Stakeholder List and SPG will be notified via email of the availability of the P&N document and provided its location on the project website.	30	Public and cooperating and participating agencies review and issue comments on Draft Purpose and Need	Not Initiated
	Winter 2019	**Purpose and Need commend period ends**			Not Initiated
	Spring 2019	**SPG Meeting #4 -** SPG "Kickoff #2"; Initial Range of Alternatives introduction		Stakeholder input on Initial Range of Alternatives (CP #2)	Not Initiated
	Spring 2019	FHWA sends final Purpose and Need package to agencies	30		Not Initiated
	Spring 2019	**FHWA holds NEPA/404 merger meeting to receive Concurrence Point #1 Purpose and Need**		**Standalone merger meeting; date is representative, concurrence point to be held in Spring 2019**	Not Initiated

	Schedule	Stakeholder Coordination Activity	Comment Period (if applicable)	Input Received	Status
Initial Range of Alternatives Concurrence Point #2)	Winter 2018 through Spring 2019	**One-on-One Agency Meetings** – Meet with Local Agencies, Others		Stakeholder input on Initial Range of Alternatives to be Considered (CP #2)	Not Initiated
	Spring 2019	**SPG Meeting #5 –** share and invite input on Initial Range of Alternatives to be Considered; preview of PIM #2 materials		Stakeholder input on Initial Range of Alternatives to be Considered (CP #2)	Not Initiated
	Spring 2019	**PIM #2- Public Information Meeting #2 –** Initial Range of Alternatives to be Considered		Stakeholder input on Concurrence Point #2	Not Initiated
	Summer 2019	FHWA sends final Initial Range of Alternatives package to agencies	30 days		Not Initiated
	Summer **2019**	**FHWA holds NEPA/404 merger meeting to receive Concurrence Point #2 Initial Range of Alternatives to be Considered**			Not Initiated
Alternatives for Detailed Consideration (Concurrence Point #3)	Spring 2019 through Summer 2019	**One-on-One Agency Meetings** – Meet with Local Agencies, Others		Stakeholder input on Concurrence Points #3	Not Initiated
	Summer 2019	**SPG Meeting #6 -** PIM #2 Summary; share and invite input on the features and performance characteristics of the Initial Alternatives, including input on Alternatives for Detailed Consideration; preview of PIM #3 materials		Stakeholder input on Alternatives for Detailed Consideration (CP #3)	Not Initiated
	Fall 2019	**PIM #3- Public Information Meeting #3 –** Present invite input on Initial Alternatives features and performance characteristics, including input on Alternatives for Detailed Consideration		Stakeholder input on Alternatives for Detailed Consideration (CP #3)	Not Initiated
	Fall 2019	FHWA sends final Alternatives for Detailed Consideration package to agencies	**30 days**		Not Initiated
	Late Fall 2019	**FHWA holds NEPA/404 merger meeting to receive Concurrence Point #3 Alternatives for Detailed Consideration**			Not Initiated
Preferred Alternative (Concurrence Point #4)	Winter 2020 through Spring 2020	**One-on-One Agency Meetings** – Meet with Local Agencies, Others		Stakeholder input on Concurrence Points #4	Not Initiated
	Winter 2020	**SPG Meeting #7 -** PIM #3 Summary; Alternatives for Detailed Consideration Workshop		Stakeholder input on Preferred Alternative (CP #4)	Not Initiated
	Summer 2020	**SPG Meeting #8 -** Alternatives for Detailed Consideration Workshop		Stakeholder input on Preferred Alternative (CP #4)	Not Initiated
	Summer 2020	FHWA sends final Preferred Alternative package to agencies	30 days		Not Initiated
	Summer 2020	**FHWA holds NEPA/404 merger meeting to receive Concurrence Point #4 Preferred Alternative**			Not Initiated

	Schedule	Stakeholder Coordination Activity	Comment Period (if applicable)	Input Received	Status
Draft EIS	Fall 2020	**SPG Meeting #9 -** Preview of Public Hearing (Draft EIS and Preferred Alternative)		Early input on the Draft EIS	Not Initiated
	Fall 2020	**FHWA publishes Notice of Availability in Federal Register and begins Public Comment period Notice of Availability of Draft EIS**	60 days		Not Initiated
	Late Fall 2020	**Public Hearing -** Present the Draft EIS		Input on the Draft EIS.	Not Initiated
	Winter 2021	**Public comment period on Draft EIS ends**	60 days from NOA		Not Initiated
Final EIS/Record of Decision	Winter 2021	**SPG Meeting #10 -** Public Hearing Summary; Preferred Alternative refinements		Stakeholder input on Final EIS (FEIS/ROD)	Not Initiated
	Fall 2021	**Issuance of combined Final EIS/Record of Decision and Limitation on Claims Notification**			Not Initiated

Table 8-1. Stakeholder Involvement Plan Revision History

Version	Date	Version Description
1.0	March 2018	Initial Plan
2.0	July 2018	Update to include declining SPG members; updated schedule graphic and meeting descriptions
3.0	December 2018	Update to include section on One Federal Decision; addition of cooperating, participating, and Section 106 consulting agencies; updated schedule to include milestones and additional stakeholder participation opportunities; schedule graphics and alternatives development process added/updated.

Appendix B
Glossary

Glossary

Alternative	One of a number of specific transportation improvement proposals, alignments, options, design choices, etc. in a study.
Area of Potential Effects	The Area of Potential Effects (APE) for a project includes the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.
Concurrence	As defined in the merger agreement, concurrence is confirmation from the agency that (1) the information to date is sufficient for this stage [of project development] and (2) the project may proceed to the next stage of project development (e.g., the next concurrence point, public release of an environmental document, completing NEPA, advancing to final design). Concurrence does not imply the resource or regulatory agency has endorsed the project or released its obligation to determine if the project meets statutory review criteria (for example, the USACE "releases its obligation and determines if the project meets statutory review criteria" when it makes its permit decision).
Environmental Impact Statement	An Environmental Impact Statement (EIS) is required by the National Environmental Policy Act (NEPA) of 1969 for projects that may have significant impacts and is the document that ensures that planners, engineers and environmental scientists have studied appropriate alternatives and that citizen have been given the opportunities to be fully informed of the environmental, social, cultural, and economic effects of all reasonable alternatives. The EIS documents the development and impact analysis of the alternatives, as well as the logic for the selection of the Preferred Alternative.
Historic property	A historic property is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.
National Environmental Policy Act	NEPA is the federal law that requires the preparation of an EIS, Environmental Assessment, or Categorical Exclusion.
Multimodal Transportation	Includes all modes of transportation for a complete transportation system. Examples include cars, trucks, bicycles, pedestrians, high-occupancy vehicles, mass transit, and rail.
Problem Statement	A problem statement is a concise narrative, prepared as part of a project needs study, defining the fundamental situation or circumstance to be solved. A problem statement generally describes a particular situation in which an expected level of performance is not being achieved, and it lists one or more important factors that cause or contribute to the unacceptable performance.
Speakers' Bureau	A group of speakers that is selected and maintained due to their expertise on a specific subject or project. These speakers are available to participate in presentations about their project/topic at workshops, meetings, or at other stakeholder events.
Stakeholder Involvement Plan	A Stakeholder Involvement Plan (SIP) develops and defines a process that facilitates effective identification and understanding of the SPG concerns and values of all stakeholders as an integral part of the project development process. A SIP includes a formal written plan explaining how public input and comments will be obtained.
Undertaking	An undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license, or approval.

Attachment 2:

Stakeholder Participation Group
Meeting #1 Summary

MEETING SUMMARY

Stakeholder Participation Group Meeting #1

PREPARED BY: Carla Mykytiuk, Tri-County Access Project Community Outreach

DATE: March 21, 2018, 2:30 p.m. to 4:30 p.m.

LOCATION: Round Lake Beach Cultural and Civic Center

This first Stakeholder Participation Group (SPG) meeting for the Tri-County Access Project (TCA Project) was held March 21, 2018. The purpose of the meeting was as follows:

- Introduce the TCA Project, the public involvement program, and the existing and future transportation system performance in the Project area.
- Outline the purpose, roles, and responsibilities of SPG members.
- Ask each SPG member to participate in an online Context Audit using PollEverywhere. The online polling was used to collect information about the TCA Project area so that the TCA Project Team gains an understanding of transportation-related concerns, community resources, and values.

Attendees

One hundred and fifty-one (151) individuals, representing varied interests in the study area (municipalities, counties, agencies, transportation, business, and interest groups), were invited by the TCA Project Team to participate in the SPG. The full invite list can be found in the Stakeholder Involvement Plan available on the project website. Of this number, the following 56 attended the meeting:

Dave Bender, Executive Director	ACEC-Illinois
Ron Burke, Executive Director	Active Transportation Alliance
Bridget Early, Director of Political Affairs	Chicago Federation of Labor
Jason Navota, Director	Chicago Metropolitan Agency for Planning
Leon Rockingham, Jr., Mayor	City of North Chicago
Mike Welch, Facilities Director	College of Lake County
John Yonan, Superintendent	Cook County Department of Transportation and Highways
Jeffrey S. Maczko, Senior Engineer	Elk Grove Village
Rachel Granneman, Staff Attorney	Environmental Law and Policy Center
Howard Learner, Executive Director	Environmental Law and Policy Center
Tim Marabella, Executive Vice President	Great Lakes Construction Organization
Mark Poulos, Executive Director III FFC	International Union of Operating Engineers Local 150
Libby Braband, HDR, Inc.	IL Road and Transportation Builders Association

Ray Arbet, Public Works and Development Services Director	Kenosha County
Chris Geiselhart, President	Lake County Audubon Society
Aaron Lawlor, Chairman	Lake County Board
Shane Schneider, Director	Lake County Division of Transportation
Jim Anderson, Director of Natural Resources	Lake County Forest Preserve
Alex Ty Kovach, Executive Director	Lake County Forest Preserves
Eric Waggoner, Director	Lake County Planning, Building and Development Department
Scott Griffith, Regulatory Supervisor	Lake County Stormwater Management Commission
Michael Warner, Executive Director	Lake County Stormwater Management Commission
Pete Manhard, President	Lake County Transportation Alliance
Brad Leibov, President and CEO	Liberty Prairie Foundation
Lourdes Shanjani, Executive Director	Mano a Mano
Ed Collins, Director of Land Preservation & Natural Resources	McHenry County Conservation District
Joseph Korpalski, Director of Transportation/County Engineer	McHenry County Division of Transportation
Rick Mack, Community Affairs Manager	METRA
Joseph Schuessler, represented David St. Pierre, Executive Director	Metropolitan Water Reclamation District of Greater Chicago
Barbara Klipp, Executive Director	Midwest Sustainability Group
Stacy Meyers, Staff Attorney	Openlands
Thomas J. Ross, Executive Director	PACE Suburban Bus
Christopher Hiebert, Chief Transportation Engineer	Southeastern Wisconsin Regional Planning Commission
Tim Grzesiakowski, President	Transportation Management Association of Lake Cook
Michael Garrigan, Village Planner	Village of Antioch
Darren Monico, Village Engineer	Village of Buffalo Grove
Dale Sands, President	Village of Deer Park
Donny Schmit, Mayor	Village of Fox Lake
David Ziegler, Director of Community Development	Village of Gurnee
Gerry Daley, Mayor	Village of Hainesville
Joseph Mancino, Mayor	Village of Hawthorn Woods

Mike Hankey, Director of Transportation & Engineering	Village of Hoffman Estates
Michael Talbett, Chief Executive Officer	Village of Kildeer
Karl Warwick, Village Administrator	Village of Lake Villa
John Spoden, Director of Community Development	Village of Libertyville
Clay Johnson, Village Administrator	Village of Lindenhurst
Michael Sarlitto, Trustee	Village of Long Grove
Steve Lentz, Mayor	Village of Mundelein
Albert Pino, President	Village of North Barrington
Beth William, Village Administrator	Village of Prairie Grove
Steven J. Shields, Village Administrator	Village of Round Lake
Rich Hill, Mayor	Village of Round Lake Beach
Natalie Karney, Village Engineer	Village of South Barrington
David Brown, Public Works Director	Village of Vernon Hills
Stephen Henley, President	Village of Volo
Glenn Ryback, President	Village of Wadsworth

In addition, the following elected officials participated in the meeting:

Greg Claus, Deputy District Director	Representative Bradley S. Schneider
Senator Melinda Bush	Illinois Senate

In addition to the SPG members, over 100 individuals from the public observed the meeting. Observers had an opportunity to submit comments via the project website using provided iPads, or their own mobile devices. Observers also shared their comments with comment cards.

Illinois Tollway Executive Director Elizabeth Gorman provided opening remarks and the following TCA Project Team members then led the SPG through the presentation, answered questions, and directed the interactive mapping exercise:

- Reed Panther, Illinois Tollway
- Lidia Pilecky, CH2M HILL, Inc.
- Athreya Sreenivasan, CH2M HILL, Inc.
- Chris Reed, Knight E/A, Inc.

In addition to SPG members, agency representatives, and the TCA Project Team, more than 100 stakeholders from the public were in attendance to observe SPG Meeting #1. Public attendees were encouraged to submit comments via the TCA Project website or comment card.

Summary

Sign-In

Upon arriving at the meeting, as part of the sign-in process, SPG members were asked to sign the SPG Operating Agreement (pages 3 and 4 of the SPG Organizational Structure and Rules of Engagement document), which had been emailed in advance of the meeting. While not a legal agreement, nor a statement of support for the Tri-County Access Project or any decisions made by the project team, signing the agreement indicates a commitment to be respectful of the TCA Project development and stakeholder involvement process and to follow the guidelines that encourage "thinking outside the box" throughout the development of the Project.

Online Polling

Next, assistance was offered to ensure that SPG members were signed into PollEverywhere and ready to use their mobile devices or tablets to participate in the online polling. The objective of the polling was to collect input throughout the meeting to allow the project team to fully incorporate this feedback into the project development process.

Meeting Kick Off

To kick off the meeting, Mayor Hill of Round Lake Beach welcomed everyone to his community and the Round Lake Beach Civic Center and expressed his support for the TCA Project process and goal of determining a solution to the area's transportation needs. Next, Illinois Tollway Executive Director Liz Gorman welcomed everyone and thanked SPG members for giving their time and sharing the views of their respective communities, agencies, and interest groups. Director Gorman touched briefly on the history of the TCA Project and previous studies of the area. She emphasized that the Project offers a fresh look at the Tri-County region and an opportunity to decide on a solution to the area's transportation needs.

The TCA Project is distinctive in the following three ways:

1. Features a regional approach that recognizes the area's diverse travel desires
2. Fosters an understanding that the solution must be fiscally achievable and must look beyond taxes and fees
3. Leverages new and emerging technology to develop a 21st Century transportation solution
4. Reflects a diverse group of stakeholders across the spectrum of preferences in order to fully voice all the issues at hand and to encourage input on all possible alternatives

Like the studies that have come before, the TCA Project promotes environmentally responsible solutions.

Meeting Agenda

The agenda for the meeting was as follows:

- Welcome, Introductions, and Housekeeping
- Stakeholder Involvement Plan
- Stakeholder Participation Group
  - Ground Rules
  - Meeting Format
  - Context Audit

- Project Overview
- Question and Answer Break
- Transportation System Performance
- Question and Answer Break
- Next Steps
- Group Exercise

Meeting Presentation

The PowerPoint presentation (click here for SPG Meeting #1 presentation) featured an overview of the following:

An introduction to the Project Team

As the Project sponsor, the Tollway is responsible for delivering and funding the Environmental Impact Statement (EIS) and related studies.

The Federal Highway Administration (FHWA), as lead federal agency for the EIS process, in collaboration with the Tollway and Illinois Department of Transportation (IDOT) as joint lead agencies, will oversee the TCA Project and will act as the decision-makers. The TCA Project Team will provide the planning, engineering, environmental, and financial studies to support the selection of a preferred alternative. Collaboratively, the Project Team collects and analyzes data, promotes partnership, ensures federal and state requirements for preparation of the EIS are met, and makes the decisions.

The Stakeholder Involvement Plan (SIP)

The SIP identifies roles and responsibilities of the TCA Project Team and SPG members, establishes timing of stakeholder activities, and provides guidance for stakeholder participation in the TCA Project.

The SIP is available on the website (click here for the SIP) and will be updated throughout the Project.

The Stakeholder Participation Group (SPG)

The Stakeholder Participation Group consists of representatives invited from more than 150 communities, interest groups, and partnering agencies who are asked to represent the interests of and provide insight into the unique issues and concerns that affect their constituents.

Although some SPG members may have been involved in similar previous studies, the TCA Project Team cannot emphasize enough that this Project offers a fresh look and new approach, one that offers a diverse group of stakeholders across the spectrum of preferences to voice their issues and to encourage community and stakeholder input to reach a reasonable decision. In that vein, the SPG is asked to commit to attending meetings, supporting the public involvement process outlined in the SIP, identifying community, environmental, economic, and transportation issues and resources, providing input on study data and technical analyses, and sharing information and encourage broader community input.

SPG Ground Rules - To make SPG meetings productive and to respect the time of SPG members, the Project Team has established a set of simple ground rules that members are asked to follow. Ultimately, the rules are intended only to foster an environment of productivity and respect.

General Understanding of Agreement – SPG members should work collaboratively and cooperatively to seek a general understanding of agreement. A general understanding of agreement does not mean unanimous agreement with all decisions or that a vote of any kind will be taken. Rather, a general understanding of agreement has been reached when SPG members agree that their input has been heard and duly considered, and the process as a whole was fair. The Project will progress at a reasonable pace; all participants must understand that once a general understanding of agreement is reached on a topic, it will not be readdressed.

Please note: In light of recent issues voiced by some SPG members, the project team is reviewing the Stakeholder Participation Group Operating Agreement.

Context Audit Exercise

Throughout the remaining presentation, electronic polling was used to ask questions and document responses about conditions within the TCA Project area. Questions were asked electronically so that SPG member input could be easily captured and documented. The intent was to provide:

- An opportunity to hear directly from SPG members about their experiences and views of the transportation problems and priorities in the Project area
- An opportunity for SPG members to share details about the communities and constituents they represent
- Information to help define the goal and objectives for the TCA Project and to understand local and regional community goals and plans for future development

The polling questions and how the SPG members responded can be found in the SPG Meeting #1 presentation. Questions submitted by SPG members throughout the meeting can be found in the **Response to Comments** at the end of this SPG Meeting #1 Summary.

Tri-County Access Project Overview

As noted in Executive Director Gorman's opening remarks, the TCA Project offers a fresh look at the Tri-County region and will provide a decision on a solution to the area's transportation needs. The boundaries of the Project area are defined by the primary travel patterns of people who live or work in the area. The area is large (approximately 1,000 square miles) and spans the Tri-County region (all of Lake County, northwest Cook County, and east McHenry County). The area also includes a portion of northeast DuPage County and southeast Kenosha County.

So, why now? For decades, development has outpaced and simply put, outgrown the area's transportation system. The area's growth and development will continue in the future. The consequences: today, about 1/3 of area roads are congested during rush hours. By 2050, congestion on area roads will be more widespread and severe, causing delays during rush hours to be about 55 percent higher than they are today.

The TCA Project represents a fresh and holistic look and an opportunity to deliver a comprehensive regional solution that will:

- Relieve congestion and provide reliable travel now and for the future
- Improve quality of life for residents throughout the Project area
- Encourage economic growth and job creation, promoting the region's economic goals and vitality
- Identify an environmentally responsible solution that respects the region's natural resources and diverse communities
- And – importantly – define a fiscally responsible transportation solution and a viable financial plan

The three tracks to reaching a sound and informed decision are summarized in this way:

- Technical – leverage ideas from prior studies (for example, alternatives, design treatments, and measures to protect the environment/communities), identify environmentally friendly solutions, and integrate innovative technologies
- Financial – develop fiscally sound and feasible solutions
- Public outreach – effectively engage all stakeholders in the conversation

The TCA Project development process complies with requirements under the federal National Environmental Policy Act and consists of four major steps – **first**, determine transportation needs (the topic of SPG Meeting #1); **second**, identify and evaluate a broad range of system alternatives; **third**, identify and develop in further detail the Build Alternatives, which address the identified transportation needs, and prepare a Draft EIS presenting study findings for public and agency comment; **and finally**, following the identification of a Preferred Alternative, complete a Final EIS, required preliminary engineering, and associated financial plans. **This process is the means through which a decision is made in conformance with federal requirements**. Opportunities for stakeholder engagement and agency coordination are a vital and integral part of the process.

The process is considering findings/recommendations from prior relevant studies, including: **Lake County Transportation Improvement Project Draft EIS**, which considered numerous alternatives for widening existing roads, and extending and upgrading the IL 53/120 corridors; **IL 120 Unified Vision Plan (Lake County DOT)**, which considered various upgrade options for the IL 120 corridor; and Blue Ribbon Advisory Council **(BRAC) Reports**, which identified innovative design treatments and environmental enhancement strategies for the IL 53/IL 120 corridors.

Questions submitted by SPG members during the first question and answer session can be found in the **Response to Comments** at the end of this SPG Meeting #1 Summary.

Transportation System Performance

Since the conversation about major transportation improvements began, the area's population and employment has grown dramatically. Today, the TCA Project area has an employment base of approximately 970,000 jobs, which is consistent with earlier forecasts developed via Chicago Metropolitan Agency for Planning (CMAP) (Northeastern Illinois Planning Commission [NIPC]) long-range planning efforts in the late 90s and documented in the Lake County Transportation Improvement Project Draft EIS. By 2050, the area's projected employment base is approximately 1.2 million jobs, with job growth projected in southeast Lake and northern Cook counties and expanding into central Lake, northwest Lake, and eastern McHenry counties. This historical and continuing job growth has led to more travel interaction over the last two decades between Cook, Lake, and McHenry counties. Today, the TCA Project area's population totals approximately 1.7 million residents, which is slightly lower than the prior CMAP (NIPC) projections, primarily due to the 2008-2010 recession. The number of housing structures in the Project area has grown by 140 percent in the last five decades. Today, population densities in the Project area are concentrated in northwest Cook County and southeast Lake County. By 2050, the area's population is anticipated to grow to 2.1 million residents, including increasing population density in southeast Lake and northwest Cook counties, as well as expanding population north and westward into central Lake, northwest Lake, eastern McHenry and Kenosha counties. The project must use population and employment forecasts derived from CMAP. The forecasts presented at today's meeting reflect preliminary forecasts provided by CMAP, and will be reviewed following completion of the CMAP ON TO 2050 Plan.

The attractiveness of the TCA Project area for housing, population, and jobs has and will continue to affect area travel characteristics in the coming decades. Area characteristics include the following:

- Household characteristics in the Project area support a reliance on cars. More than 60 percent of the households own two or more vehicles, which is 13 percent higher than the CMAP regional average. Automobile is the most dominant mode of transportation.
- The Project area has a robust working-age population (67 percent) between 15 and 64 and the median age of the workforce is 39 years old. A large number of workers and low median compared to the average retirement age of 65 will continue to use their cars to get to and from work for years to come.

- More than 90 percent of travel in the Project area is by car. When it comes to commuting, about 7 percent of commuters use transit, primarily Metra lines destined toward downtown Chicago for work.
- The area's transportation system includes more than 2,000 miles of roadways, 5 Metra lines, 67 Pace bus routes, and a robust network of trails and bike paths (about 750 miles) used by residents for various activities. The Metra lines are primarily oriented toward downtown Chicago, serving work trips to and from the Project area.

Approximately 6.6 million roadway trips occur in the Project area daily. The number of roadway trips is anticipated to rise to approximately 8.3 million per day by 2050, an increase of approximately 25 percent. More than 90 percent of these trips are internal to, enter, or leave the Project area. Travel patterns on area roadways include the following:

- Travel desires in the Project area tend to be predominantly in the north-south direction, with diagonal elements depending on whether the destination is in the southeast or southwest portions of the Project area. Travelers who want to make north-south or diagonal trips are using existing east-west roadways to get to and from their desired destinations.
- Travel desires are concentrated between northwest Cook County on the south side of the Project area to east and central Lake County. Movements in the northwest to/from the southeast portions of the Project area are also prevalent, moving people to/from southeast Lake County to west Lake County and eastern McHenry County.

Growth in the Project area has resulted in increased travel demand, longer travel times, and spreading and growing congestion on area roadways. Performance characteristics of the area's transportation system today and in the future, under a Year 2050 No-Action Alternative condition, are anticipated to include the following:

- Two common measures of roadway usage are vehicle miles traveled (VMT) and vehicle hours traveled (VHT). VMT measures the total number of miles traveled by vehicles using the roadway system, and VHT calculates the total amount of time vehicles are using the roadway system.
- By 2050, the total miles traveled (VMT) on roadways in the Project area during rush hours is expected to grow by 24 percent, while the total time traveled (VHT) during rush hours will increase more significantly by 38 percent. The largest increase in vehicle hours of travel is projected on the area's local collector roadways.
- Congestion on area roadways will continue to spread and grow, encompassing most of the Project area. Today, approximately 29 percent of area roadways experience congestion during rush hours. By 2050, congested roadway miles will increase by 38 percent. This includes roadways in central Lake, northwest Lake, and eastern McHenry counties where the miles of roadways with severe or extreme congestion will grow by 60 percent.
- Traffic congestion results in costs that can be calculated in time and money. Today, motorists lose 190,000 hours of time delay on an average weekday due to rush-hour congestion; by 2050, the delays are projected to increase to 299,000 hours. Today, the time lost to congestion during rush hours equates to $2.5 million in lost productivity daily; by 2050, the time lost to congestion will equate to $3.9 million in lost productivity.
- Unreliable travel conditions affect area motorists, causing unpredictable travel times and inconsistent route choices by motorists to avoid severely congested areas.

  Questions submitted by SPG members during the second question and answer session can be found in the **Response to Comments** at the end of this SPG Meeting #1 Summary.

Next Steps

SPG members and public observers were reminded about the following ways to stay involved in the TCA Project:

- As representatives of area communities, organizations, agencies, and interest groups, representing their constituents through continued active participation in the SPG is very important, particularly during these early stages of our study process.
- The general public will also have numerous opportunities to be informed and to provide input. Opportunities include Project public meetings and hearings, fact sheets, one-on-one meetings with Project Team members, and Project Team presentations to groups.
- The public can reach the project team via email (TriCountyAccess@getipass.com).
- The Project website (www.tricountyaccess.org) is a central source for up-to-date information about the Project and the place to go to submit comments, questions, and request information.
- SPG Meeting #2 will be held on April 24, 2018, SPG Meeting #3 will be held in July 2018, and SPG Meeting #4 will be held in December 2018.

An overview of the TCA Project schedule was provided, noting the anticipated schedule for the four-step process provided with the Project Overview (see SPG # 1 Presentation deck).

Mapping Exercise

SPG members were asked to provide input on transportation problems they encounter in the project area and to identify environmental or community resources of concern.

Six colors of post-it notes were provided, each representing a different type of concern.

The SPG was asked to identify roadways and transit routes with travel performance concerns, locations with multimodal access concerns, and environmental areas of concern. SPG participants recorded their input on the assigned colored post-it and placed the note at the location of concern on the map. Figure 1 shows numbered, color-coded comments provided by SPG members during the exercise, and environmental areas of concern (highlighted in green).

Figure 1. Map of Comments

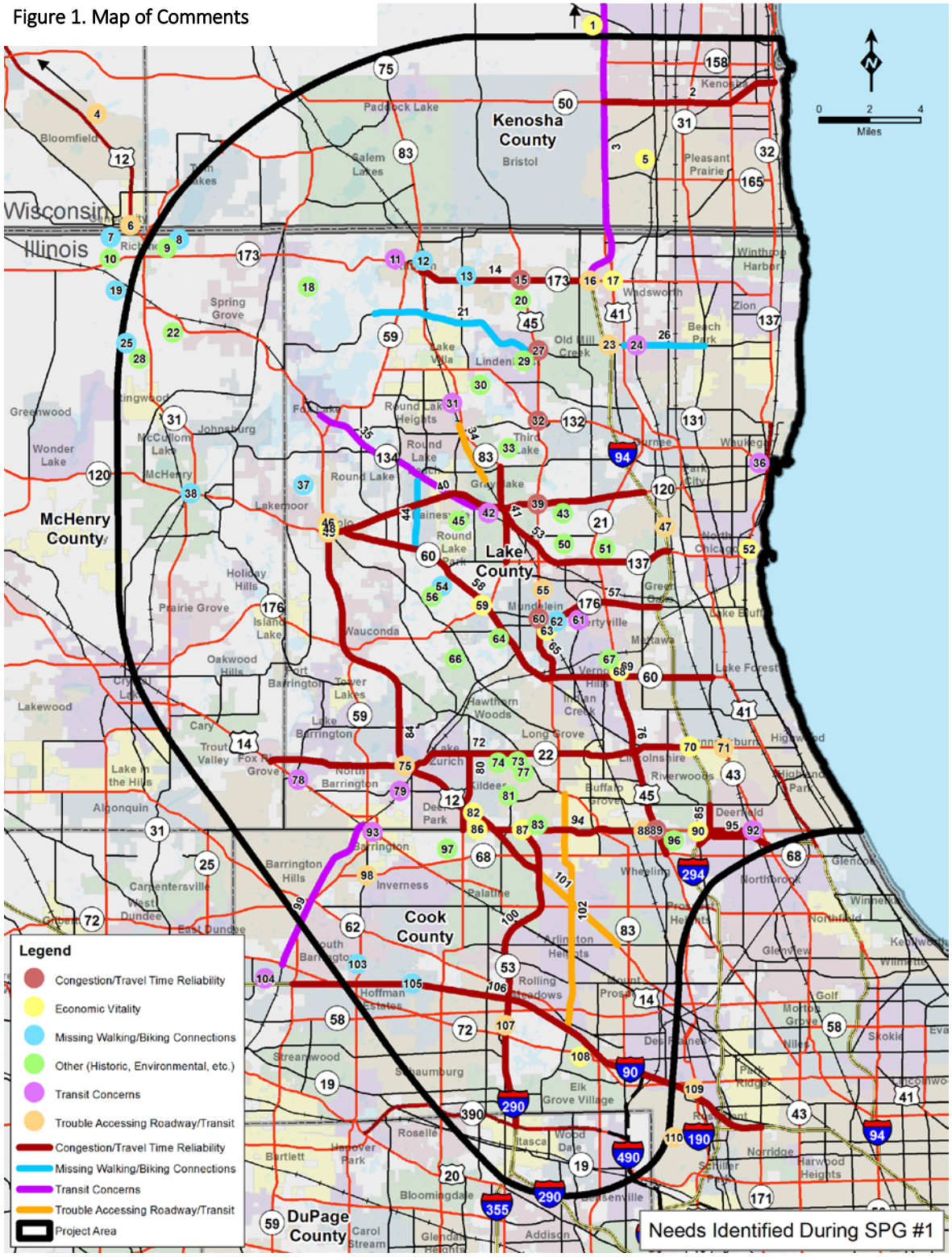


Table 1 provides the written comments that correlate to the numbers on the map. Table 1. Written Comments (Correlated to Numbering of Figure 1)

No.	Category	Comment	Location
1	Economic Vitality	Foxconn	Mount Pleasant, WI
2	Congestion/Travel Time Reliability	Route 50	From Route 94 to Route 32
3	Transit Concerns	Pace to Kenosha Transit Transfer	North Lake County into Kenosha County
4	Trouble Accessing Roadway/Transit	Access to Alpine Valley, lake, recreation, etc.	Fox Lake
5	Economic Vitality	Employment and population growth	Pleasant Prairie, WI
6	Trouble Accessing Roadway/Transit	Long planned connection to US 12 in WI	US 12 around IL/WI border
7	Missing Walking/Biking Connections	Nippersink North Conservation Area, 525 acres	McHenry/Kenosha County border
8	Missing Walking/Biking Connections	Lake Elizabeth 400-acre Illinois State Nature Preserve	McHenry/Kenosha County border
9	Other (Historic, Environmental, etc.)	Elizabeth Lake Nature Preserve	Richmond
10	Other (Historic, Environmental, etc.)	Hackmatack North Branch Preserve	Northern McHenry County
11	Transit Concerns	Route 173	Antioch
12	Missing Walking/Biking Connections	Antioch city as a whole has minimal to no paths	Antioch
13	Missing Walking/Biking Connections	45-83	Northern Lake County between Routes 45 and 83
14	Congestion/Travel Time Reliability	Route 173	From Route 83 to Route 94
15	Congestion/Travel Time Reliability	Intersection of Routes 45 and 173	Antioch
16	Trouble Accessing Roadway/Transit	Office park site, I-94 and Route 173	Wadsworth
17	Economic Vitality	Development	Wadsworth at Route 173/41
18	Other (Historic, Environmental, etc.)	Chain O' Lakes State Park	Spring Grove
19	Missing Walking/Biking Connections	Hackmatack	Northern McHenry County
20	Other (Historic, Environmental, etc.)	Raven Glen/Ethel's Woods Forest Preserves	Northern Lake County near Route 45 and Route 173
21	Missing Walking/Biking Connections	Grass Lake Rd sidewalk/paths	Lake Villa/Lindenhurst
22	Other (Historic, Environmental, etc.)	Nippersink North Conservation Area, 525 acres	Northern McHenry County
23	Trouble Accessing Roadway/Transit	I-94 access	Old Mill Creek
24	Transit Concerns	Future B12; need Amtrak station in Wadsworth	Wadsworth

No.	Category	Comment	Location
25	Missing Walking/Biking Connections	Glacial Park, 3400 acres	Northern McHenry County
26	Missing Walking/Biking Connections	Wadsworth Rd missing sidewalk	Wadsworth
27	Congestion/Travel Time Reliability	Intersection of Route 45 and Grass Lake Road	Lindenhurst
28	Other (Historic, Environmental, etc.)	Glacial Park, 3400 acres	Northern McHenry County
29	Other (Historic, Environmental, etc.)	McDonald Woods Forest Preserve	Lake Villa/Lindenhurst
30	Other (Historic, Environmental, etc.)	Duck Farm Forest Preserve	Lake Villa/Lindenhurst
31	Transit Concerns	North Central [Metra] Schedule	Round Lake Beach/Lake Villa
32	Congestion/Travel Time Reliability	Intersection of Routes 45 and 132	Gurnee/Lindenhurst
33	Other (Historic, Environmental, etc.)	Rollins Savana Forest Preserve	North Grayslake
34	Trouble Accessing Roadway/Transit	Two tracks north (Metra)	Round Lake/Round Lake Beach
35	Transit Concerns	Need double tracks on MD-N from here [Grayslake] to Fox Lake	MD-N Metra line from Grayslake to Fox Lake
36	Transit Concerns	People can take bus to work but get off too late to take bus home	Waukegan
37	Missing Walking/Biking Connections	Volo Bog	Volo
38	Missing Walking/Biking Connections	No Comment	McHenry around Route 31/120
39	Congestion/Travel Time Reliability	Intersection of Routes 45 and 120	Grayslake
40	Congestion/Travel Time Reliability	Route 120	From Route 94 to Route 12
41	Congestion/Travel Time Reliability	Route 83	From Washington St to Peterson Rd
42	Transit Concerns	Nearest Pace stops do no connect safely to train stops	Grayslake
43	Other (Historic, Environmental, etc.)	Almond Marsh	Grayslake
44	Missing Walking/Biking Connections	Cedar Lake bike/sidewalk	Round Lake/Volo
45	Other (Historic, Environmental, etc.)	Farmland/Wetlands	Grayslake/Hainesville
46	Trouble Accessing Roadway/Transit	Volo, no access points	Volo
47	Trouble Accessing Roadway/Transit	Amazon	Waukegan near I-94
48	Economic Vitality	Route 12/22	Volo
49	Trouble Accessing Roadway/Transit	Route 120/12	Volo

No.	Category	Comment	Location
50	Other (Historic, Environmental, etc.)	Liberty Prairie Nature Preserve	Libertyville
51	Other (Historic, Environmental, etc.)	Independence Grove Forest Preserve	Libertyville
52	Economic Vitality	National Museum of the American Sailor	North Chicago
53	Congestion/Travel Time Reliability	Route 137	From Route 94 to Route 83
54	Missing Walking/Biking Connections	Bike/sidewalk	Round Lake Park/Hawthorn Woods
55	Trouble Accessing Roadway/Transit	Need Metra connection at Innovation Park; need weekend access to O'Hare via Canadian Train line	Mundelein
56	Other (Historic, Environmental, etc.)	Ray Lake Forest Preserve	Ivanhoe
57	Congestion/Travel Time Reliability	Route 176	From Route 94 to Route 45
58	Congestion/Travel Time Reliability	Route 60	From Route 120 to Route 21
59	Economic Vitality	Future development across from Target	Mundelein crossings on Route 60 north of Route 176
60	Congestion/Travel Time Reliability	Intersection of Routes 176 and 45	Mundelein
61	Transit Concerns	Parking Restrictions	Libertyville/Mundelein
62	Missing Walking/Biking Connections	Bike Paths in Mundelein need connecting to East Hawley Project	Mundelein around East Hawley St
63	Economic Vitality	Mundelein TOD (Transit-Oriented Development)	Mundelein Metra Station
64	Other (Historic, Environmental, etc.)	Countryside Golf Club	Mundelein
65	Congestion/Travel Time Reliability	Route 45	From Route 176 to Route 60
66	Other (Historic, Environmental, etc.)	Hawthorn Woods Country Club	Hawthorn Woods
67	Other (Historic, Environmental, etc.)	Loyola at Cuneo Mansion and Gardens	Vernon Hills/Mettawa
68	Economic Vitality	Mellody Farms and Darling Farm	Vernon Hills/Mettawa
69	Congestion/Travel Time Reliability	Townline Rd.	From Route 43 to Route 45
70	Economic Vitality	Route 22/94	Lincolnshire/Bannockburn
71	Trouble Accessing Roadway/Transit	Bannockburn to Deerfield	Bannockburn/Deerfield around Route 22/43
72	Congestion/Travel Time Reliability	Route 22	From Route 94 to Route 14
73	Other (Historic, Environmental, etc.)	Heron Creek Forest Preserve	Long Grove/Lake Zurich

No.	Category	Comment	Location
74	Other (Historic, Environmental, etc.)	ADID Wetland	Hawthorn Woods/Long Grove
75	Trouble Accessing Roadway/Transit	Route 22/12	Lake Zurich
76	Congestion/Travel Time Reliability	Route 21	From Route 60 to Route 68
77	Other (Historic, Environmental, etc.)	Indian Creek Conservatory	Long Grove
78	Transit Concerns	Transit access to Jane Adams for employment from NW	Barrington Hills
79	Transit Concerns	Traffic delay due to trains	Lake Zurich
80	Congestion/Travel Time Reliability	Quentin Rd	From Route 32 to Lake Cook Rd
81	Other (Historic, Environmental, etc.)	ADID Wetland	Kildeer
82	Economic Vitality	Rand Rd is an area of economic vitality for Kildeer, Deer Park, Lake Zurich	Rand Rd in Kildeer, Deer Park, Lake Zurich
83	Other (Historic, Environmental, etc.)	Buffalo Creek Forest Preserve	Buffalo Grove
84	Congestion/Travel Time Reliability	Route 12	From Route 120 to Route 53
85	Congestion/Travel Time Reliability	Route 94/294	From Deerfield Rd to Sanders Rd
86	Economic Vitality	Commercial and population growth	Lake Cook Road through Lake Zurich/Palatine
87	Economic Vitality	Route 53 terminus with Lake Cook Rd	Lake Cook Rd/Route 53
88	Trouble Accessing Roadway/Transit	Illegible	Lake Cook Rd in Riverwoods/Wheeling
89	Congestion/Travel Time Reliability	Intersection of Milwaukee Ave and Lake Cook Rd.	Wheeling
90	Economic Vitality	No note	Riverwoods along Lake Cook Rd
91	Congestion/Travel Time Reliability	Lake Cook Rd	Route 94 to Waukegan Rd
92	Transit Concerns	Lake Cook Rd Metra	Lake Cook Rd in Deerfield
93	Transit Concerns	Metra parking	Barrington
94	Congestion/Travel Time Reliability	Lake Cook Rd	From Milwaukee Ave to Hicks Rd
95	Congestion/Travel Time Reliability	Route 94	From Route 294 to Waukegan Rd
96	Other (Historic, Environmental, etc.)	Potawatomi Woods	Wheeling
97	Other (Historic, Environmental, etc.)	Deer Grove Forest Preserve	Palatine/Inverness
98	Trouble Accessing Roadway/Transit	Hard to make turns during rush hours	Iverness near Route 68

No.	Category	Comment	Location
99	Transit Concerns	Commuter rail of EJE or increased high capacity transit for region	Barrington Hills/South Barrington
100	Congestion/Travel Time Reliability	Route 53/290	From Lake Cook Rd to Route 390
101	Trouble Accessing Roadway/Transit	No public transit along Rand Rd corridor	Rand Rd in Palatine/Arlington Heights
102	Trouble Accessing Roadway/Transit	Arlington Heights Rd Bus Service	Arlington Heights Rd in Arlington Heights/Buffalo Grove
103	Missing Walking/Biking Connections	Need continuing paths	South Barrington
104	Transit Concerns	Sears Center no transit	Hoffman Estates
105	Missing Walking/Biking Connections	Tollway crossings for bike/pedestrian	Hoffman Estates
106	Congestion/Travel Time Reliability	I-90	From Route 59 to Route 171
107	Trouble Accessing Roadway/Transit	I-53 entrance/exits to Woodfield area	Schaumburg
108	Economic Vitality	Elk Grove Business Park adding ~80 acres tech park	Elk Grove Village
109	Trouble Accessing Roadway/Transit	Allstate Arena	Des Plaines
110	Trouble Accessing Roadway/Transit	O'Hare western access and terminal	O'Hare

Responses to Questions and Comments

Throughout SPG Meeting #1, SPG members had the opportunity to submit questions. At appropriate breaks in the presentation and as time allowed, questions were addressed. Substantive questions submitted with applicable responses are presented in this section. Typos and other grammatical corrections have been made.

Questions Submitted During the Test/Sample Question Submittal

1. How will qualitative concerns be addressed?
    a. Qualitative issues will be addressed. The factors to be considered in this analysis are still being developed by the project team; but will include, in part, the stakeholder input we are receiving through the process being conducted now.
2. What Measures of Effectiveness (MOEs) will be used?
    a. A broad range of performance measures will be identified and used to evaluate alternatives in four general categories – travel and design performance, environmental, land use and socioeconomic, and financial. Travel time and delay are just two of the performance indicators that will be used to evaluate alternatives. Information regarding alternatives performance measures will be presented and discussed at SPG Meeting #3.
3. Is cost of this Project part of the agenda?
    a. An objective of the TCA Project is to identify a fiscally responsible and viable solution. Project costs will be estimated and evaluated as part of the alternatives study process.
4. What is the source of funding for the Project?
    a. As the sponsor of the Tri-County Access Project study process, the Illinois Tollway is funding this study.

5. Who is funding this activity? See response above.
6. Shouldn't communities within the right-of-way receive greater weighting of their votes?
    a. The SPG is not a voting entity; final Project decisions will be made by FHWA, the Tollway, and IDOT, with input from the SPG and public. At this early stage alternatives for transportation improvements in the Project area have not yet been identified, it is difficult to assess who is the most affected.
7. What is the methodology involved?
    a. The primary methodology is the forecasting process used by CMAP. The CMAP socioeconomic forecasting process and methodology is located at the following website: https://datahub.cmap.illinois.gov/dataset/2050-forecast-of-population-households-and-employment
8. What is this process focusing on?
    a. The process is currently focused on determining current and future transportation needs in the TCA Project area. Subsequently, the process will focus on identifying and evaluating feasible alternatives to improve transportation in the Project area – from widening existing roads, building new roads, and expanding mass transit, to doing nothing (the No-Action Alternative).
9. What percentage of the planning is done?
    a. We are just getting started on the TCA Project. In addition to evaluating previous studies, the Project Team is first focusing on determining current and future transportation needs in the Project area.
10. What is the address of the Project website?
    a. www.TriCountyAccess.org
11. When was the extension first proposed? 1967?
    a. As early as 1962, regional plans singled out the need for an improved north-south transportation link for the northeastern Illinois region, referred to as the Lake-Will Expressway, a north-south circumferential interstate route.
12. When will it be done?
    a. The study phase of the Tri-County Access Project (the identification of an appropriate solution, which could include not taking action) is anticipated to be complete by 2021.
13. When will the 53 be built?
    a. At this early stage when alternatives for transportation improvements in the project area have not yet been identified, it is too soon to determine what, if anything, will be built or when. The study phase of the Tri-County Access Project (the identification of an appropriate solution, which could include not taking action) is anticipated to be complete by 2021. Any potential construction would occur after that time.
14. Why is this happening?
    a. The Illinois Tollway, at the May 2017 board meeting, unanimously approved a contract to complete an EIS for the TCA Project. This effort is intended to finish the conversation that began in the 1960s, with the goal of determining whether and how to address the transportation problems in the project area.
15. Will there be an opportunity to register a minority opinion?
    a. Comments from stakeholders are welcomed by the project sponsors. All will be considered. In addition to any questions/comments submitted during SPG meetings, which will be documented in meeting summaries such as this, any comments submitted via the project website (www.TriCountyAccess.org) will be part of the project record as well. The SPG is not a voting entity; final project decisions will be made by FHWA, the Illinois Tollway, and IDOT with input from the SPG, other federal, state, and local agencies, and the public.

Questions Regarding Introduction, SIP/SPG, Project Overview or Meeting Format

1. Are environmental assessments occurring this year?
    a. Environmental resource studies will start this year. As is common for transportation studies, the first step will review available published data and other existing sources. Thereafter, we will conduct field investigations as needed and conduct further analyses, as needed.
2. When will existing studies be posted?
    a. Prior studies can be found at the links on the right side of this webpage: https://www.illinoistollway.com/outreach/projects-in-your-community/illinois-route-53-120-archives
3. Can you provide links to the SPG to the prior studies? See response above.
4. Have you ever recommended a no-build option?
    a. Transportation studies such as this have resulted in a decision not to take action; in other words, selection of a no-build alternative. A No Action Alternative will be considered along with build alternatives as the study progresses.
5. Have you ever recommended a no-build option through a similar process? If so please describe. See response above.
6. How and when will alternative population growth-decline scenarios for Lake County be considered?
    a. The primary source for this information and its implications is the transportation planning process undertaken by CMAP. The project team will update the information and conduct additional analyses both now and when the ON TO 2050 process is completed and a regionally conformed plan has been adopted. It is expected that alternative land use forecasts will be considered for all of the alternatives remaining after environmental studies and scoping have been concluded.
7. How is the scope of this study different from past studies?
    a. While past studies focused on a specific corridor, the TCA Project is evaluating feasible alternatives to improve transportation in the Project area, from widening existing roads, building new roads, and expanding mass transit, to doing nothing (the No-Action Alternative).
8. How long is the process expected to take?
    a. The TCA Project EIS is anticipated to be complete by 2021.
9. How will community groups be involved (open house, workshops, etc.)?
    a. Various public involvement opportunities are available to those not directly in the SPG, including attending public meetings, posting comments or asking questions via the comment form on the Project website at www.tricountyaccess.org, and scheduling one-on-one meetings with Project Team members. Additional opportunities are also listed in the SIP (http://project.tricountyaccess.org/wp-content/uploads/2018/03/PPM_CH2M_CM_4266-SIP-v1.0_03092018.pdf).
10. The group should understand that the BRAC did not have one single representative of any community in which the potential new road would actually pass. The BRAC study is therefore flawed.
    a. The TCA Project moves beyond the decades of discussion and prior studies through a new approach that brings together communities and parties with an interest and stake in solving the region's transportation needs. This is the study that will clearly define the region's transportation issues (today and in the future – year 2050), explore every reasonable option through an EIS, and result in a decision for an environmentally and fiscally responsible improvement plan. Given the size of the Project area and the intent of the SPG as a working group, it was determined that one representative would be invited from each community, as well as appropriate representatives from each of the counties, agencies, and interest groups. Agencies and groups involved in any of the previous studies have also been included in the TCA Project for continuity. As such, 151 individuals representing varied interests in

the study area (municipalities, counties, agencies, and groups) were invited to participate in this SPG.

11. The State is hemorrhaging residents. How does this square with assumptions on population growth?
    a. The need for additional improvements would be based on data applicable to the project area, not statewide population statistics. The project must use population and employment forecasts derived from CMAP, the region's designated metropolitan planning organization. Sources for existing population and employment data in the project area are US Census and CMAP data. The projected population and employment data for a 2050 No Action alternative are initial estimates developed by CMAP as part of the ongoing ON TO 2050 regional planning process. Following completion and adoption of the ON TO 2050 Plan, as part of the project development process, the project team will review and if needed update that population and employment growth forecasts.
12. What is the Wisconsin-based involvement with the ISTHA?
    a. The travel patterns in the Tri-County area have interactions with the southeast Wisconsin area. The northern boundary of Lake County borders Wisconsin, experiences considerable travel interaction between the two areas, and hence is included in the analysis for the Project.
13. What politicians are supporting this process?
    a. On May 25, the Illinois Tollway Board unanimously approved a contract to complete an EIS for the TCA Project. At this early stage when alternatives for transportation improvements in the project area have not yet been identified, it is premature to assess support or lack thereof. We are fortunate, however, for the involvement on the SPG of several local, county and state elected officials.
14. When will we get the schedule of meetings?
    a. SPG meetings scheduled in 2018 are Meeting #2 on April 24, Meeting #3 in July, and Meeting #4 in December.
15. Will existing Route 53 be tolled so the roadway is equitably funded?
    a. Funding is one of the topics that will be considered during the alternatives study. Our goal is to identify a financially responsible solution that considers the resources and constraints of regional transportation providers.
16. Will planned developments be considered?
    a. Yes, in two different ways. The socioeconomic data used for the travel demand forecasts will be validated using data from local communities for planned improvements to reflect anticipated change and allocation in population and employment in the project area. Additionally, input from local communities about planned developments will help ensure that as alternatives are developed, they consider the implications of any planned development on a project level basis as well as access and impacts to planned developments.
17. Will the land use committee findings and conclusions be included?
    a. Previous study efforts, including those of the Illinois Route 53/120 Land Use Committee, will be leveraged as part of the TCA Project study process.
18. Will the process consider noninfrastructure strategies to manage travel?
    a. The TCA Project will evaluate feasible alternatives, from widening existing roads, building new roads, and expanding mass transit, to doing nothing (the No-Action Alternative). Noninfrastructure strategies to manage travel, such as enhanced transportation management systems, will be considered as part of the overall solution.

Questions regarding Transportation System Performance

1. Actual Lake County population was flat from 2010 to 2020 after the recession. There was no growth. How and when will the SPG process fully consider alternative population and traffic growth-decline scenarios that are lower than the high growth that you're projecting?

   a. The CMAP planning process considers both current and future growth when determining the region's transportation plan. Like for other projects in the Chicago area, population, employment and related traffic data forecasts for the Tri-County Access Project are derived from CMAP. Sources for existing and projected population and employment data in the project area are US Census and CMAP data. The projected population and employment data for a 2050 No Action alternative are initial estimates developed by CMAP as part of the ongoing ON TO 2050 regional planning process.
2. CMAP's projections are impossible to achieve. How will Lake County reach 900,000 people (a 200,000-person increase) by 2050? See response above.
3. How do these performance indicators change with decking population scenarios? See response above.
4. Have large employers been considered in the study, such as Abbott, Amazon, and Uline?
   a. Yes, a combination of published data sources as well as data from CMAP are being used to determine current and future travel demand in the Project area.
5. How do we determine whether more congestion means we need more roads or whether it means we need more policies to get more cars off the roads?
   a. The project will consider strategies to reduce travel demand. Thus, we will evaluate and develop recommendations related to transportation system management and demand management strategies that could be considered to optimize the overall performance of the transportation system. This will include such strategies as encouraging car pools and improvements to the transit system.
6. How much is traffic light manipulation used to improve movement of traffic?
   a. Interconnected traffic signals and other strategies are effective in optimizing the overall performance of a roadway system. We anticipate that these strategies will be a complementary feature of the alternatives to be considered with the TCA Project.
7. How will you weigh 2050 population and work centers?
   a. The socioeconomic data used for the travel demand forecasts will be validated using data from local communities for planned improvements to reflect anticipated change and allocation in population and employment in the project area. The allocation process will use a combination of real estate and land use simulation models to incorporate planned development within the context of the project area characteristics.
8. Is the FoxConn development being considered in forecasts?
   a. The CMAP ON TO 2050 forecast has accounted for employment growth in the Kenosha County area and is reflecting job growth assumptions related to major employment centers such as FoxConn.
9. Is there a growth in younger drivers? Nationwide statistics point to a major decline in future.
   a. Driver behavior patterns continue to evolve and change with a slight decline in younger drivers. However, the VMT is increasing with more reliance on mobility as a service (Maas), where the introduction of ride-sharing technologies has increased travel demand on the roadways.
10. The Project will require extensive mitigation. Do we need to identify this as a near future land use need?
    a. We agree. Any build alternative will have to include mitigation measures.
11. What other factors leading to congestion are anticipated besides just population and employment growth? Freight trains, trucking needs, etc.?
    a. A variety of issues may contribute to congestion on area roadways. These include capacity constraints on roadways and transit lines, at-grade railroad crossings, signal timings/coordination, access control characteristics, intermodal facilities, and freight traffic.
12. When will the results of today's meeting be available.

   a. The presentation deck and initial polling results were posted to the Project website on March 22, 2018, and are available here: http://project.tricountyaccess.org/wp-content/uploads/2018/03/TCA_SPG_Meeting1.pdf
   b. The meeting summary will be provided in advance of SPG #2.
13. Will the PowerPoint presentations used today be posted? See response above.
14. Will the results and presentation be posted on the Project website? See response above.
15. Where do the growth data used come from?
   a. The socioeconomic data and assumptions for the 2050 No-Action Alternative are from CMAP. More information about the process and data is located at the following website: https://datahub.cmap.illinois.gov/dataset/2050-forecast-of-population-households-and-employment
16. Why was Chicago omitted from avoided places when commuting was such a high percentage of traffic?
   a. The Tri-County Access Project and the input requested focuses on travel reliability within the project limits. Chicago falls outside the project limits and was therefore not applicable to the polling question.
17. Will an EJE railroad passenger train interconnect be considered? Outer rail concept.
   a. As noted, improvement to transit will be considered both as part of and in lieu of road improvements.
18. Will driverless cars, e-shopping, and working from home be considered in traffic forecasts?
   a. Yes, these factors are considered in the development of traffic forecasts. The Project Team will also evaluate how evolving vehicle technology, such as driverless cars, will affect design features of Project alternatives.
19. Will these questions be available to general public? Folks in this room are not representative!
   a. Given the size of the project area and the intent of the SPG as a working group, it was determined that one representative would be invited from each community, as well as from each of the applicable county departments, agencies, and interest groups. Agencies and groups involved in any of the previous studies have also been included in the TCA Project for continuity. As such, 151 municipalities, counties, agencies, and groups were invited to participate in this SPG and each was asked to designate the appropriate representative from their organization.
   b. Various public involvement opportunities are available to those not directly in the SPG, including attending public meetings, posting comments or asking questions via the comment form on the Project website at www.tricountyaccess.org, and scheduling one-on-one meetings with Project Team members. Additional opportunities are also listed in the SIP (http://project.tricountyaccess.org/wp-content/uploads/2018/03/PPM_CH2M_CM_4266-SIP-v1.0_03092018.pdf).
20. You focus on travel time for performance which overlooks far greater cost of moving one person per 3000 cars across sprawl. Will you use cost per person trip as a performance measure?
   a. A broad range of performance measures will be identified and used to evaluate alternatives in four general categories – travel and design performance, environmental, land use and socioeconomic, and financial. Travel time and delay are just two of the performance indicators that will be used to evaluate alternatives. Information regarding alternatives performance measures will be presented and discussed at SPG Meeting #3.

Additional Questions Submitted During the Meeting

1. Are the slides going to be made available on the Project website?
   a. The presentation deck and initial polling results were posted to the Project website on March 22, 2018, and are available here: http://project.tricountyaccess.org/wp-content/uploads/2018/03/TCA_SPG_Meeting1.pdf

   b. The meeting summary will be provided in advance of SPG #2.
2. Congestion maps point to more east-west issues than north-south. Why is 53 bolted together with 120?
   a. Project analyses indicate that travel desires in the Project area tend to be predominantly in the north-south direction, with diagonal elements depending on whether the destination is in the southeast or southwest portions of the Project area. Travelers who want to make north-south or diagonal trips are using existing east-west roadways to get to and from their desired destinations. The Project will focus on identifying and evaluating feasible alternatives to improve transportation in the Project area, from widening existing roads, building new roads, and expanding mass transit, to doing nothing (the No-Action Alternative).
3. Does O'Hare bias the data of where people are coming from and going to?
   a. Existing and projected trip patterns account for all trips coming from and going to the Project area, including trips coming from or going to O'Hare. Trips passing through the Project area are also included in the overall data analysis for the Project.
4. Is this considered an EIS scoping meeting?
   a. This SPG meeting is part of early studies and stakeholder input. Scoping is part of the NEPA process, and occurs after a Notice of Intent is published. The SPG meetings help the project sponsors conduct early coordination activities that will help define the proposed project.
5. My schedule books up quickly. How soon will we have dates and times for future meetings
   a. The next SPG meeting is Meeting #2 on April 24, 2018. SPG Meeting #3 will be held in July 2018 and SPG Meeting #4 will be held in December 2018.
6. Why are existing open space areas missing from the exercise map?
   a. The maps used during today's SPG exercise were prepared to encourage input on area transportation problems. While SPG members were able to highlight areas of environmental concern, detailed information regarding the area's environmental features and constraints will be displayed at SPG Meeting #2 and future meetings.
7. Why is this process called an environmental impact study when it is really a pitch for the new road?
   a. At this early stage when alternatives for transportation improvements in the project area have not yet been identified, it is too soon to determine what, if anything, will be built or when. The study phase of the Tri-County Access Project (the identification of an appropriate solution) is anticipated to be complete by 2021.

Stakeholder Participation Group Meeting #1

March 21, 2018

MOBILITY FOR TODAY AND TOMORROW

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Illinois Tollway

Doing Things Differently

- A regional approach
- Looking beyond taxes and fees
- New technology

Agenda

- Welcome, Introductions and Housekeeping
- Stakeholder Involvement Plan
- Stakeholder Participation Group
  - *Ground Rules*
  - *Meeting Format*
  - *Context Audit*
- Project Overview
- **Question & Answer Break**
- Transportation System Performance
- **Question & Answer Break**
- Next Steps
- Group Exercise

Introductions

Project Team

Lead Agency

U.S. Department of Transportation
Federal Highway Administration

Project Sponsor/ Joint Lead Agency

Illinois Tollway

Illinois Department of Transportation

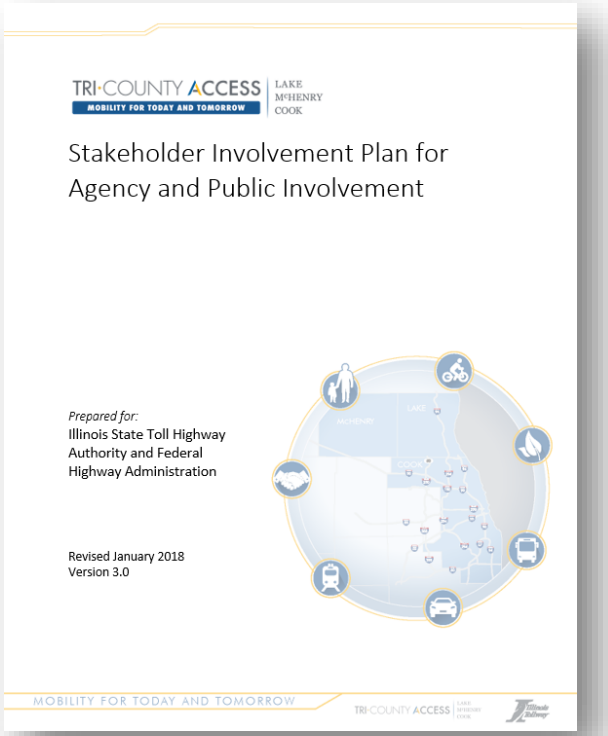
Joint Lead Agency

Consultants

CH2M/Knight Team

Stakeholder Involvement Plan and Participation Group

Stakeholder Involvement Plan (SIP)



Purpose

- Identifies roles and responsibilities of project participants
- Establishes timing of stakeholder activities
- Provides guidance for participation

Stakeholders

- Local officials
- Policy advocate & special interest groups
- Business interests
- Non-profit organizations
- Regulatory agencies
- Property owners
- Residents
- Travelers & general public

Stakeholder Participation Group (SPG)

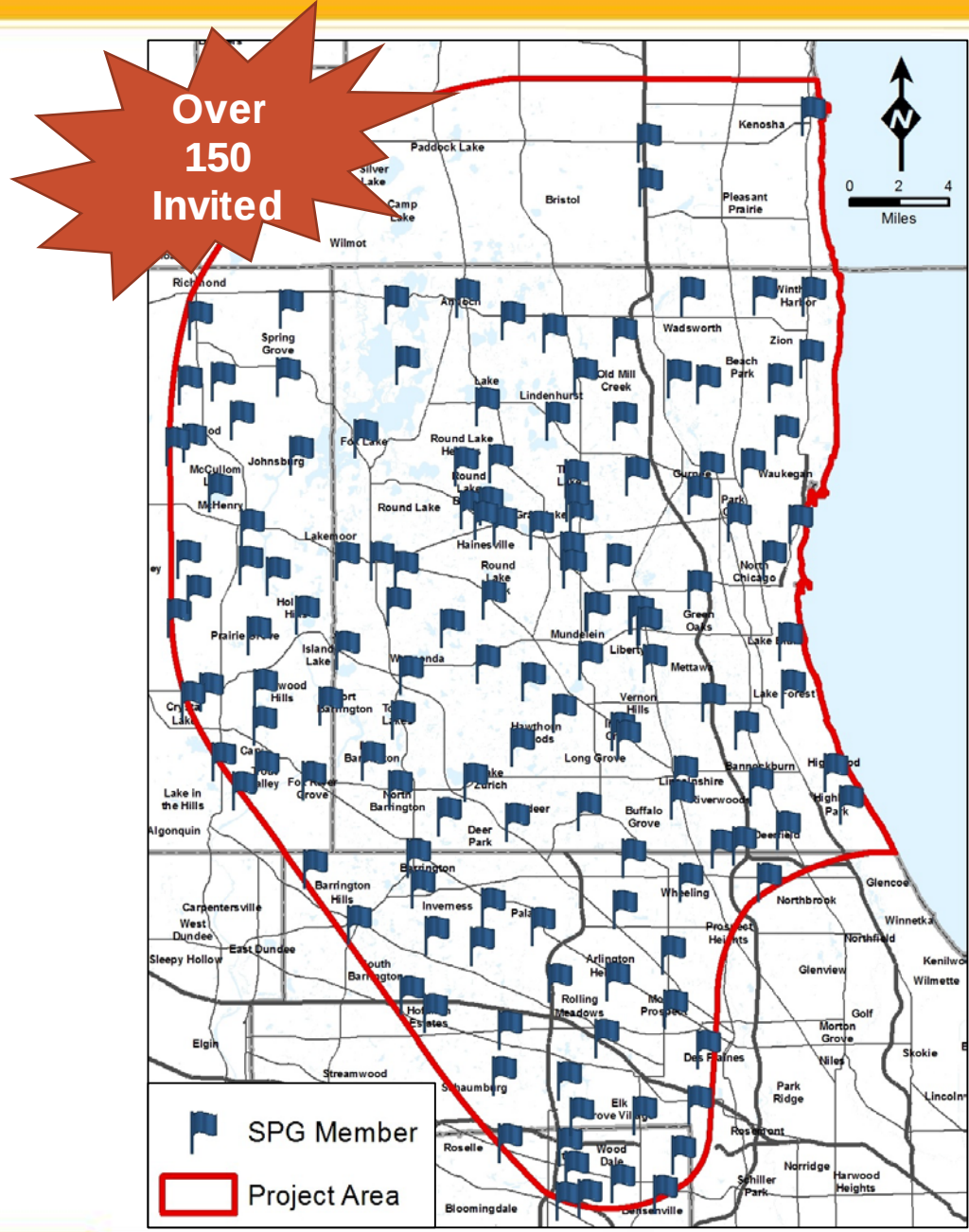
Commit to attending meetings

Support public involvement process as outlined in stakeholder involvement plan

Identify community, environmental, economic and transportation issues and resources

Provide input on study data and technical analyses

Share information and encourage broader community input



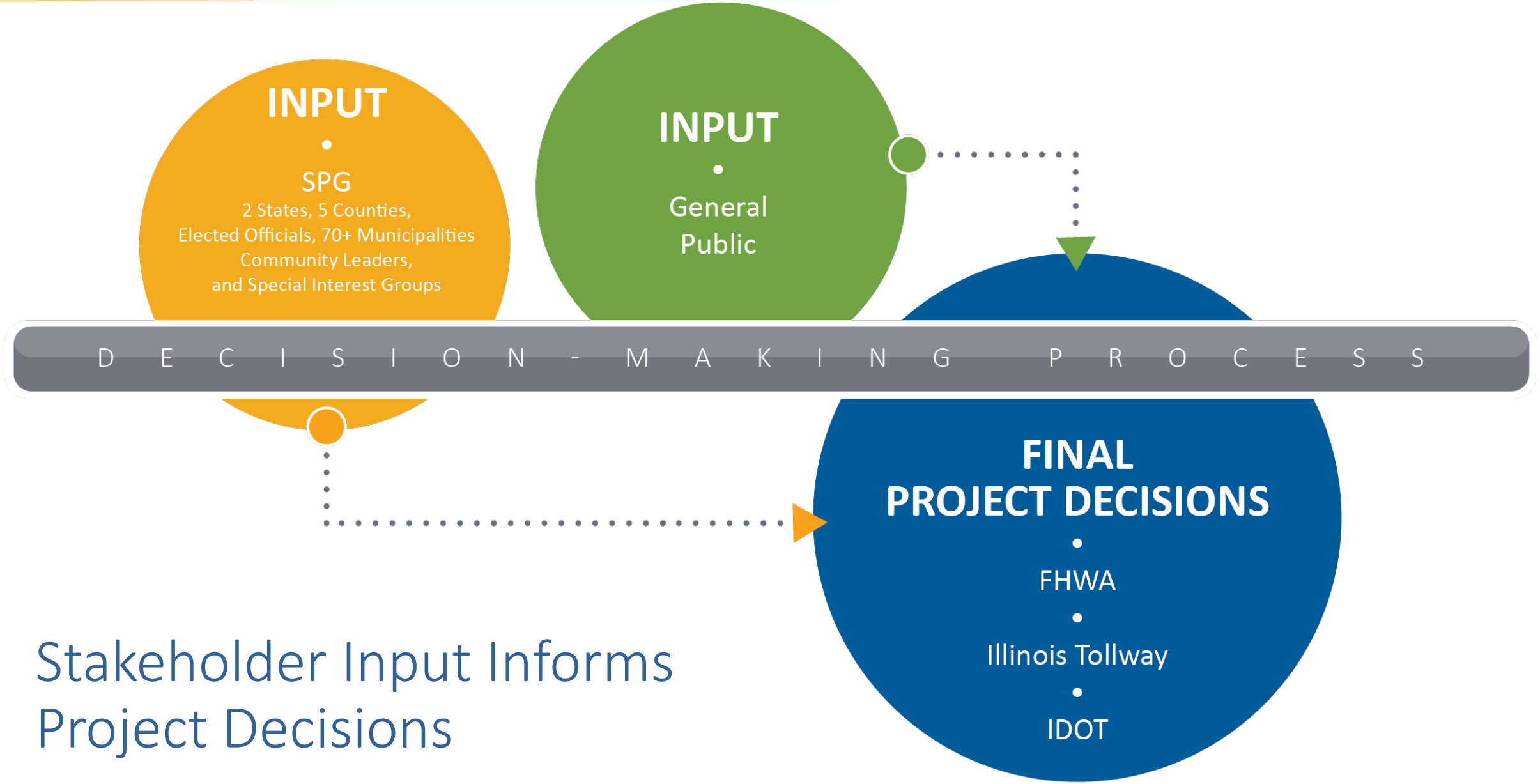
SPG Ground Rules

- Input on the project from all SPG members is duly considered in order to yield the best solutions.
- List of SPG members is subject to revision at any time.
- Summaries of all stakeholder meetings will be maintained.
- Input from all SPG members is valued and considered.
- All SPG members must keep an open mind and participate openly, honestly, and respectfully.
- All SPG members should work collaboratively and cooperatively to seek **a general understanding of agreement**.
- All SPG members in the process must treat each other with respect and dignity.
- FHWA, the Tollway and IDOT will make the final project decisions.

SPG Ground Rules – General Understanding of Agreement

A **general understanding of agreement** has been reached when the SPG members agree that their input has been heard and duly considered, and the process as a whole was fair.

The project will progress at a reasonable pace; all participants must understand that **once a general understanding of agreement is reached** on a topic, **it will not be readdressed**.



Stakeholder Input Informs Project Decisions

SPG Meetings and Communications

- Meeting format
  - » *Facilitated by Tri-County Access Project Team*
  - » *Agendas will be shared via e-mail in advance*
  - » *Meetings will start and end on time*
- Interactive tools and exercises
  - » *Polling via **Poll Everywhere***
  - » *Submit questions throughout*
  - » *Mapping Exercise*
- Communications
  - » *Meeting invites and meeting summaries*
    - – Delivered via email
  - » *Submit questions/comments*
    - – TriCountyAccess@getipass.com

Today's SPG Exercise - Context Audit

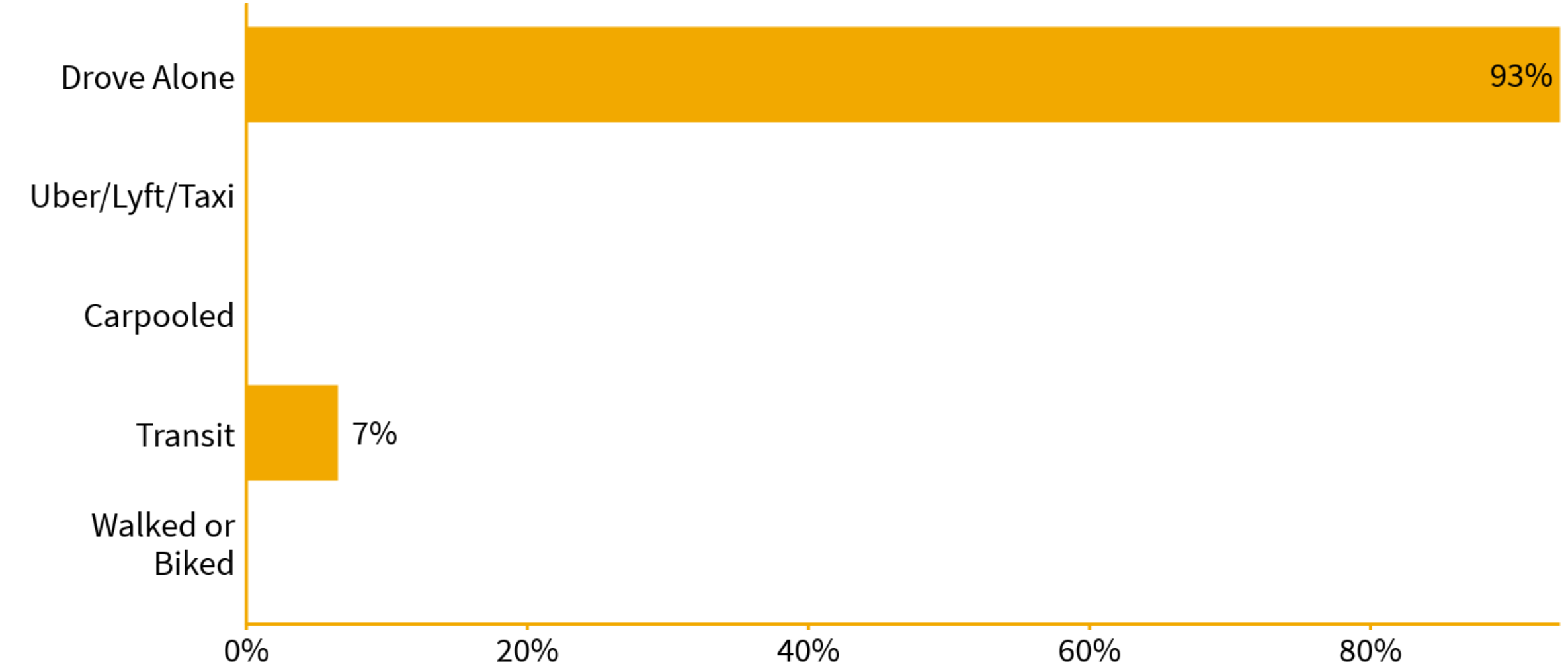
- An opportunity to share details about your communities
- Help identify unique community characteristics
- Information will be used to help define the purpose and need for the Tri-County Access Project
- Assures that transportation improvements align with community goals/local plans for future development

Poll Everywhere Instructions

- Use your WIFI connected device to connect to the Poll.
- Login information is on your table. You will be taken directly to the poll.
- Everyone has been pre-registered.
- During today's presentation, you will be asked your opinion about various elements of transportation related issues

TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW
LAKE
McHENRY
COOK

How did you get to today's meeting?



TRI·COUNTY ACCESS | LAKE McHENRY COOK

Sample Question Submittal - Try it out, please type in a question to see how it works.

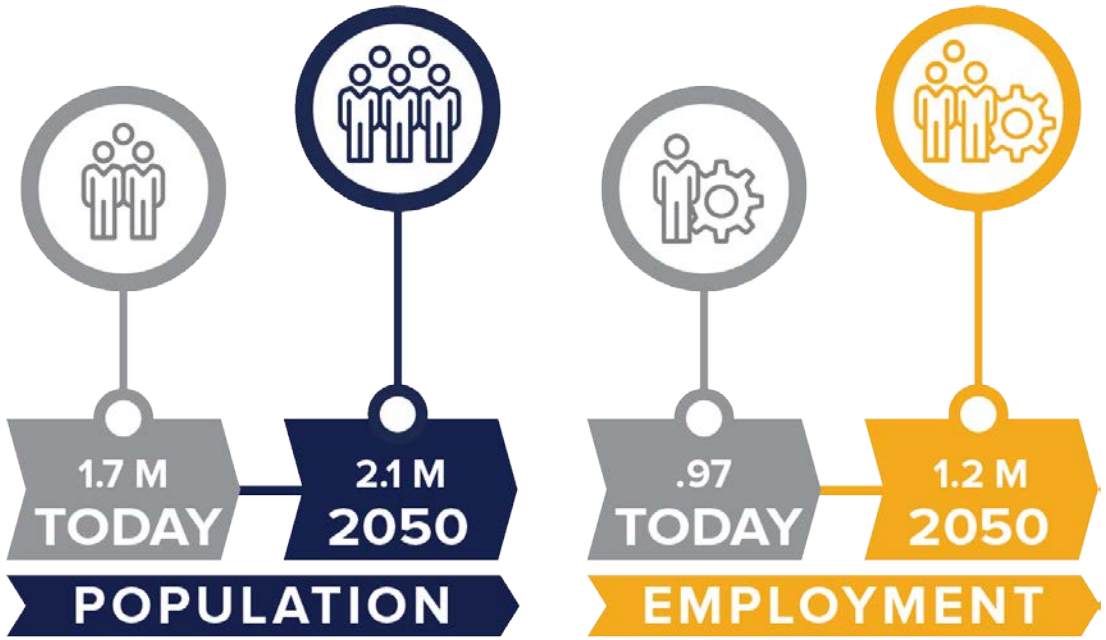
Please note that due to space restrictions, this slide includes only a sample of questions submitted during this sample question submittal.

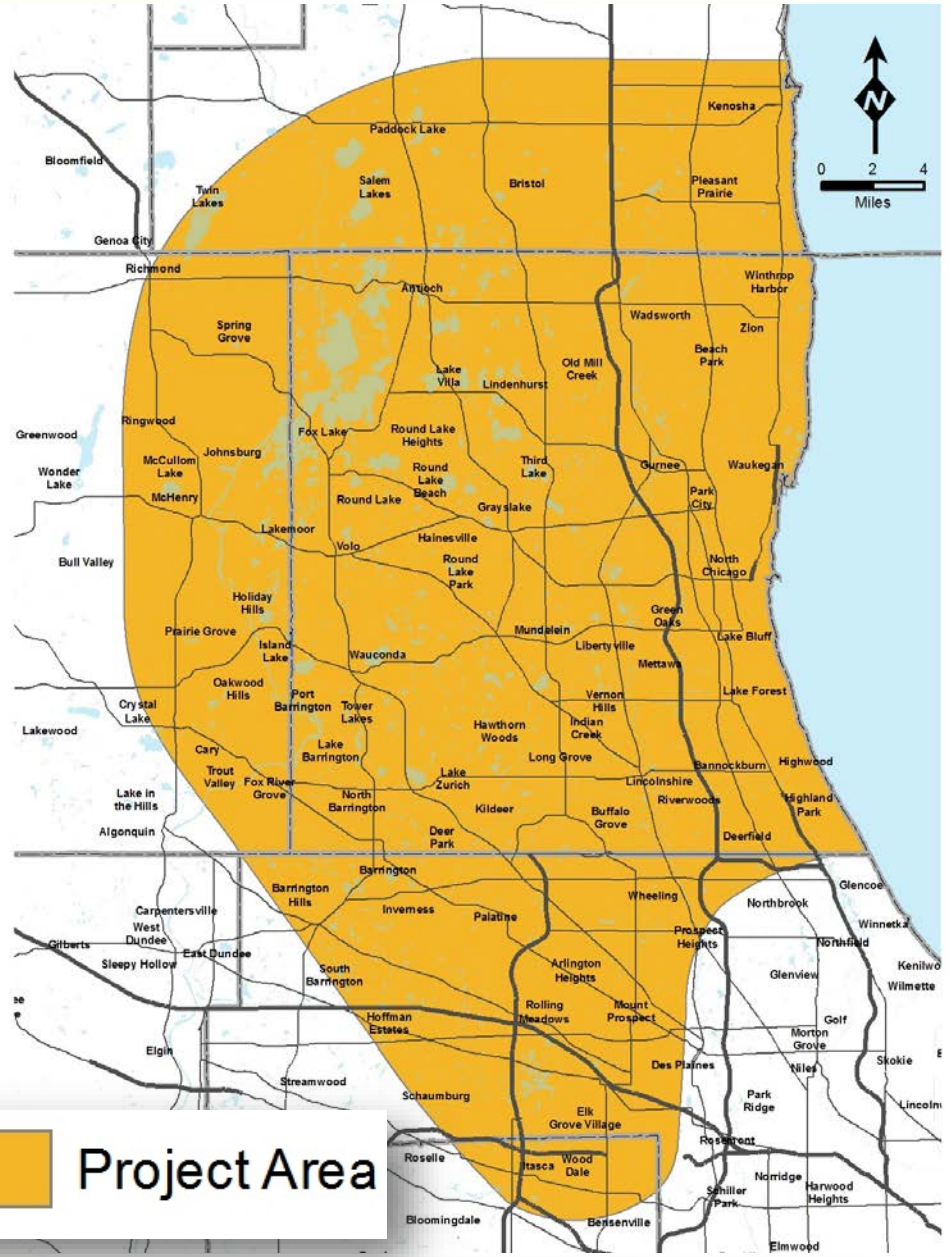
9	How will qualitative concerns be addressed?
4	What percentage of the planning is done?
4	When was the extension first proposed? 1967?
3	What is the methodology involved?
2	When will it be done?
2	Will there be an opportunity to register a minority opinion?
2	Is cost of this project part of the agenda?
1	What's the address of the project website?

Project Overview

Tri-County Access Project Area

- Approximately 1,000 square miles
- Covers **three** primary counties and **two** adjoining counties
- Project population and employment…





Why Now?

- Development in the Tri-County region has outpaced transportation improvements.
- Congestion is widespread today, with 1/3 of the roadway network congested during rush hours.
- By 2050, the total time added to travel due to traffic congestion-related delays during rush hours will be over 55% higher than they are now.

Delivering a Comprehensive Regional Strategy

- **Relieve traffic congestion** now and for the future
- Improve **quality of life** for all residents
- Encourage **economic growth** and **job creation**
- Proceed in an **environmentally responsible** way
- Deliver a **fiscally responsible** financial plan

Three Tracks for Reaching a Sound and Informed Decision

Technical

A Flagship Transportation Project

Leverage prior study efforts

Identify environmentally friendly solutions

Integrate innovative technologies

Financial

A Clear and Achievable Implementation Plan

Develop a fiscally sound and feasible project financial plan

Public Outreach

Secure Broad Leadership Support

Engage all stakeholders in the conversation

Project Development Process

WE ARE HERE

Project Development Process

2001
LCTIP Draft EIS

2011-2015
BRAC Reports

2006 - 2009
IL 120 Unified Vision Plan

Prior Studies Inform Technical Analysis

Project Development Process

WE ARE HERE

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Questions regarding the material so far (Introduction, SIP/SPG, Project Overview or Meeting Format)?

Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

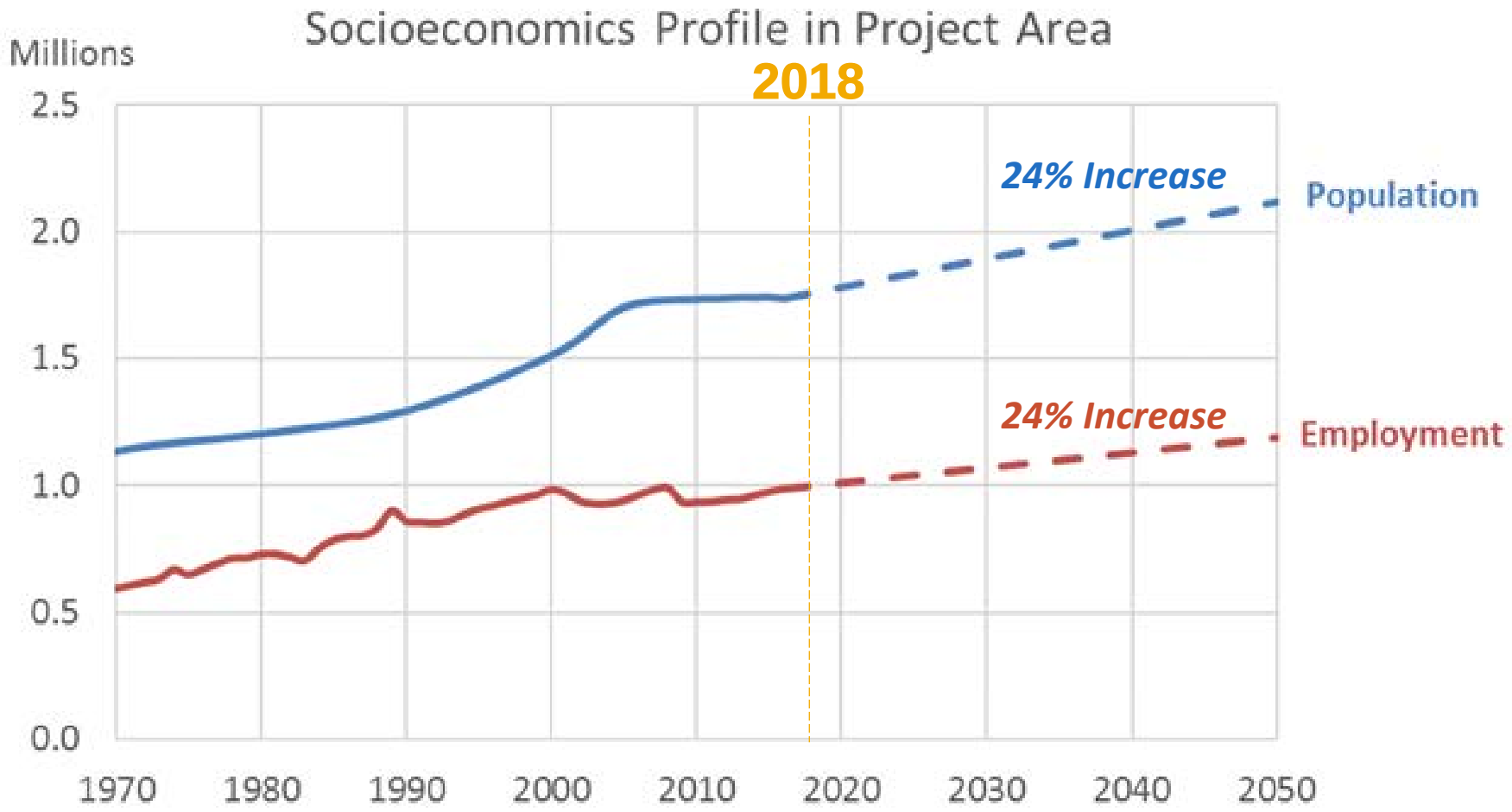
6	How is the scope of this study different from past studies?
5	What is the Wisconsin based involvement with the ISTHA
4	Will planned developments be considered?
4	How will purpose and need be determined in a manner that increases mobility while promoting environmental and fiscal sustainability
3	How and when will alternative population growth-decline scenarios for Lake County be considered?
3	When will we get the schedule of meetings?

Transportation System Performance

- Project Area Characteristics
- Travel Patterns
- Transportation Performance

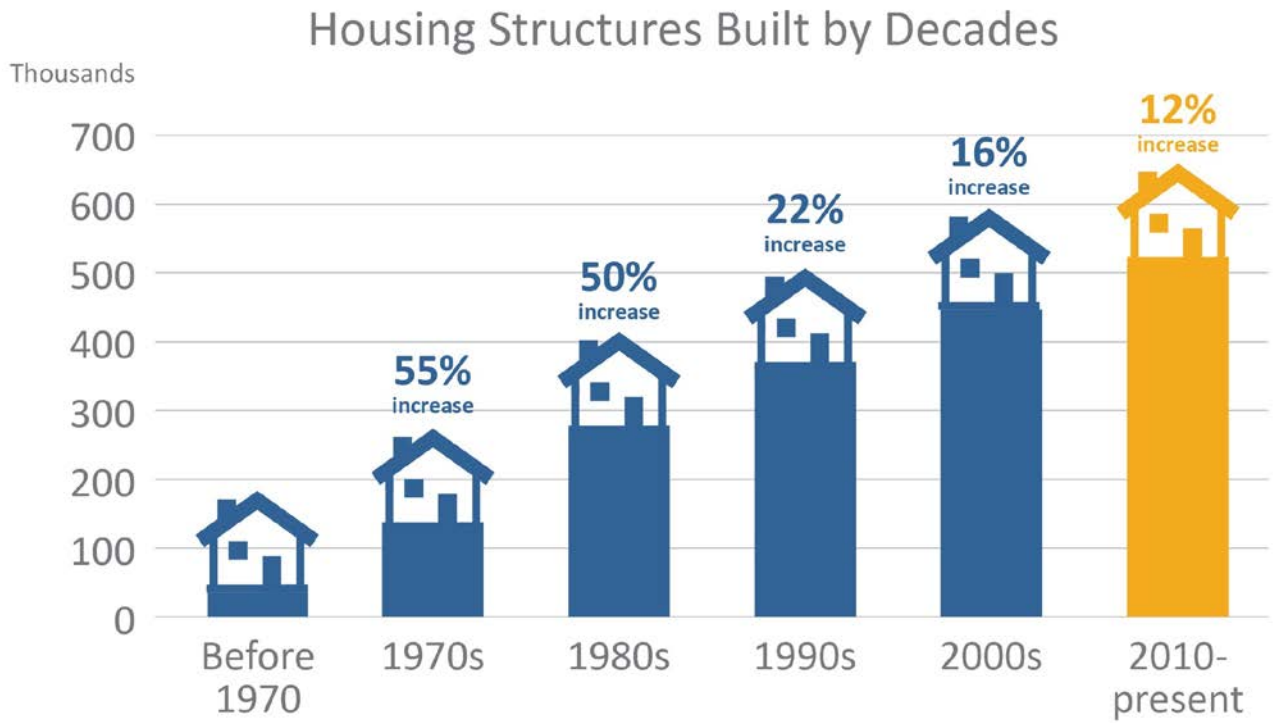
Project Area Characteristics

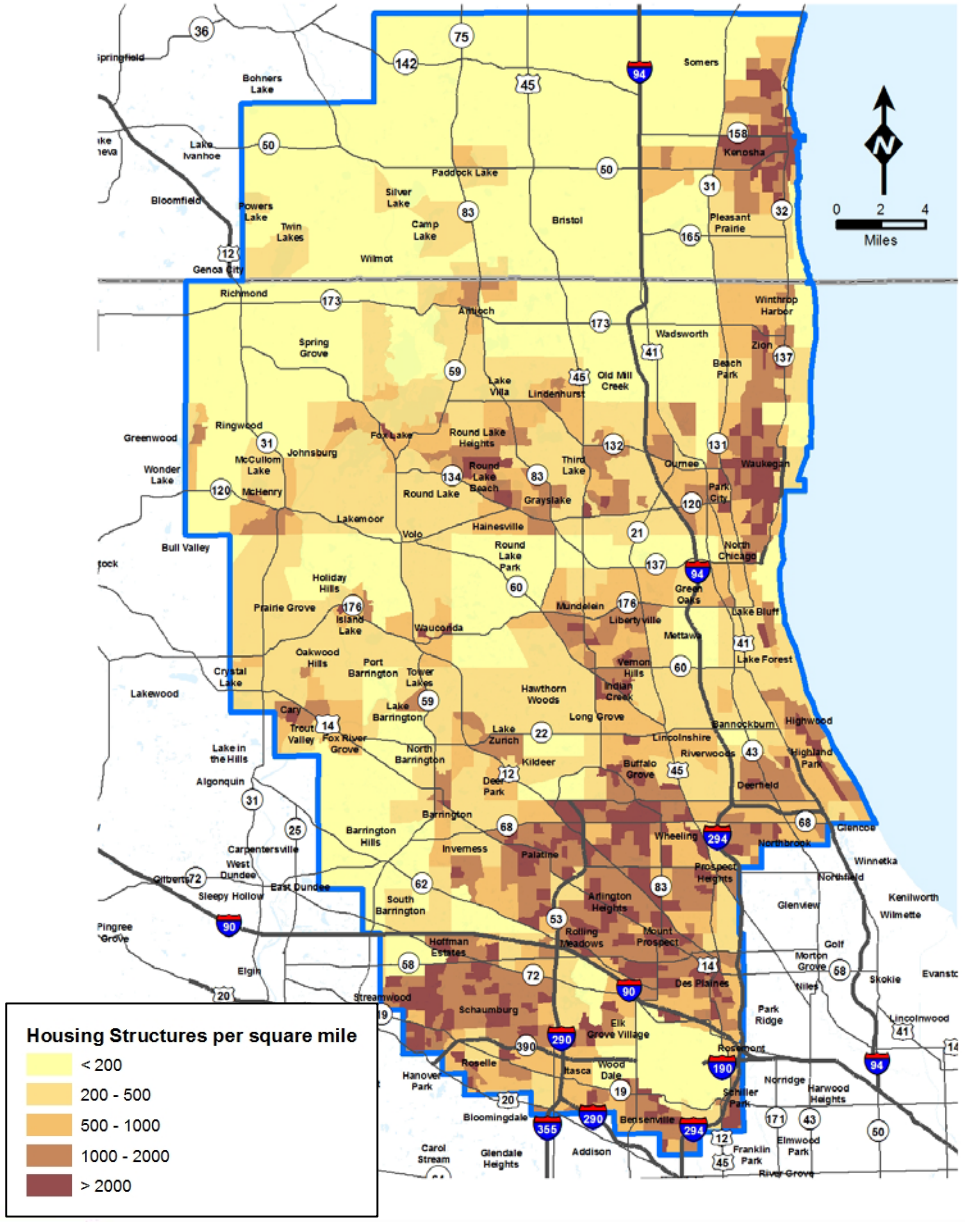
Population & Employment Continues to Grow in the Project Area



Source: Census historical county database and estimates. TCA Project 2050 No-Action, CMAP, Feb, 2018

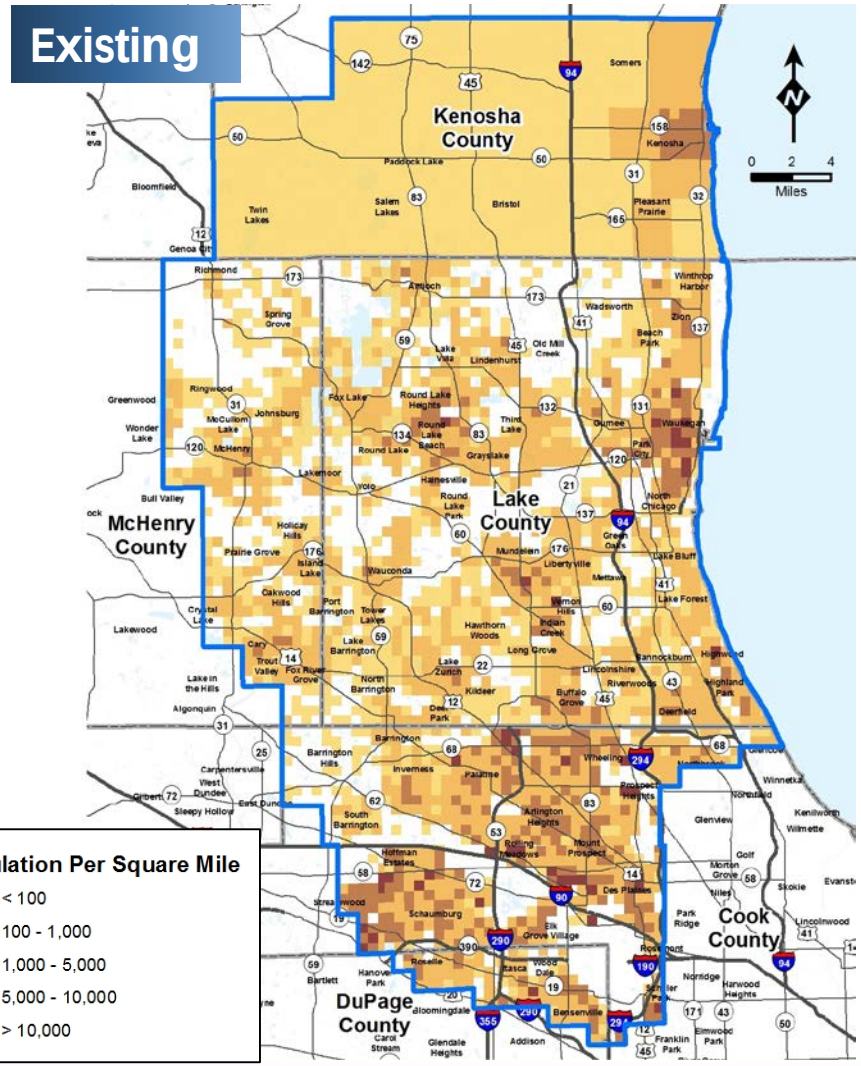
Since 1970, Housing Structures in the Project Area have Increased by 140%





Source: Census structure year built data

Population Growth & Density Expanding North & West



2.1 M

Kenosha

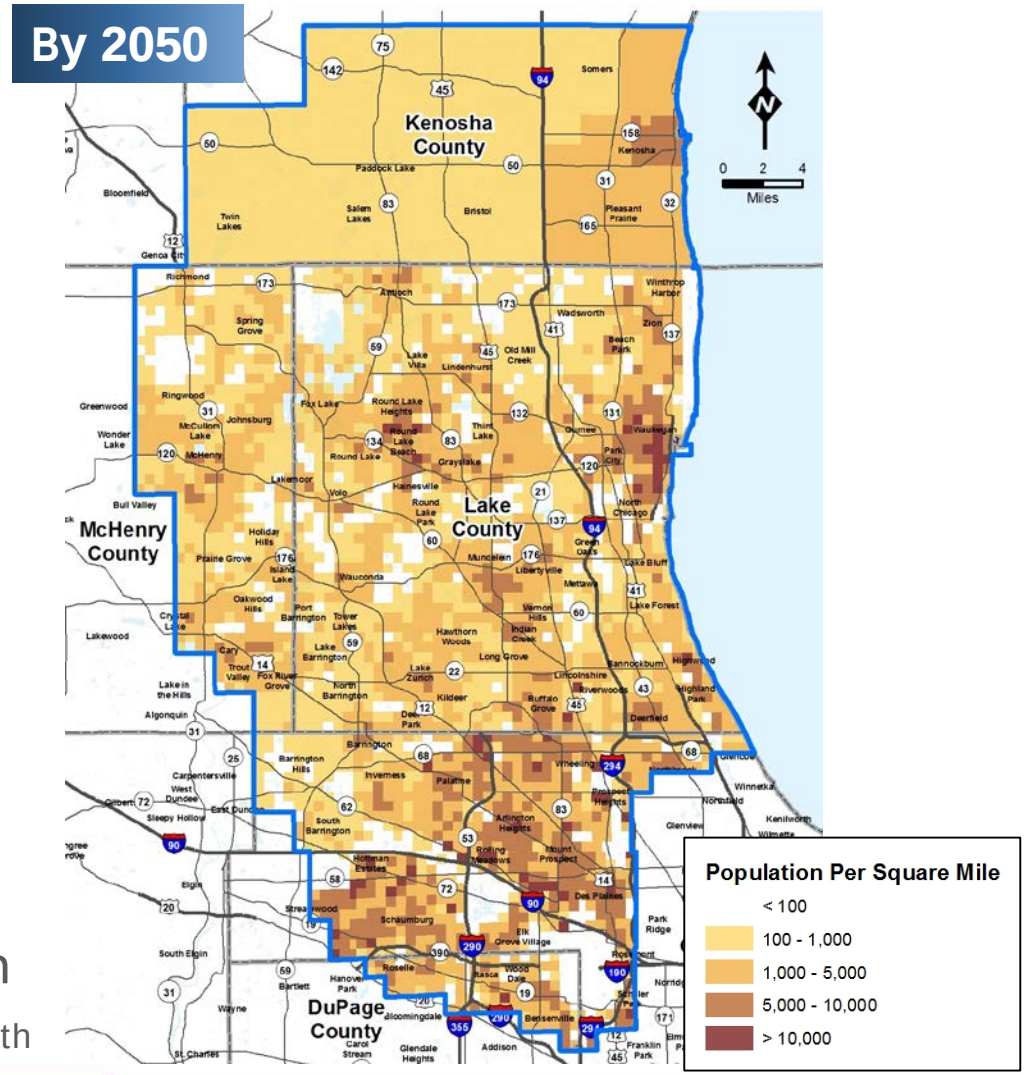
McHenry

Cook & DuPage

Lake

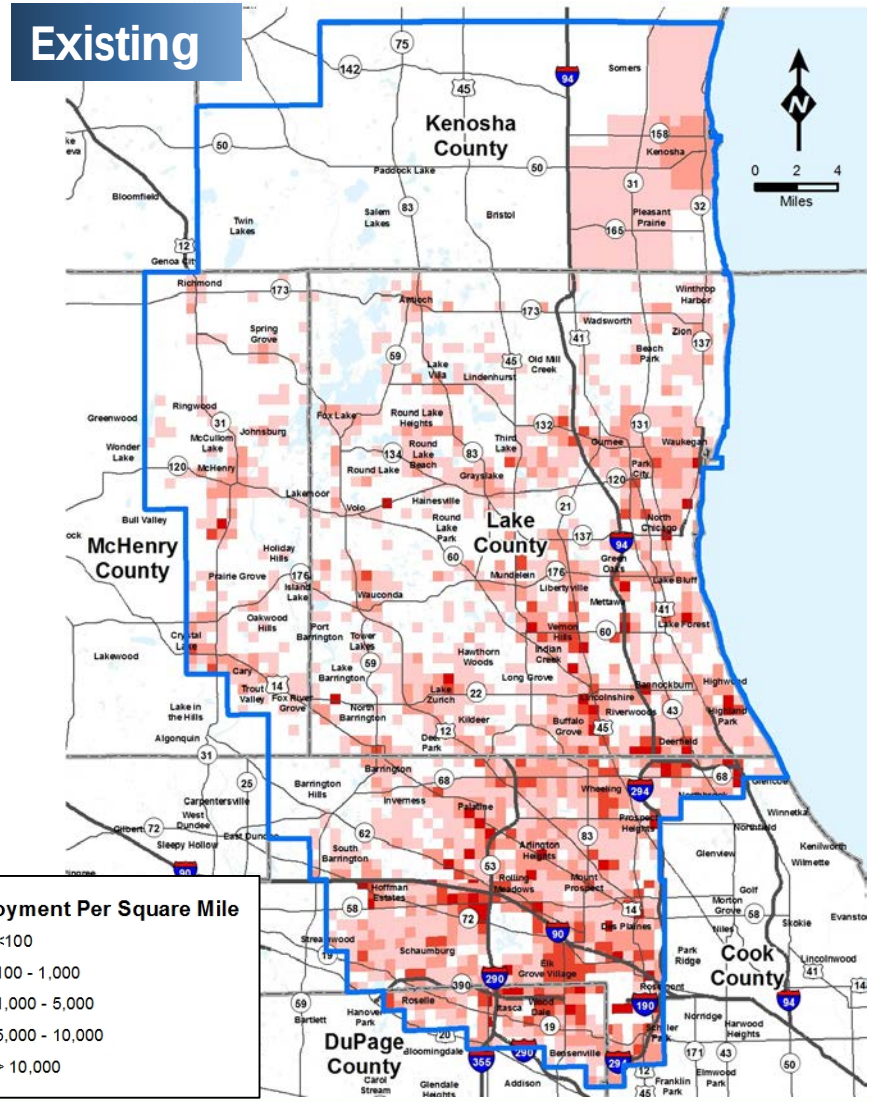
Population Growth

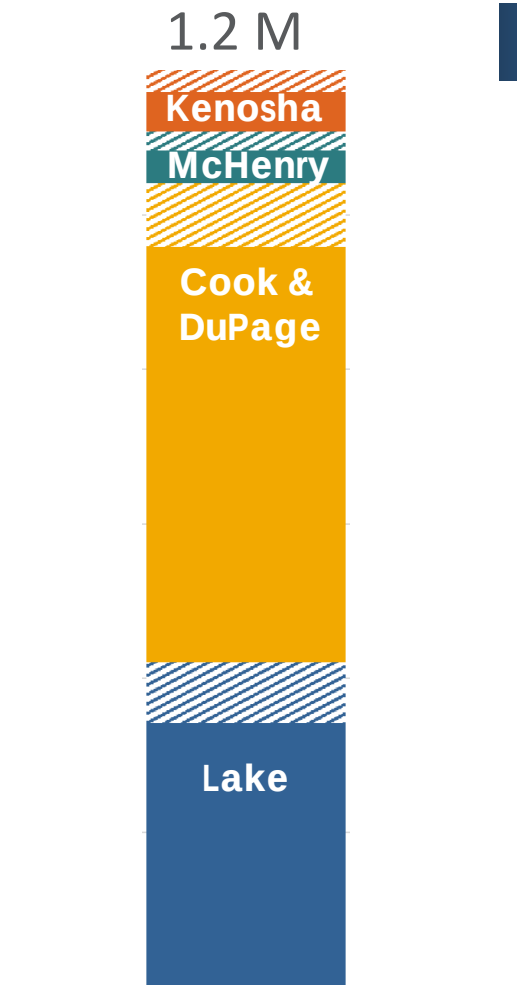
Today 2050 Growth

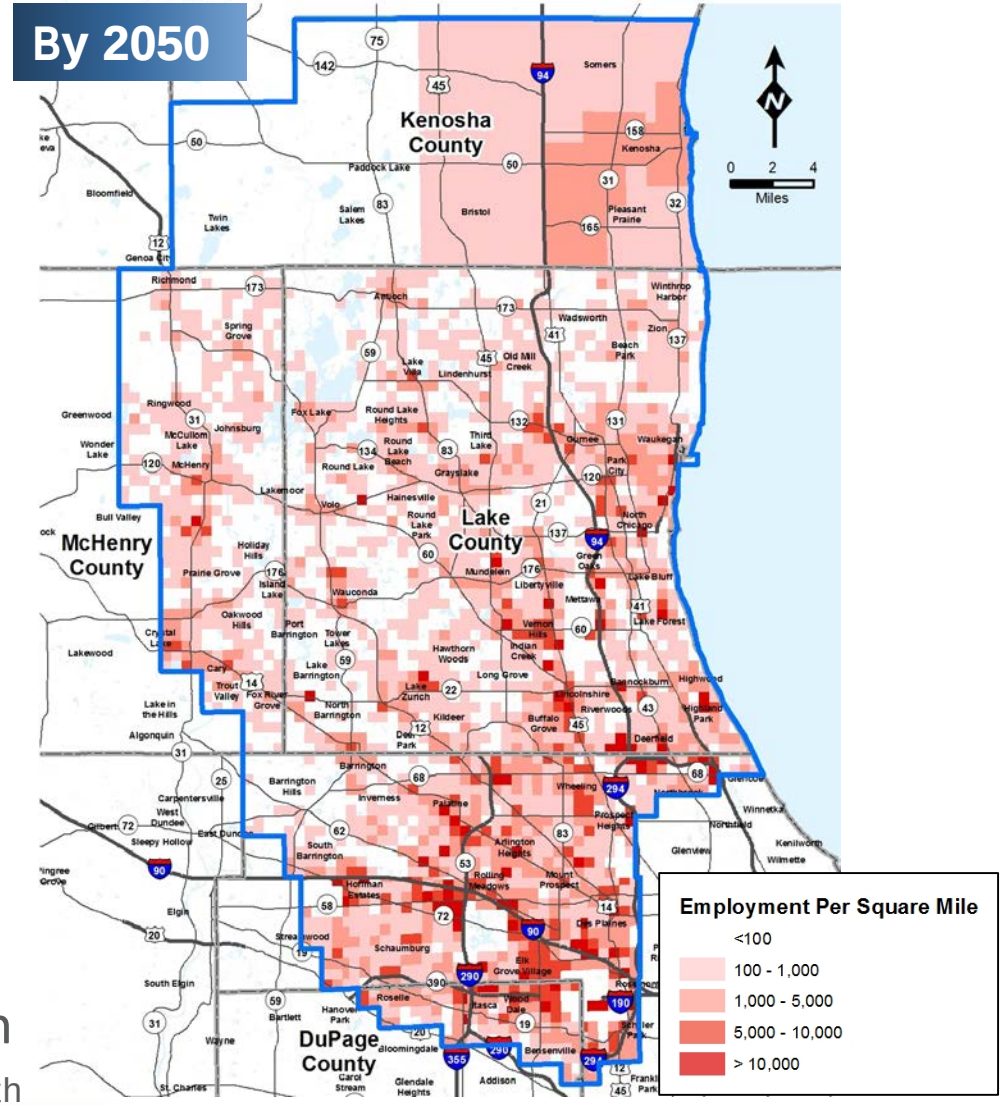


Source: CMAP C17Q1 model data and TCA Project 2050 No-Action, CMAP, Feb, 2018

Employment Growth & Density Expanding North & West







Source: CMAP C17Q1 model data and TCA Project 2050 No-Action, CMAP, Feb, 2018

Area Household Characteristics Support Reliance on Cars

- 64% of households own two or more vehicles, which is much higher than CMAP regional average of 51%
- Sizeable workforce with a low median age means workers will be regularly commuting for years to come

67% of Population in Working Age

39 Median Age

6.5% Unemployment Rate

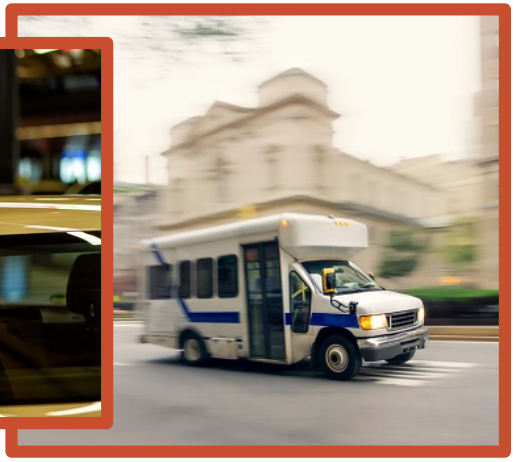
5% of Workers Work at Home

Source: American Community Survey 2012-2016 5 year estimates

Over Ninety Percent of Travel in the Project Area is by Car

90%

3%

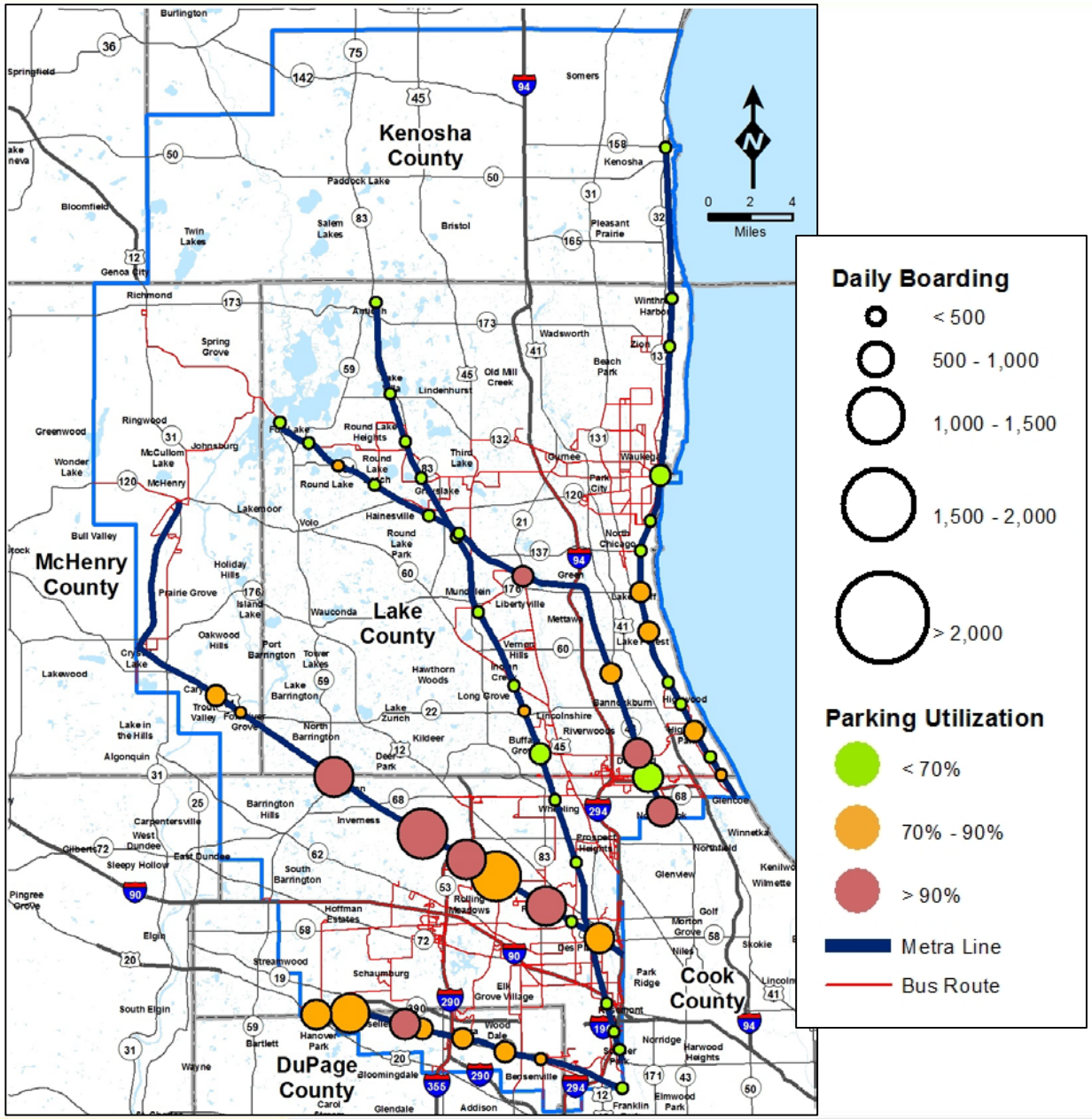


2%

5%

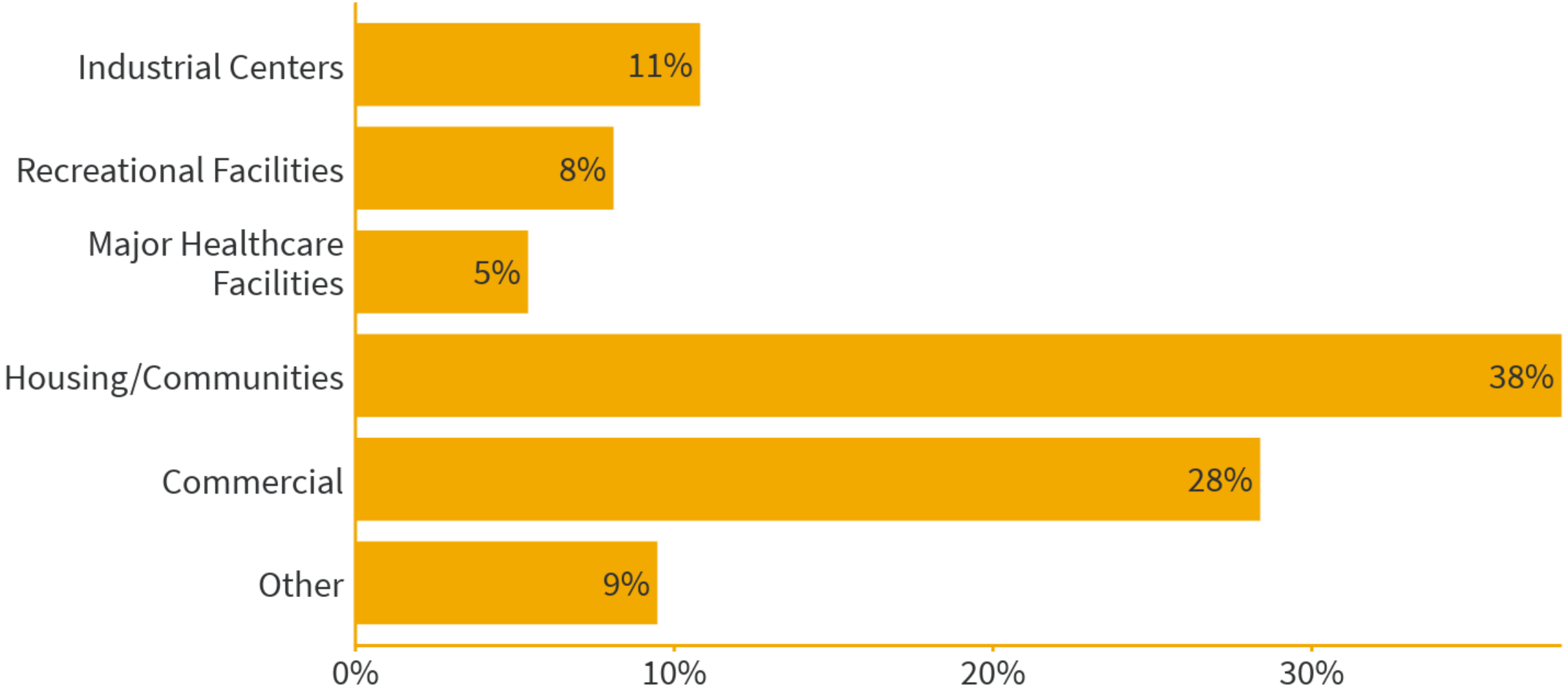
How the Other 7% Get Around

Mode of Transportation	Project Area
Number of Metra lines	5
Metra lines in miles	150
Number of Metra stations	57
Bus routes in miles	815
Number of bus routes	67
Trail and bike path in miles	748



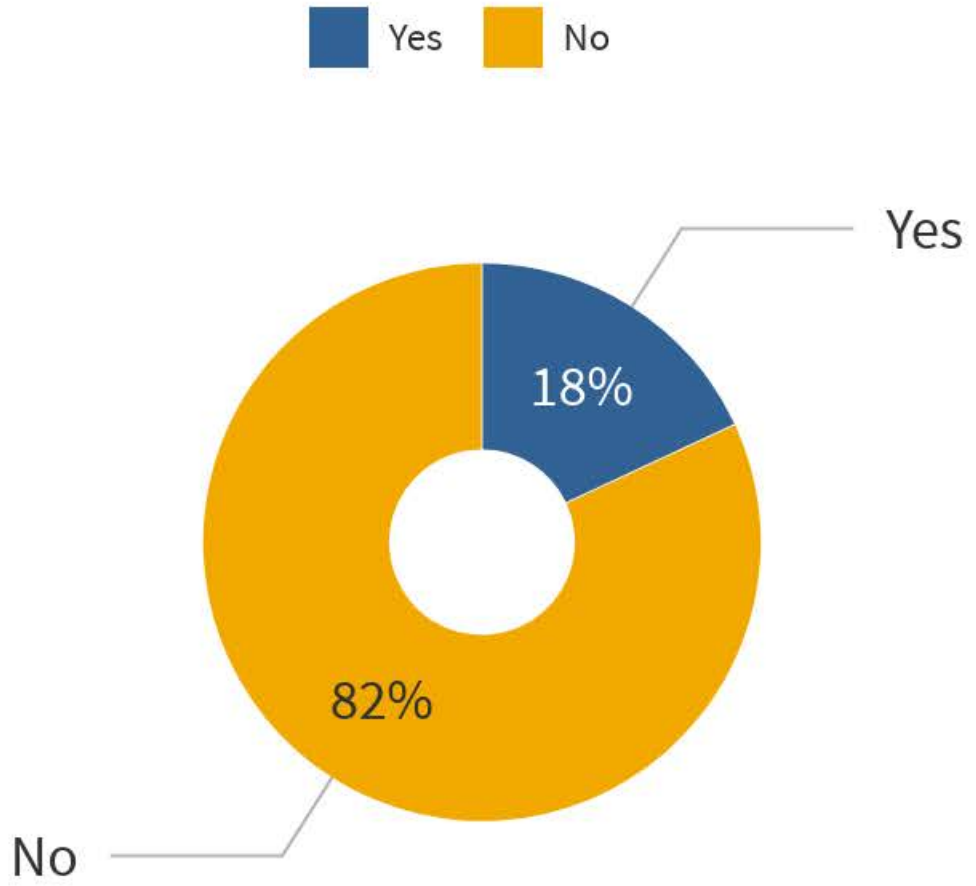
TRI·COUNTY ACCESS | LAKE McHENRY COOK

What major development projects are planned in your community? (Can select up to two)



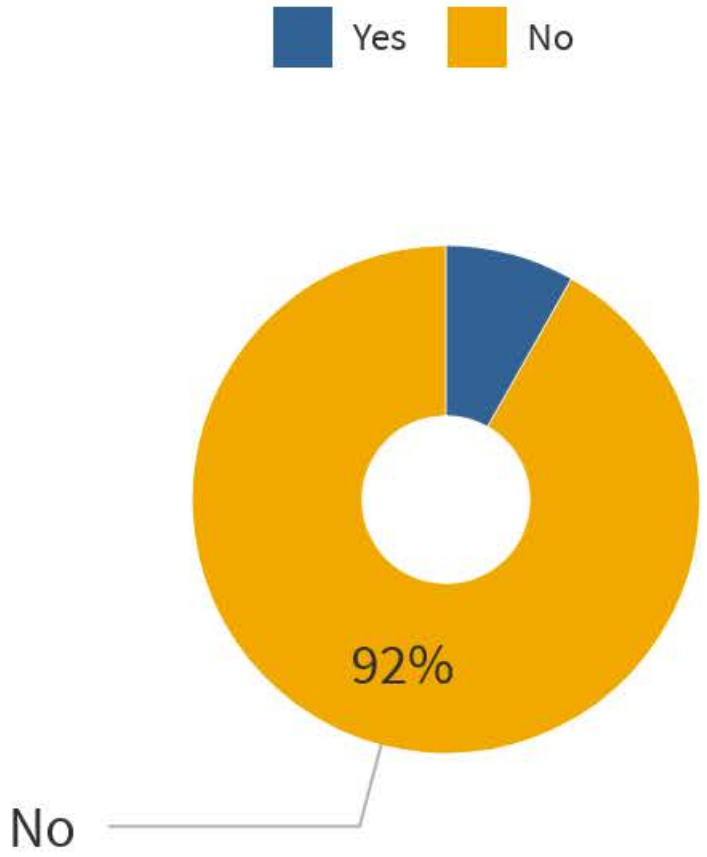
TRI·COUNTY ACCESS | LAKE McHENRY COOK

Do you use transit or paratransit regularly (2x/week or more) within the Project area?



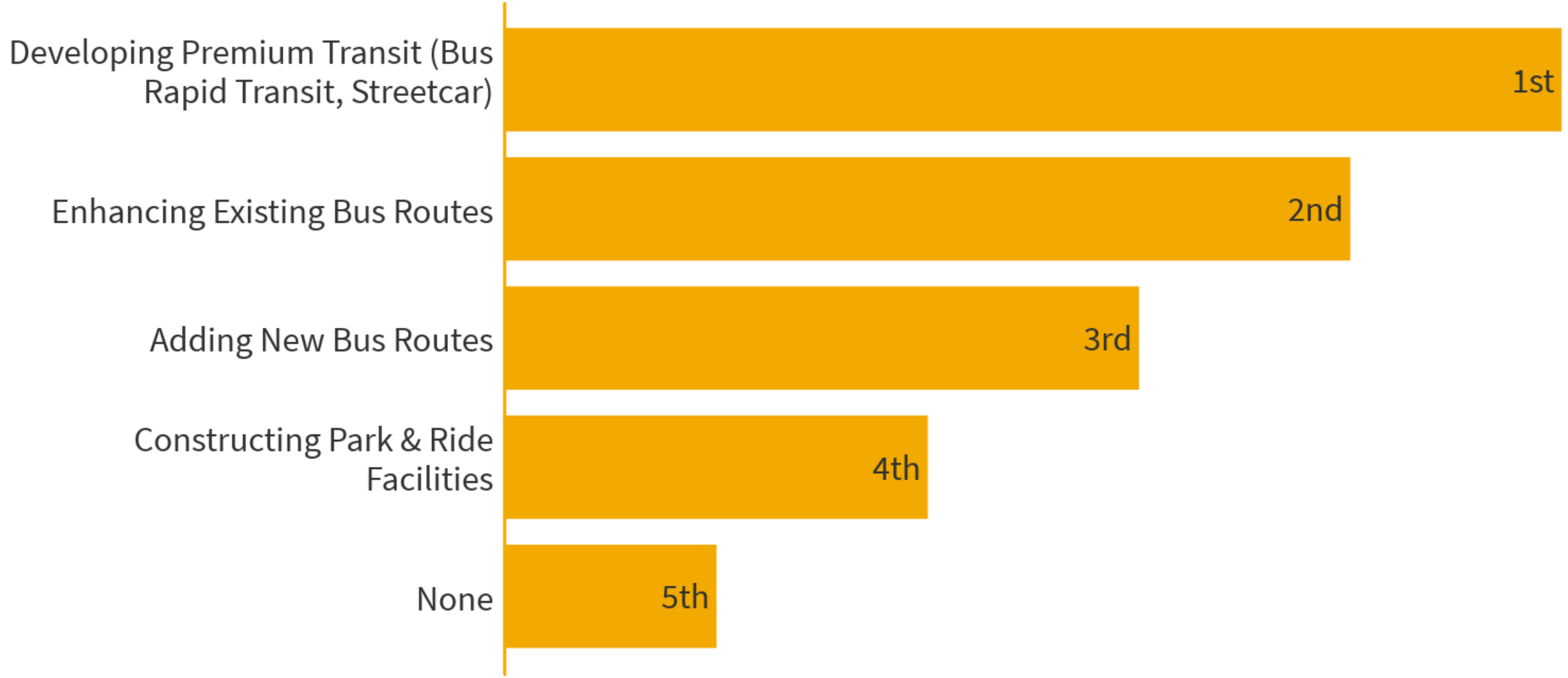
TRI·COUNTY ACCESS | LAKE McHENRY COOK

Do you use transit or paratransit regularly (2x/week or more) to commute to and from the Project area?



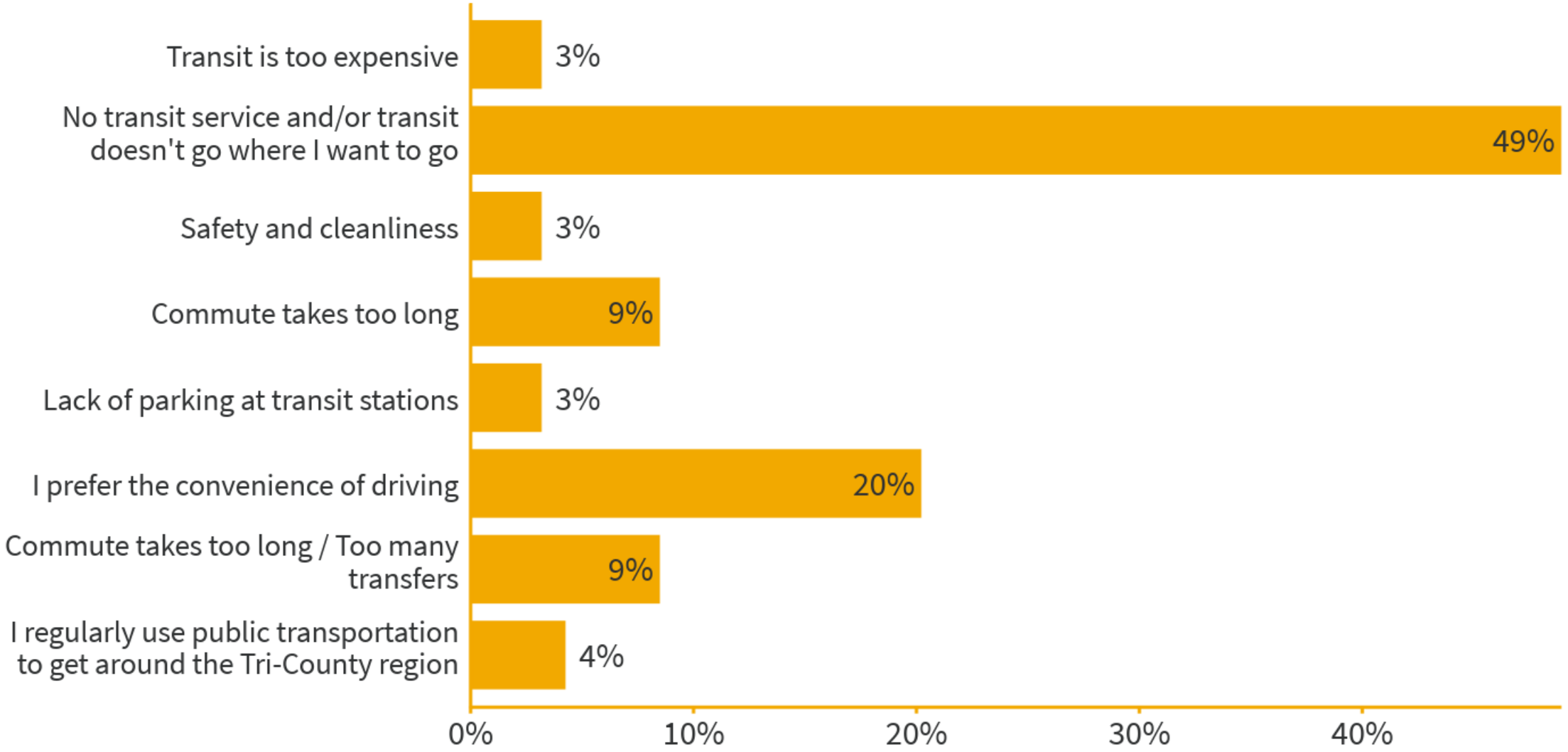
TRI·COUNTY ACCESS | LAKE McHENRY COOK

What transit service needs are most important to your community or group?



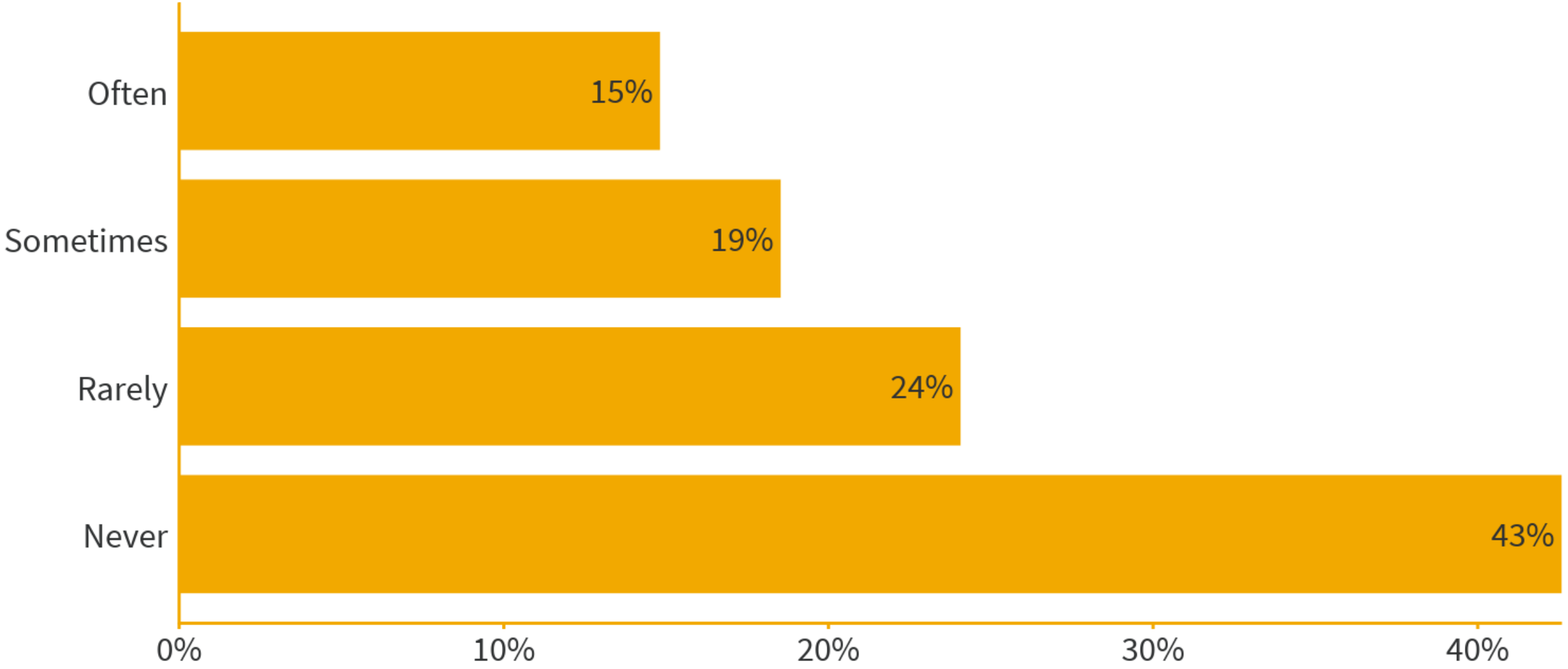
TRI·COUNTY ACCESS | LAKE McHENRY COOK

If you prefer to drive your vehicle rather than use public transportation in the Tri-County region, why?



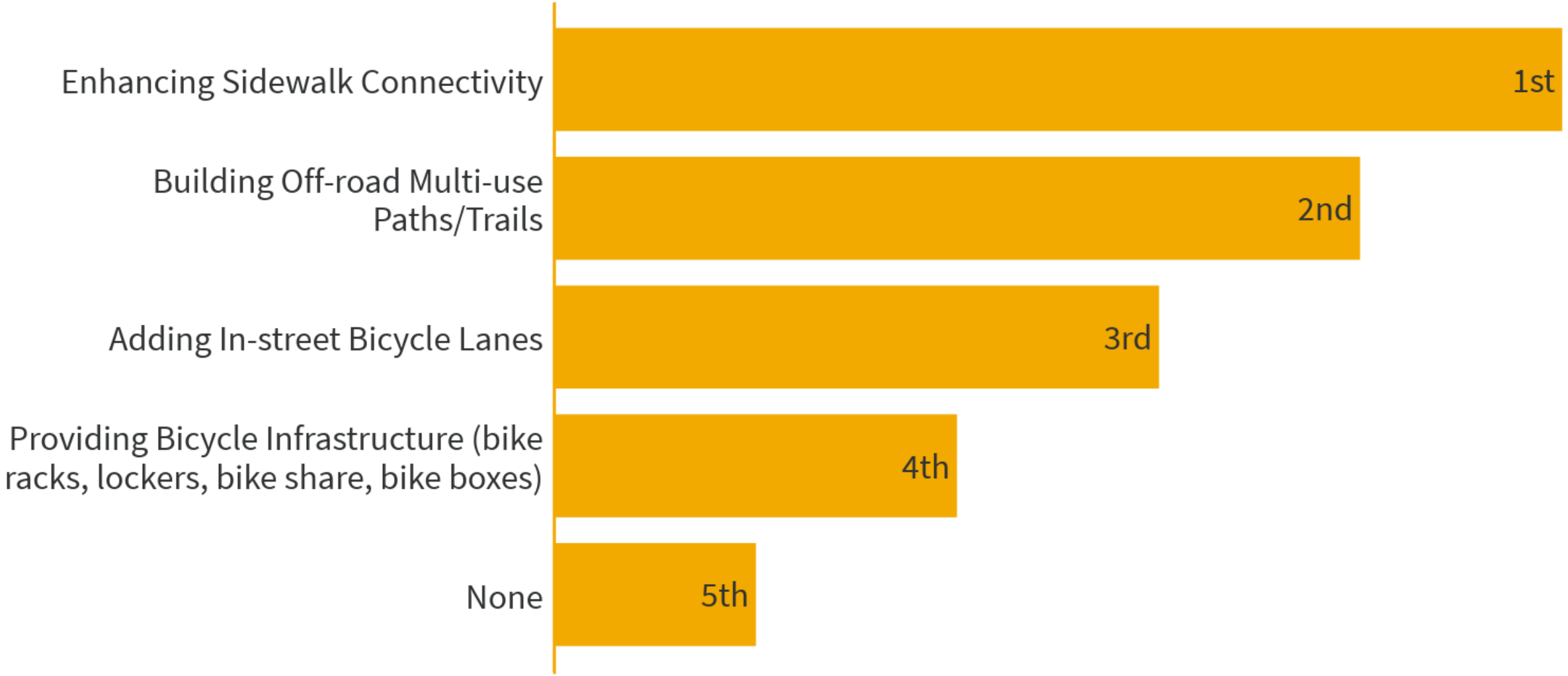
TRI·COUNTY ACCESS | LAKE McHENRY COOK

How often do you choose to bike or walk to work, school or to run errands?



TRI·COUNTY ACCESS | LAKE McHENRY COOK

What Bicycle & Pedestrian related needs are most important to your community or group?

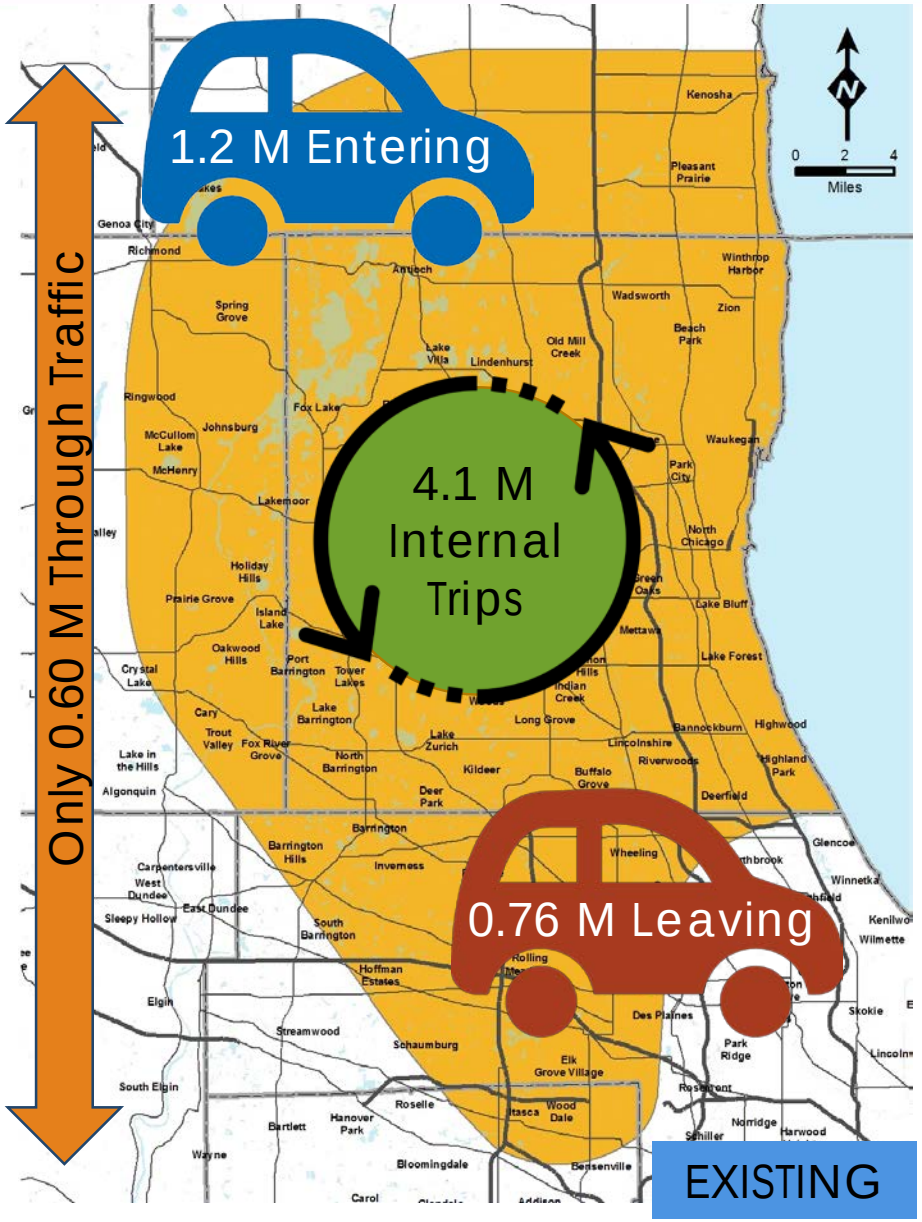


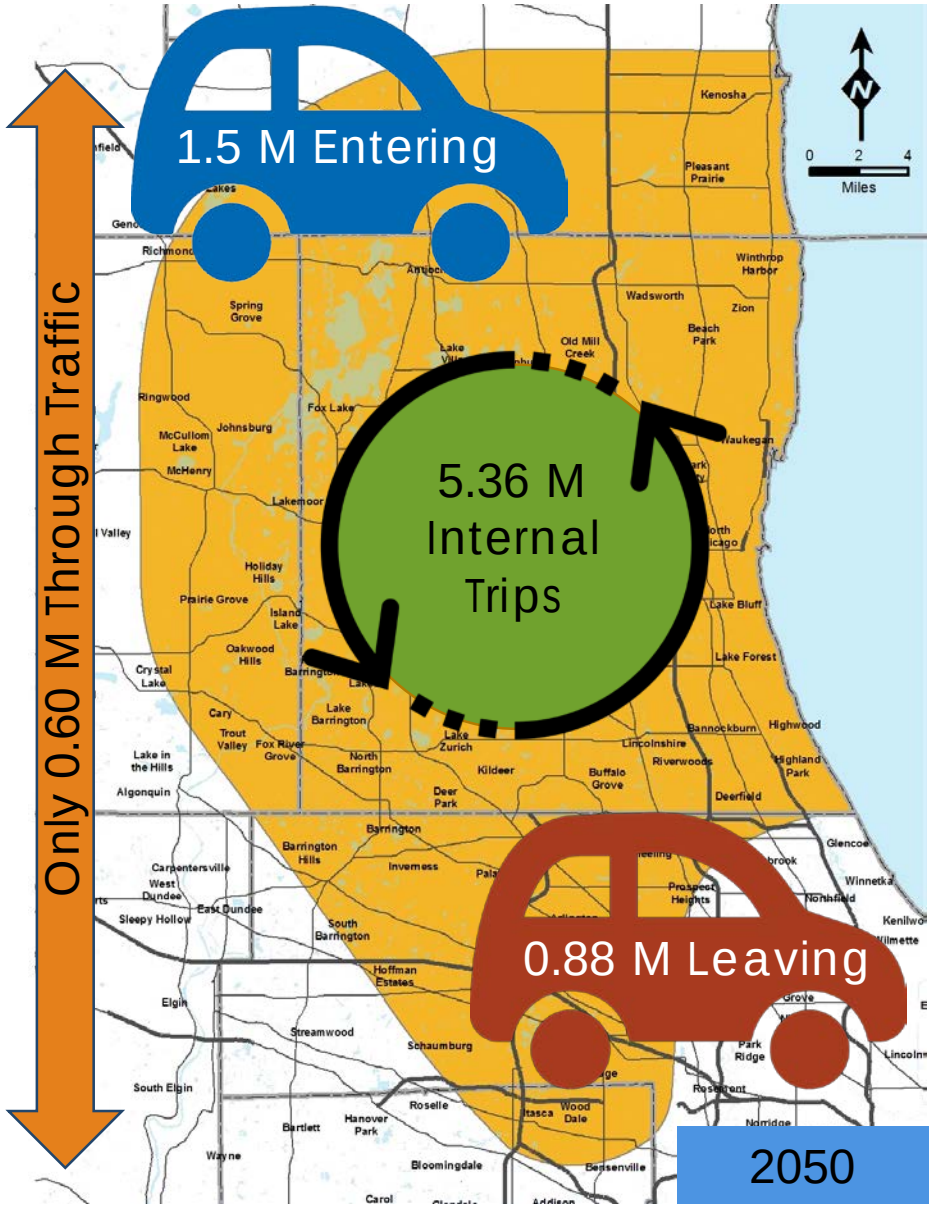
Travel Patterns

Daily Roadway Trip Patterns (Auto + Trucks)

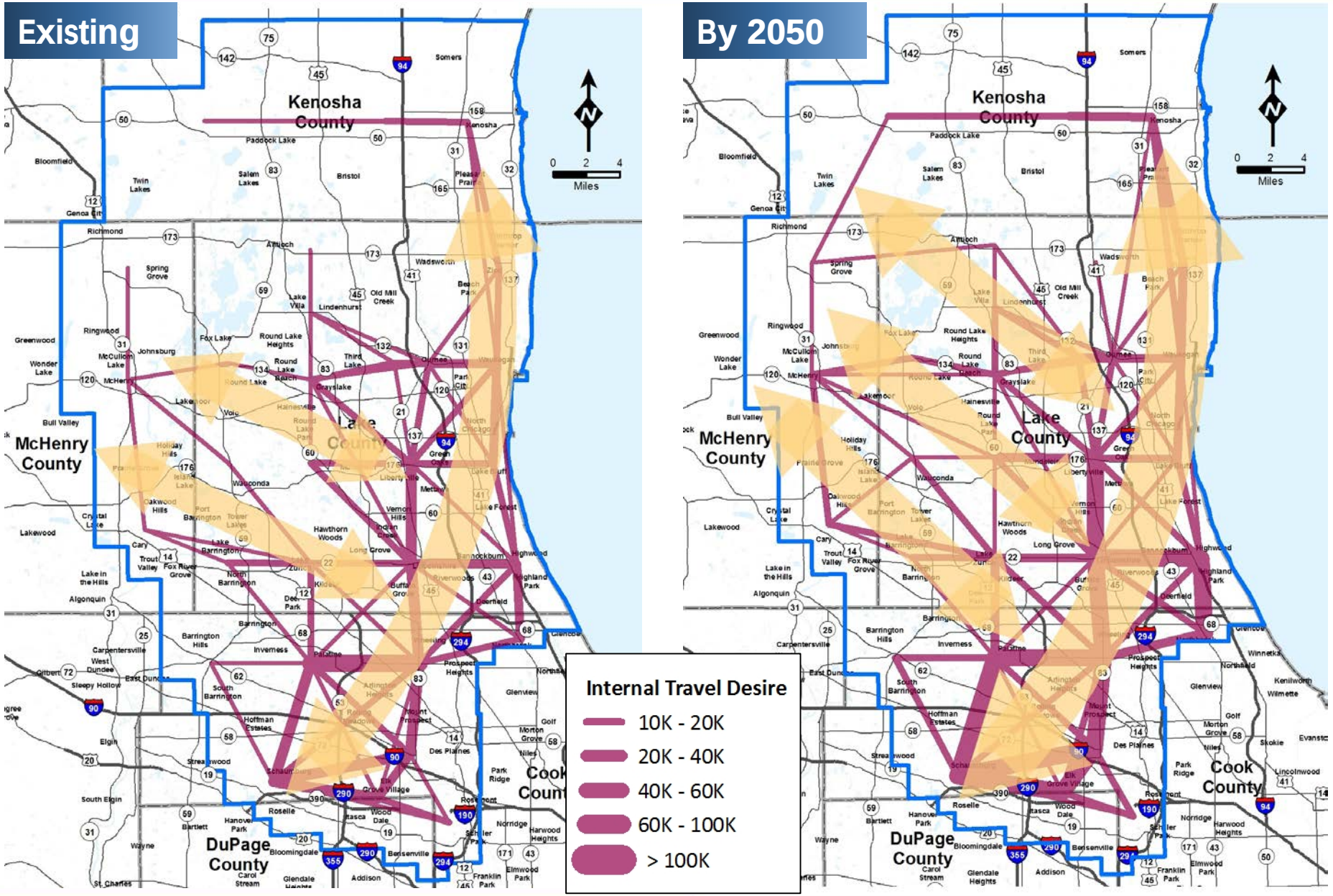
By 2050

- There will be **30%** more internal trips than the existing year
- **16%** more trips are expected to be leaving the project area than existing year
- **26%** more trips are expected to be entering the project area than existing year



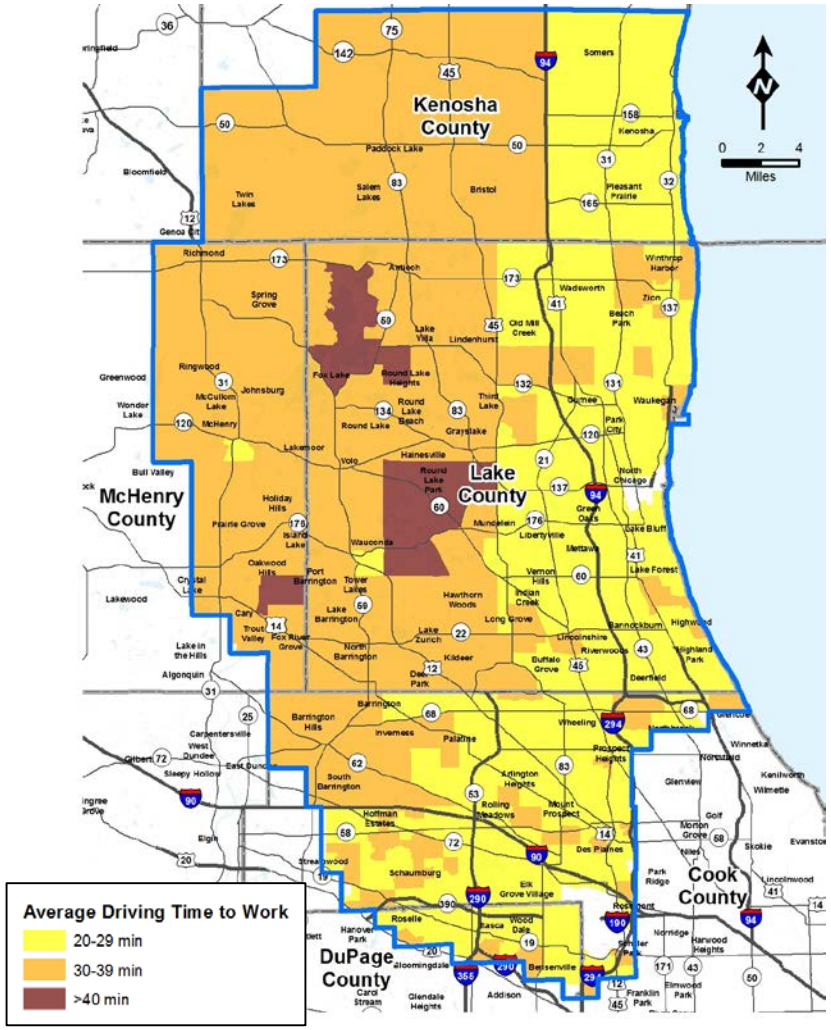


Where are people coming from and going to?

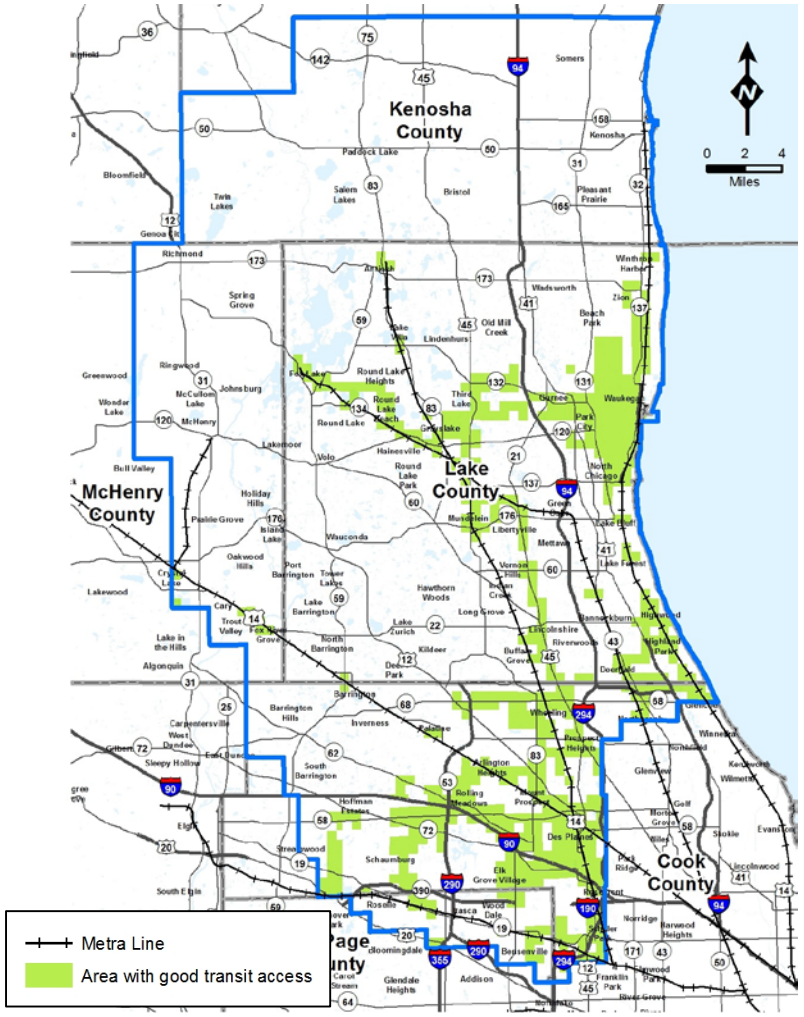


Source: CMAP C17Q1 model data and TCA Project 2050 No-Action, CMAP, Feb, 2018

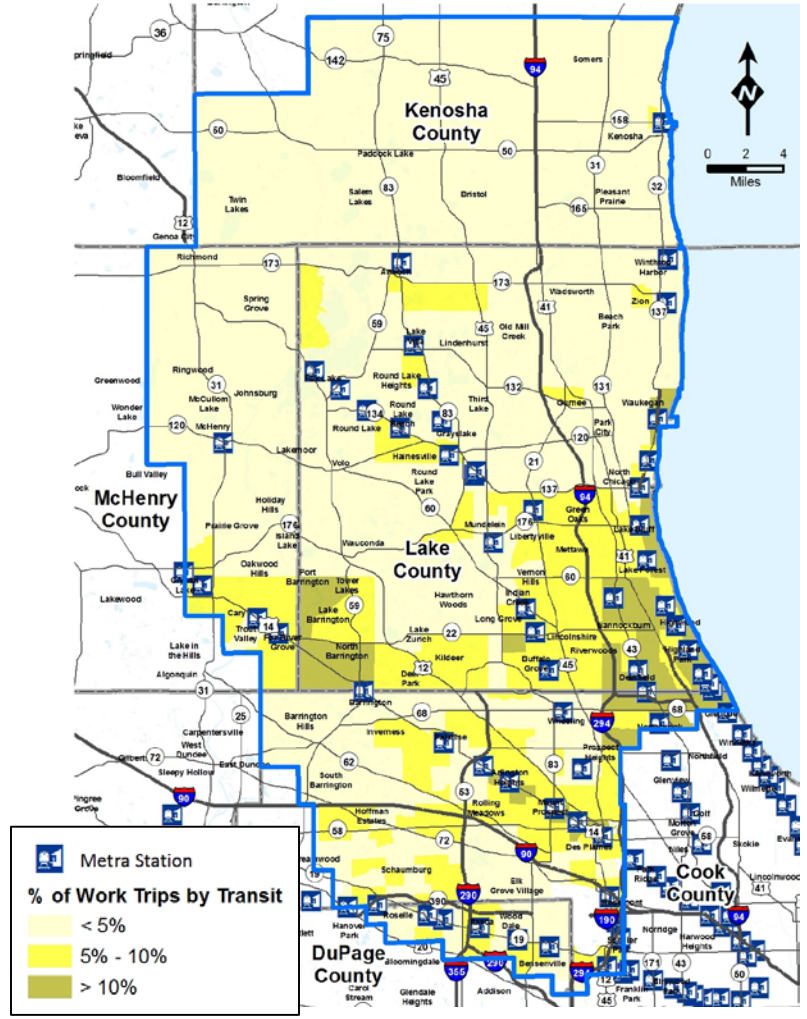
Efficient Travel Options in the Project Area are Lacking



Average Driving Time to Work



Transit Accessibility



Transit Usage for Commute

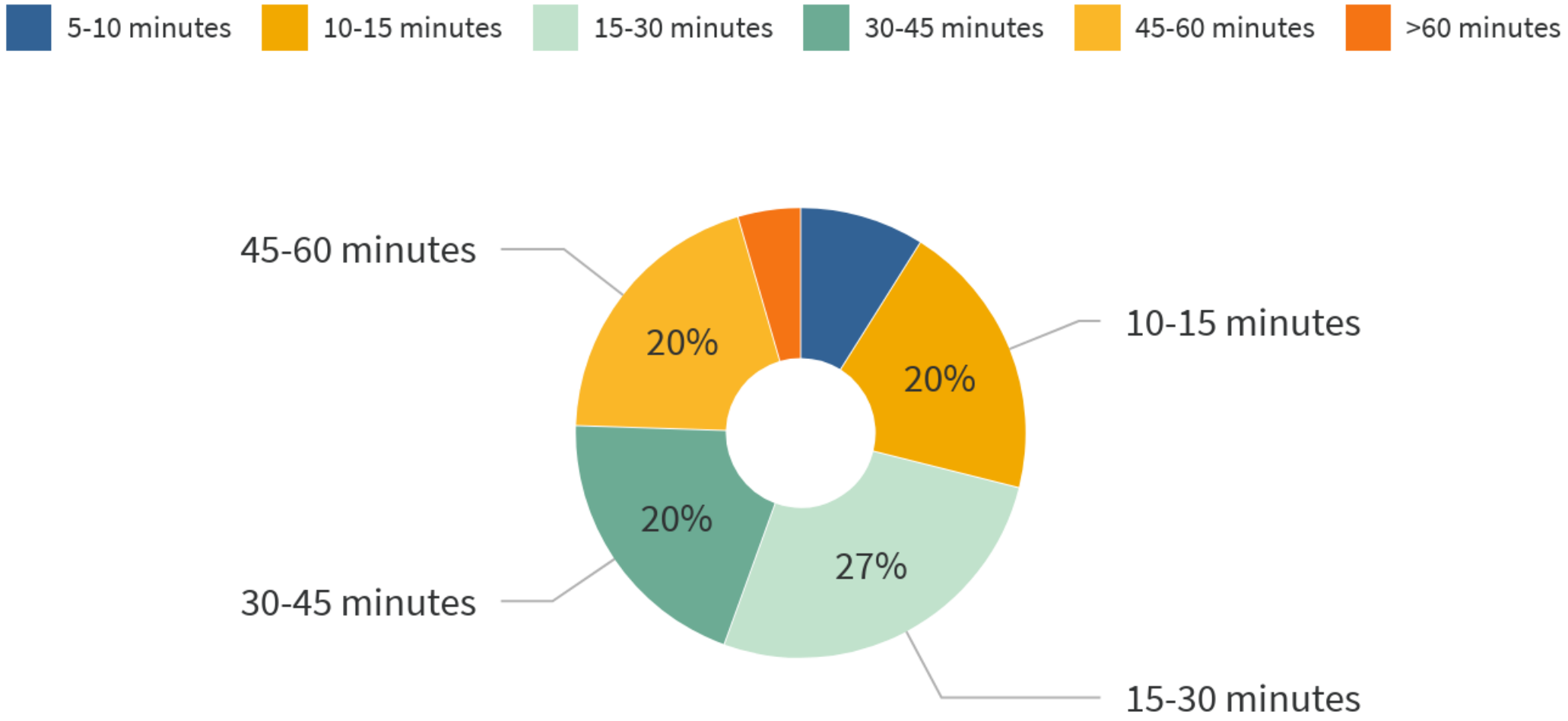
Source: ACS 2012-2016 5 year estimates, CMAP Transit Accessibility Index data

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Which roads do you avoid due to congestion? All roads (local, county, state and expressways) are fair game. Please don't leave spaces (use an underscore ("_") to combine two or more words, i.e. Lake_Cook, Rand_Road, IL_120, 12@59, etc.)

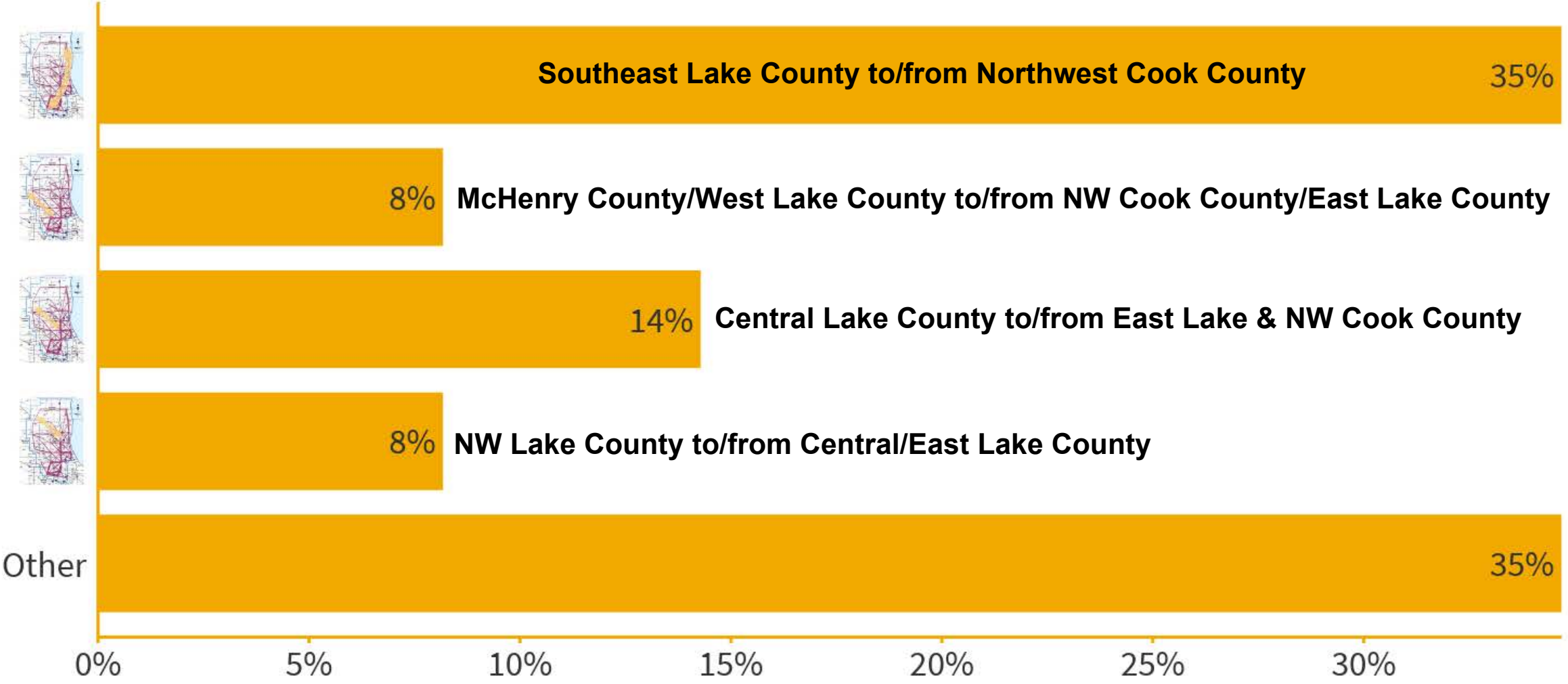
TRI·COUNTY ACCESS | LAKE McHENRY COOK

What is your normal drive time during rush hour in the project area?



TRI·COUNTY ACCESS | LAKE McHENRY COOK

What best describes your most frequent trip patterns? Indicate your travel desire on the map.



Transportation Performance

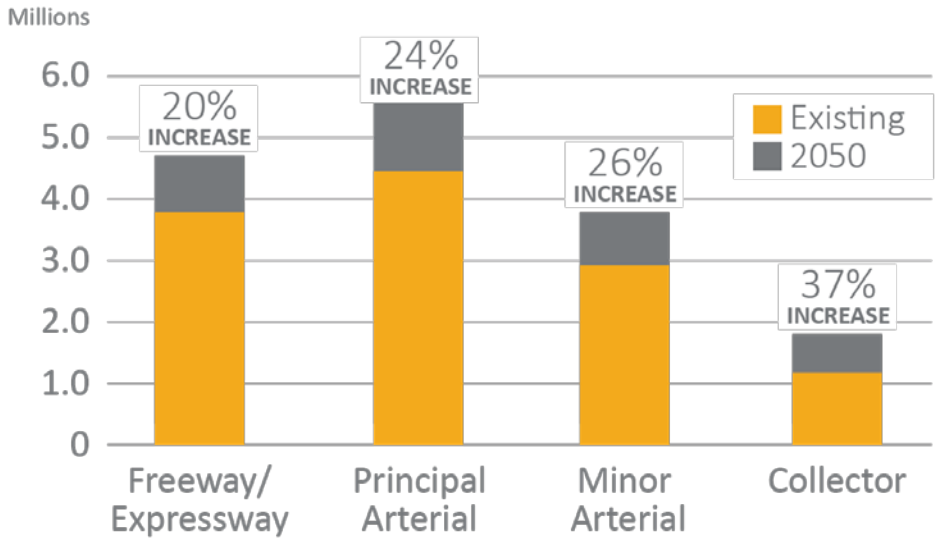
Growth in the Project Area has Resulted in Increased Demand and Time on Roadways

By 2050…

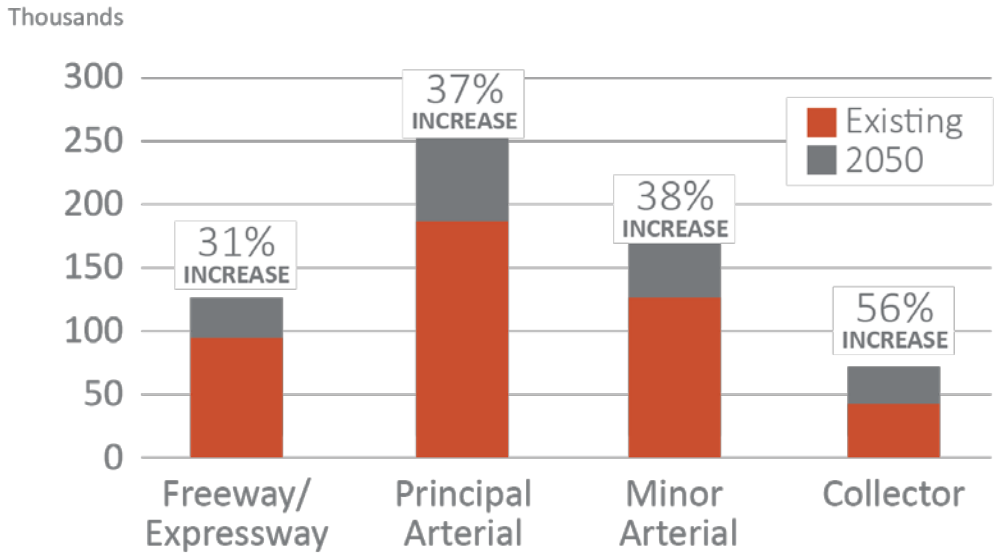
Vehicle miles of travel will increase by **24%**

Vehicle hours of travel will increase by **38%**

Vehicle Miles of Travel during Rush Hours



Vehicle Hours of Travel during Rush Hours

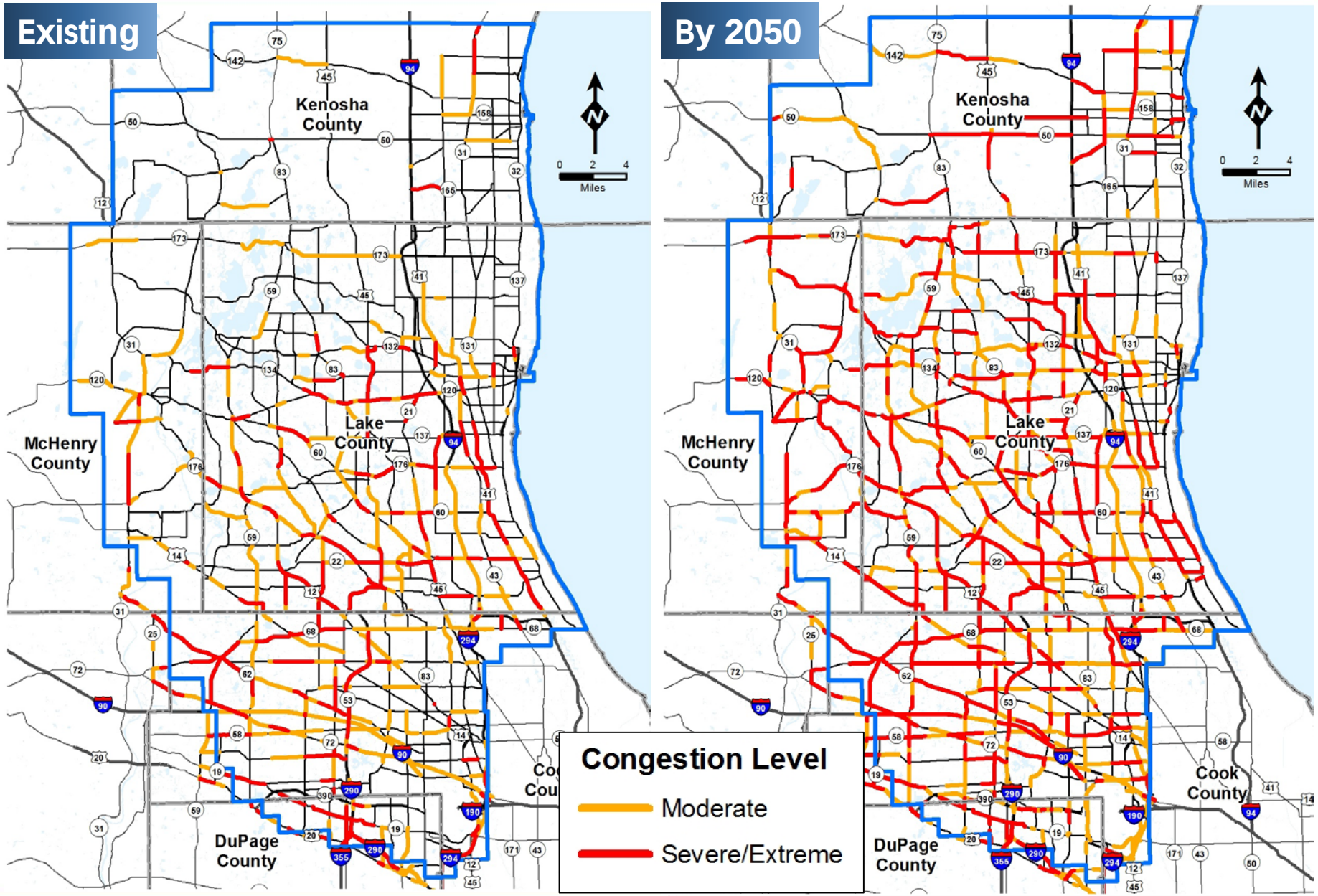


Source: CMAP C17Q1 model data

Congestion Continues to Spread & Grow

By 2050…

- Congested miles of travel will be increased by **53%**
- Severe/Extreme congested miles of travel will be increased by **60%**

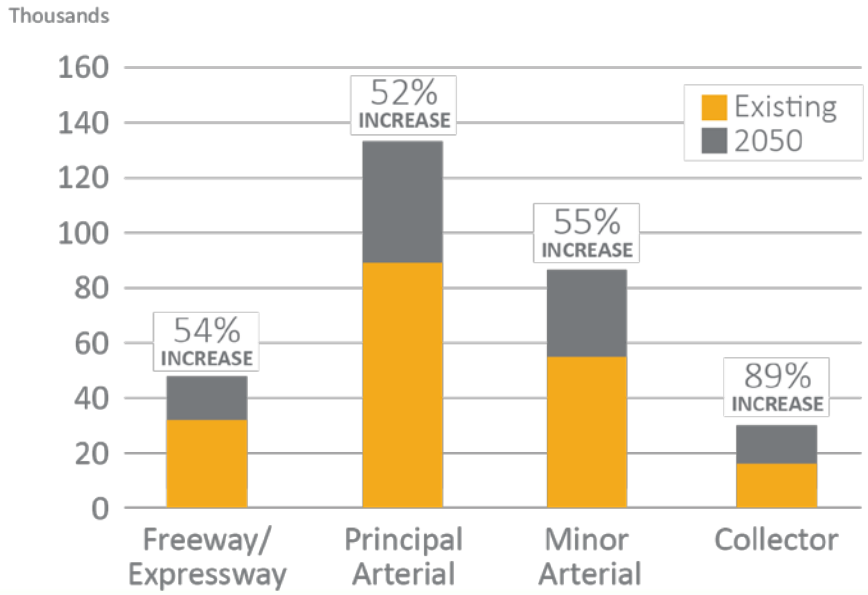


Source: CMAP C17Q1 model data

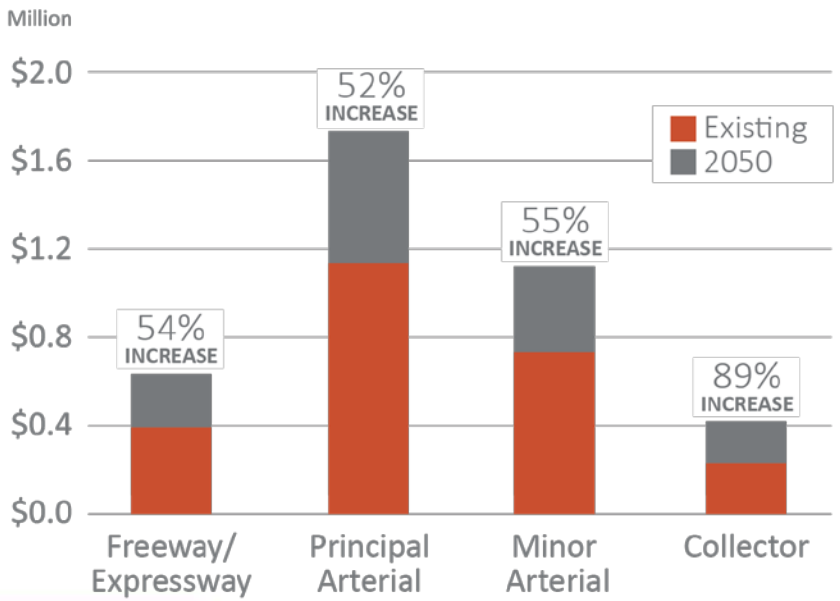
Traffic Congestion has Costs

- 190,000 hours of delay due to existing rush hours congestion
- The loss in time is equivalent to ~ $2.5 million
- By 2050, hours of delay are expect to be 290,000
- The loss in time escalates to ~ $3.9 million

Vehicle Hours of Delay during Rush Hours



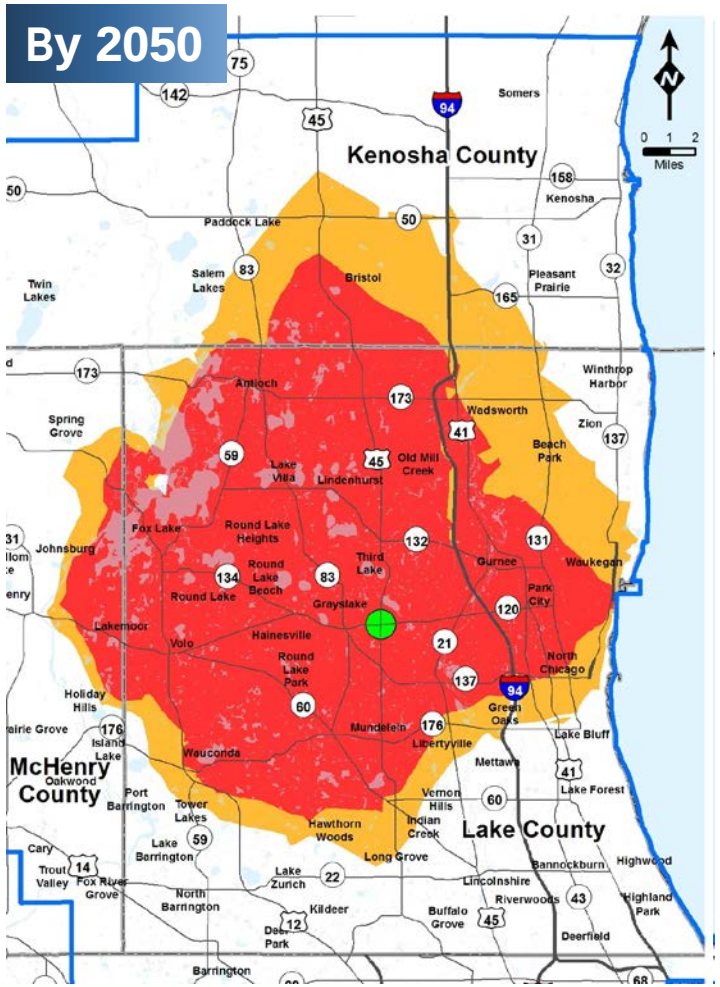
Cost of Congestion during Rush Hours

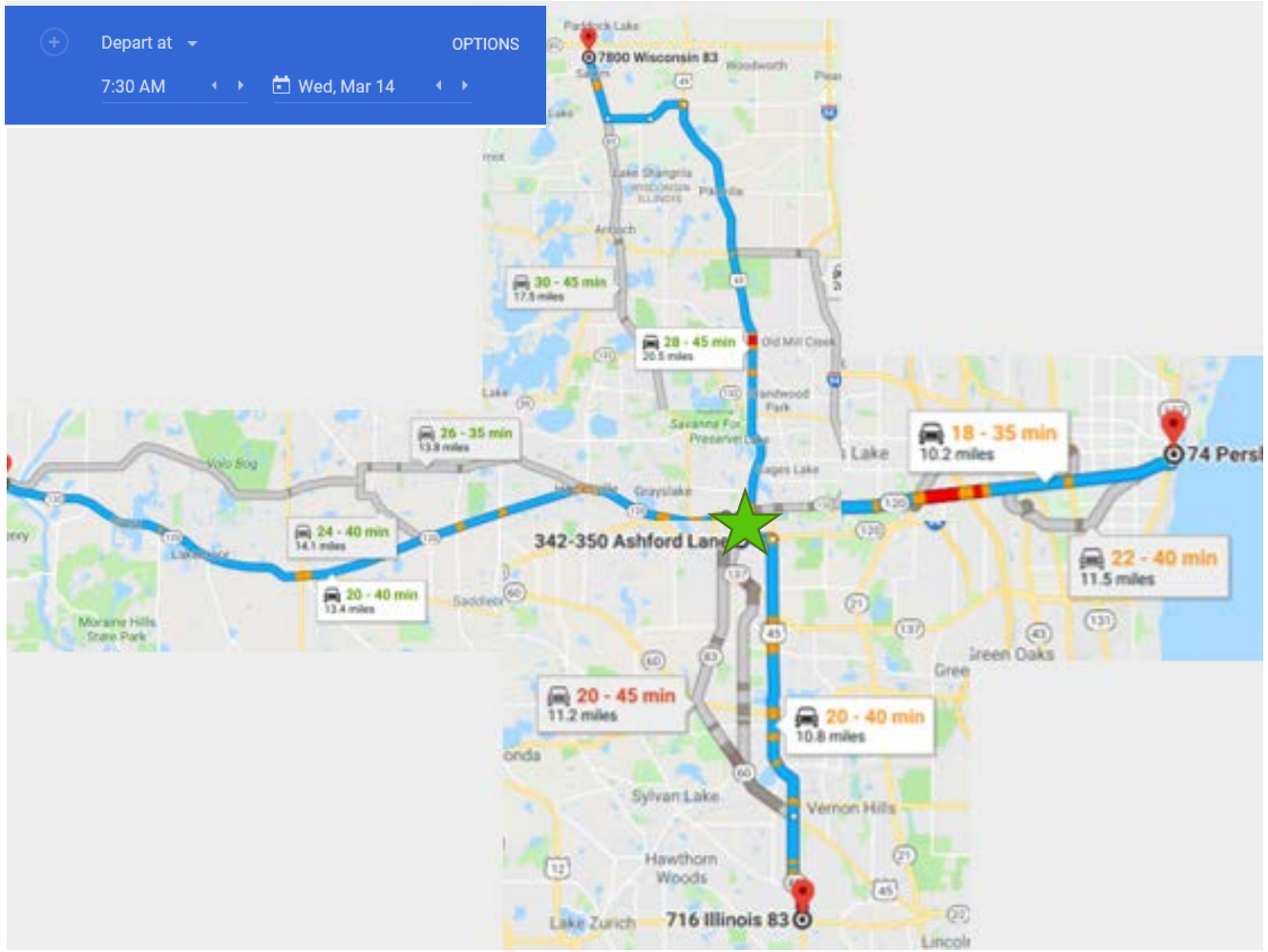


Source: CMAP C17Q1 model data

Unreliable Travel Conditions Impact your Drive

US 45 at IL 120: By 2050, the distance you'll be able to travel in 30 minutes will drop by 30%

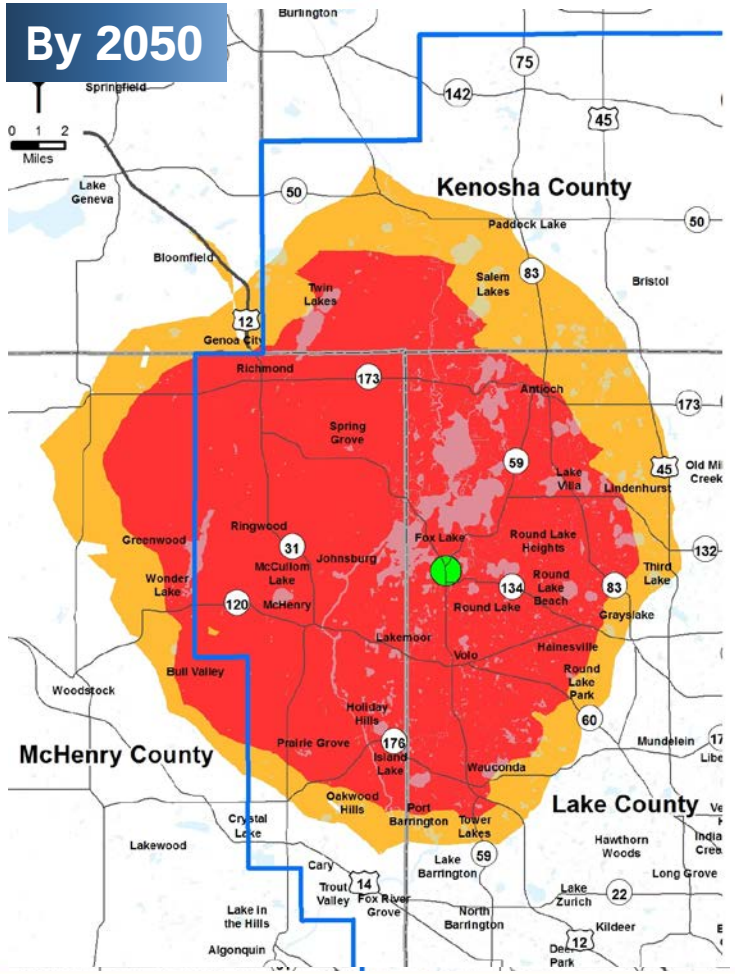


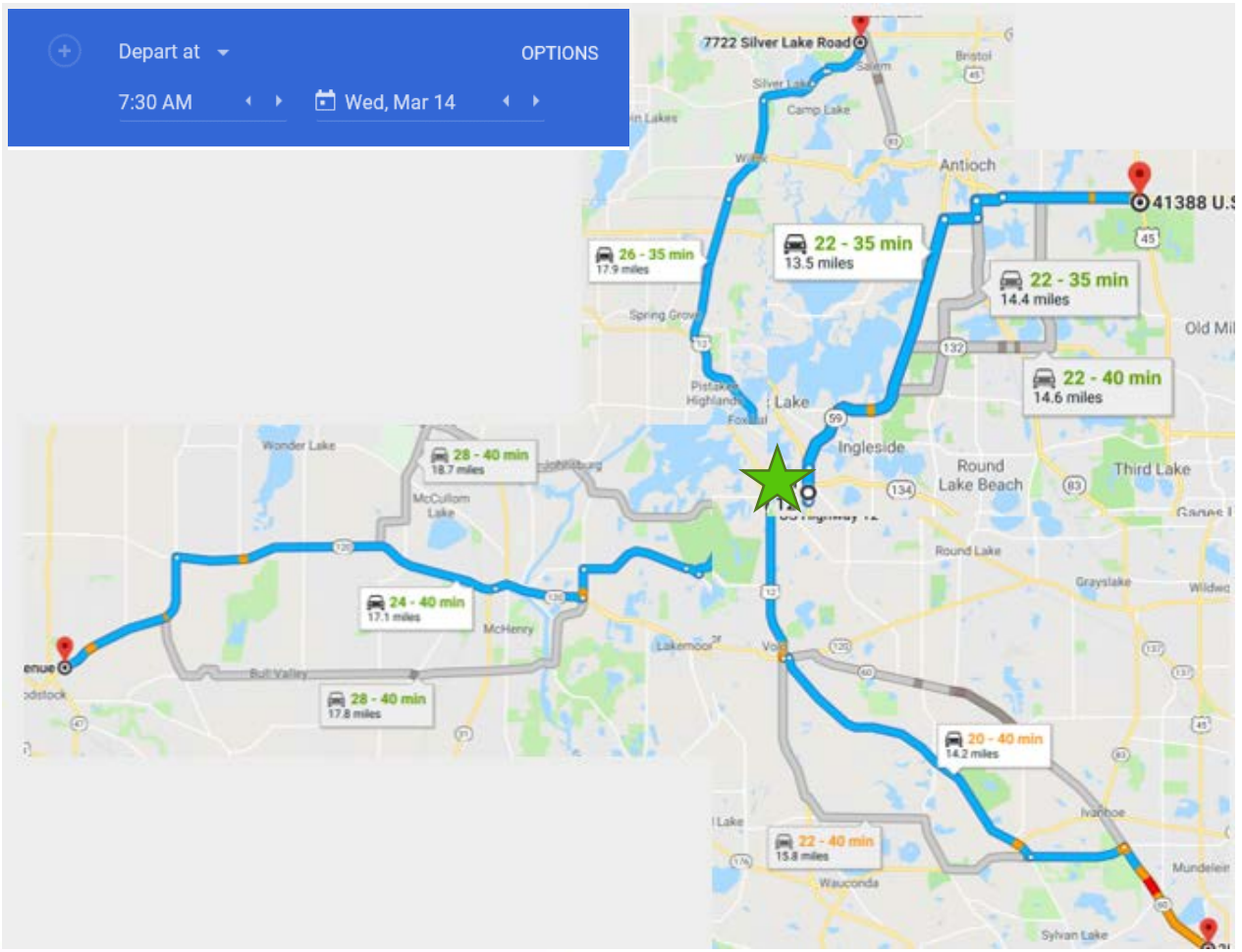


Source: CMAP C17Q1 model data

Unreliable Travel Conditions Impact Trip Planning

US 12 at IL 59: By 2050, the distance you'll be able to travel in 30 minutes will drop by 31%

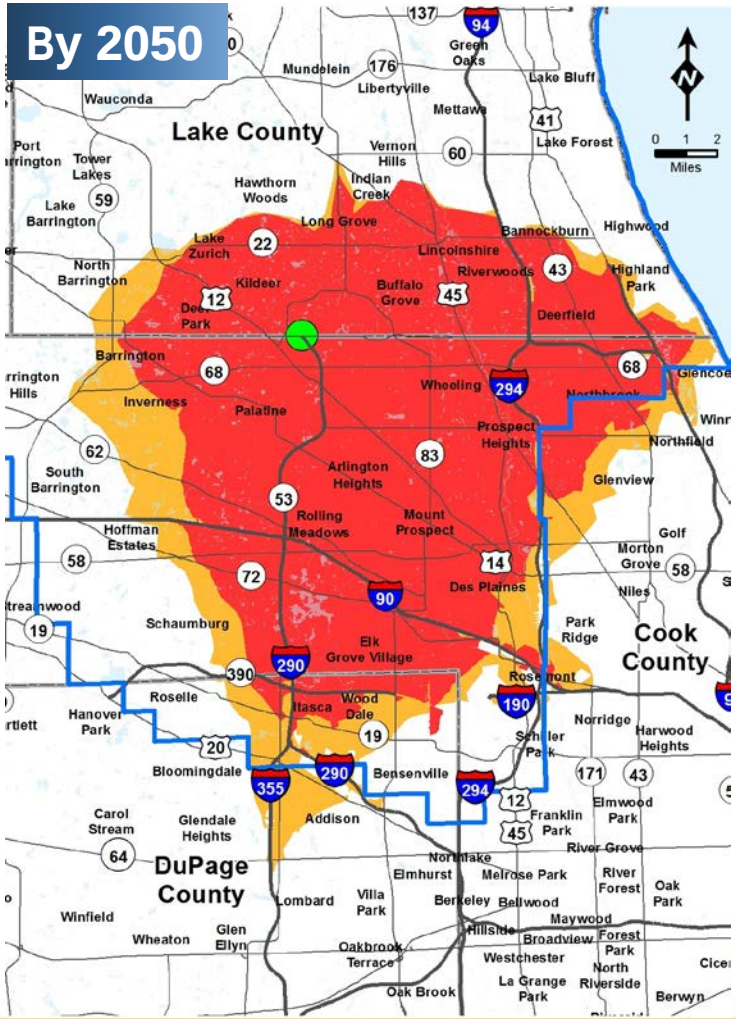


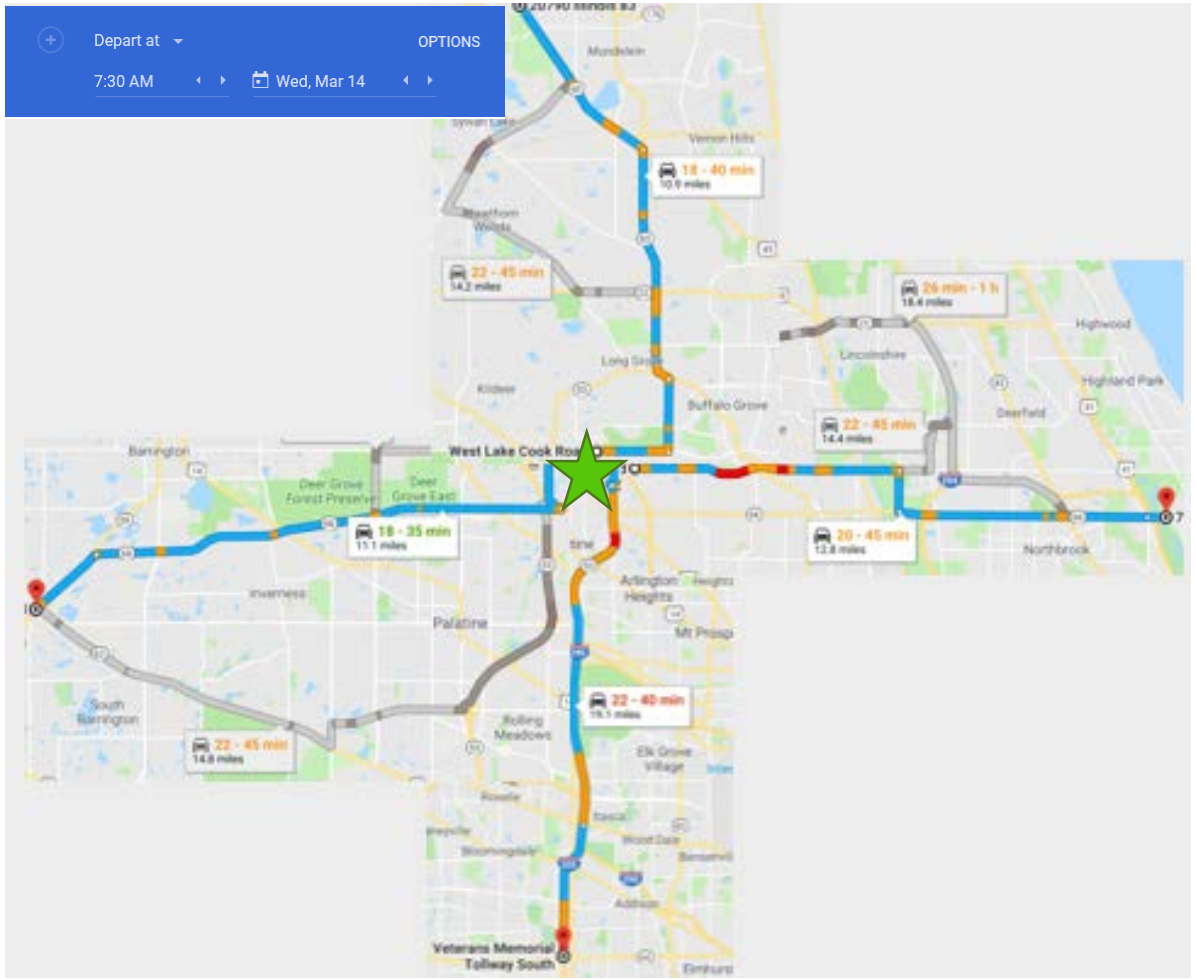


Source: CMAP C17Q1 model data

Unreliable Travel Conditions Cost Time and Money

IL 53 at Lake Cook Rd: By 2050, the distance you'll be able to travel in 30 minutes will drop by 22%

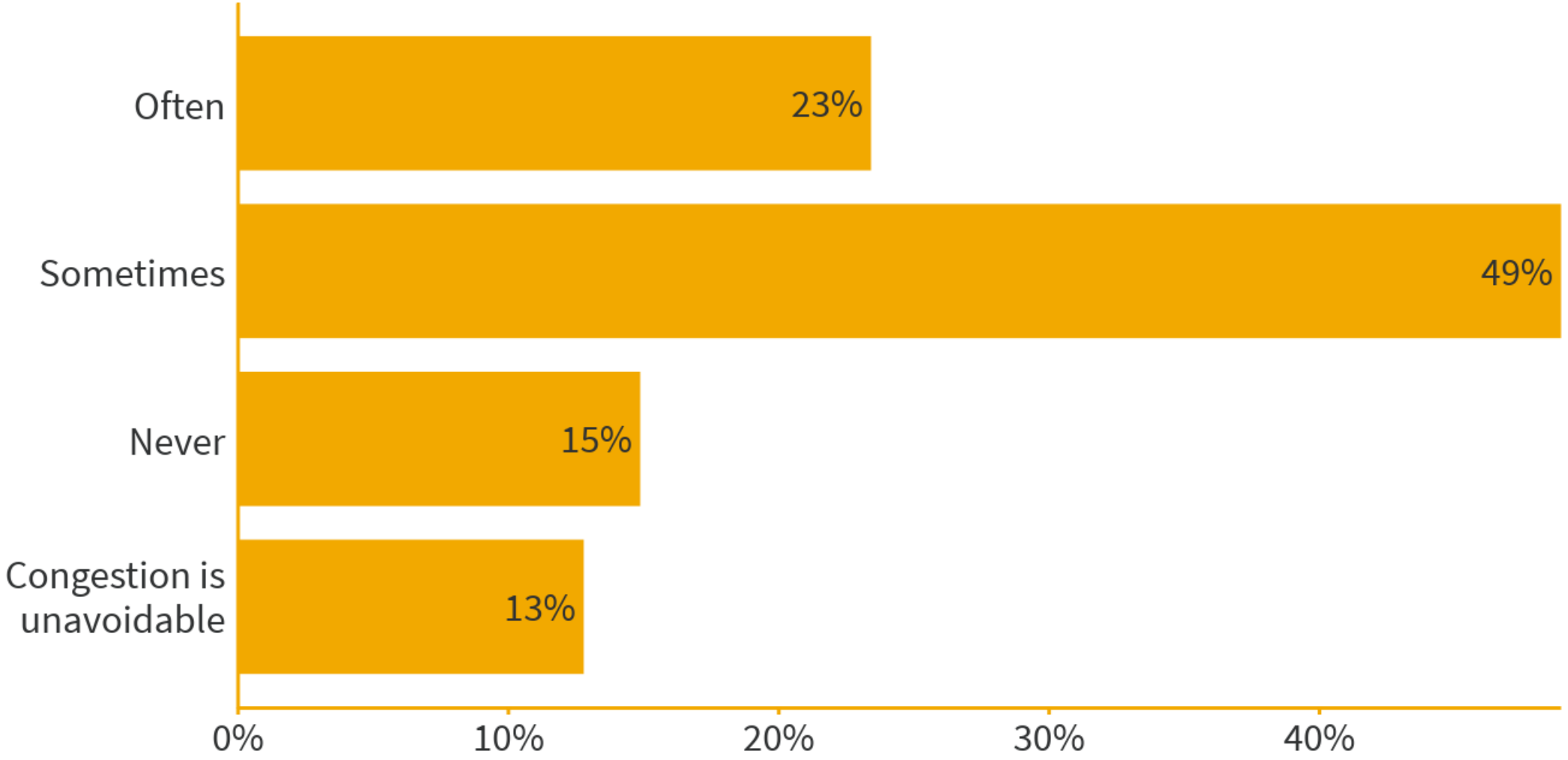




Source: CMAP C17Q1 model data

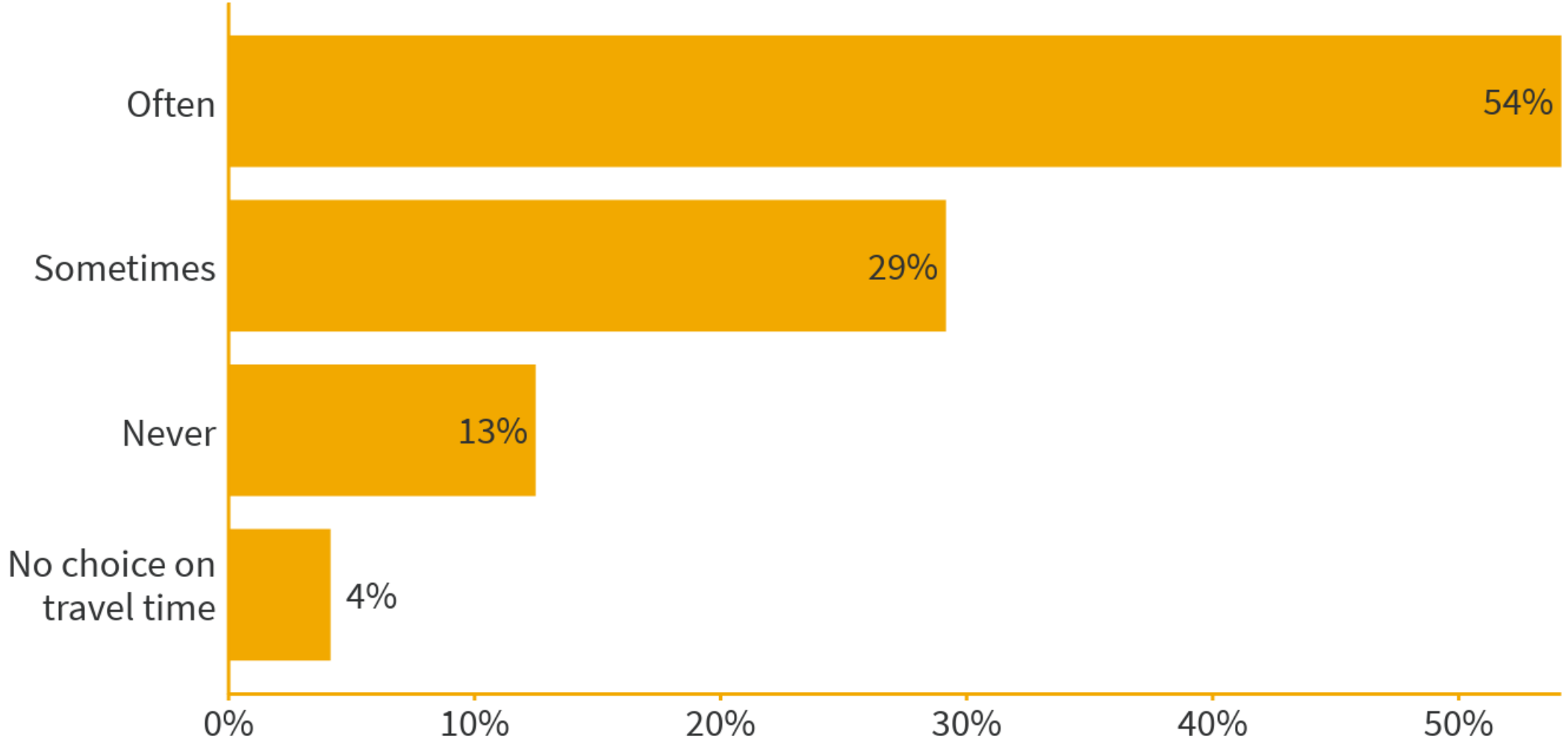
TRI·COUNTY ACCESS | LAKE McHENRY COOK

Do you travel out of your way to avoid congestion within the project area?



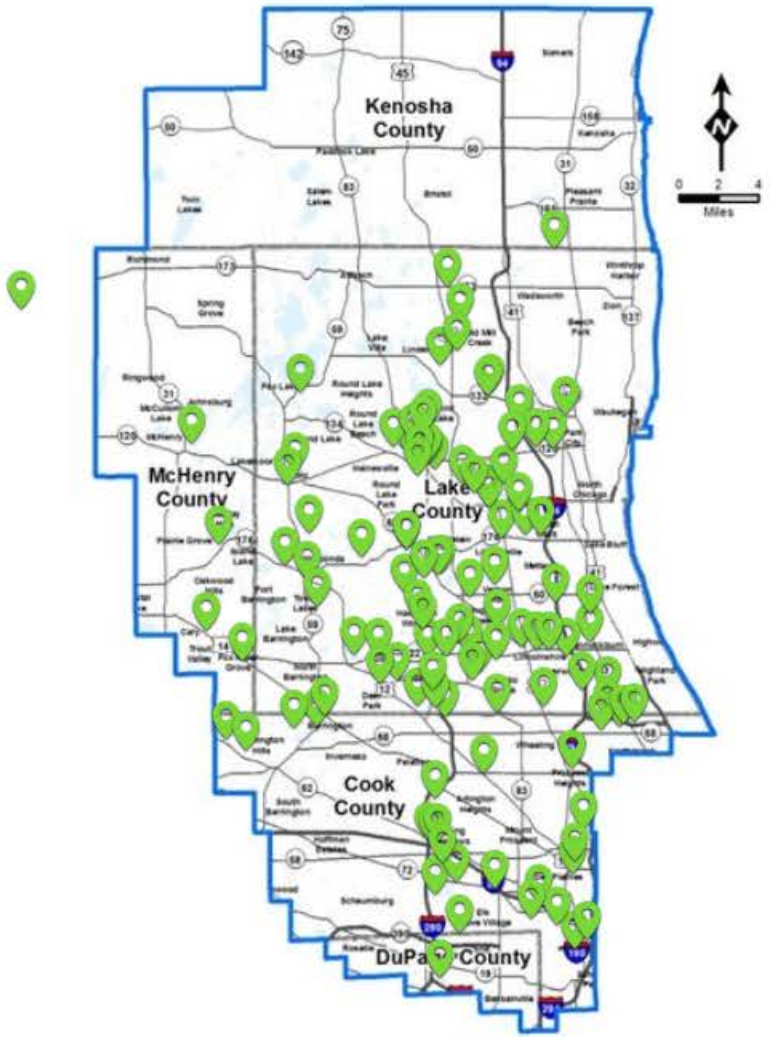
TRI·COUNTY ACCESS | LAKE McHENRY COOK

Does congestion affect the times you travel?



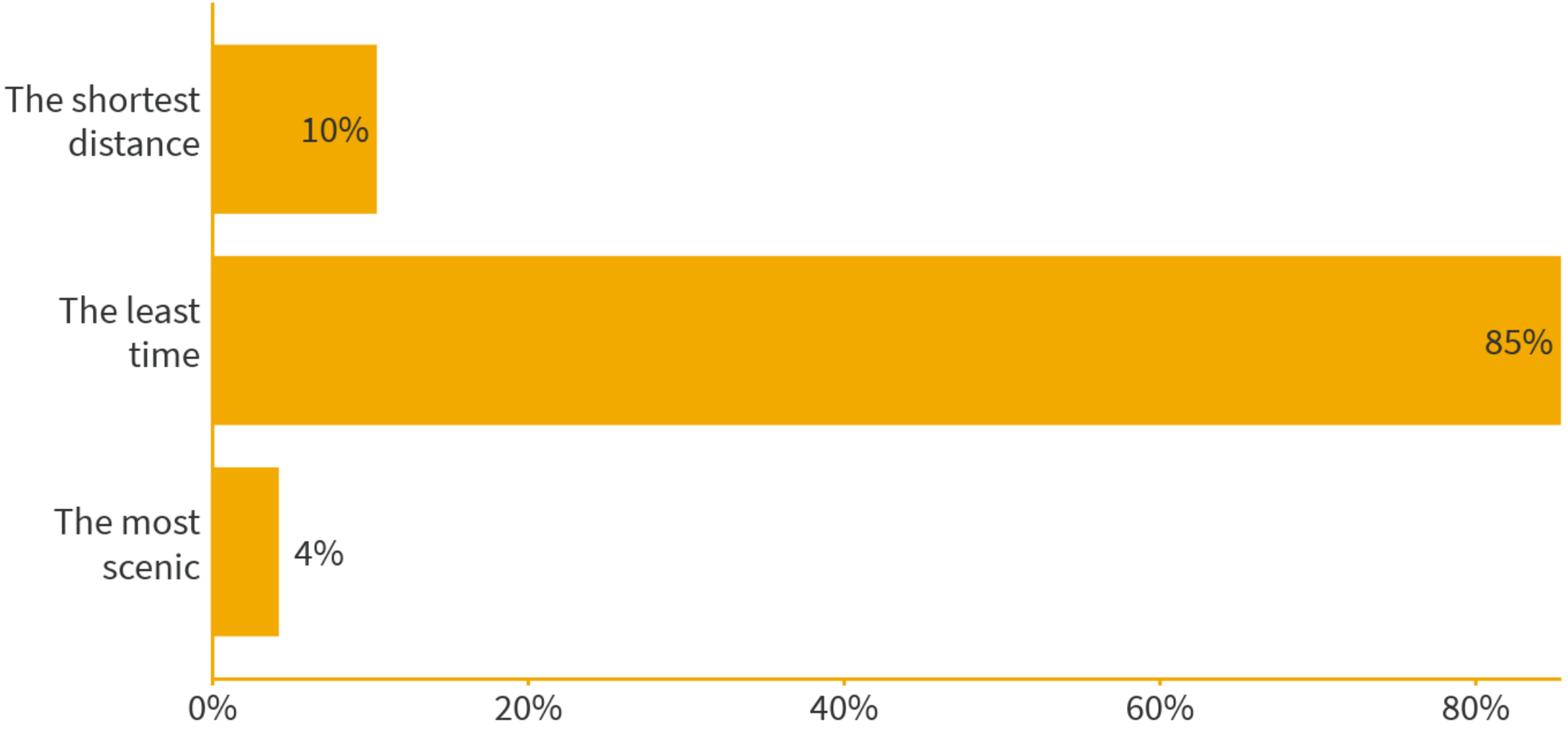
TRI·COUNTY ACCESS | LAKE McHENRY COOK

Are there areas that you avoid driving at peak travel times to avoid congestion? Indicate where on the map.



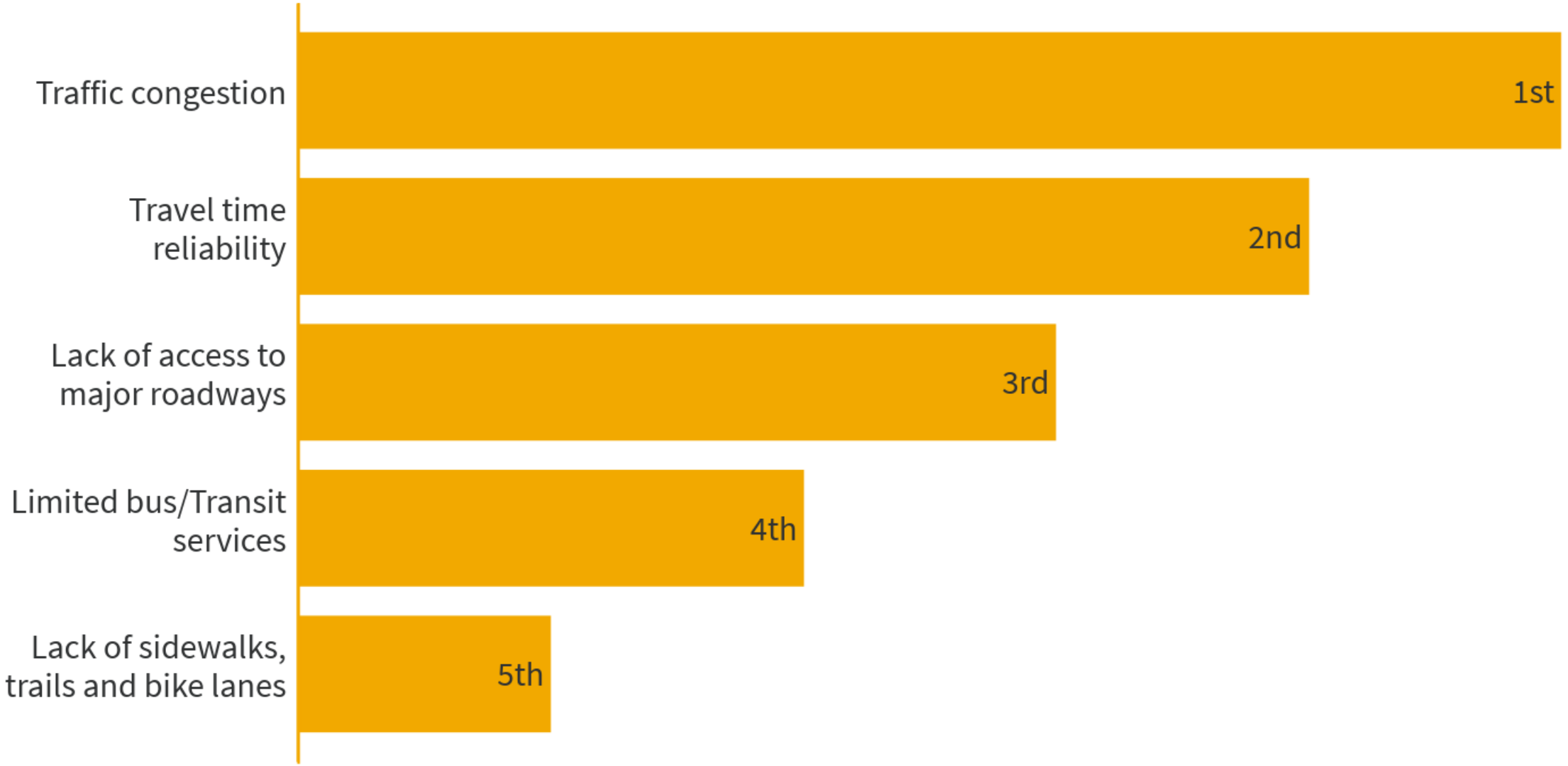
TRI·COUNTY ACCESS | LAKE McHENRY COOK

How do you decide which route to take when driving in the Tri-County region?



TRI·COUNTY ACCESS | LAKE McHENRY COOK

What do you consider the most critical transportation issues in the Tri-County region?



TRI·COUNTY ACCESS | LAKE McHENRY COOK

Any questions regarding Transportation System Performance?

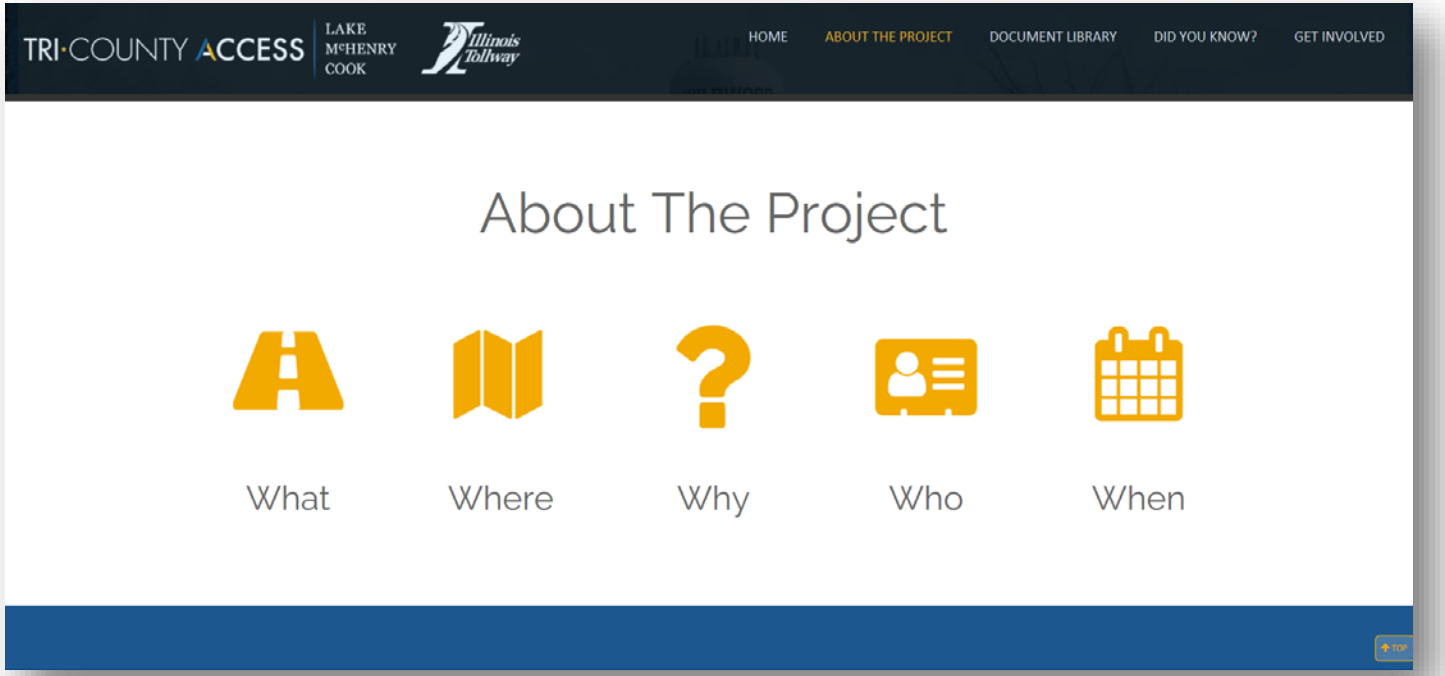
Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

3	You focus on travel time for performance which overlooks far greater cost of moving one person per 3000 car across sprawl. Will you use cost per person trip as a performa...
2	Is the FoxConn development being considered in forecasts?
2	How will you Weight 2050 population and work centers?
1	CMAP's projections are impossible to achieve. How will Lake county reach 900k people (a 200k person increase) by 2050?
1	Where are declining population models effect on traffic?
1	Weather patterns have changed in last 25 years and will continue to change. How are you defining flood zones in 2050 if rainfall

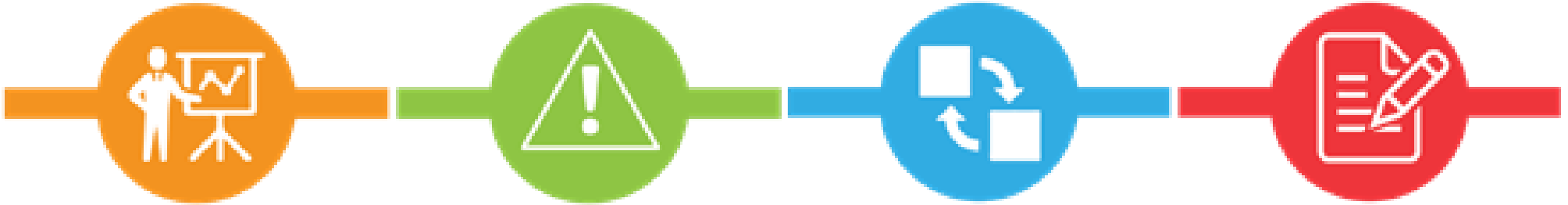
Next Steps

Ways to Stay Involved in the Tri-County Access Project

- Stakeholder Participation Group
- Public meeting/hearing
- Factsheets
- Speakers' bureau
- One-on-One meetings
- Project Website
  - » *www.TriCountyAccess.org*



Upcoming SPG Meetings and Topics



Today

SPG #1

Project Introduction

Transportation System Performance

Transportation Context Audit

April 24, 2018

SPG #2

Transportation Problems

Purpose and Need

Alternatives Study Process

Introduction to System Alternative Improvement Components

July 2018

SPG #3

System Alternatives

System Alternatives Evaluation Criteria

December 2018

SPG #4

System Alternatives evaluation

Tri·County Access Project Schedule

● SPG = Stakeholder Participation Group Meetings

Mapping Exercise

Map It Exercise

- Located at your tables, are maps of the project area
- Six colors of Post-Its Notes have also been provided, each representing a different type of improvement/concern:

  Orange: Locations you have trouble Accessing by Roadway or Transit

  Pink: Congestion/Travel Time Reliability

  Blue: Missing Walking and Biking Connections

  Dark Pink: Transit concerns (parking, schedule, lack of stations, shelter, etc.)

  Yellow: Economic Vitality (Major planned/desired economic development projects)

  Green: Other (Historic, Environmental, etc.)

- Please write the type of improvement and general location you'd like to see on the assigned colored post-it and place the note at the location of concern on the map.

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Any additional questions?

Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

1	Why are existing open space areas missing from the table maps?
1	Will there be an opportunity for citizens at large to participate other than via public comment?
0	Will there be a process for minority opinions to voice dissent?
0	How could this project area include Cook county and Wisconsin?
0	Is this considered an EIS scoping meeting?
0	Are the slides going to be made available on the project website
0	Does O'Hare bias the data of where people are coming from and going to

Thank you.

Attachment 3:

Stakeholder Participation Group
Meeting #2 Summary

MEETING SUMMARY

Stakeholder Participation Group Meeting #2

PREPARED BY: Carla Mykytiuk, Tri-County Access Project Community Outreach

DATE: April 24, 2018, 2:30 p.m. to 4:30 p.m.

LOCATION: Round Lake Beach Cultural and Civic Center

This second Stakeholder Participation Group (SPG) meeting for the Tri-County Access Project (TCA Project) was held April 24, 2018. The purpose of the meeting was as follows:

- Present the preliminary Project goals and objectives, which are based on transportation problems discussed at the first SPG meeting on March 21, 2018 (SPG Meeting #1).
- Introduce the alternatives analysis process.
- Ask each SPG member to participate in a facilitated group exercise in which SPG members provide input on various improvement components that they suggest for consideration to address the goals and objectives of the TCA Project.

Attendees

One hundred and fifty-one (151) individuals, representing varied interests in the study area (municipalities, counties, agencies, transportation, business, and interest groups), were invited by the TCA Project Team to participate in the SPG. The full invite list can be found in the Stakeholder Involvement Plan available on the Project website. Of this number, the following 42 attended the meeting:

Dave Bender, Executive Director	ACEC-Illinois
Bridget Early, Director of Political Affairs	Chicago Federation of Labor
John Yonan, Superintendent	Cook County Department of Transportation and Highways
Rachel Granneman, Staff Attorney	Environmental Law and Policy Center
Adnan Nammari	Forest Preserve District of Cook County
Michael J. Sturino, President & CEO	Illinois Road and Transportation Builders Association (IRTBA)
Josh Weger, Policy Director	International Union of Operating Engineers Local 150
Ray Arbet, Public Works & Development Services Director	Kenosha County
Sidney Mathias	Lake County
Chris Geiselhart, President	Lake County Audubon Society
Aaron Lawlor, Chairman	Lake County Board
Shane Schneider, Director	Lake County Division of Transportation

Jim Anderson, Director of Natural Resources	Lake County Forest Preserve
Michael Warner, Executive Director	Lake County Stormwater Management Commission
Linda Soto, Executive Director	Lake County Transportation Alliance
Susan Zingle	League of Women Voters
Brad Leibov, President and CEO	Liberty Prairie Foundation
Lourdes Shanjani, Executive Director	Mano a Mano
Scott Hennings, Principal Transportation Planner	McHenry County DOT
Joanna Colletti, Water Resources Manager	McHenry County Stormwater Management
Audrey Wennink, Director of Transportation	Metropolitan Planning Council
Barbara Klipp, Executive Director	Midwest Sustainability Group
Stacy Meyers, Staff Attorney	Openlands
Anthony Vega, Conservation Organizer	Sierra Club of Illinois
Christopher Hiebert, Chief Transportation Engineer	Southeastern Wisconsin Regional Planning Commission
Darren Monico, Village Engineer	Village of Buffalo Grove
Dale Sands, President	Village of Deer Park
Donny Schmit, Mayor	Village of Fox Lake
David Ziegler, Director of Community Development	Village of Gurnee
Georgeann Duberstein, Trustee	Village of Hainesville
Joseph Mancino, Mayor	Village of Hawthorn Woods
Mike Hankey, Director of Transportation & Engineering	Village of Hoffman Estates
Kar Warwick, Village Administrator	Village of Lake Villa
Clay Johnson, Village Administrator	Village of Lindenhurst
Michael Sarlitto, Trustee	Village of Long Grove
Steve Shields, Administrator	Village of Round Lake
Richard Hill, Mayor	Village of Round Lake Beach
Karyn Robles, Transportation Director	Village of Schaumburg
Natalie Karney, Village Engineer	Village of South Barrington
Roger Byrne, President	Village of Vernon Hills
Stephen Henley, President	Village of Volo
Lincoln Knight, Mayor	Wauconda
Tony Barth, Systems Planning Chief	Wisconsin Department of Transportation, Southeast Region

In addition, the following elected officials participated in the meeting:

Greg Claus, Deputy District Director for Representative Bradley S. Schneider

Edward Gallagher, District Director for State Senator Melinda Bush

The following TCA Project Team members led the SPG through the presentation, answered questions, and directed the interactive mapping exercise:

Presenters:

- Reed Panther, Illinois Tollway
- Lidia Pilecky, CH2M HILL, Inc.
- Jeff Frantz, CH2M HILL, Inc.
- Brian Connor, CH2M HILL, Inc.

Group Exercise Facilitators:

Group 1
- Scott Brejcha, Knight E/A, Inc.
- Sarah Archer, CH2M HILL, Inc.

Group 2
- Marie Glynn, CH2M HILL, Inc.
- Dan Millen, Knight E/A, Inc.

Group 3
- Athreya Sreenivasan, CH2M HILL, Inc.
- Carly Dutkiewicz, CH2M HILL, Inc.

Group 4
- Aimee King, CH2M HILL, Inc.
- Marla Kindred, CH2M HILL, Inc.

Group 5
- Jill Kramer, CH2M HILL, Inc.
- Katie Leska, CH2M HILL, Inc.

Group 6
- Jason Moller, CH2M HILL, Inc.
- Christine Norrick, CH2M HILL, Inc.

In addition to SPG members, agency representatives, and the TCA Project Team, 36 stakeholders from the public were in attendance to observe SPG Meeting #2. Public attendees were encouraged to submit comments via the TCA Project website or comment card.

Summary

Sign-In and Online Polling Registration

Upon arriving at the meeting, SPG members were asked to sign in.

Next, assistance was offered to confirm that SPG members were signed into *PollEverywhere* and ready to use their mobile devices or tablets to participate in the online polling. The objective of the polling was to collect feedback throughout the meeting for the TCA Project Team to fully incorporate into the Project development process.

Meeting Kick-off

To kick off the meeting, Lidia Pilecky of CH2M HILL, Inc., welcomed everyone to the second meeting of the SPG. She reiterated Illinois Tollway Executive Director Liz Gorman's opening remarks from SPG Meeting #1, emphasizing the Project's regional approach to determining the best course of action for addressing the Tri-County region's transportation needs. This regional approach recognizes that to reach a sound and informed decision, stakeholders from across the full spectrum of preferences must have an opportunity to voice input about issues at hand and potential solutions.

Ms. Pilecky then took a moment to clarify the question of how the TCA Project relates to the Chicago Metropolitan Agency for Planning's (CMAP's) ongoing development of the *ON TO 2050 Plan*. CMAP recently released its initial recommendations for regionally significant projects to be included in the Chicago region's long-range plan – the CMAP *ON TO 2050 Plan*. The list contains two components – first, major projects that are recommended for inclusion in the fiscally constrained long-range plan, and second, major projects identified on the CMAP "unconstrained list," meaning they were evaluated but either require further study or cannot be included at this time due to transportation funding constraints.

CMAP recommends placing the TCA Project on the "unconstrained list" of major projects in the *ON TO 2050 Plan*. CMAP's evaluation notes that the TCA Project could offer significant regional mobility benefits for the Chicago metro region, but points out that environmental studies must still be completed to support a decision and to reach consensus. The Illinois Tollway supports and encourages CMAP's recommendation on this matter. CMAP's recommendation allows the TCA Project to continue uninterrupted and to examine reasonable alternatives to relieving traffic congestion in the region. Until the TCA Project is complete, and every voice has been heard, it would be premature to reach a conclusion. The TCA Project Team appreciates its partnership with CMAP, and looks forward to continuing to work toward shared goals in the years to come.

Meeting Agenda

The agenda for the meeting was as follows:

- SPG Meeting #1 Summary
- Project Goals and Objectives
- Alternatives Analysis Overview
- Next Steps
- Group Exercise

Meeting Presentation

The PowerPoint presentation (click here for SPG Meeting #2 presentation) featured an overview of the following:

SPG Meeting #1 Summary
The first meeting began with an introduction of the SPG, including who has been invited and the group's roles and responsibilities. The unique composition of the SPG was emphasized; the SPG comprises representatives from more than 150 diverse organizations with varying interests across the large TCA Project area. The SPG's unique role is to provide direct input to technical analyses in a manner that encourages careful, meaningful, and respectful consideration of every viewpoint during the TCA study process, and to serve as the conduit to the respective organizations.

The 5Ws of SPG Meeting #1 were shared:

Who attended? 56 representatives from invited agencies/groups participated in SPG Meeting #1, and more than 100 individuals from the public came and observed the meeting.

What happened? The presenters stated the purpose and reviewed the roles and responsibilities of the SPG; introduced the TCA Project and the public involvement program; presented the findings of previous transportation system performance studies of the area's current transportation system, both today and in year 2050 (the TCA Project's analysis year); and invited input from the SPG on the TCA Project area's transportation system performance.

When and where? March 21, 2018, at the same location as today's meeting.

What was the purpose of the first meeting? In addition to introducing the TCA Project, the purpose was to encourage and solicit stakeholder input on transportation-related concerns, area resources, and values important to stakeholders.

Public Involvement Numbers (since early March 2018):

- 767 unique TCA Project website users since launch in March
- 100-plus public observers at SPG Meeting #1
- 61 questions submitted electronically at SPG Meeting #1
- 30 comment cards received at SPG Meeting #1
- 31 Project website comments received

Common Public Involvement Themes We Have Heard to Date:

- Concerns about how potential solutions may affect the area's unique environmental and community features
- Support for consideration of a broad suite of solutions, ranging from improvements to the area's existing roadways, transit facilities, and trails, to consideration of a No-Build Alternative
- Both general and specific questions about the TCA Project – for example, questions about the area's population and employment data (being used with the ongoing early planning studies), questions about potential future TCA Project funding and costs, which are premature at this time, and more specific questions about the SPG

A brief synopsis of the SPG Meeting #1 context audit and mapping exercise was shared, as well as the results and how they are being used in the study process. Both the audit and exercise allowed SPG members to share their opinions and concerns about the area's transportation system. The transportation problems discussed at SPG Meeting #1 directly informed the Project goals and objectives presented at SPG Meeting #2.

The TCA Project process was reiterated. Currently, the Project is in the early planning studies phase. During this phase, the TCA Project Team identifies transportation needs, determines Project goals and objectives, and identifies and evaluates a broad range of system alternatives. These early studies will support the subsequent preparation of an environmental impact statement. Continuous throughout this process are stakeholder engagement and agency coordination.

Project Goals and Objectives

The TCA Project goals form the overarching statement of what we are trying to accomplish. Objectives are the specific issues or problems we aim to solve in order to meet the goals.

The goals and objectives focus on transportation issues and incorporate the results of technical analyses as well as input from stakeholders, including this group. Solutions that meet the goals and objectives of the Project will be advanced for further study. Solutions must consider ways to avoid and minimize impacts to environmental resources.

The TCA Project goals and objectives will shape and define viable solutions by identifying serious transportation problems facing the region and aligning solutions to solve those problems. The objectives will be used to identify and refine alternatives and measure their performance.

The chief **goal of the TCA Project** is to provide efficient travel options that meet current and future transportation needs by reducing congestion, providing modal options, and improving access to homes and jobs.

The following **objectives** have been identified based on technical analyses and early input from the SPG; they will be used to determine the ability of a solution to meet the TCA Project goal.

1. Relieve congestion and improve reliability of travel.
2. Improve travel options that connect major origin and destination centers.
3. Improve local and regional travel efficiency.

Objective 1: Relieve congestion and improve reliability of travel

According to online polling at the first SPG meeting, the most critical transportation issues in the Project area were congestion and travel time reliability. This relates directly to the objective of improving congestion and reliability.

Traffic is measured in terms of Level of Service (LOS). LOS A (free flow) is the best, incrementally worsening to LOS F, where speeds are less than 1/3 of the posted speed and traffic flow frequently breaks down. In a large metropolitan area such as Chicago, some congestion during peak hours is expected to avoid overbuilding roadways or creating unused capacity during nonpeak hours. Achieving LOS D (travel speed is generally 40 to 50 percent of posted speed) during peak hours is a common goal in areas such as this, because while it indicates some delay and slower travel speeds at peak periods, it minimizes the impacts caused by constructing additional lanes that may not be needed during the remainder of the day.

South of Illinois Route 120 (IL 120), 20 percent of interstates/freeways/expressways and 40 percent of principal arterials perform at the worst condition - LOS E or F – during rush hour. This is anticipated to increase considerably to 34 percent and 48 percent, respectively, by 2050. By 2050, roadway congestion will encompass most of the TCA Project area. Congested roadway miles are anticipated to increase by 38 percent with planned improvements assumed to be in place with a Project No-Build Alternative.

Vehicle Hours of Delay (VHD) measures how much time is spent sitting in traffic congestion. Within the TCA Project area, there are 190,000 VHD in the peak periods of an average weekday in the existing year. This equates to 9 working days lost due to traffic congestion per worker per year. This is expected to increase by 57 percent to 299,000 VHD by 2050, with 11 working days lost per worker per year. Monetarily, this time lost equates to $2.5 million (M) in lost productivity daily and increases to about $3.9 M in lost productivity daily by 2050. By comparison, if roadways in the TCA Project area were improved to LOS D during rush hour, the VHD for the existing year would be 34,000 hours or only 2 work days lost due to traffic congestion over the course of a year. For 2050, LOS D would produce 44,000 VHD, approximately 2 work days lost per year.

Travel during peak periods in the Project area is unreliable and expected to worsen in future years due to growth in travel demand. Reliability is an important factor for workers and businesses. Drivers generally accept some congestion during peak periods if the network provides reliable travel between commuting points. Drivers want to know if they need to allow for 20 minutes to leave work and pick up their child or 40 minutes. Today, travel times during peak periods may double on a given day, depending on roadway and traffic conditions. Examples include the following:

- From US Route 12 (US 12) at IL 59 (Wauconda, IL) to IL 22 at US 45 (Lincolnshire, IL), 13.7 miles, travel times may vary from 20 to 40 minutes.
- From Sheridan Road at IL 120 (Waukegan, IL) to IL 120 at Railroad Avenue (Round Lake, IL), 13.8 miles, travel times may vary from 26 to 55 minutes.
- From US 45 at IL 120 (Grayslake, IL) to Arlington Heights Road at Lake-Cook Road (Arlington Heights, IL), 13.2 miles, travel times may vary from 22 to 50 minutes.

The lack of travel reliability is more pronounced on minor arterials and collectors compared to principal arterials and interstates due to lack of throughput capacity and because the smaller roadways have

multiple access points such as driveways and intersections that impede uniform traffic flow and lower sustainable speeds, which are necessary for reliable travel conditions.

Objective 2: Improve travel options that connect major origin and destination centers.
Employment centers within the Project area are concentrated in southeastern Lake County, northwestern Cook County, and downtown Chicago. By the year 2050, both population and employment are expected to expand farther to the north and west, but employment is not expected to grow in those areas at the same rate as population. As this expansion occurs, the number of regional trips for commuting purposes will grow. For those trips originating in eastern McHenry and northwestern Lake counties, the travel options to reach employment centers are more limited. The existing roadway network is less developed in these areas, with 38 percent of lane miles on principal arterials.

Currently, about 7 percent of commuter trips in the Project area are made by rail and bus. The transit system in the Project area (particularly rail) has served the downtown Chicago area well, but as housing has expanded farther north and west, there are fewer transit options in those locations, much less convenient ones. For example, to travel by transit from the center of McHenry, Illinois, to the center of Schaumburg takes approximately 2 hours and 9 minutes and requires three transfers. According to the results of online polling from SPG Meeting #1, a significant portion of SPG members indicated that they prefer to drive over using public transportation because the "commute takes too long" and there are "too many transfers." This is indicative of the notion that transit does not go – at least not directly – where part of the population wants to go.

Objective 3: Improve local and regional travel efficiency.
The third and final objective of the TCA Project is to improve local and regional travel efficiency.

Roads in a roadway network are classified based on their intended purpose. For example, interstates, freeways, and expressways are designed to carry higher numbers of vehicles on longer trips at higher speeds. Local collector roads are at the other end of the spectrum and are designed to carry smaller numbers of vehicles for shorter trips. Travelers on longer trips should generally be able to quickly access roadways that have greater levels of access control, such as interstates, freeways, expressways, or principal arterials, thus allowing more efficient travel with fewer interruptions and higher travel speeds. Where there is not enough capacity on principal arterials and interstates, the result is widespread use of the minor arterial and collector roadway network for longer commuter trips.

A comparison of lengths of trips and their distribution to different classifications of roadways reveals differences across the TCA Project area. For example, in the eastern portion of the Project area (generally Lake County east of US 45, including southeast Kenosha County in Wisconsin), there is a relative match between the "demand" for longer trips (49 percent) and the "supply" of lane miles of roads intended to carry those trips (46 percent). In the western portion of the Project area (western Lake County, eastern McHenry County, and southwest Kenosha County), the "demand" for longer trips (58 percent) exceeds the "supply" of lane miles of roads intended to carry those trips (38 percent). As a result, collector and minor arterial roadways are carrying a greater number of long trips, resulting in less efficient travel.

Alternatives Analysis Overview
A broad range of solutions, including the No-Build Alternative, will be considered for the TCA Project. Technical findings of the transportation system performance analysis will serve as the foundation for development of transportation solutions. Earlier studies and previously planned projects will also be reviewed and considered during the alternatives study process. Stakeholder input will be sought and encouraged throughout the process. The solutions considered as part of the TCA Project will integrate avoidance and minimization of environmental impacts.

The alternatives study process consists of four major steps: (1) identifying improvement components, (2) identifying and evaluating system alternatives, (3) identifying and evaluating build alternatives, and

(4) then selecting the preferred alternative. Throughout the alternatives development process, the No-Build Alternative will be carried forward for comparison purposes.

As previously mentioned, earlier studies will be reviewed and considered during the alternatives study process. For example, the Lake County Transportation Improvement Project presented a range of solutions, among them expanding and improving existing roadways, introducing new roadways, and implementing transit and active transportation solutions. Studies performed by the Blue Ribbon Advisory Council recommended various design features for environmental best practices, roadway treatment designs, and implementation strategies. Additionally, various prior studies performed by the Illinois Department of Transportation (IDOT) and county DOTs have considered solutions to localized bottlenecks throughout the TCA Project area.

The TCA Project will consider multiple transportation modes (roadway, transit, and active transportation such as walking or biking). A broad range of improvement locations will be evaluated, including existing corridors, new corridors, or a combination of the two, as well as the sharing of corridors where different modes could occur simultaneously. Various transportation system management (TSM) strategies will also be considered. TSM strategies focus on optimizing the efficiency of the overall transportation system

Alternatives will be evaluated at each step of the alternatives study process with the objective of supporting informed decisions. Only those alternatives that meet the TCA Project goals and objectives will be advanced for further consideration. At a high level, alternatives will be evaluated using a combination of qualitative and quantitative measure falling under four general categories:

- Travel and Design Performance
- Environmental Impacts
- Land Use and Socioeconomic Impacts
- Costs and Financial Viability

Next Steps
The SPG meeting schedule was outlined as follows:

- SPG Meeting #3 will be held in late July or early August 2018 and will include an introduction of the system alternatives and discussion of the performance measures and procedures that will be used to evaluate system alternatives.
- SPG Meeting #4 will be held in December 2018 and will include a presentation of the system alternatives evaluation findings.

An overview of the TCA Project schedule was provided (see SPG Meeting #2 Presentation deck).

SPG members and public observers were reminded about ways to stay involved in the TCA Project:

- As representatives of area communities, organizations, agencies, and interest groups, serving constituents through continued active participation in the SPG is vital, particularly during these early stages of the study process.
- The general public will have numerous opportunities to be informed and to provide input. Opportunities include TCA Project public meetings and hearings, fact sheets, one-on-one meetings with TCA Project Team members, and team presentations to groups.
- The public can reach the TCA Project Team via email (TriCountyAccess@getipass.com).
- The TCA Project website (www.tricountyaccess.org) is a central source for up-to-date information about the Project and the place to go to submit comments, questions, and requests for information.

Improvement Components Group Exercise

During the improvement components group exercise, SPG members were asked to identify the locations and types of improvements that should be considered to address the TCA Project's goals and objectives.

The input provided by the SPG members was drawn onto two large exhibits and will be used by the TCA Project Team to develop system alternatives. Information regarding roadway corridors was drawn on Map 1: Existing Roadway and Rail Transit System and information regarding transit and active transportation was drawn on Map 2: Existing Transit and Active Transportation System.

The tools used to identify improvement components were as follows:

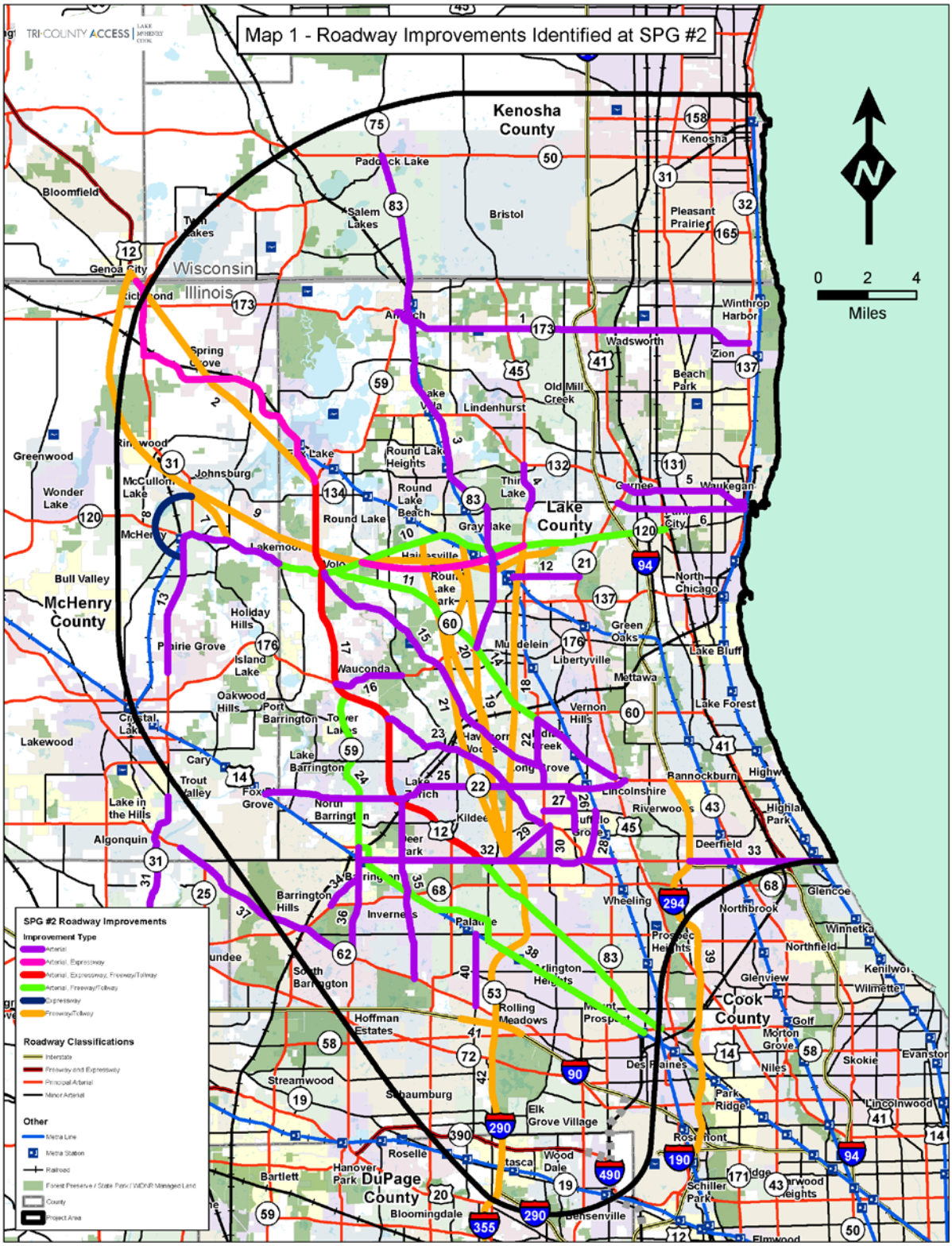
- Locations for Improvements
  - Existing Corridors, New Corridors, Shared Corridors
- Types of Improvements
  - Existing Roads, New Roads, Bypasses and Major Realignments, Rail Transit, Bus Transit, Ped/Bike
- Roadway Facility Types
  - Freeway/Tollway, Expressway, Arterial
- Multiple Transportation Modes
  - Automobile, Transit (Rail, Bus Service, Shuttle), Active Transportation (Bicycles, Pedestrians)

Environmental resource maps depicting natural and built resources were provided to the group for reference during the mapping improvement components exercise. SPG members were instructed to let the group facilitator know of any important resource areas while the group was identifying potential corridors. Environmental and socioeconomic issues will be considered throughout the alternatives study process. Any solutions that are considered will integrate avoidance and minimization of environmental impacts.

In addition to Maps 1 and 2, the following maps were provided to the SPG groups for reference:

- Map 3: Environmental Features - Natural Resources
- Map 4: Environmental Features - Socioeconomic and Historic Resources
- Map 5: Severe/Extreme Roadway Congestion (Year 2050)
- Map 6: Transportation Problems Identified at SPG #1
- Map 7: Area Features Identified at SPG #1
- Map 8: Potential Roadway Improvement Locations Considered with Prior Studies

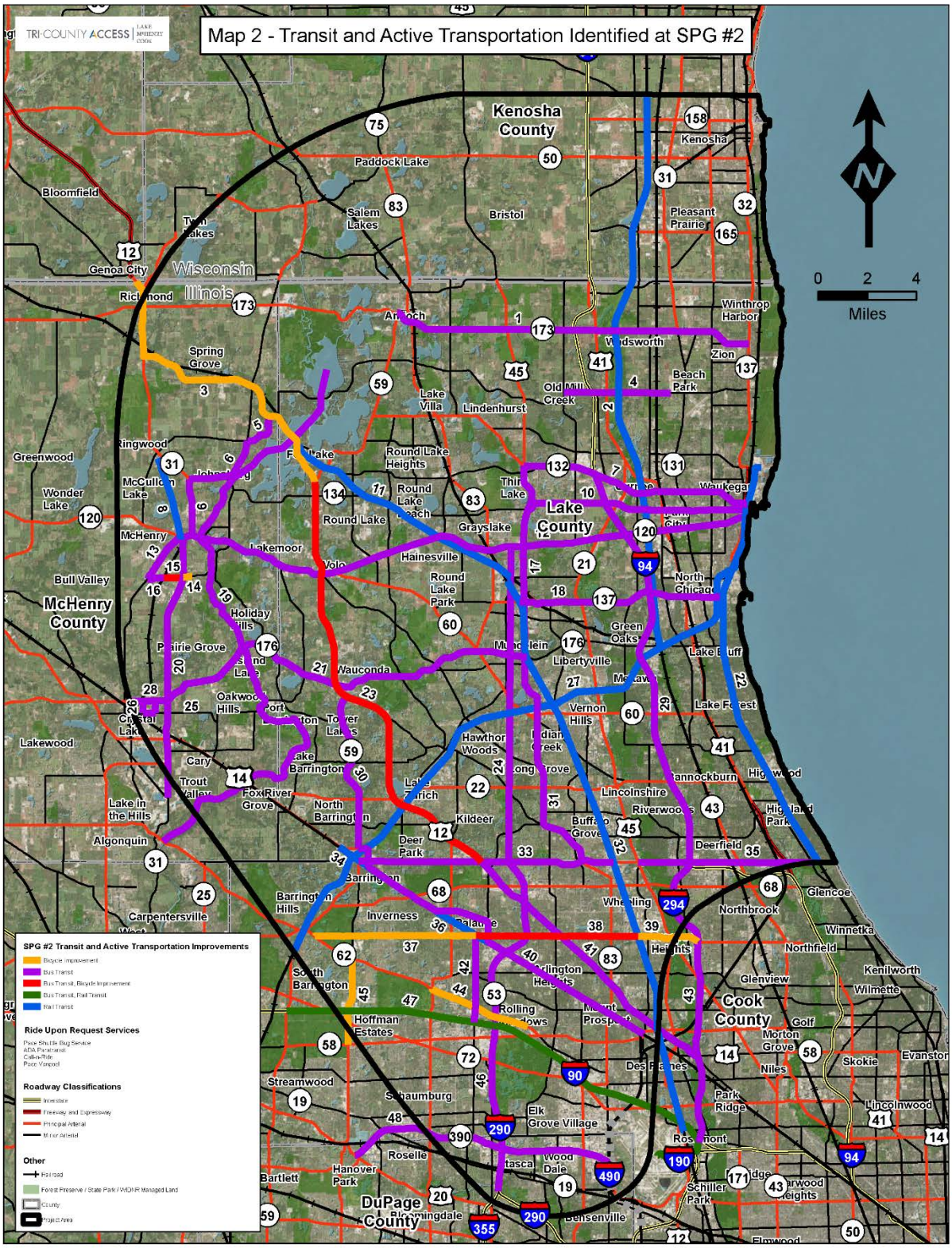
The full set of resource maps used during the mapping exercise can be found here: http://project.tricountyaccess.org/library/


Map 1 - Roadway Improvements Identified at SPG #2
TRI-COUNTY ACCESS
Kenosha County
Lake County
McHenry County
DuPage County
Cook County
Wisconsin
Illinois
0 2 4
Miles
SPG #2 Roadway Improvements
Improvement Type
Roadway Classifications
Other

Map 1 Input Table

ID #	Mainline	Limits	Improvement Type	Special Note
1	IL 173	IL 59 to IL 137	Arterial	
2	New Alignment	From Genoa City to US 12/IL 59 intersection in Fox Lake	Freeway/Tollway	
3	IL 83	Wisconsin Route 50 to IL 60	Arterial	Group 4: Widen IL 83 to 4 lanes from IL 60 to Wisconsin
4	US 45	IL 132 to Washington St.	Arterial	Group 4: Widen US 45 to 4 lanes from IL 132 to Washington St.
5	IL 132 (Grand Ave.)	IL 21 to IL 137	Arterial	Group 4: Convert IL 132 and Washington St. between IL 21 and Sheridan Rd. to reverse direction one-way roads to create a loop for motorists and buses
6	Washington St.	IL 21 to IL 137	Arterial	
7	New Alignment	IL 31 north of McHenry to IL 120 near Chapel Hill Rd.	Freeway/Tollway	
8	New Alignment	IL 31 north of McHenry to IL 31 south of McHenry	Expressway	
9	New Alignment	From Genoa City to IL 120 west of Hunt Club Rd.	Freeway/Tollway	
10	IL 120	IL 31 to US 41	Arterial Freeway/ Tollway	Group 4: Widen IL 120 from IL 60 to IL 21
11	New Alignment	From IL 120 west of Wilson Rd. to IL 120/US 45	Expressway Freeway/Tollway	
12	Casey Rd.	MD-N RR to IL 21	Arterial	
13	IL 31	IL 120 to north of IL 176	Arterial	
14	IL 60/US 45/Olde Half Day Rd	IL 120 to IL 22	Arterial Freeway/Tollway	Group 1: Widen IL 60 to 4 lanes Group 4: Widen IL 60 to 4 lanes from IL 120 to IL 83
15	Gilmer Rd.	IL 120 to IL 83	Arterial	
16	IL 176	US 12 to Fairfield Rd.	Arterial	
17	US 12	Wisconsin State Line to IL 58	Arterial Expressway Freeway/Tollway	
18	New Alignment	From IL 120/US 45 to IL 53/Lake Cook Rd.	Freeway/Tollway	

19	New Alignment	From IL 120/Alleghany Rd. to IL 53/Lake Cook Rd.	Freeway/Tollway	
20	New Alignment	From new alignment described as #10 to IL 53/Lake Cook Rd.	Freeway/Tollway	
21	New Alignment	From approx. IL 120/Porter Dr. to IL 53/Lake Cook Rd.	Freeway/Tollway	
22	IL 83	US 45 to IL 22	Arterial	
23	Old McHenry Rd.	US 12 to IL 53 (Hicks Rd.)	Arterial	
24	IL 59	US 12 to US 14		
25	IL 22	US 14 to Olde Half Day Rd.	Arterial	
26	Buffalo Grove Rd.	IL 22 to Deerfield Pkwy	Arterial	
27	Aptakistic Rd.	IL 83 to Buffalo Grove Rd.	Arterial	
28	New Alignment	From Aptakistic Rd. west of NCS RR to Lake Cook Rd. east of IL 83	Arterial	
29	New Alignment	From Lake Cook Rd./IL 53 to IL 83/Arlington Heights Rd.	Arterial	Group 4: Improve connection from existing IL 53 to Old McHenry Rd.
30	Arlington Heights Rd.	IL 83 to Lake Cook Rd.	Arterial	
31	IL 31	Virginia Rd. to Miller Rd.	Arterial	
32	Lake Cook Rd.	IL 59 to NCS RR	Arterial	
33	Lake Cook Rd.	I-94 to UP-N RR	Arterial	
34	IL 59	IL 68 to Barrington Rd.	Arterial	Group 1: Widen IL 59
35	Ela Rd./New Alignment	US 12 to IL 62 west of Roselle Rd.	Arterial	
36	Barrington Rd	IL 59 to IL 62	Arterial	
37	IL 62	East of IL 31 to Barrington Rd.	Arterial	
38	US 14	IL 59 to IL 58	Arterial	
39	I-94/I-294	IL 22 to I-190	Freeway/Tollway	
40	Plum Grove Rd.	Palatine Rd. to IL 62	Arterial	
41	I-90	West of Meacham Rd. to IL 58	Freeway/Tollway	
42	I-290/IL 53	Lake Cook Rd. to Army Trail Rd.	Freeway/Tollway	


TRI-COUNTY ACCESS
Map 2 - Transit and Active Transportation Identified at SPG #2
Kenosha County
Lake County
McHenry County
Cook County
DuPage County
Wisconsin
Illinois
Kenosha
Paddock Lake
Bloomfield
Salem Lakes
Bristol
Pleasant Prairie
Genoa City
Richmond
Winthrop Harbor
Zion
Beach Park
Spring Grove
Lake Villa
Lindenhurst
Old Mill Creek
Greenwood
Round Lake Heights
Round Lake
Round Lake Beach
Grayslake
Wonder Lake
McCullom Lake
McHenry
Lakemoor
Hainesville
Volo
Bull Valley
Round Lake Park
North Chicago
Holiday Hills
Prairie Grove
Wauconda
Libertyville
Green Oaks
Lake Bluff
Vernon Hills
Lake Forest
Oakwood Hills
Lakewood
Hawthorn Woods
Cary
Lake Barrington
Trout Valley
Fox River Grove
Lincolnshire
Riverwoods
Lake in the Hills
North Barrington
Kildeer
Buffalo Grove
Highland Park
Algonquin
Deer Park
Deerfield
Barrington
Barrington Hills
Inverness
Wheeling
Northbrook
Glencoe
Carpentersville
Winnetka
Northfield
Kenilworth
Glenview
Wilmette
South Barrington
Hoffman Estates
Rolling Meadows
Golf
Morton Grove
Niles
Skokie
Evanston
Streamwood
Schaumburg
Elk Grove Village
Park Ridge
Lincolnwood
Roselle
Hanover Park
Bartlett
Wood Dale
Schiller Park
Bensenville
Elmwood
SPG #2 Transit and Active Transportation Improvements
Bicycle Improvement
Bus Transit
Bus Transit, Bicycle Improvement
Bus Transit, Rail Transit
Rail Transit
Ride Upon Request Services
Pace Shuttle Bug Service
ADA Paratransit
Call-a-Ride
Pace Vanpool
Roadway Classifications
Interstate
Freeway and Expressway
Principal Arterial
Minor Arterial
Other
Railroad
Forest Preserve / State Park / IDNR Managed Land
County
Project Area
N
0 2 4
Miles

Map 2 Input Table

ID #	Mainline	Limits	Improvement Type	Special Note
1	IL 173	IL 59 to IL 137	Bus Transit	
2	Amtrak Line (Hiawatha)	Northern project area boundary to CN RR near IL 176	Rail Transit	
3	US 12	Wisconsin State Line to IL 59 near Fox lake	Bicycle Improvement	Group 1: US 12 - 2 levels of roadway/transit/ active transportation improvements
4	Wadsworth Rd.	Hunt Club Rd. to east of Amtrak tracks	Bus Transit	
5	Ringwood Rd.	Johnsburg Rd. to US 12	Bus Transit	
6	Johnsburg Rd.	Chapel Hill Rd. to Ringwood Rd.	Bus Transit	
7	Grand Ave.	US 45 to IL 137	Bus Transit	Group 4: Convert IL 132 and Washington St. between IL 21 and Sheridan Rd. to reverse direction one-way roads to create a loop for motorists and buses Group 6: BRT Loop (132, Rollins to 41)
8	UP-NW	McHenry to Ringwood	Rail Transit	
9	IL 31	Johnsburg to IL 120	Bus Transit	
10	Washington St.	US 45 to IL 137	Bus Transit	Group 4: Convert IL 132 and Washington St. between IL 21 and Sheridan Rd. to reverse direction one-way roads to create a loop for motorists and buses
11	MD-N	Fox Lake to Prairie Crossing	Rail Transit	Group 3: Track Improvements
12	IL 120	IL 31 to IL 137	Bus Transit	Group 6: BRT Loop (120, 45 to 41)
13	Crystal Lake Rd.	IL 120 to Bull Valley Rd.	Bus Transit	
14	Bull Valley Rd.	IL 31 to Green St.	Bicycle Improvement	

15	Bull Valley Rd.	McHenry County Prairie Trail to IL 31	Bus Transit, Bicycle Improvement	
16	Bull Valley Rd.	Crystal Lake Rd to McHenry County Prairie Trail	Bus Transit	
17	US 45	IL 132 to IL 83	Bus Transit	Group 3: ART Service to College of Lake County Group 6: BRT Loop (45 from 120 to 132)
18	IL 137	NCS to UP-N	Rail Transit	
19	River Taxi	Grass Lake to Algonquin	Bus Transit	
20	IL 31	IL 120 to Virginia Rd.	Bus Transit	Group 6: BRT
21	IL 176	Project Area Limit near Crystal Lake to NCS	Bus Transit	
22	UP-N	Track end near Waukegan to Braeside	Rail Transit	Group 5: Express service options
23	US 12/IL59	IL 59 near Fox Lake to Lake Cook Rd.	Bus Transit, Bicycle Improvement	
24	New Alignment	Along proposed new alignment from IL 120 to IL 53 (existing)	Bus Transit	
25	Terra Cotta Rd.	IL 176 to Crystal Lake Ave.	Bus Transit	
26	Erick St.	IL 176 to Crystal Lake Ave.	Bus Transit	
27	CN-RR	Project Area Limit near South Barrington to rail end near Waukegan	Rail Transit	Group 1: Provide commuter service on the Canadian National Line
28	Crystal Lake Ave.	Erick St. to Terra Cotta Rd.	Bus Transit	
29	I-94	IL 132 to I-294	Bus Transit	Group 3: BRT Service
30	IL 59	US 12 to Lake Cook Rd.	Bus Transit	
31	IL 83	US 45 to Lake Cook Rd.	Bus Transit	Group 3: ART Service to College of Lake County
32	NCS	Prairie Crossing to O'Hare Transfer	Rail Transit	Group 1: Provide additional trains during PM rush Group 3: Service Improvements Group 5: More frequency
33	Lake Cook Rd.	UP-NW to NCS	Bus Transit	Group 5: BRT
34	UP-NW	Through Barrington	Rail Transit	

35	Lake Cook Rd.	US 45/IL 21 to Green Bay Rd.	Bus Transit	
36	UP-NW	Through Palatine	Rail Transit	
37	Palatine Rd.	IL 62 to UP-NW	Bicycle Improvement	
38	Palatine Rd.	UP-NW to NCS	Bus Transit, Bicycle Improvement	Group 5: BRT
39	Palatine Rd.	NCS to I-294	Bicycle Improvement	
40	US 14	Lake Cook Rd. to IL 58	Bus Transit	
41	US 12	Lake Cook Rd. to I-294	Bus Transit	Group 5: BRT
42	Plum Grove Rd.	Palatine Rd. to I-90	Bus Transit	
43	I-294	I-94 to I-190	Bus Transit	Group 3: BRT Service
44	IL 62	Roselle Rd. to north of IL 58	Bicycle Improvement	
45	Barrington Rd.	IL 62 to IL 58	Bicycle Improvement	
46	IL 53 (existing)	Lake Cook Rd. to I-290 near Wood Dale	Bus Transit	
47	I-90	IL 59 to O'Hare	Bus Transit, Rail Transit	
48	Elgin-O'Hare	US 20 to O'Hare	Bus Transit	

Flipchart Comments from SPG #2

Group 1
Provide commuter service on the Canadian National Line
Limit freight train lengths to reduce railroad crossing delays
Lake Cook Rd/IL 53 intersection - Improve intersection to address safety issues
Improve I-90/IL 53 Interchange and improve roadway in the vicinity of Woodfield Mall
US 12 - 2 levels - bike accommodations from Lake Cook Road to Wisconsin
Expressway on top + local travel below with bus lanes and bike accommodations
IL 60 - expand to 2 lanes in each direction from Midlothian Road to US 12
IL 173, US 45, IL 83, IL 176, IL 60, IL 22 and IL 120 - Widen these roadways and provide grade separations at rail crossings
Provide additional trains during the PM rush on Metra's North Central Service; specifically, from Chicago Union Station to Washington Street/Grayslake
Provide a bypass on IL 120 south of the existing alignment
Provide grade separations at Diamond Lake Road, IL 60/83, and IL 120/83
Provide better and safer access to Pace bus stations, e.g. sidewalks
Provide more transit options to the Wauconda/Round Lake region - consider bus usage/access based on the socioeconomic characteristics of these areas

Bus Express lanes - throughout all of Lake County
Include Bus on Shoulder along US 12, IL 53 and along IL 390 to O'Hare. Also, provide Bus Rapid Transit on the preferred/recommended alternative
Shuttlebug Service exists based on major employer contracts with Pace - this should not be confused with Pace's ride upon request service.
Provide more van pools (employer negotiated service)
Group 2
F/T Improvement (I-355/I-290 to Army Trail)
Interchange Improvement (I-90/I-290/Golf Rd, major congestion)
F/T Improvement (I-290 congestion to I-355 S and Kirchoff N
F/T Improvement (I-90 congestion west to Meacham)
Transit (Direct Access-Motorola Campus)
Transit (Access from Schaumburg to Barrington)
Arterial Improvement (Barrington Rd- Algonquin Rd to Barrington)
Arterial Improvement (IL 176- Rand Rd to Fairfield Rd)
Interchange Improvement (US 12 and IL 59)
Arterial Improvement (Lake Cook Rd- Raupp Blvd to eastern Buffalo Grove boundary)
Arterial Improvement (Buffalo Grove Rd- IL 22 to Deerfield Pkwy)
Arterial Improvement (Aptakisic- IL 83 to Buffalo Grove Rd)
Avoid any impact to forest preserves with potential improvements (if FP is on one side, improve the other)
CN RR Crossing Improvement (Barrington on US 14)
Arterial Improvement (Weiland Rd- Aptakisic to Lake Cook Rd)
F/T Improvement (I-294- Lake Cook Rd to O'Hare)
Interchange Improvement (Rte. 60 and Fremont Center Rd
Intersection Improvement (Barrington Rd and Cornell)
Arterial Improvement (IL 59- Barrington Rd to IL 22)
Bike Improvement (Algonquin Rd near IL 53 interchange)
Future road network affected by smart car technology- what type of network would be necessary?
Arterial Improvement (Plum Grove Rd- Algonquin Rd into Rolling Meadows)
Transit (along IL 390)
Transit (BRT along I-90 to O'Hare)
Transit (extend rail service from O'Hare to IL 59)
Transit (Park n Ride at IL 59 and IL 72)
Bike along Palatine Rd (I-294 to IL 62)
Arterial Improvement (Lake Cook Rd- US 41 to I-294)
Interchange Improvement (Ela and US 14)

Interchange Improvement (US 14 and Baldwin and Roselle)
Arterial Improvement (Rand Rd- Miller Rd to Cuba Rd)
Interchange Improvement (River Rd and Roberts- too costly improvement)
Arterial Improvement (IL 31 through Algonquin)
Additional Parking at NW Transportation Center
Group 3
Use existing roads to solve congestion
Decouple 120 from 53
Disagree with population assumptions (inform alternatives)
Spot improvements at IL 53 and Lake Cook Rd
Oppose IL 53 build alternative(s)
Definition of "No Build"
Leverage rail ROW to build highways (UP-NW, US 14)
Corridor preservation along US 12
Availability of parking at Metra stations (Barrington)
More trains and better service to O'Hare (frequency)
No major problems in north area
173 should be 4 lanes
Grade separations between major roads and major roads, and between major roads and rail
Group 4
Split freight/Metra tracks to avoid delays (e.g. IL 120)
TSM prior to physical changes (combine technology with policy)
Additions to Passage network
South section needs TSM measures to manage traffic operations/traffic mgmt center
Add a right turn lane at IL 83 and IL 120
Analyze transit schedules/facilities/service span
Better Metra service/frequency and reverse direction trains
Grade separation at IL 120 at IL 83
Grade separation at IL 60 at Diamond Lake
Grade separation at IL Butterfield at IL 60
Grade separation near US 41 at Wadsworth Rd
Project area bicycle gap analysis; active trans/CMAP bike/trails/greenways
Connections to transit using sidewalk/bikes (specifically bus stops)
Incorporate bike/ped accommodations on new and existing roadway improvements
Encourage municipalities to adopt complete street ordinances
Make US 12 4 lanes where it isn't

Updating Metra switching lines
Improved state financing for Metra/Pace
Improving/subsidizing for paratransit
Group 5
Lake Cook (83 to 14)
53 (New F/T)
Almond Marsh (GBH Rookery, no investments on Almond Rd)
Limited Access 120 Bypass
New Toll Bridge (31 to 120 along Chapel Rd- McHenry County TIP)
45 from 22 to 83 on-going IDOT Phase 1 investigation
Expand 60 from 2 to 4 lanes to 83- school buses have to stop to turn left that backs up traffic
US 12- Fox Lake to Richmond/state line arterial improvements (Richmond Bypass feasibility study)
Intersection of 173 and 12
BRT- Lake Cook Rd: UP-NW to North Central
BRT- Palatine Rd: UP-NW to North Central
BRT- US 12 from 294 to Lake Cook Rd
College of Lake County additional service (Rte. 137 from UP-N to CLC)
North Central Service (more frequency, O'Hare transfer station to Prairie Crossing
Express service on UP-N from Waukegan to south
Metra- UP-NW upgrade extending spur and providing access to Johnsburg
806- "Metra Shuttle" only run once in morning and night, need more service
809- going away next month
Need bus service along 120 from 94 to McHenry
Need bus service along 176 from Crystal Lake to ???
Extend Metra from Fox Lake to Richmond
More transit along Lake/McHenry line, Round Lake- getting residents to job centers in East
People rely on dial and ride, but can't cross county line (coordinated transit strategy)
McHenry County filling in bike trail between IL 31 and Prairie Trail (under engineering, happening ~3-4 years)
Break in trail parallel to IL 21 and Des Plaines River through Wheeling
Patch work in Waukegan with trail
State roads need a lot of active transportation help with bike/ped accommodations
Flooding along Bull Creek- concern with increase in impervious surfaces
Sensitive environmental features including wetlands along IL 83 as captured by BRAC study
Mobility investments need to be sure environmental concerns are in the forefront
Reed Turner woodlands and Heron Creek Forest Preserve

Group 6
2050 Model- is capacity constrained or not?
Add GIS layer (IVIEW, Green Infrastructure, Plan for Lake and McHenry Counties, conservation areas layer by CMAP)
173 from 59 to Sheridan- arterial capacity improvement/BRT improvement (funneling to I-94 then going N. to FoxConn)
22 from 14 to 83- arterial capacity improvement
120/31 intersection bottleneck (bypass to avoid the dog leg?)
Circumferential Rail (CN) from Waukegan (should consider whether commuter rail a possibility)
SRAs/Major Arterials…consider BRTs or other mass transit options
IL 120 with Bypass around Grayslake- freeway (from Wilson to Hunts Club Rd…extend all the way to WI state line
No way to expand 12 or 14 (too developed)
53 extension from Lake County to IL 120 Freeway
River transit from Algonquin to Chain of Lakes- Fox River
132, 173 terrible in summer
BRT Loop (132, Rollins to 41)
BRT Loop (120, 45 to 41)
BRT Loop (45 from 120 to 132)
60 (2 lane and needs to be expanded)
Gilmer (2 lane and needs to be expanded; concern with widening thru environmentally sensitive areas)
Old McHenry (2 lanes and needs to be expanded)
83-120 (2 lanes and needs to be expanded)
12 to 83 (2 lanes and needs to be expanded with grade separation on the CN rail
Bottleneck at Old McHenry and 83 intersection in Long Grove
83 south of Rollins to south of 120 arterial
Keep Casey from 45 to 21 as local collector road
60 from Round Lake Park to west of 83, arterial widen
IL 31 from 120 to north of Terra Cotta, arterial widen
IL 31 from US 14 to 120, BRT

Responses to Questions and Comments

Throughout SPG Meeting #2, SPG members had the opportunity to submit questions. At appropriate breaks in the presentation and as time allowed, questions were addressed. Substantive questions submitted with applicable responses are presented in this section. Typos and grammatical errors have been corrected.

Questions Submitted Regarding the Project Goals and Objectives

1. More focus needs to be given to areas that have poor access to public transit.
    a. The TCA Project will consider a broad range of feasible alternatives that may meet the goals and objectives for the Project, including improving access to public transit. The TCA Project Team is working closely with the Regional Transportation Authority (RTA) and transit service boards on opportunities to enhance access to transit services in the project area.
2. Will you be considering person throughput as a measure, which is a better measure of overall mobility of people than only auto congestion?
    a. Yes - we will consider both person throughput as a measure, in addition to auto congestion measures during the alternatives development and evaluation process.
3. People are fleeing the state in record numbers. Why do your traffic growth assumptions not appear to reflect reality?
    a. The TCA Project must use population and employment forecasts for the Project-specific study area as established by CMAP, the region's designated metropolitan planning organization. Sources for existing population and employment data in the Project area are the U.S. Census and CMAP data. The projected population and employment data for a 2050 No-Build Alternative are initial estimates developed by CMAP as part of the ongoing ON TO 2050 regional planning process. Following completion and adoption of the *ON TO 2050 Plan*, the TCA Project Team will review and, if needed, update the population and employment growth forecasts.
4. When will your traffic studies reflect truck versus automobile use? Truck is up, autos are down.
    a. Vehicle classification information is contained within the existing and projected traffic database, and will be considered as part of the alternatives study process.
5. Traffic volumes in arterial roads in extreme south Lake County are actually down following 40 years of increases. Has the need for this extension outlived its usefulness?
    a. The TCA Project is evaluating current and future transportation issues under a No-Build Alternative condition across the entirety of the TCA Project area, which includes Lake County, portions of Cook, McHenry, and DuPage counties in Illinois, and a portion of Kenosha County in Wisconsin. The TCA Project will evaluate a broad range of feasible alternatives that may meet the goals and objectives for the overall Project area, from widening and improving existing roads (including state routes), building new roads, and expanding mass transit, to completing only those improvements listed in the CMAP *ON TO 2050 Plan* (the No-Build Alternative).
6. When can we expect an actual traffic study conducted by traffic engineers and not CMAP.
    a. Existing traffic count and travel data information was gathered from various sources, among them IDOT, Illinois Tollway, American Community Survey, Census, Google, and HERE data. Google and HERE data provide real-time speed and travel time information and were used

to validate the travel demand model provided by CMAP. The CMAP travel demand model and associated components are state-of-the-practice tools used for long-range planning efforts and project studies in the region. Transportation engineering and planning professionals are using the forecast information from the CMAP ON TO 2050 planning efforts and travel demand model to perform analysis for the Project.

7. How do you think about efficiency of transit options v. building new highways, which often have the problem of causing increased highway usage and therefore not much of an overall improvement in congestion?

    a. A broad range of feasible alternatives that may meet the Project goals and objectives will be considered, from widening and improving existing roads (including state routes), building new roads, and expanding mass transit, to completing only those improvements listed in the CMAP *ON TO 2050 Plan* (the No-Build Alternative). The TCA Project Team is working closely with the RTA and transit service boards to determine what types of transit solutions are feasible and confirm that their priorities and opportunities to enhance transit service are considered.

8. Will you consider the potential for bike and pedestrian solutions to reduce burden on arterials? These modes will provide consistent travel times and provide nonautomobile alternatives for shorter trips.

    a. The TCA Project alternatives study will consider a variety of travel modes (roadway, transit, active transportation) as well as enhancements to transportation system management. At SPG Meeting #2, SPG members helped determine the locations and types of improvements that should be considered along the roadway (existing roads, new roads) and transit (rail and bus transit) networks (i.e., “improvement components,” or the pieces of a system alternative). The TCA Project Team will consider strategies for integrating active transportation (bike and pedestrian) and enhanced transportation system management strategies when developing the system alternatives.

9. Why are we not focusing on improving access to transit in Northeastern Lake County where we have the greatest density?

    a. All feasible solutions, including improving access to public transit throughout the Project area, are being considered. Based on SPG and public input, improvements in Northeastern Lake County may be considered.

10. Wouldn't it be better to focus on reducing trip times and reliability, which would include more TDM and transit options rather than VHD?

    a. A broad range of performance measures will be identified and used to evaluate alternatives; travel time and delay are two of the proposed measures. VHD is also a potential measure which would assess the benefits of shifting trips to transit and managing the system more efficiently. Information regarding alternatives performance measures will be discussed at SPG Meeting #3.

11. When are we going to talk about environmental concerns in the project area?

    a. Given the size of the Project area, our study process has a stepped approach. The first step is to identify the transportation problems to be addressed in the study. We will next consider what solutions have the potential to address those problems by testing the solutions in the travel demand model and through coordination with transportation providers, including transit agencies. Concurrent with evaluating the transportation problems the Project will address, we have been gathering information about resources that may be present in the area and will use that information to help evaluate potential

solutions. If an alternative has the potential to address the transportation problems of the Project area, we will examine design concepts and potential environmental and socioeconomic effects of the alternative. We expect to reach that step during the second half of 2018.

12. This is awful. Why are we not being polled on the important questions - such as the goals statement?
    a. The purpose of this question and answer session was specifically to allow SPG members to provide feedback on the goals and objectives. Beyond the SPG meeting, further comments are also welcome through the Project website (http://www.tricountyaccess.org).
13. I think it's misleading to continue to cite the importance of environmental considerations but then to omit any mention of the environment in the goals statement. We should have been polled on the goals statement.
    a. The goals and objectives outline the transportation problems that the Project is intended to address. If a proposed alternative cannot meet these objectives, it likely does not merit further study regardless of its environmental effects. While our Project goals and objectives are focused on solving transportation problems, avoidance and minimization of environmental impacts is an important consideration that will be integrated into each solution with the potential to address the transportation problems.
14. In looking at the appropriateness and supply / demand of the roadway classification system, how are you considering neighborhood character, such as valued open space?
    a. The first step will be to identify alternatives where improvements could help address the identified transportation problems. Once identified, those alternatives will be evaluated for their potential impacts, including their effect on surrounding land uses such as open space, neighborhoods, downtown/business districts, and historic districts.
15. How will the differing challenges and needs of urban Cook County, suburban Lake County, and more rural McHenry County be considered to address these different senses of place and community / environmental values?
    a. The context of each of these areas will be considered in the evaluation of alternatives. This will include review of existing and planned land uses in each area where alternatives may be considered. Input from SPG members is another important factor in understanding the effects of alternatives.
16. How are you evaluating the potential of a culture shift to accept the tradeoff of more congestion to preserve regionally significant natural features?
    a. Input from the SPG members and the general public will be important in understanding both how resources are valued and how alternatives affect those resources. Additionally, as part of developing and evaluating alternatives, the TCA Project Team will be seeking ways to avoid and minimize adverse impacts to natural, cultural, and socioeconomic resources.
17. Will different scenarios of land use densities be considered as different types of transportation are considered? How future development occurs will have a huge effect on the types of transportation that are viable
    a. The effects of transportation on socioeconomic demand and land use will be addressed during the alternatives study process. In addition to the CMAP data, the TCA Project Team will use a combination of a market-based real estate model and a land use simulation model to develop alternative specific socioeconomic allocations that will account for specific transportation improvements.

18. What about new innovations that will reduce traffic needs
    a. The TCA Project Team will evaluate how evolving vehicle technology, such as driverless cars, will affect design features of alternatives.
19. The study should note how autonomous vehicles will affect the area and how this will accelerate the decline in transit ridership.
    a. The TCA Project Team will evaluate how evolving vehicle technology, such as autonomous vehicles, will affect travel mode choices and ultimately design features of alternatives.
20. Is close attention being paid to the lack of improvement on the state highways, for example, 45 and 83? It seems to me these highways would absorb a lot of traffic.
    a. The TCA Project will evaluate a broad range of feasible alternatives that may meet the goals and objectives for the Project, from widening and improving existing roads (including state routes), building new roads, and expanding mass transit, to completing only those improvements listed in the CMAP *ON TO 2050 Plan* (the No-Build Alternative).
21. I am concerned that the chart showing employment centers and traffic movement ignored trips to the City of Chicago. That changes the entire emphasis of the study.
22. The TCA Project is considering all traffic movements, including trips from the Project area to employment centers in the City of Chicago. As noted on the chart presented at SPG Meeting #2, primary employment centers in the area are concentrated in southeastern Lake County, northwestern Cook County, and downtown Chicago.Travel east/west is bottleneck.
    a. Thank you. Input from the SPG will be used by the TCA Project Team to identify travel problems and solutions in the Project Area.
23. This process seems very focused on encouraging more cars and roads and not an honest look at what we can do to reduce trip times, which would include TDM, transit, and active transportation.
    a. The TCA Project alternatives study will consider an array of travel modes (roadway, transit, active transportation) as well as enhancements to transportation system management. At SPG Meeting #2, SPG members helped identify the locations and types of improvements that should be considered along the roadway (existing roads, new roads) and transit (rail and bus transit) networks (i.e., “improvement components,” or the pieces of a system alternative). The TCA Project Team will consider strategies for integrating active transportation (bike and pedestrian) and enhanced transportation system management strategies when developing the system alternatives.
24. Would like to see better/more frequent train service to O'Hare.
    a. Thank you for your suggestion. The TCA Project Team is working closely with the RTA and transit service boards to ensure that their priorities and opportunities for enhanced transit service are considered.
25. Don't forget connecting with Wisconsin.
    a. The TCA Project area includes Lake County, portions of Cook, McHenry, and DuPage counties in Illinois, and a portion of Kenosha County in Wisconsin. The portion of Kenosha County in southeast Wisconsin is included because it experiences considerable travel interaction between the two areas. These travel interactions will be considered during the study process.
26. How will the RTA and their transit priorities be considered in this project?

a. The TCA Project Team is working closely with the RTA and transit service boards to ensure that their priorities are considered. Opportunities to expand and enhance transit service will be considered as part of the alternatives study process and guided by input from RTA, Metra and Pace.

27. Can you elaborate on multimodal meaning?

    a. The TCA Project alternatives study will consider a variety of travel modes (roadway, transit, active transportation) as well as enhancements to transportation system management. At SPG Meeting #2, SPG members helped determine the locations and types of improvements that should be considered along the roadway (existing roads, new roads) and transit (rail and bus transit) networks (i.e., "improvement components," or the pieces of a system alternative). to the TCA Project Team will consider strategies for integrating active transportation (bike and pedestrian) and enhanced transportation system management strategies when developing the system alternatives.

28. How can train routes be expanded?

    a. The TCA Project Team is working closely with the RTA and transit service boards to determine the potential for expanded commuter train service.

29. Would like to see better transit opportunities to and from O'Hare airport.

    a. Thank you for your suggestion. The TCA Project Team is working closely with the RTA and transit service boards to ensure that their priorities and opportunities for enhanced transit service are considered.

30. I have heard no comment yet on the interaction of rail lines and arterials. The CN line curves and runs south the entire length of the county, impacting 173, Wadsworth Road, 137, 176, etc. The merger between the EJE and CN caused more frequent and longer trains on the CN, and more delays on arterials.

    a. We recognize this is a concern, but are not to this level of analysis yet. A variety of issues that may contribute to congestion on area roadways will be considered, including at-grade railroad crossings, signal timings/coordination, and access control characteristics.

31. Idea of dedicated right-of-way for transit key for future success.

    a. Agreed; transit services that provide longer trips require dedicated right-of-way for reliable, longer-distance travel. The TCA Project Team is working closely with the RTA and transit service boards to ensure that their priorities are considered and that opportunities for dedicated transit service are incorporated along planned improvement corridors.

32. What public transportation can eliminate the need for more roads (more roads just means more congestion)?

    a. The TCA Project Team is working closely with the RTA and transit service boards to ensure that their priorities are considered and that opportunities to enhance public transportation service are considered during the alternatives study process.

33. Is train track extension the most expensive option?

    a. An objective of the TCA Project is to identify a fiscally responsible and viable solution. Project costs will be estimated and evaluated as part of the alternatives study process. However, we are too early in the study process to develop costs for alternatives.

34. How would the information be shared with the general public?

a. SPG meeting presentations, full meeting summaries, and Project fact sheets are available on the TCA Project website (www.tricountyaccess.org). SPG members are encouraged to be the conduit of information to their communities, constituents, groups, agencies, and groups. Public meetings will provide the opportunity for the general public to interact with the TCA Project Team and ask questions about the Project.

35. Expressway stops short of west central Lake County. Our residents need access, too.
    a. Thank you for your input. SPG input is very helpful in determining the needs of the communities in the Project area and will be considered as alternatives are studied.
36. Regarding polling information, how will you reconcile responses from SPG with the needs of the general public? Some poll questions are specific to individual participants, others refer to constituents. Will these types of questions be made available to the general public in some form?
    a. The SPG is intended to be a group of people able to speak to the concerns of the communities, agencies, and groups they represent. In many cases, they live and work in the Project area. The general public is invited to provide their views during public meetings and via comment form on the website through the duration of the Project (www.tricountyaccess.org).
37. Will you provide all these questions and your answers on the website in the meeting summary doc?
    a. Each question asked at the SPG meetings will be responded to in the SPG Meeting #2 Summary and made available on the Project website (www.tricountyaccess.org).
38. These all make sense for my residents.
    a. Thank you. Input from the SPG was important in considering the goals and objectives for the Project.
39. Is Greenway construction still a realistic option?
    a. Sustainable and context-sensitive design concepts will be considered for each alternative.
40. One of the goals was to provide access to housing. Did this mean existing housing, or future housing (PUDs, etc.)?
    a. The intention is to consider access to homes and jobs in both the current and future (2050) timeframes.
41. Will the study incorporate the need to expand the skilled construction workforce in the area in order to complete projects in a timely fashion?
    a. Issues related to implementation will be considered as part of the Project financial and implementation plan once a preferred alternative is determined.
42. Identify uncompleted, long planned backbones and identify the impediments to implementation, i.e., changes in demand, lack of political will.
    a. Prior studies and planned improvement projects will be considered as part of the alternatives study process. The TCA Project Team intends to leverage information from prior studies and consider planned improvements related to the Project goals and objectives.
43. There are so many needs considering time period (2050), how will you set priorities given limitations of funds?
    a. . The TCA Project Team will coordinate with transportation providers, local representatives and use input from the SPG and public to determine feasible solutions that address the project goals and objectives. Funding is one of the topics that will be considered during the

alternatives study. Our goal is to identify a financially responsible solution that considers the resources and constraints of area transportation providers.

44. State and federal funding challenges will require local funding or tolling. The process must recognize this to propose a project with capacity to cover project costs.
    a. We agree that a practical solution must consider the ability to fund and implement a preferred alternative. Funding is one of the topics that will be considered during the alternatives study. Our goal is to identify a financially responsible solution that considers the resources and constraints of area transportation providers.
45. Nice work.
    a. Thank you.

Questions Regarding the Alternative Analysis Overview

1. East/west needs outpace north/south almost 5 to 1: is there an option to decouple Route 53 from Route 120?
2. Analyses indicate that the desired “as the crow flies” direction of travel in the TCA Project area is predominantly north-south with diagonal elements toward primary employment and population centers in the southeast and southwest. Thank you for your suggestion to consider the Route 120 corridor independently from Route 53; this will be considered as part of the alternatives study process. Will there be traffic studies conducted by traffic engineers available as opposed to CMAP traffic methodology?
    a. Existing traffic count and travel data information was gathered from various sources, among them IDOT, Illinois Tollway, American Community Survey, Census, Google, and HERE data. Google and HERE data provide real-time speed and travel time information and were used to validate the travel demand model provided by CMAP. The CMAP travel demand model and associated components are state-of-the-practice tools used for long-range planning efforts and project studies in the region. Transportation engineering and planning professionals are using the forecast information from the CMAP ON TO 2050 planning efforts and travel demand model to perform analyses for the Project.
3. The TCA Project's own website says, "Inaction is no longer an option." How can we take you seriously that "No-Build" is an option fairly considered?
    a. The TCA Project is intended to finish the conversation that began in the 1960s, with the goal of determining whether and how to address the transportation problems in the Project area. The TCA Project is the means by which the FHWA, the Tollway, and IDOT will decide whether and how to address identified transportation problems. In conformance with federal and state requirements, the TCA Project will evaluate a broad range of feasible alternatives that may meet the goals and objectives for the Project, from widening and improving existing roads (including state routes), building new roads, and expanding mass transit, to completing only those improvements listed in the CMAP *ON TO 2050 Plan* (the No-Build Alternative).
4. Trying to get a question asked, let alone answered in this form is very difficult.
    a. To be respectful of each SPG member and to provide equal opportunities for members to share their views during our limited meeting time, our meetings will use interactive polling and electronic submittal of questions. Our team is happy to talk with you further after any SPG meeting or via phone call. Each question submitted will be responded to in the SPG Meeting Summary.

5. When will Lake County residents be directly asked their views of a truck bypass to Wisconsin being built in their backyard?

    a. At SPG Meeting #2, SPG members identified the locations and types of improvements that should be considered to address the Project goals and objectives. Using this input, the TCA Project alternatives study process is now beginning. All stakeholders are encouraged to provide comments on the Project via the website (www.tricountyaccess.org) and to attend public meetings as they are scheduled.

6. Considering there are many environmental concerns, how is the Illinois Tollway assessing critical areas? Is the Tollway working with CMAP and IEPA?

    a. Yes, the Tollway, IDOT, and Federal Highway Administration (FHWA) are coordinating with resource and regulatory agencies to identify environmental and socioeconomic concerns. While the early transportation modeling effort is ongoing, we have also begun gathering information about environmental resources in the Project area. By the time we are able to test potential alternatives, we will also be able to identify their potential effects on resources.

7. Will we be able to access your environmental database? Will the public?

    a. Information that is shared with the SPG and at future public meetings will be available through the Project website (www.tricountyaccess.org).

8. Will the goals be modified based on input at this meeting? When will goals be finalized?

    a. The Project goals and objectives may be modified in response to feedback from the SPG. The goals and objectives presented at SPG Meeting #2 were initially informed by information provided by SPG members at the first meeting of the group. The goals and objectives will help inform the Project purpose and need under the National Environmental Policy Act (NEPA), which will be subject to scoping and public input during the second half of 2018 and early 2019.

9. Environmental considerations have been mentioned over and over yet they are not considered in the goals statement. This is a serious omission and suggests that these concerns aren't as important as the others.

    a. The goals and objectives outline the transportation problems that the TCA Project is intended to address. If a proposed alternative cannot meet these objectives, it likely does not merit further study regardless of its environmental effects. While our Project goals and objectives are focused on solving transportation problems, avoidance and minimization of impacts is an important consideration that will be integrated into each solution with the potential to address the transportation problems.

10. How will the Blue Ribbon Advisory Council (BRAC) report be considered in the alternatives and impact analyses?
    How will the recommendations of the Land Use Committee be weighed and considered?
    Where do the agencies stand on that compromise?

    a. The BRAC study focused on the IL 53/120 corridors, identified recommended design treatments and operating characteristics for the new corridors, and suggested various environmental treatments and enhancement strategies. We will leverage and consider BRAC recommendations during our studies and consider those recommendations across the full range of alternatives that will be considered with the TCA Project, not just along any IL 53/120 alternatives.
    We are using the CMAP socioeconomic allocation and land use information related to the *ON TO 2050 Plan* to evaluate current and future transportation characteristics of the No-

Build Alternative. Analysis and information related to land use and socioeconomic allocations for IL 53/120 from previous studies will inform our analyses as we begin the alternatives development process.

11. Considering Mr. Shillerstrom's comments at a recent City Club of Chicago meeting, how can anyone have any confidence in the Tollway's ability to fairly assess a "No-Build" option?
    a. The TCA Project is intended to finish the conversation that began in the 1960s, with the goal of determining whether and how to address the transportation problems in the Project area. The TCA Project is the means by which the FHWA, the Tollway, and IDOT will decide whether and how to address identified transportation problems. In conformance with federal and state requirements, the TCA Project will evaluate a broad range of feasible alternatives that may meet the goals and objectives for the Project, from widening and improving existing roads (including state routes), building new roads, and expanding mass transit, to completing only those improvements listed in the CMAP *ON TO 2050 Plan* (the No-Build Alternative).
12. Will the problem of frequency of stops at railroad crossings be considered in the plan?
    a. A variety of issues that may contribute to congestion on area roadways will be considered, including at-grade railroad crossings, signal timings/coordination, and access control characteristics.
13. Is the CN circular rail line going to be giving consideration?
    a. The TCA Project Team is working closely with the RTA and transit service boards to ensure that their priorities are considered. Opportunities to expand and enhance transit service, including the CN circular rail line, will be considered as part of the alternatives study process.
14. Would you please provide coffee next time?
    a. Given the late afternoon timing of the meeting, we feel that providing water meets the needs of most SPG members. The SPG is welcome to bring in beverages of their choosing.
15. Has July meeting date been set?
    a. SPG Meeting #3 will be held in late July or early August.
16. We all know the no-build alternative is not an alternative. Route 120 needs to be implemented.
    a. The TCA Project will evaluate a broad range of feasible alternatives that may meet the goals and objectives for the Project, including the No-Build Alternative. As a route that has been suggested for consideration by several SPG members, Route 120 will certainly be considered; thank you for your suggestion.
17. To expand on Mr. Schillerstrom’s comments, he said that we're moving forward with 53. If the decision is made, why are we doing this?
    a. The Illinois Tollway, at the May 2017 board meeting, unanimously approved a contract to complete an environmental impact statement for the IL 53/IL 120 Project. To reflect that the study will be taking a very broad look at problems and solutions, driven by concerns from stakeholders about the need for a robust look at alternatives, the study has since been renamed the Tri-County Access Project. This effort is intended to finish the conversation that began in the 1960s, with the goal of determining whether and how to address the transportation problems in the Project area. In that regard, the Tollway is moving forward with the study as intended. While past studies focused on a specific corridor, the TCA Project is evaluating feasible alternatives to improve transportation in the Project area, from

widening existing roads (including state routes), building new roads, and expanding mass transit, to completing only those improvements listed in the CMAP *ON TO 2050 Plan* (the No-Build Alternative).

18. Mentioning that studying the No-Build is a requirement under the National Environmental Policy Act (NEPA) might help clarify these other concerns.
    a. Thank you. That is a good suggestion. We will discuss the No-Build Alternative in more detail at the third SPG meeting.
19. What are the financial constraints for the remedy?
    a. Funding is one of the topics that will be considered during the alternatives study. Our goal is to identify a financially responsible solution that considers the resources and constraints of area transportation providers.
20. What role will stake holders play a in the reduction and whittling down of system alternatives to the eventual preferred alternative.
    a. Stakeholder input will be considered at every stage of the alternatives development process. SPG Meetings #1 and #2 provided an opportunity for representatives of the 151 municipalities, counties, agencies, and interest groups in the Project area to put their ideas and concerns on maps. Each stakeholder comment received via the Project website and electronically submitted during meetings is taken into consideration as alternatives are considered. There will be multiple opportunities and methods for stakeholders to review and provide input to the alternatives analysis process, including future SPG meetings, future public meetings, the Project website, and one-on-one/small group meetings.
21. Who is going to evaluate how well the process is working?
    a. This process is the means by which FHWA, the Tollway, and IDOT will make a decision in conformance with federal requirements. In that regard, the TCA Project Team is coordinating closely with FHWA to verify that these requirements are met.
22. Are available sources of funding methods taken into consideration rather than alternatives where there are no realistic funding available.
    a. Funding is one of the topics that will be considered during the alternatives study process. Our goal is to identify a financially responsible solution that considers the resources and constraints of area transportation providers.
23. Will a priority list be developed along with a time line?
    a. A funding and implementation plan will be developed as part of the TCA Project. Our goal is to identify a financially responsible solution and implementation plan that considers the resources and constraints of area transportation providers.

Additional Questions Submitted During the Meeting

1. How did you calculate loss of productivity?
    a. The loss in productivity is calculated by translating vehicle hours of delay into average working days. An estimate of the monetized value of lost productivity is calculated by applying an average value of time to hours of delay.
2. Address lack of transportation to Barrington, Wauconda, Island Lake, to and from CLC. A major destination.

a. The TCA Project will consider a broad range of feasible alternatives that may meet the goals and objectives for the Project. Your suggestion will be considered as part of the alternatives study process.

3. A stakeholder meeting at 2:30 in the afternoon seems disingenuous in trying to maximize public input.

    a. Given the size of the Project area and the mission of the SPG to function as a working group, it was determined that one representative would be invited from each community, as well as appropriate representatives from each of the counties, agencies, and interest groups. Those agencies and groups who have been involved in any of the previous studies have also been included in the TCA Project for continuity; overall, 151 municipalities, counties, agencies, and groups were invited.

    To encourage productivity and efficiency, the group size is limited, but our outreach efforts are not. The SPG members are asked to be a conduit of information to and from their constituents. A number of other public involvement opportunities are available to those not directly in the SPG. Opportunities are listed in the SIP that is available on the Project website (www.tricountyaccess.org).

4. Is the Tollway going to stop the proposed development in Long Grove that is directly in the path of Route 53 extension?

    a. County and municipal governments are responsible for zoning and development permits. IDOT, as the recorder of the centerline for Federal Aid 61 (Route 53), and the Illinois Tollway encourage area officials to duly consider the recorded centerline in future development plans.

5. Will the urban sprawl potentially induced by the extension of Route 53 as predicted in the Land Use plan be factored in to congestion predictions in the long term?

    a. The effects of transportation on socioeconomic and land use characteristics will be addressed during the alternatives study process. In addition to the CMAP data, the TCA Project Team will use a market-based real estate model and a land use simulation model to develop alternative-specific socioeconomic allocations that account for alternatives considered as part of the TCA Project.

6. Parking at METRA stations is very limited, which restricts use. Will this be addressed?

    a. Improving access to public transit, including potential parking improvements, is under consideration.

7. I did not see my question about railroad crossings.

    a. All questions raised during SPG Meetings are recorded and addressed in the meeting summaries. Recognizing meeting time constraints, the most commonly asked questions are projected onto the screen and answered during the meeting. Your question is addressed above.

8. McHenry County has a Green Infrastructure plan also.

    a. Thank you for your input. We will verify that data from the plan is incorporated into our database and may reach out to you for additional information.

9. Please make the maps used in the workshop available on your website

    a. The maps are available in the Document Library on the website.

10. The environmental features have been identified already. The Forest Preserve has developed a Green Infrastructure Model and Strategy which should be used as a base map. This is also a geographic information system (GIS) model that is freely available.
    a. Thank you for the recommendations. We will verify that data from these resources is incorporated into our database and may reach out to you for additional information.
11. Don't forget to identify corridor preservation options.
    a. Corridor preservation options will be identified, as appropriate, depending on the alternatives being considered and the potential timeframe for their implementation.

Stakeholder Participation Group Meeting #2

April 24, 2018

MOBILITY FOR TODAY AND TOMORROW

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Illinois Tollway

TRI·COUNTY ACCESS

MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

- A Regional Approach: Doing things differently
- CMAP 2050 Plan: What it means for the TCA Project?
- Stakeholder Participation

Agenda

- SPG Meeting #1 Summary
- Project Goals and Objectives
- Alternatives Analysis Overview
- Next Steps
- Group Exercise

SPG Meeting #1 Summary

Stakeholder Participation Group (SPG)

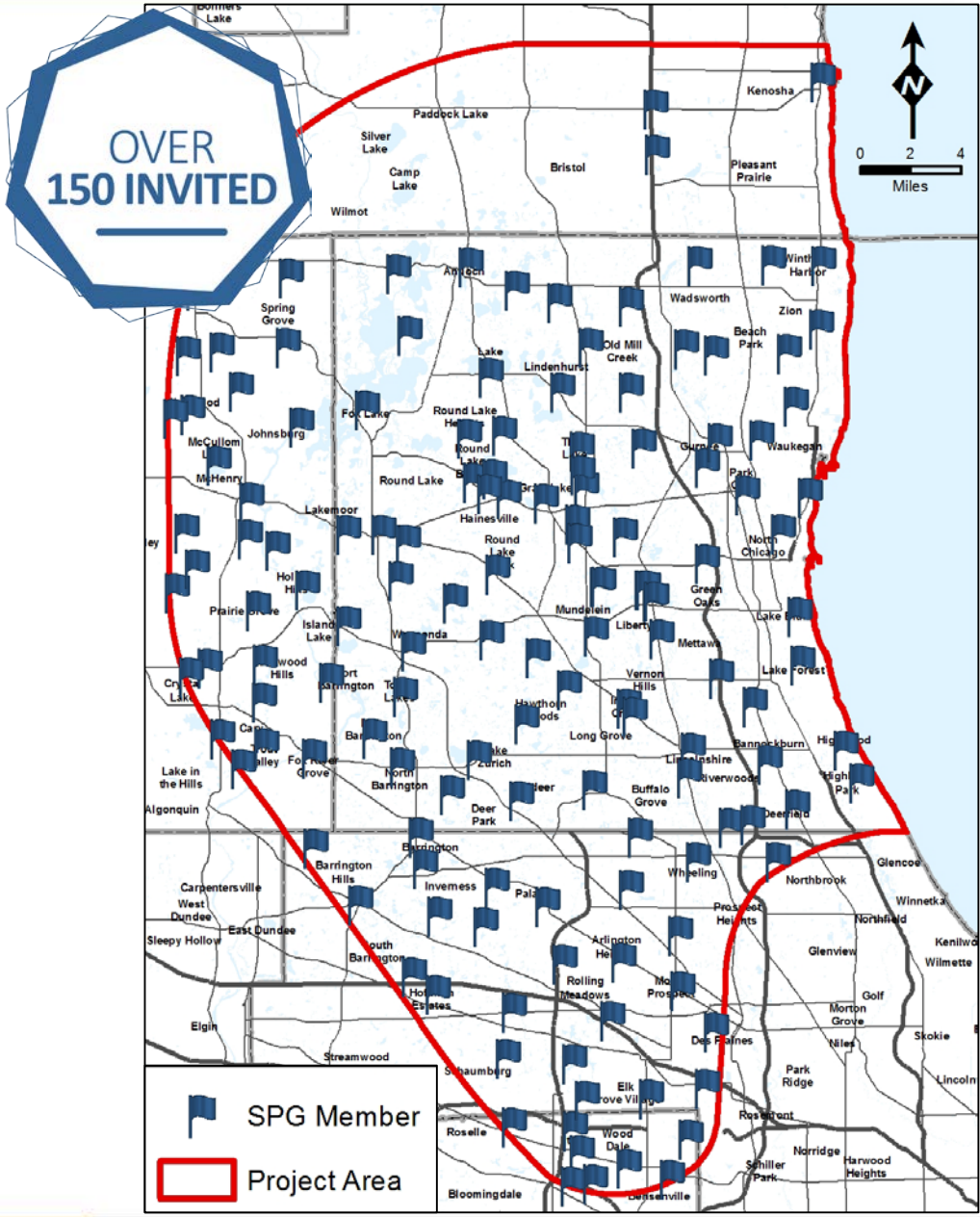
Commit to attending meetings

Support public involvement process as outlined in stakeholder involvement plan

Identify community, environmental, economic and transportation issues and resources

Provide input on study data and technical analyses

Share information and encourage broader community input



SPG Meeting #1 – The Five Ws

WHO was involved?

151 individuals, representing varied interests in the study area, were invited to serve as SPG members. 56 of those invited attended the meeting.

In addition to SPG members, over 100 individuals from the public observed the meeting.

WHAT happened?

Stated the purpose, roles and responsibilites of the SPG.

Introduced the project, the public involvement program, and transportation system performance (current) and future (2050) in the project area.

WHEN?

March 21, 2018

WHERE?

Round Lake Beach Cultural and Civic Center

WHY did it happen?

To collect information about the TCA Project area so that the TCA Project Team gains an understanding of transportation-related concerns, community resources, and values important to Stakeholders

A full meeting summary can be found on the project website: **TriCountyAccess.org**

Public Involvement is a Key Component of the Project Process

BY THE NUMBERS

767 unique website users since launch in March

Over **100** public observers at SPG #1

30 comment cards received at SPG #1

31 project website comments received

61 questions submitted electronically at SPG #1

Common Themes:

- Environmental concerns
- Support for various corridors/improvement locations
- Advocacy for the alternative No-Build option
- Support for active transportation solutions
- Questions on CMAP population and employment data
- Questions on funding/cost of project
- Inquiries on how the SPG representatives were chosen

SPG Meeting #1 – SPG Members Shared Their Opinions

- SPG Members participated in an Transportation Context Audit using *PollEverywhere,* an online polling data collector.

- SPG Members also put their transportation related concerns on the map during the group Mapping Exercise.

BASED ON YOUR FEEDBACK

Areas You Avoid to Bypass Congestion

I-94 IL 22

Grand Avenue Route 120 IL 60

US 12

IL 62 IL 22 IL 53

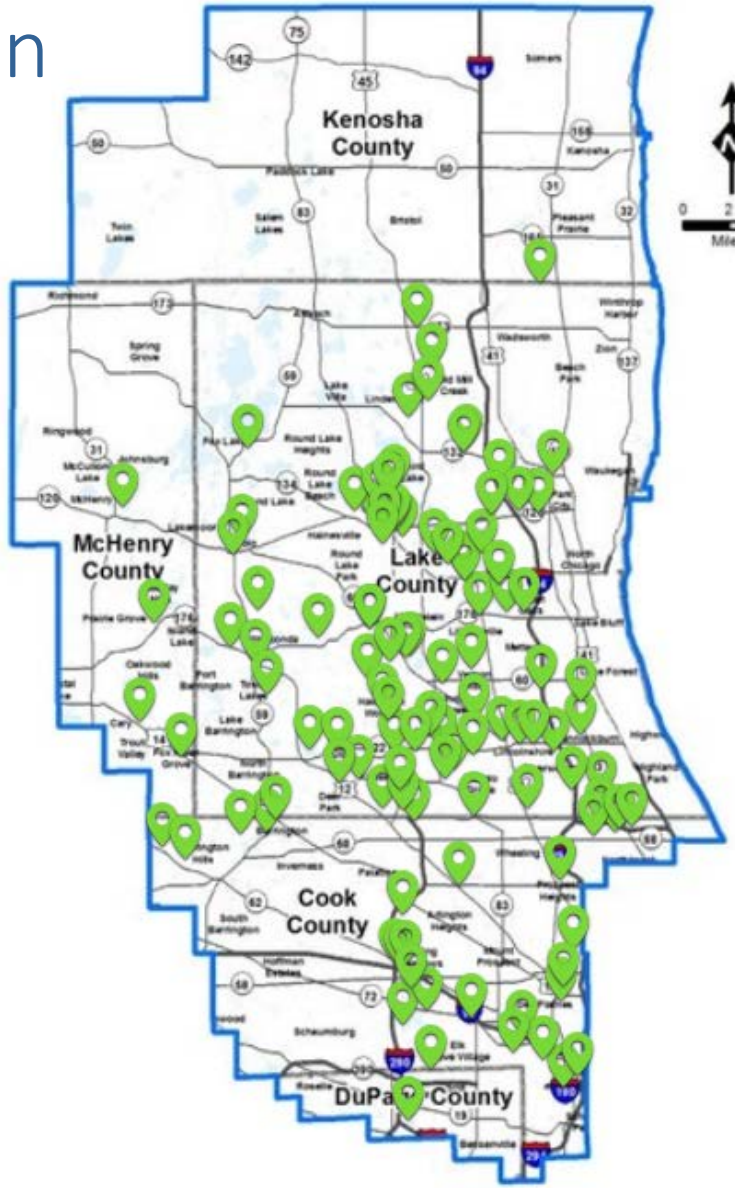
Grayslake US 45

Lake Cook Road IL 120 Milwaukee Avenue

Higgins Road

Rand Road Washington IL 83

Edens Spur IL 176

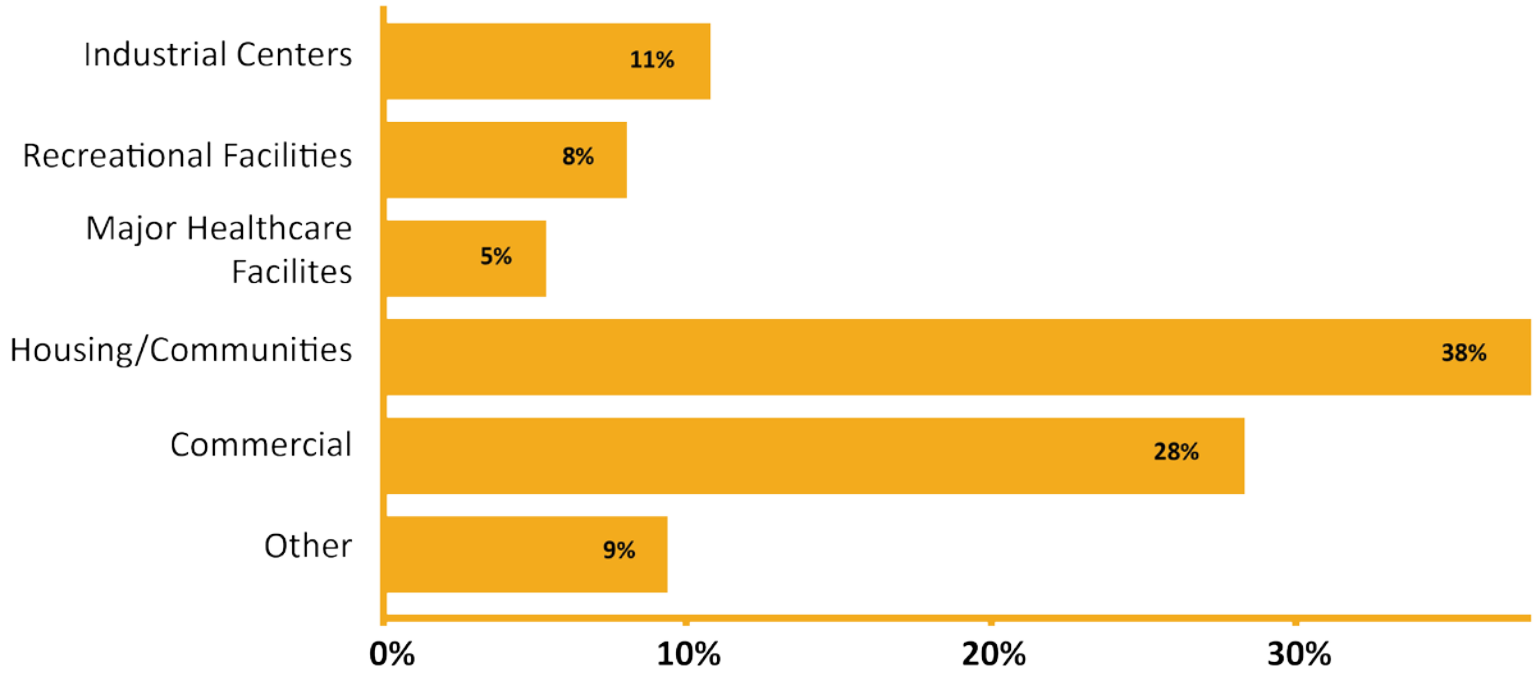


BASED ON YOUR FEEDBACK

SPG Polling Analysis of the Project Area

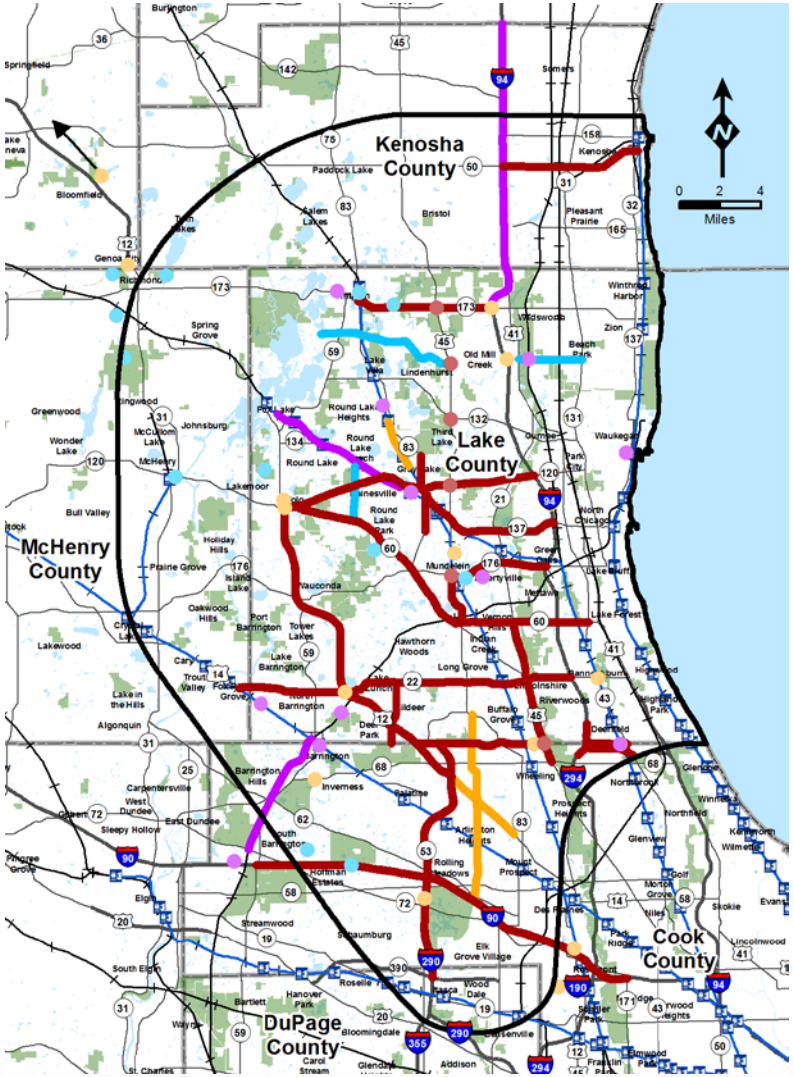
TRI·COUNTY ACCESS | LAKE McHENRY COOK

What major development projects are planned in your community?
(SPG selected up to two each)



BASED ON YOUR FEEDBACK

Transportation Problems Identified at SPG #1



SPG #1 Identified Transportation Problems

- Congestion/Travel Time Reliability
- Transit Concerns
- Trouble Accessing Roadway/Transit
- Missing Walking/Biking Connections
- Congestion/Travel Time Reliability
- Transit Concerns
- Trouble Accessing Roadway/Transit
- Missing Walking/Biking Connections

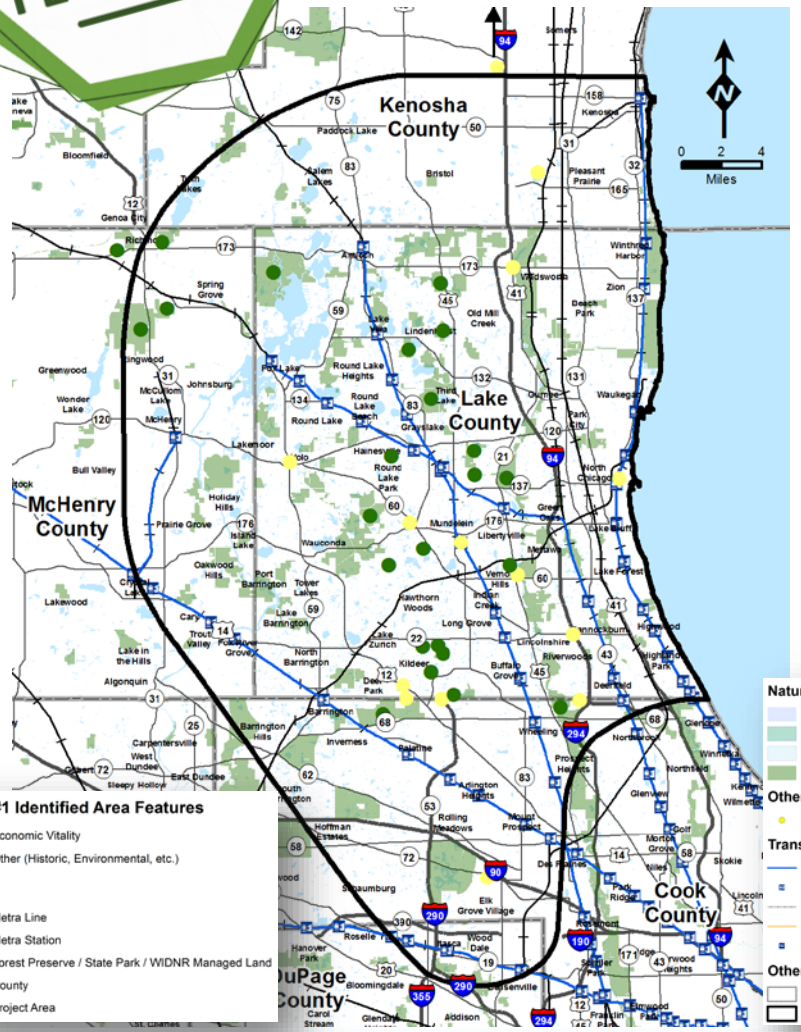
Other

- Metra Line
- Metra Station
- Forest Preserve / State Park / WIDNR Managed Land
- County
- Project Area

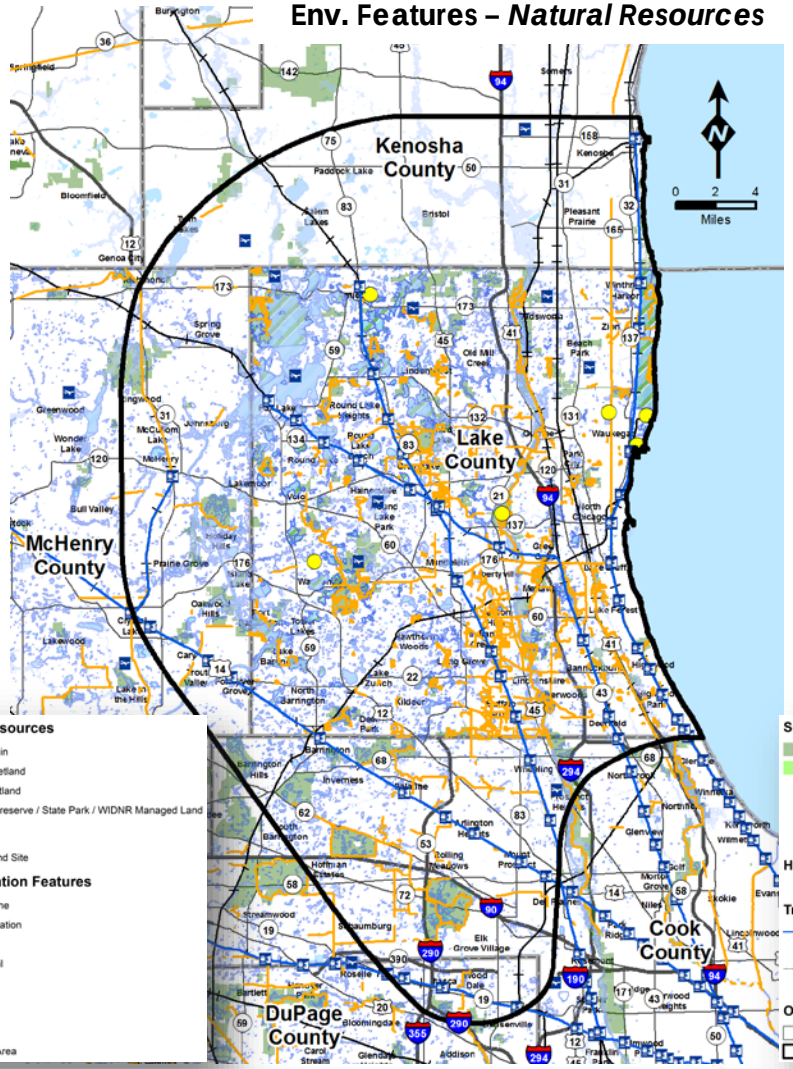
BASED ON YOUR FEEDBACK

Environmental Features Identified at SPG #1

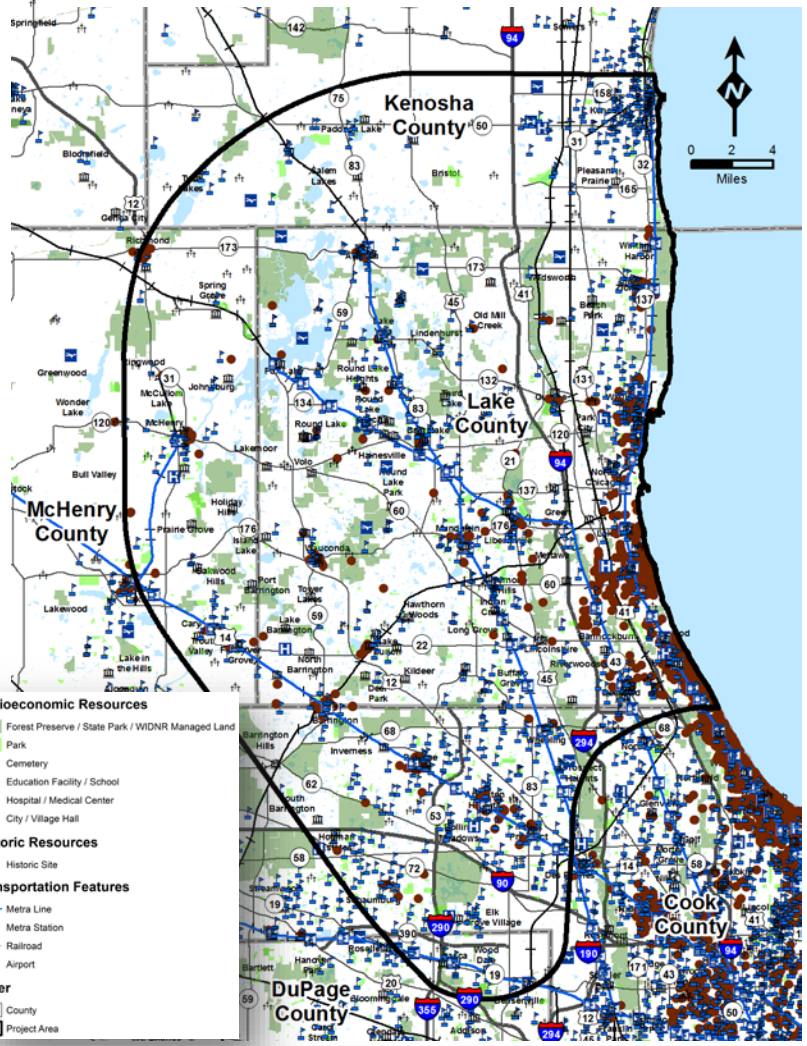
SPG #1 Identified Area Features



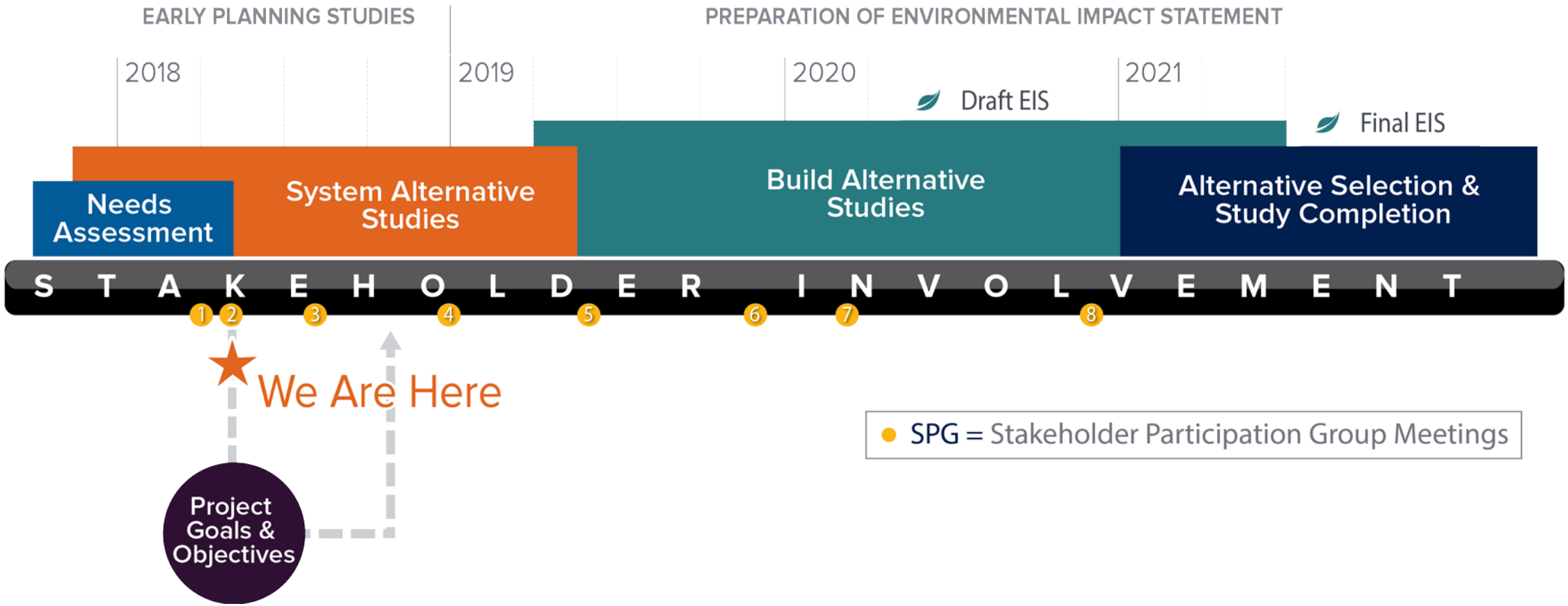
Env. Features – *Natural Resources*



Env. Features – *Socioeconomic & Historic Resources*



Identified Transportation Problems Inform Project Goals & Objectives



Three Tracks for Reaching a Sound and Informed Decision

Technical

A Flagship Transportation Project

Leverage prior study efforts

Identify environmentally friendly solutions

Integrate innovative technologies

Financial

A Clear and Achievable Implementation Plan

Develop a fiscally sound and feasible project financial plan

Public Outreach

Secure Broad Leadership Support

Engage all stakeholders in the conversation

Collecting SPG Members Input during Today's Meeting

- *PollEverywhere* will be used to collect and record all input and Questions regarding the TCA Project during SPG Meeting #2.
- *PollEverywhere* Instructions:
  - *Use your WIFI connected device to connect to the Poll.*
  - *You will be taken directly to the poll.*
  - *Everyone has been pre-registered.*
  - *During today's presentation, you will be asked your opinion about various transportation priorities*

Project Goals and Objectives

Project Goals and Objectives Guide the Process

- Goals and Objectives
  - » *Used to identify and refine alternatives*
  - » *Provide measures against which alternatives will be evaluated*
    - Focused on transportation issues
    - Proposed alternative solutions must demonstrate the ability to address the identified problems
    - Solutions must also integrate avoidance and minimization of environmental impacts
      - » *Opportunities for enhancement will also be studied*

Project **Goal** Focuses on Improving Travel Options

The goal of the Tri-County Access Project is to provide **efficient travel options** that meet **current and future transportation needs** by **reducing congestion**, **providing modal options**, and **improving access to homes** and **jobs**.

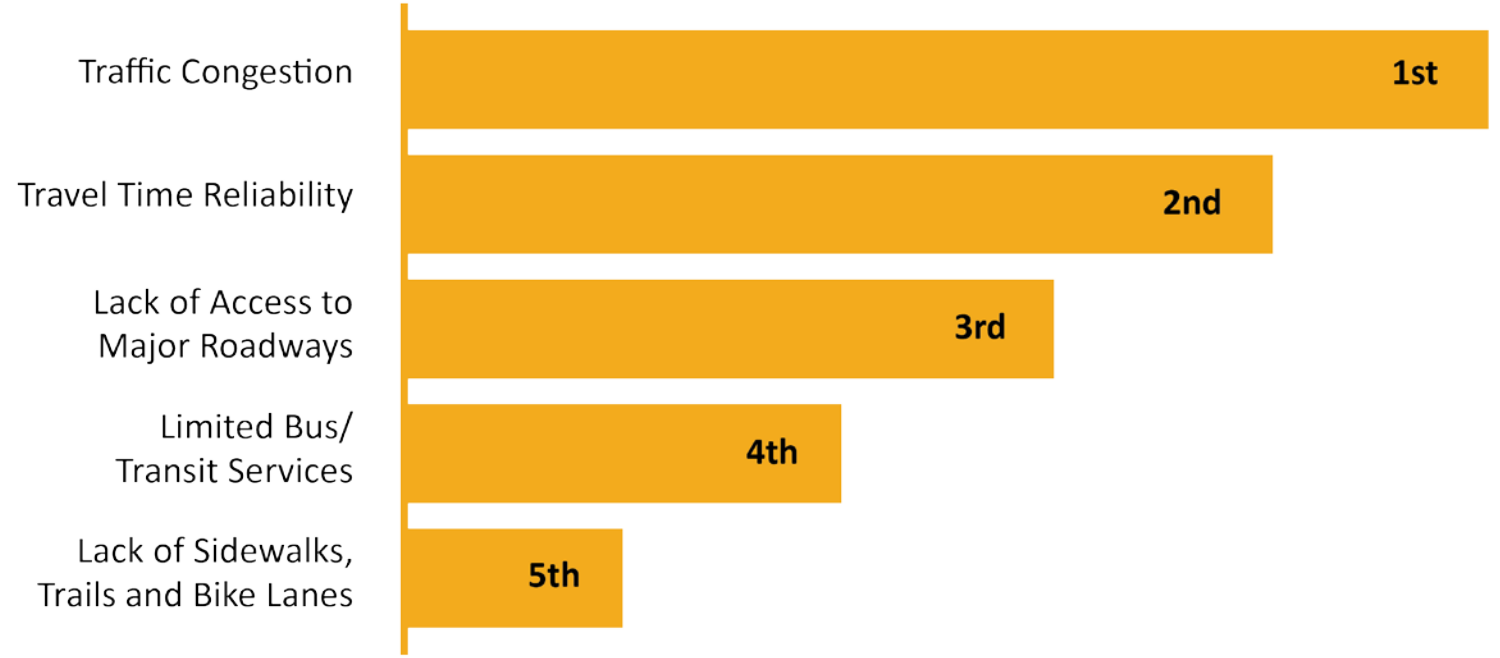
Project **Objectives** Define Measures for Meeting the Project Goal

BASED ON YOUR FEEDBACK

Congestion and Reliability Ranked as Critical Transportation Issues

TRI·COUNTY ACCESS | LAKE McHENRY COOK

What do you consider the most critical transportation issues in the Tri-County region?



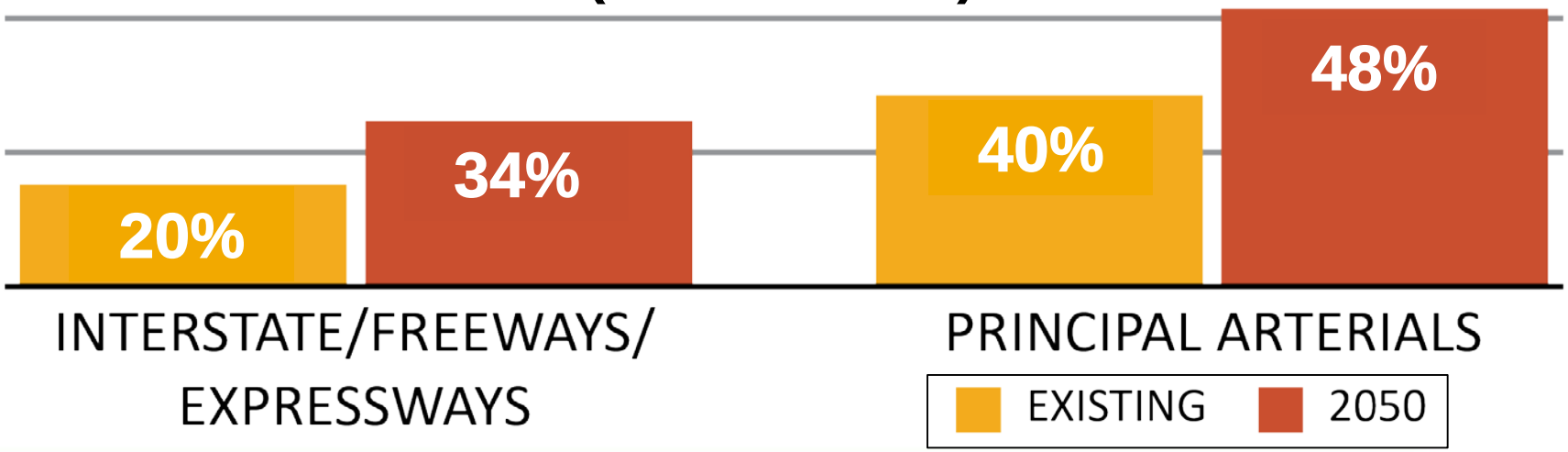
RELIEVE CONGESTION & IMPROVE RELIABILITY OF TRAVEL

Traffic Congestion Continues to Worsen in Project Area

Traffic measured in terms of **Level of Service (LOS)**

- Scaled from A (best – free flow) to F (worst – congested flow)
- LOS D (Moderate) is standard in large metropolitan areas
- LOS E (Severe) and F (Extreme) speeds are below 1/3 of free flow speed

Severe/Extreme Congestion During Peak Periods
(*South of IL 120*)



RELIEVE CONGESTION & IMPROVE RELIABILITY OF TRAVEL

Traffic Congestion Costs Time and Money Today

Existing Roadway Network

190,000
VHD per day

9 WORK DAYS
spent in traffic congestion per worker annually

Existing Roadway Network Improved to LOS D/ Moderate Congestion

34,000
VHD per day

2 WORK DAYS
spent in traffic congestion per worker annually

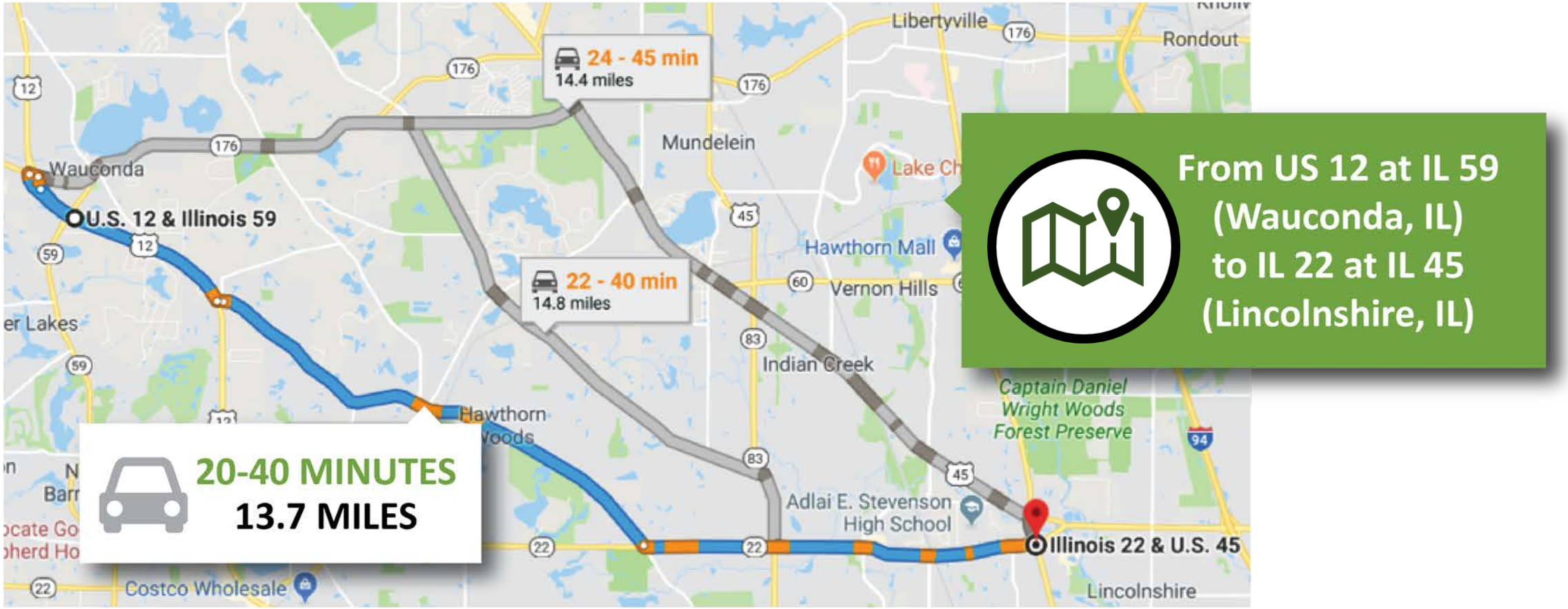
RELIEVE CONGESTION & IMPROVE RELIABILITY OF TRAVEL

Travel Reliability Important to Workers and Businesses

- Travel during peak periods in Project area is currently unreliable and is expected to worsen in future years due to growth in travel demand
- Roadways that are congested but have greater reliability are tolerated better than when capacity has exceeded (LOS E/Severe and LOS F/Extreme)
- Representative locations in Project area show travel time variability to destination can be up to 20 minutes or more

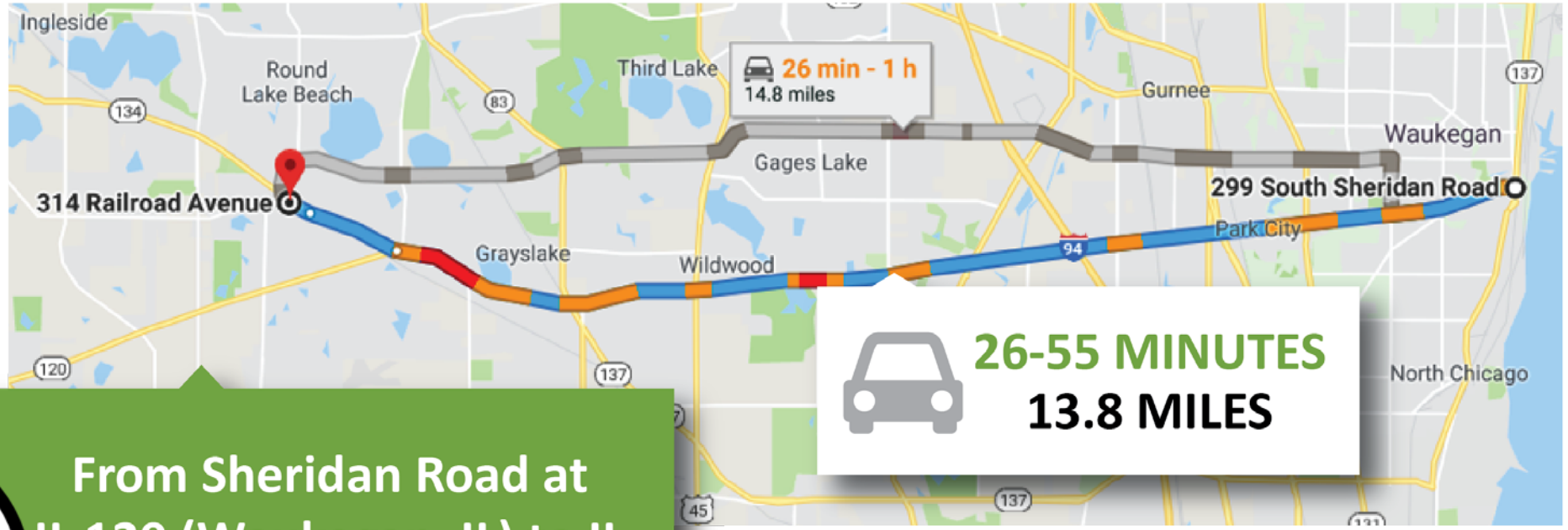
RELIEVE CONGESTION & IMPROVE RELIABILITY OF TRAVEL

Travel from Western Project Area to the Southeast



RELIEVE CONGESTION & IMPROVE RELIABILITY OF TRAVEL

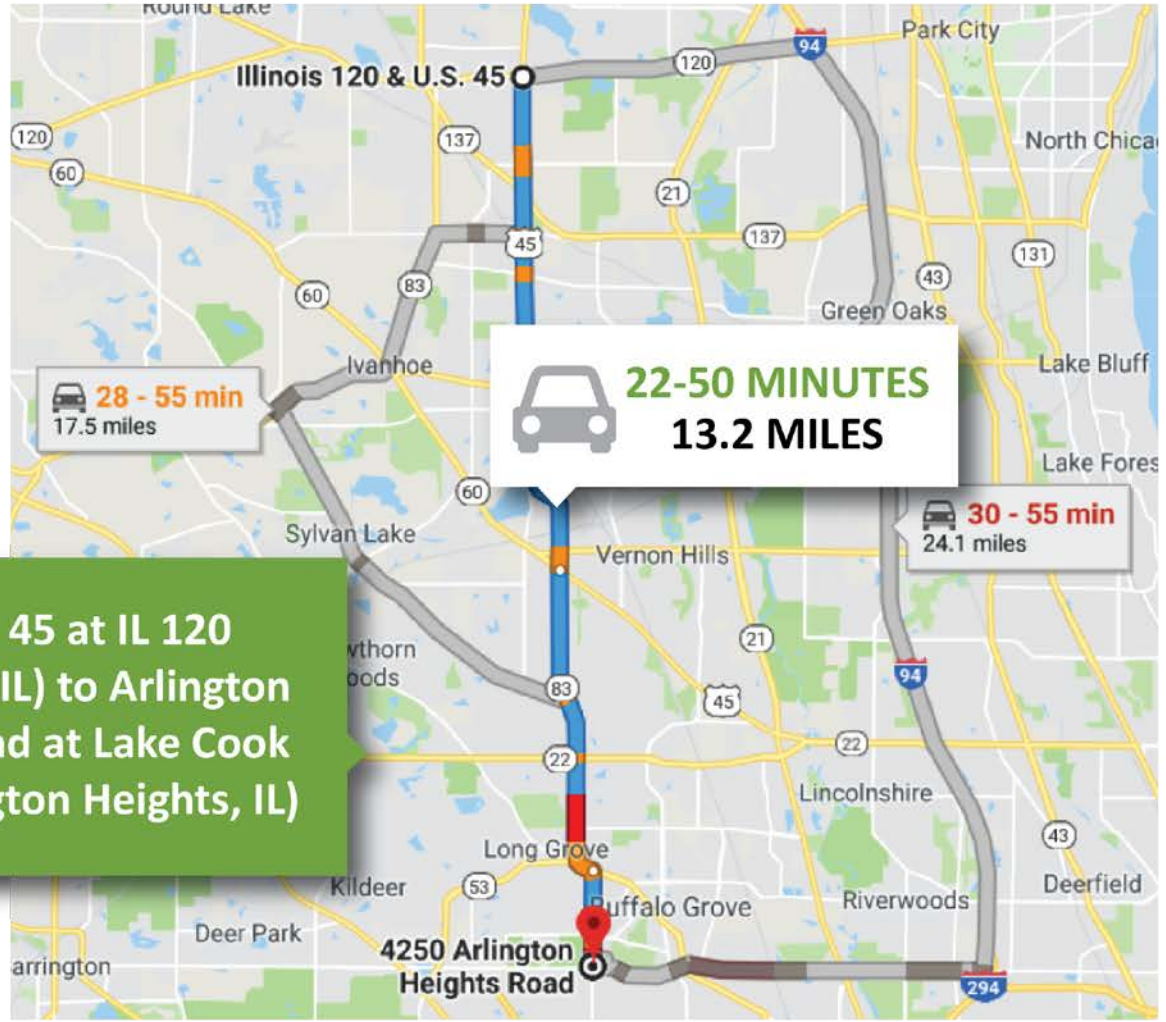
Travel from Eastern Project Area to the West



From Sheridan Road at IL 120 (Waukegan, IL) to IL 120 at Railroad Avenue (Round Lake, IL)

RELIEVE CONGESTION & IMPROVE RELIABILITY OF TRAVEL

Travel from Central Project Area to the South



From US 45 at IL 120 (Grayslake, IL) to Arlington Heights Road at Lake Cook Road (Arlington Heights, IL)

RELIEVE CONGESTION & IMPROVE RELIABILITY OF TRAVEL

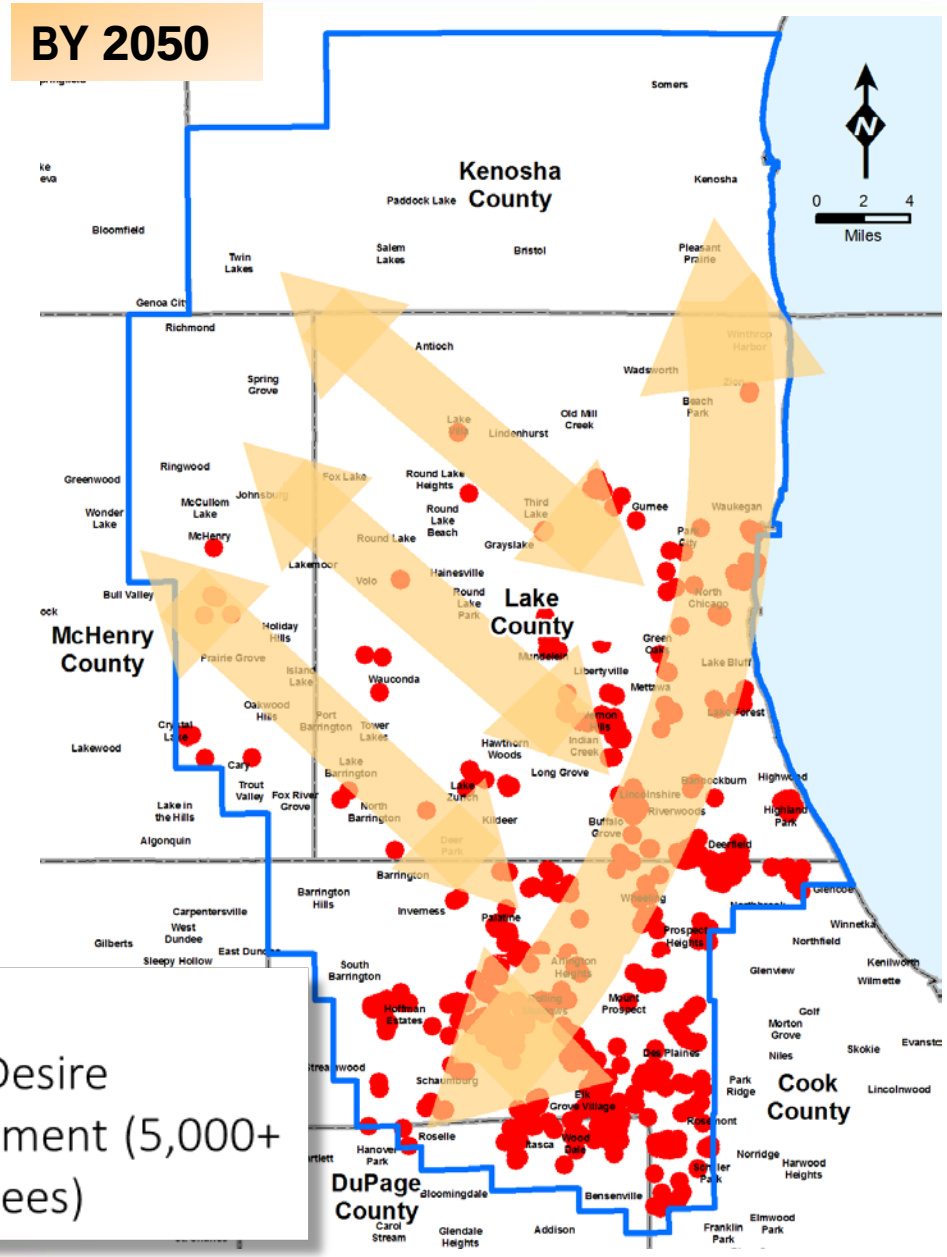
Travel from Southern Project Area to the Northwest

From IL 53 at Lake Cook Road (Palatine, IL) to US 14 at Algonquin Road (Cary, IL)

IMPROVE TRAVEL OPTIONS THAT CONNECT MAJOR ORIGIN & DESTINATION CENTERS

Regional Trips Attracted to Major Origin and Destination Centers in Project Area

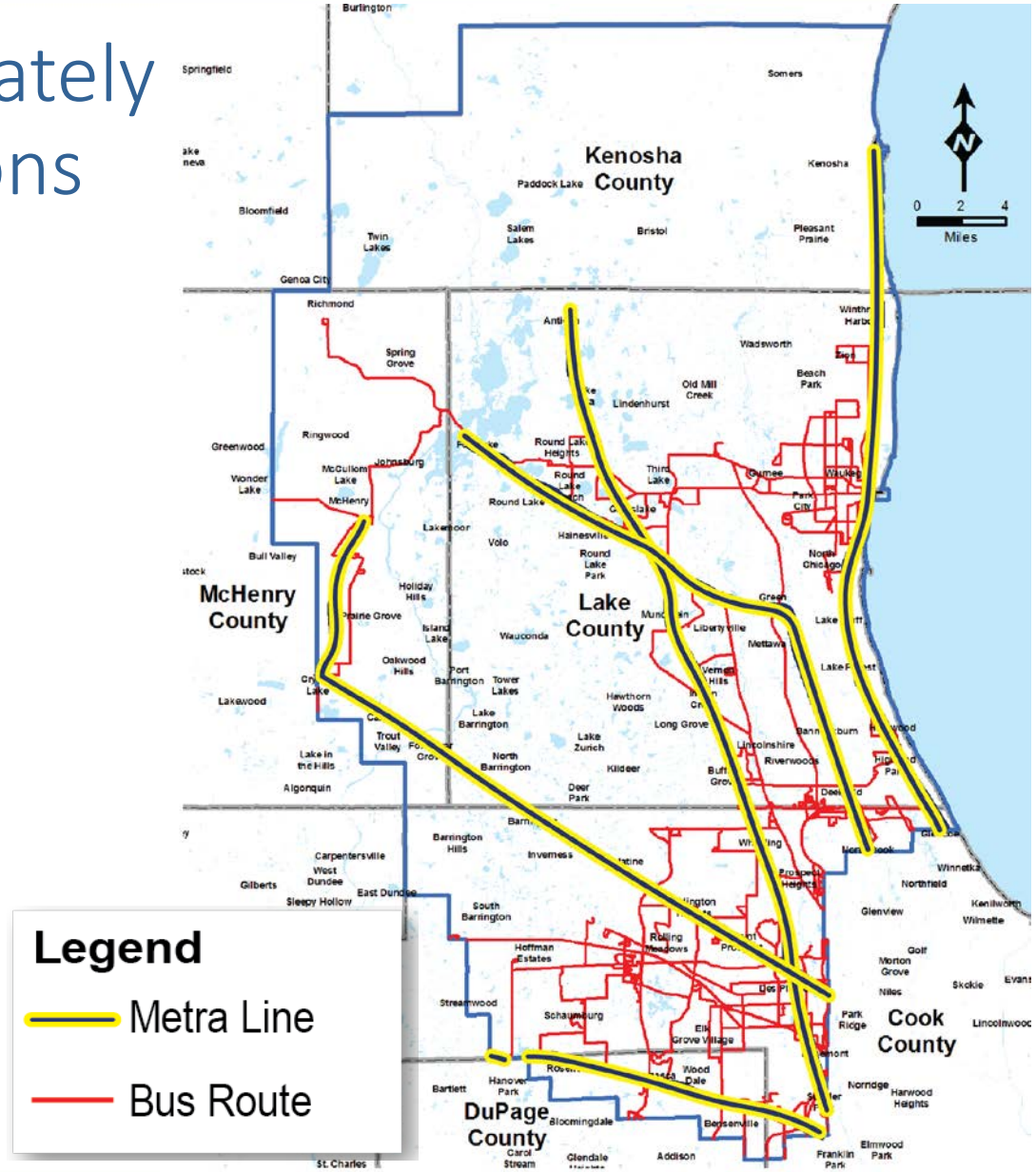
- There are concentrations of employment centers in the southern part of the project area and in Chicago
- By 2050, both population and employment are expected to expand further to the north and west; with population expected to grow more than employment
- Increasing number of longer trips to reach employment centers



IMPROVE TRAVEL OPTIONS THAT CONNECT MAJOR ORIGIN & DESTINATION CENTERS

Existing Options Do Not Adequately Service Employment Destinations

- Roadway network less developed in eastern McHenry and western Lake Counties
  - » *38% of lane miles are on principal arterials or higher capacity roadways*
- Transit predominantly serves southeast Lake County and Chicago
  - » *Northwest Cook County not served by high-capacity/speed transit service from Lake or McHenry Counties*

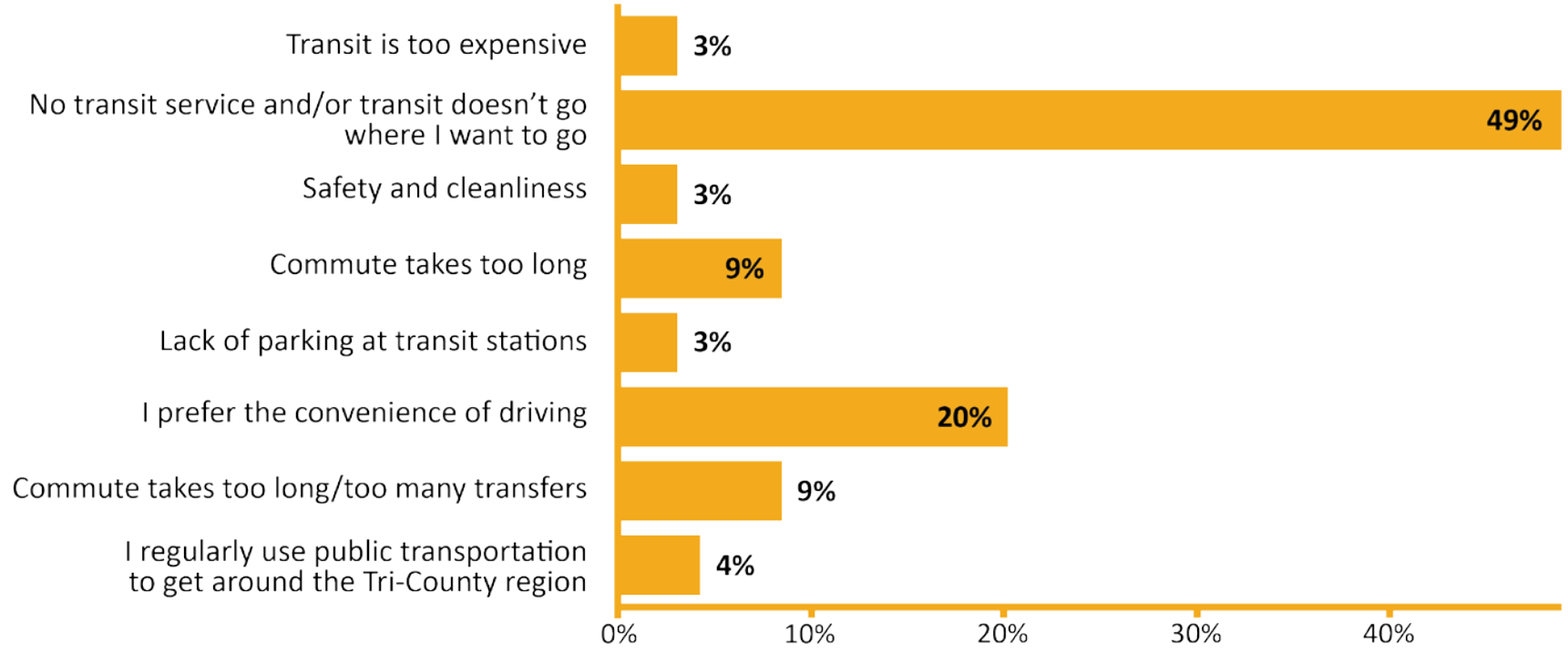


BASED ON YOUR FEEDBACK

Lack of Options and Convenience Lessens Transit Usage

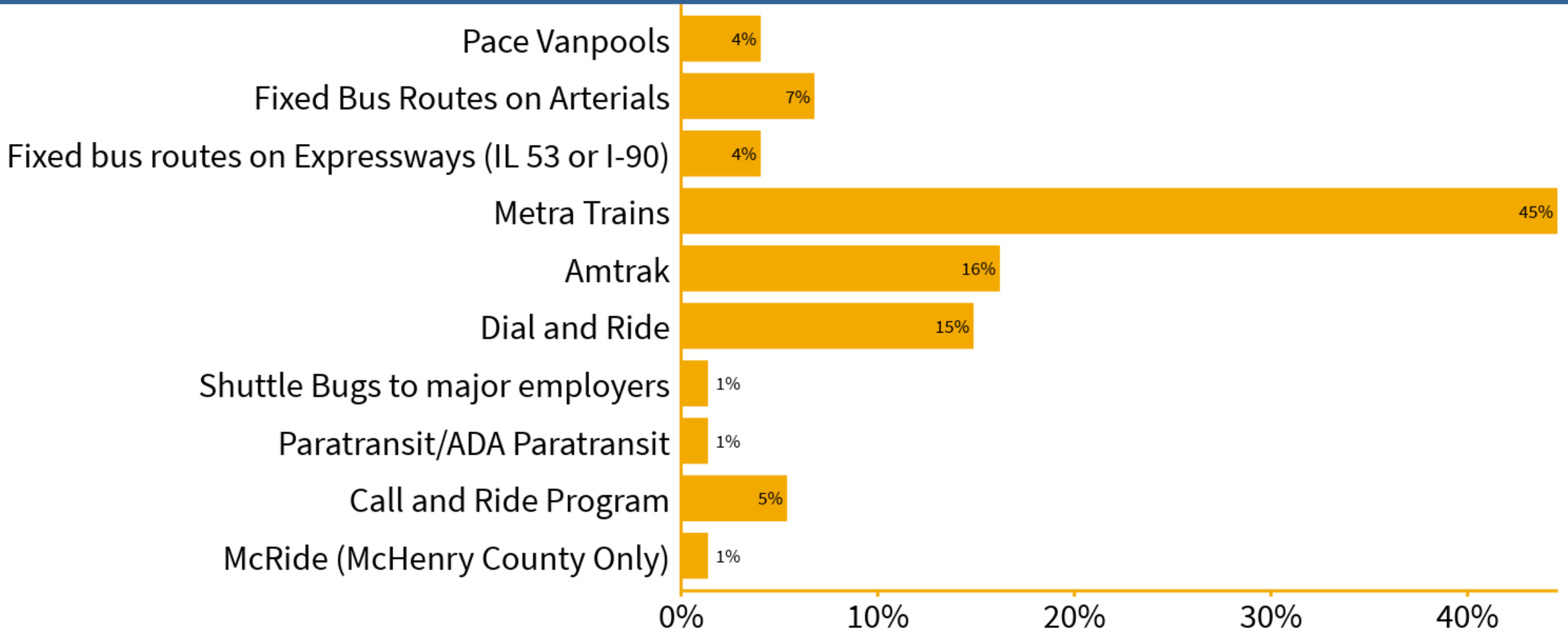
TRI·COUNTY ACCESS | LAKE McHENRY COOK

If you prefer to drive your vehicle rather than use public transportation in the Tri-County region, why?



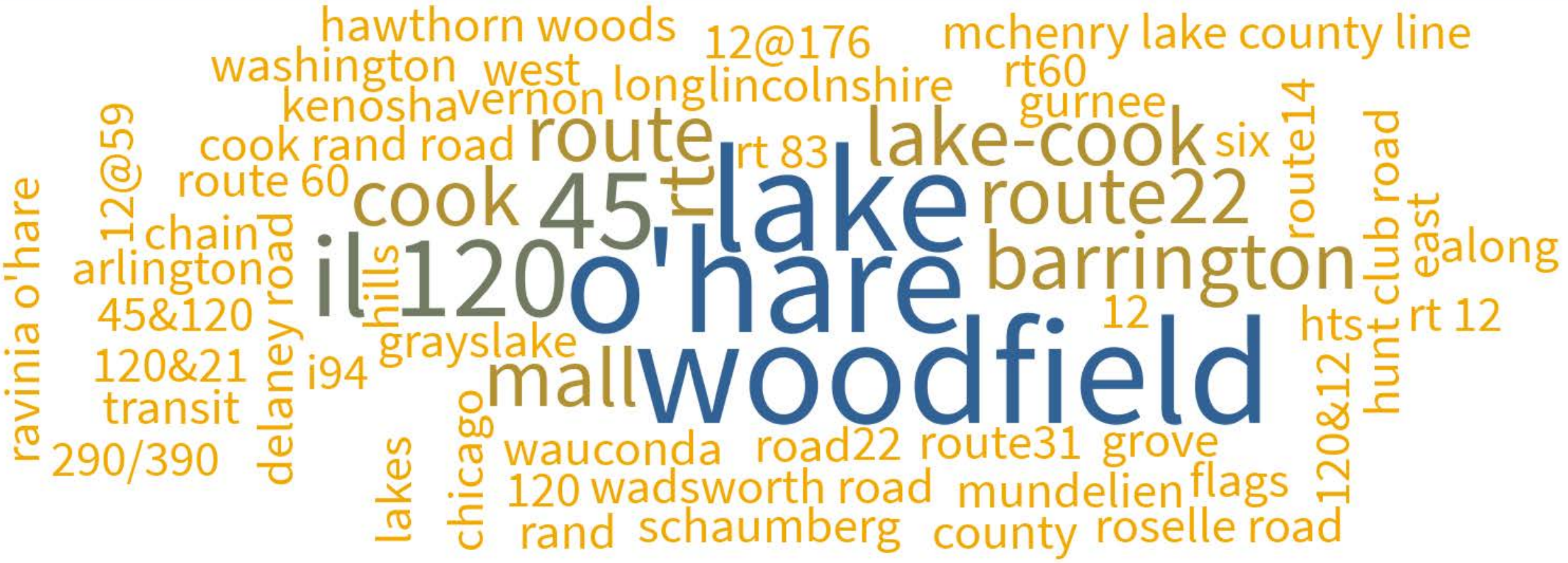
TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW
LAKE
McHENRY
COOK

Transit within the study area is provided by a variety of modes/services. Have you used any of the following? (Select the top 3)



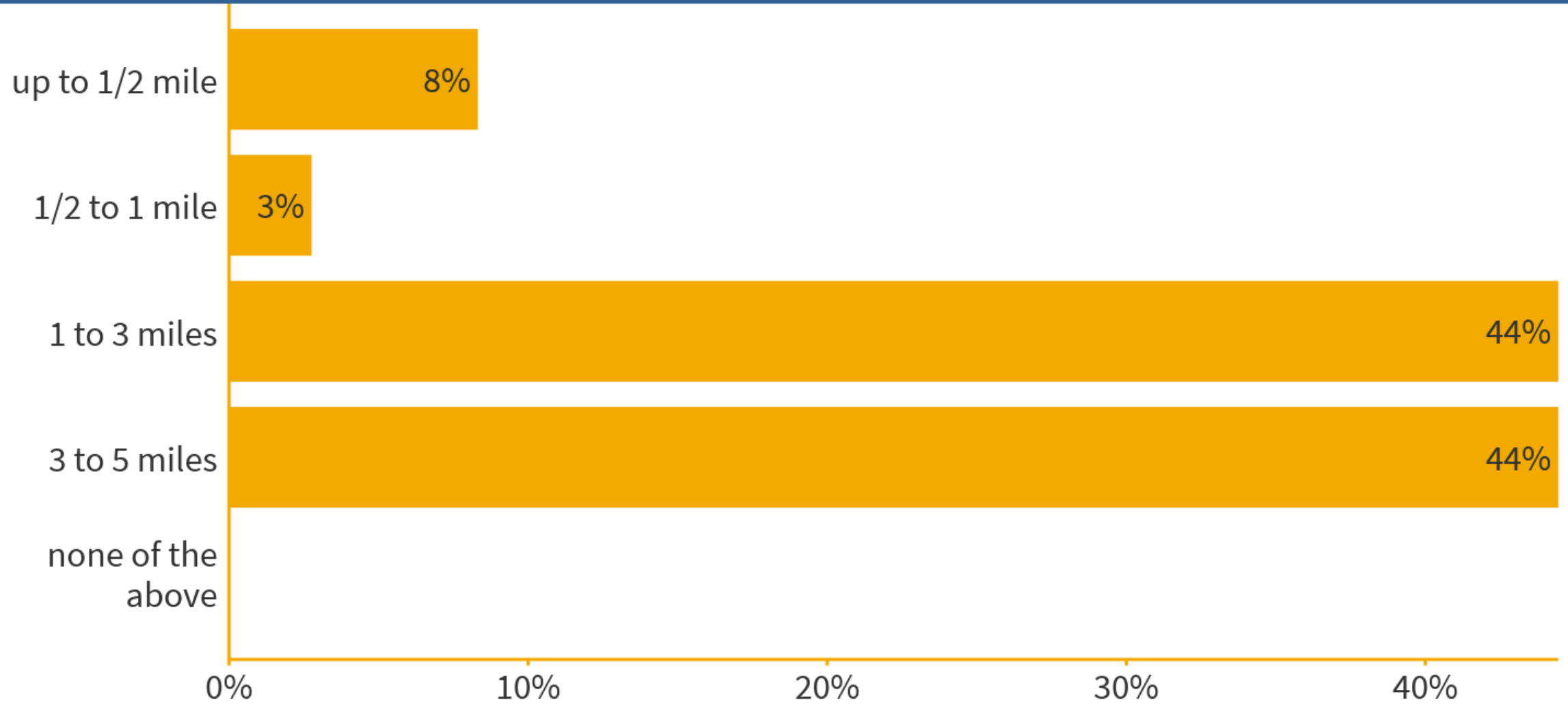
TRI·COUNTY ACCESS | LAKE McHENRY COOK

If transit access were better in this location; I'd start using it. Please list the locations (up to 3) within the Project Area you'd like to use transit. Please don't leave spaces (use an underscore ("_") to combine two or more words, i.e. Lake_Cook, Rand_Road, IL_120, 12@59, etc.)



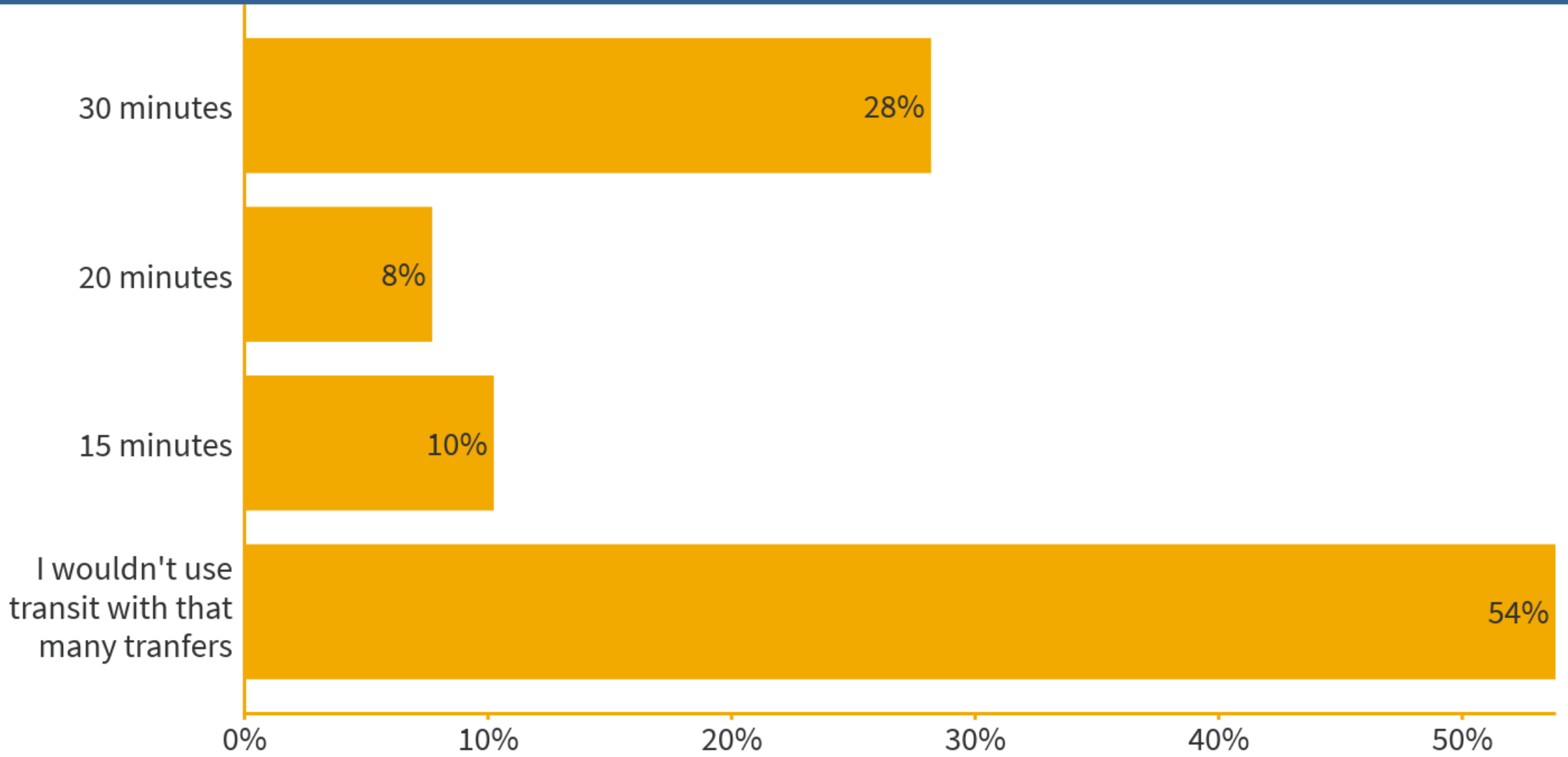
TRI·COUNTY ACCESS | LAKE McHENRY COOK

How far are you willing to drive to get to a transit station, provided it goes where you want to go?



TRI·COUNTY ACCESS | LAKE McHENRY COOK

How much time would you need to save in order to accept 3 transit transfers?

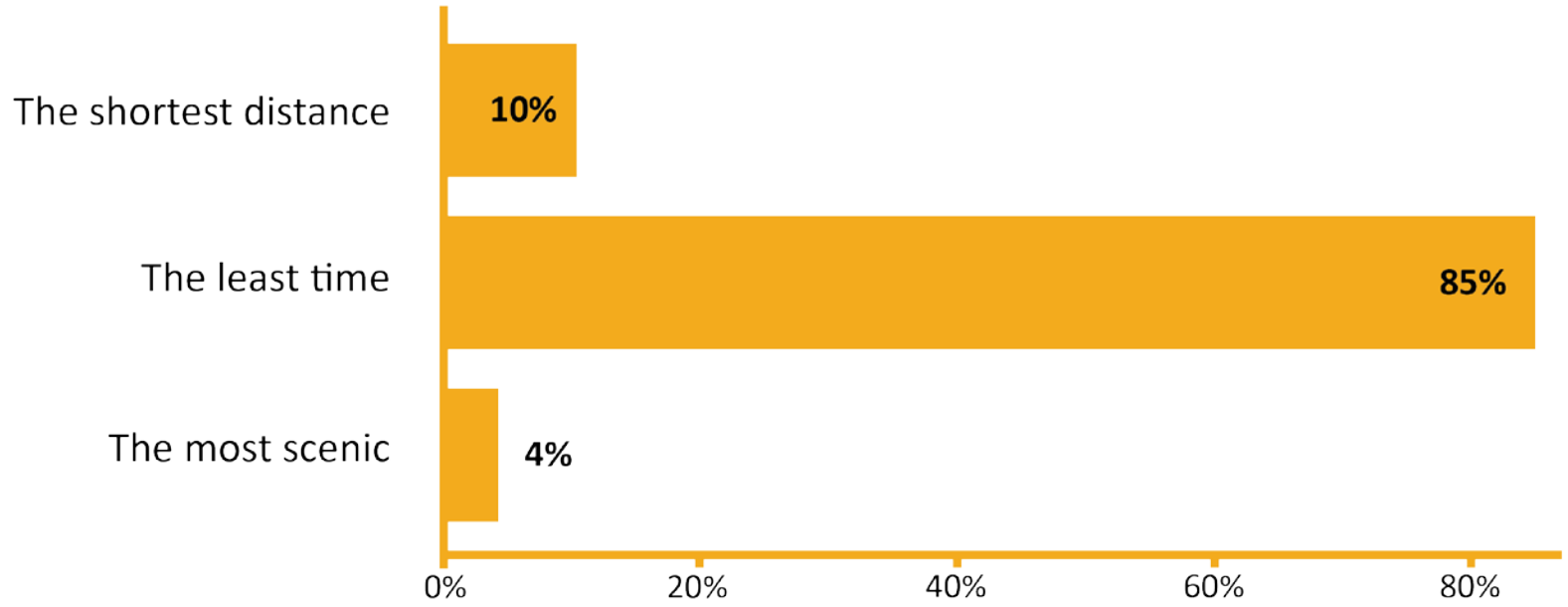


BASED ON YOUR FEEDBACK

Drivers Choose Routes Based on Time Rather than Distance

TRI·COUNTY ACCESS | LAKE McHENRY COOK

How do you decide which route to take when driving in the Tri-County region?

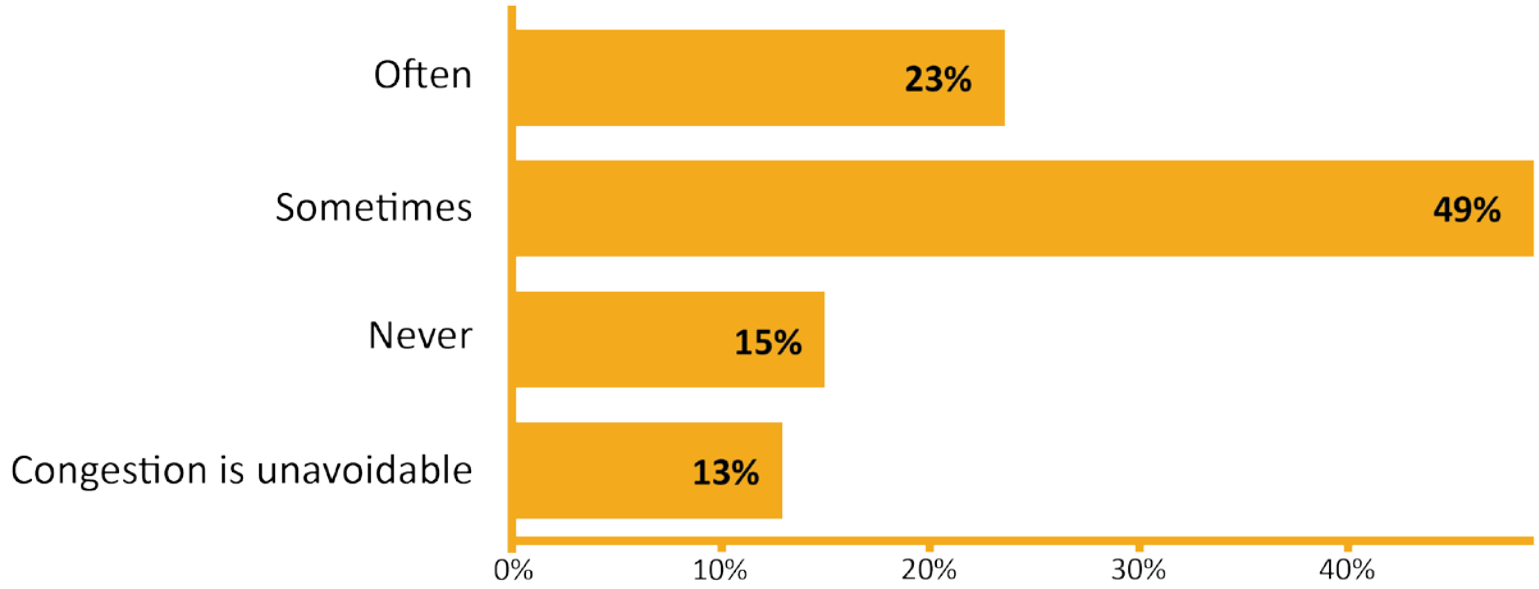


BASED ON YOUR FEEDBACK

Congestion Affects Route Choice

TRI·COUNTY ACCESS | LAKE McHENRY COOK

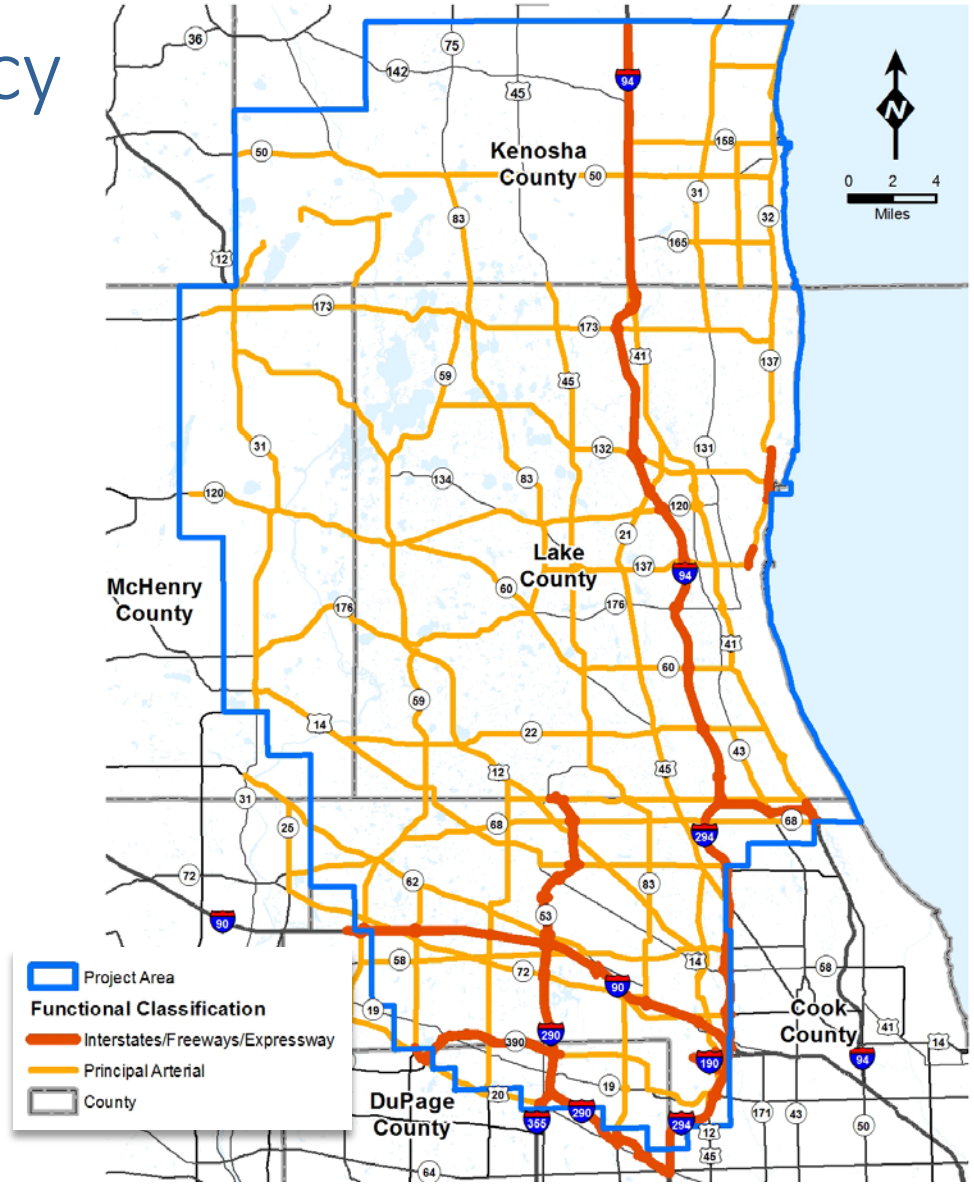
Do you travel out of your way to avoid congestion within the project area?



IMPROVE LOCAL & REGIONAL TRAVEL EFFICIENCY

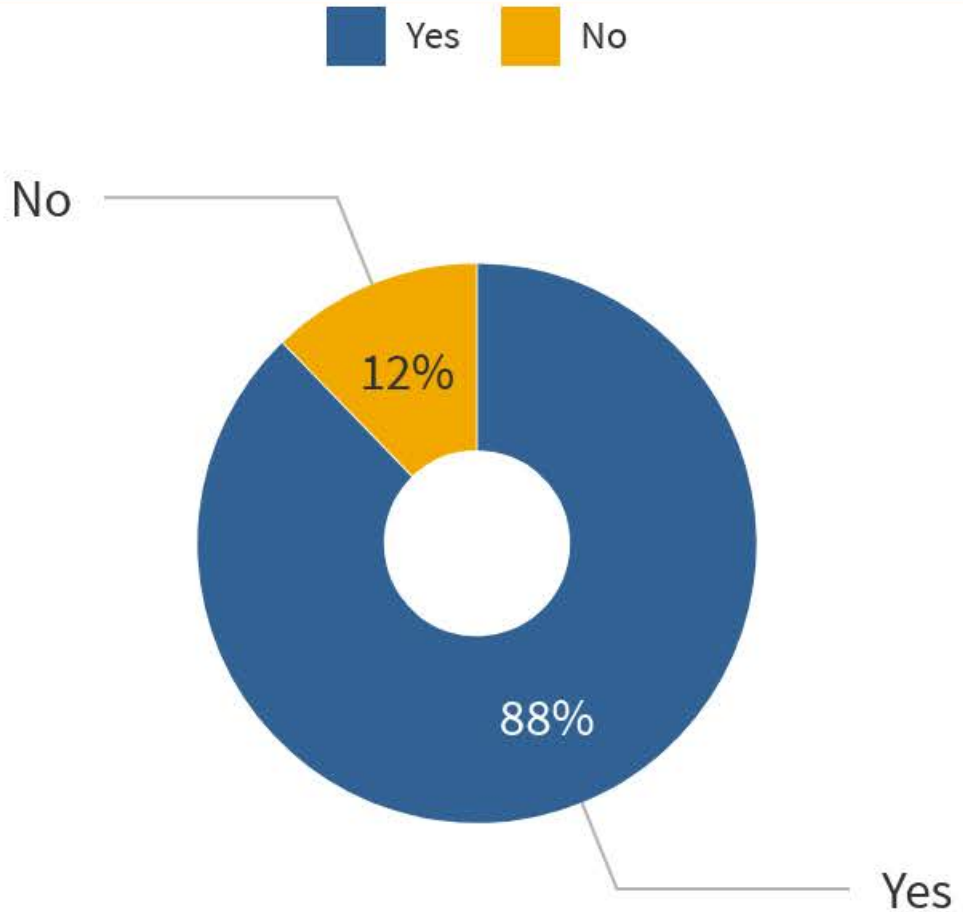
Right Trip + Right Facility = Efficiency

- The roadway classification system
  - » ***Interstate/Freeway/Expressway****: Serve longer distance trips, emphasize mobility, access controlled (I-90, IL 120)*
  - » ***Principal Arterial:*** *Intended to carry higher traffic volumes and longer trips, providing more access than interstates, etc. (US 45)*
  - » ***Minor Arterial****: Moderate-to-short length trips, regular access to adjacent land uses (N Gilmer Rd.)*
  - » ***Collectors:*** *Carry smaller volume, short trips, with frequent access points (Fremont Center Rd.)*
- For the system to function efficiently, longer trips should be able to easily reach major roadways (interstates / freeways / expressways or principal arterials)
- Shorter trips should remain on minor arterials and collectors
- Dedicated ROW needed for reliable fixed-route service



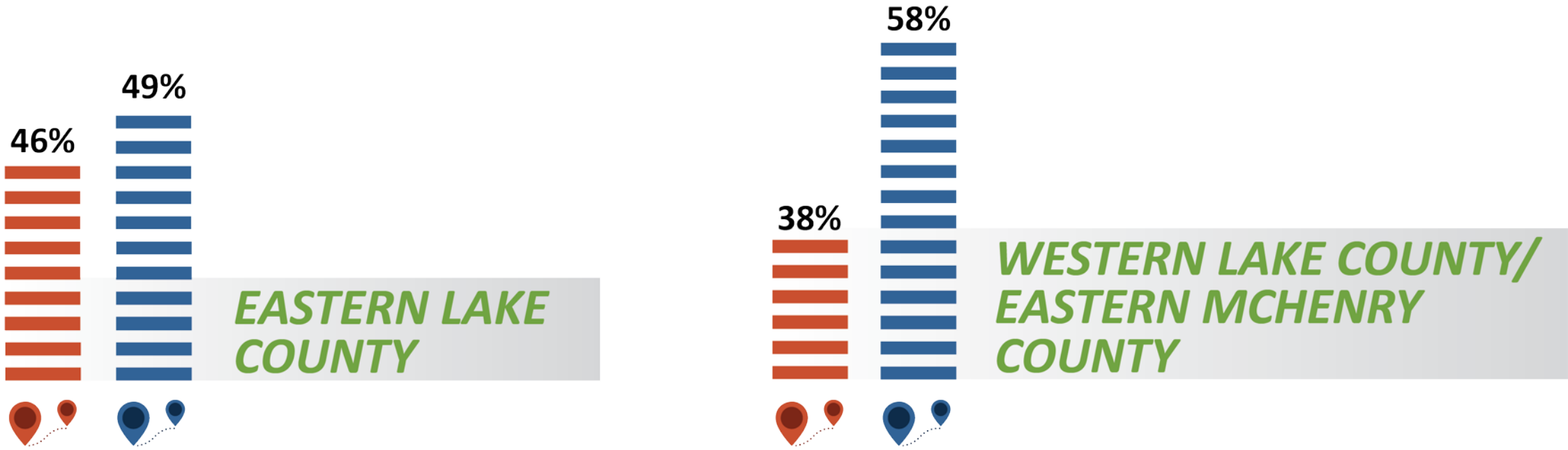
TRI·COUNTY ACCESS | LAKE McHENRY COOK

If Rapid Express Transit/Bus Rapid Transit (BRT) were available to popular destinations in the project area, would you or your constituents consider using it?



IMPROVE LOCAL & REGIONAL TRAVEL EFFICIENCY

Supply vs. Demand - Longer Trips Improved on the Right Type of Roads



SUPPLY *Interstate/Freeway/Expressway/Principal Arterial Lane Miles*

DEMAND *Regional Trips (10 miles or more)*

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Questions or thoughts regarding the Project Goals & Objectives?

Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

6	Would like to see better/more frequent train service to O'Hare.
5	What about new innovations that will reduce traffic needs
5	Will you provide all these questions and your answers on the website in the meeting summary doc?
4	I am concerned that the chart showing employment centers and traffic movement ignored trips to the City of Chicago. That changes the entire emphasis of the study.
4	How do you think about efficiency of transit options v. building new highways, which often have the problem of causing increased highway usage and therefore not much of a

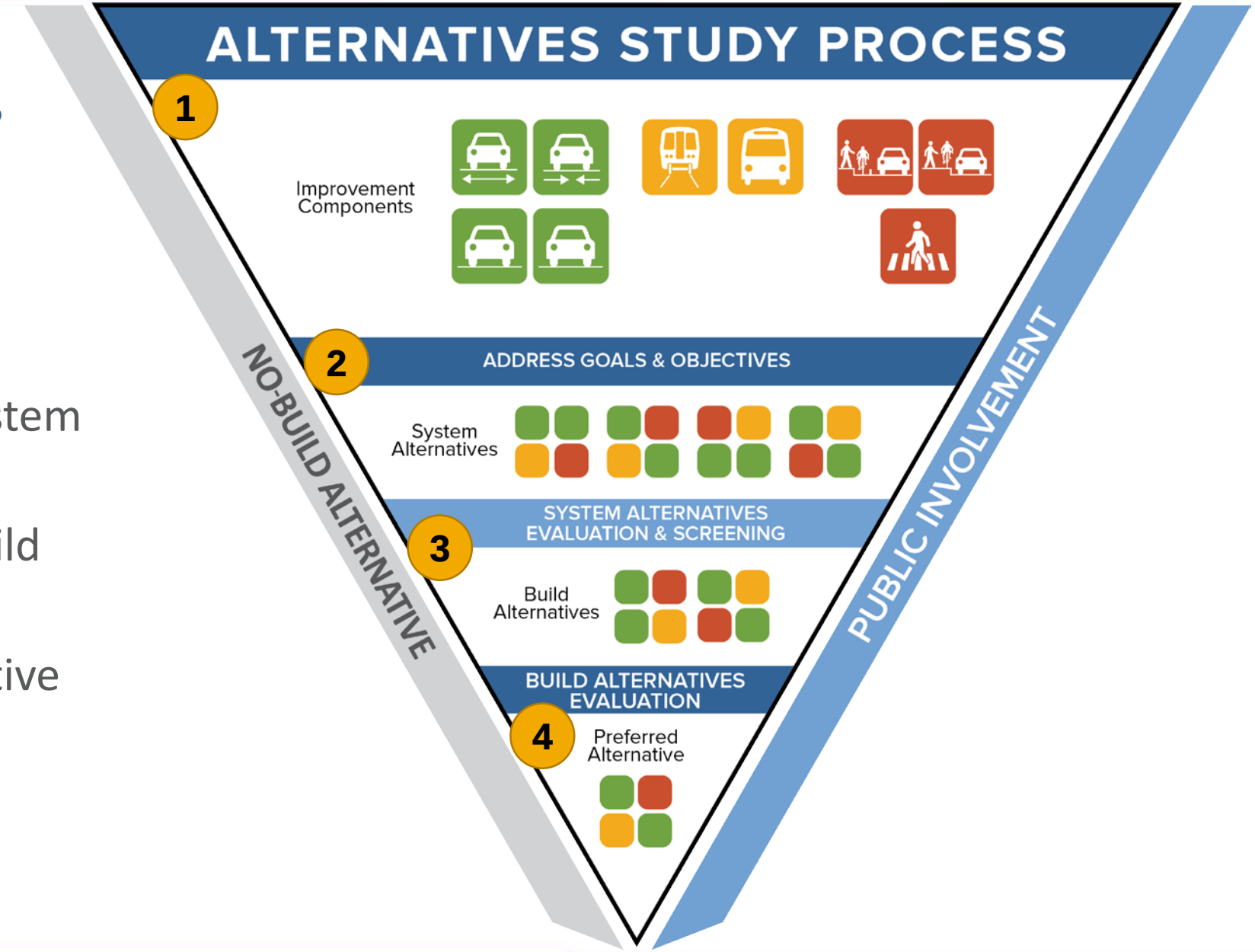
Alternatives Analysis Overview

Developing a Range of Solutions

- **Transportation System Performance (TSP)** Analysis serves as the foundation for development of transportation solutions
  - » *Identifies project area issues and needs*
  - » *Informs team of travel desires and service gaps within the project area*
- **Prior studies** and previously planned projects will be considered during data collection
- **Stakeholder Input** will be sought throughout the project
- Solutions must also integrate **avoidance and minimization of environmental impacts**

Alternatives Analysis Process Overview

1. **Identify Improvement Components**
2. Identify and Evaluate System Alternatives
3. Identify and Evaluate Build Alternatives
4. Select Preferred Alternative



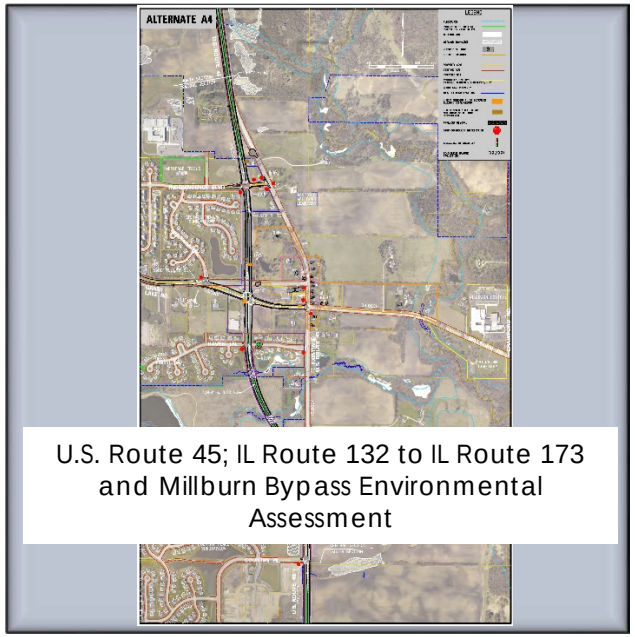
Prior Studies Inform Range of Solutions

LCTIP

System Alternatives (Existing vs New)

BRAC

Design Features



U.S. Route 45; IL Route 132 to IL Route 173 and Millburn Bypass Environmental Assessment

Misc. DOT Studies

Address Regional Congestion or Localized Bottlenecks

Types of Transportation Improvements to be Considered

MULTIPLE TRANSPORTATION MODES

- ROADWAY
- TRANSIT
- ACTIVE TRANSPORTATION

LOCATIONS

- EXISTING CORRIDORS
- NEW CORRIDORS
- SHARED CORRIDORS
- OR COMBINATION

TRANSPORTATION SYSTEM MANAGEMENT (TSM) STRATEGIES

- TECHNOLOGY
- DESIGN
- POLICY

How will Alternatives be Evaluated?

- Do they meet Goals and Objectives?
- What Qualitative and Quantitative Measures will be considered?
  - » *Travel/Design Performance (Travel Demand Model)*
  - » *Environmental (GIS Tool, Field Survey)*
  - » *Land Use/Socioeconomics (CMAP's Regional Model)*
  - » *Financial (Cost, Implementation Strategies)*

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Any questions regarding the Alternatives Analysis Overview?

Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

4	What role will stake holders play a in the reduction and whittling down of system alternatives to the eventual preferred alternative.
4	Considering there are many environmental concerns, how is the tollway assessing critical areas? Is the Tolleay working with CMAP, IEPA ??
4	Has July meeting date been set?
2	Will there be traffic studies conducted by traffic engineers available as opposed to CNAP traffic methodology?
2	Is the CN circular rail line going to be giving consideration

Next Steps

SPG Meeting Schedule

INVITATIONS
MARCH 5, 2018

SPG MEETING #1
MARCH 21, 2018

Kickoff, Transportation Issues, Context Audit

SPG MEETING #2
APRIL 24, 2018

Goals & Objectives, System Alternative Components

SPG MEETING #3
JULY 2018

System Alternatives, System Alternative Performance Measures

SPG MEETING #4
DECEMBER 2018

System Alternatives Evaluation

What's Next?

EARLY PLANNING STUDIES

PREPARATION OF ENVIRONMENTAL IMPACT STATEMENT

2018 | 2019 | 2020 | 2021

Draft EIS

Final EIS

Needs Assessment

System Alternative Studies

Build Alternative Studies

Alternative Selection & Study Completion

S T A K E H O L D E R I N V O L V E M E N T

1 2 3 4 5 6 7 8

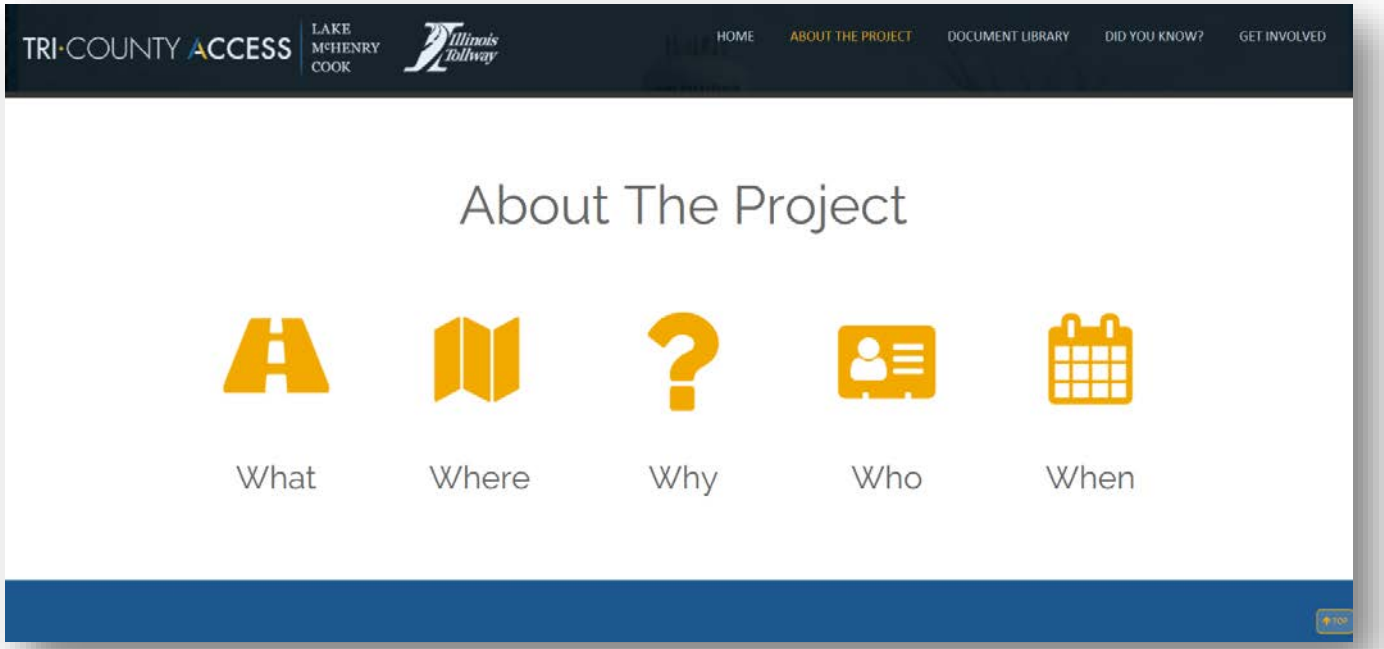
We Are Here

Project Goals & Objectives

● SPG = Stakeholder Participation Group Meetings

Ways to Stay Involved

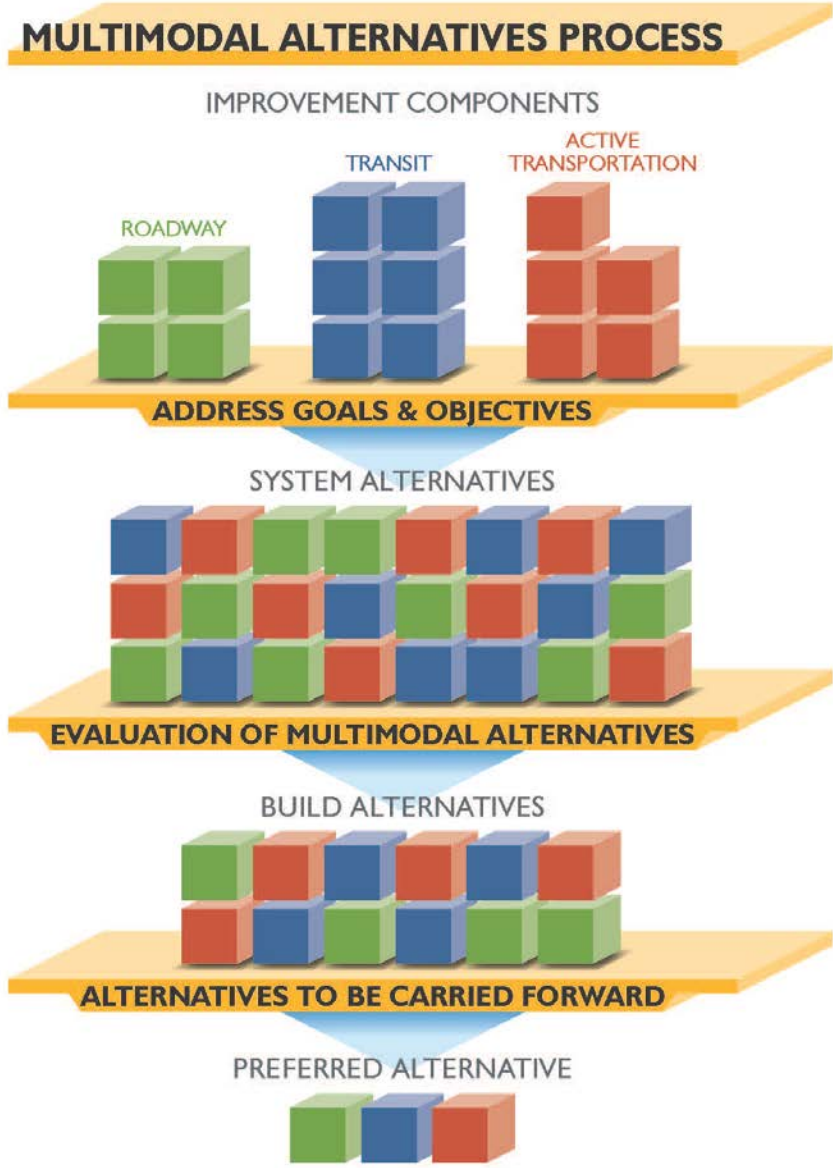
- Stakeholder Participation Group
- Public Meetings/Hearing
- Factsheets
- Speakers' Bureau
- One-on-One meetings
- Project Website
  - » *www.TriCountyAccess.org*



Improvement Components Exercise

What are Improvement Components and System Alternatives?

- Improvement Components
  - » *Components are the building blocks of System Alternatives*
- System Alternative
  - » *Combined set of improvements (components)*
  - » *Addresses project goals and objectives*
  - » *Developed by project technical team with your input*



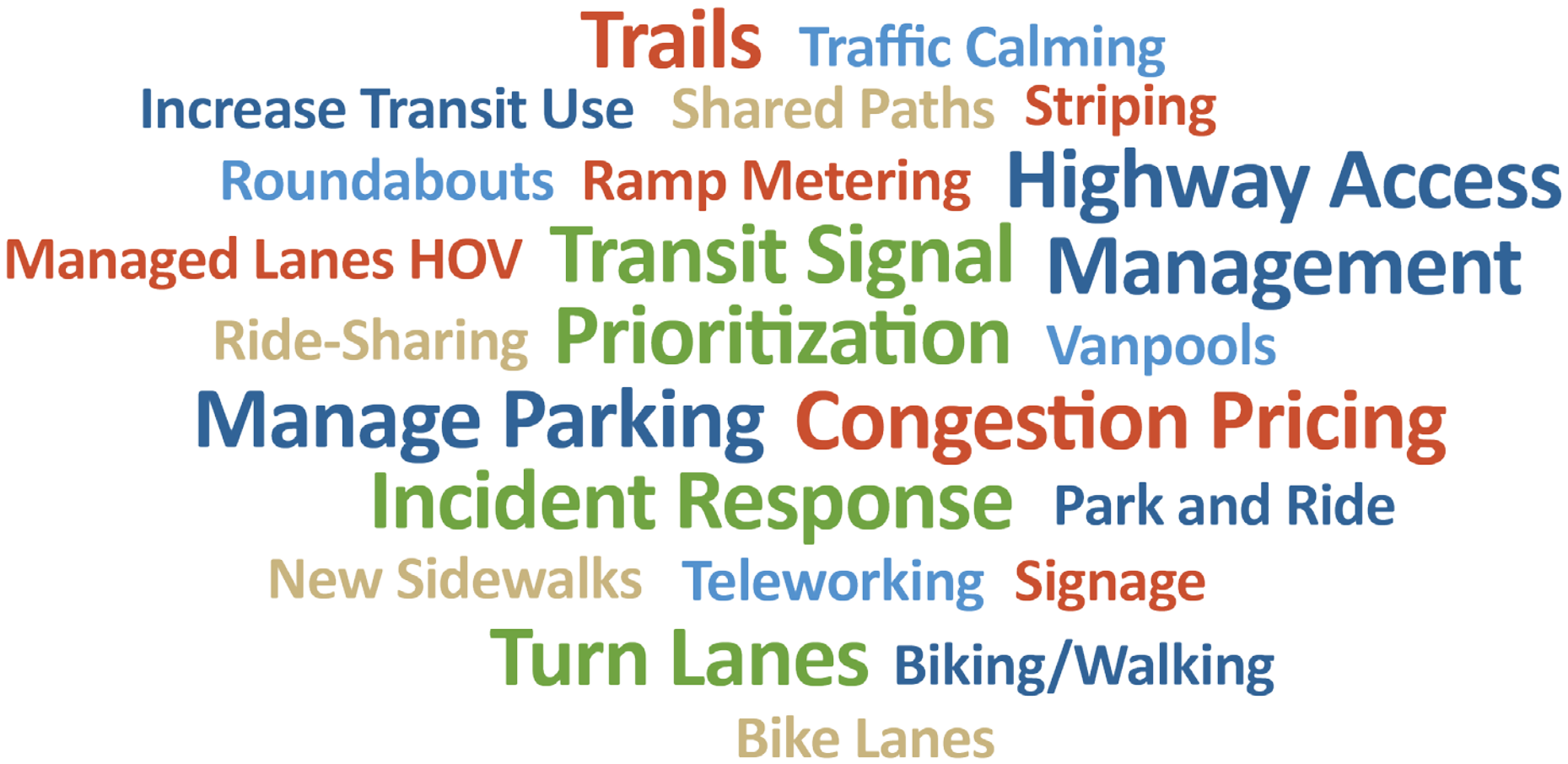
What Transportation Modes are being Considered – and When?

All modes (roadway, transit, active transportation) as well as enhancements to transportation system management will be considered, **but in a sequenced manner**.

1. First, with your help **today**, we need to determine the **locations** and **types of improvements** that should be considered along the roadway (existing roads, new roads) and transit (rail and bus transit) networks (i.e. “Improvement Components”, or the pieces of a System Alternative).

2. Second, once the project technical team has developed complete “System Alternatives” we will begin to consider strategies for integrating active transportation and enhanced transportation system management strategies.

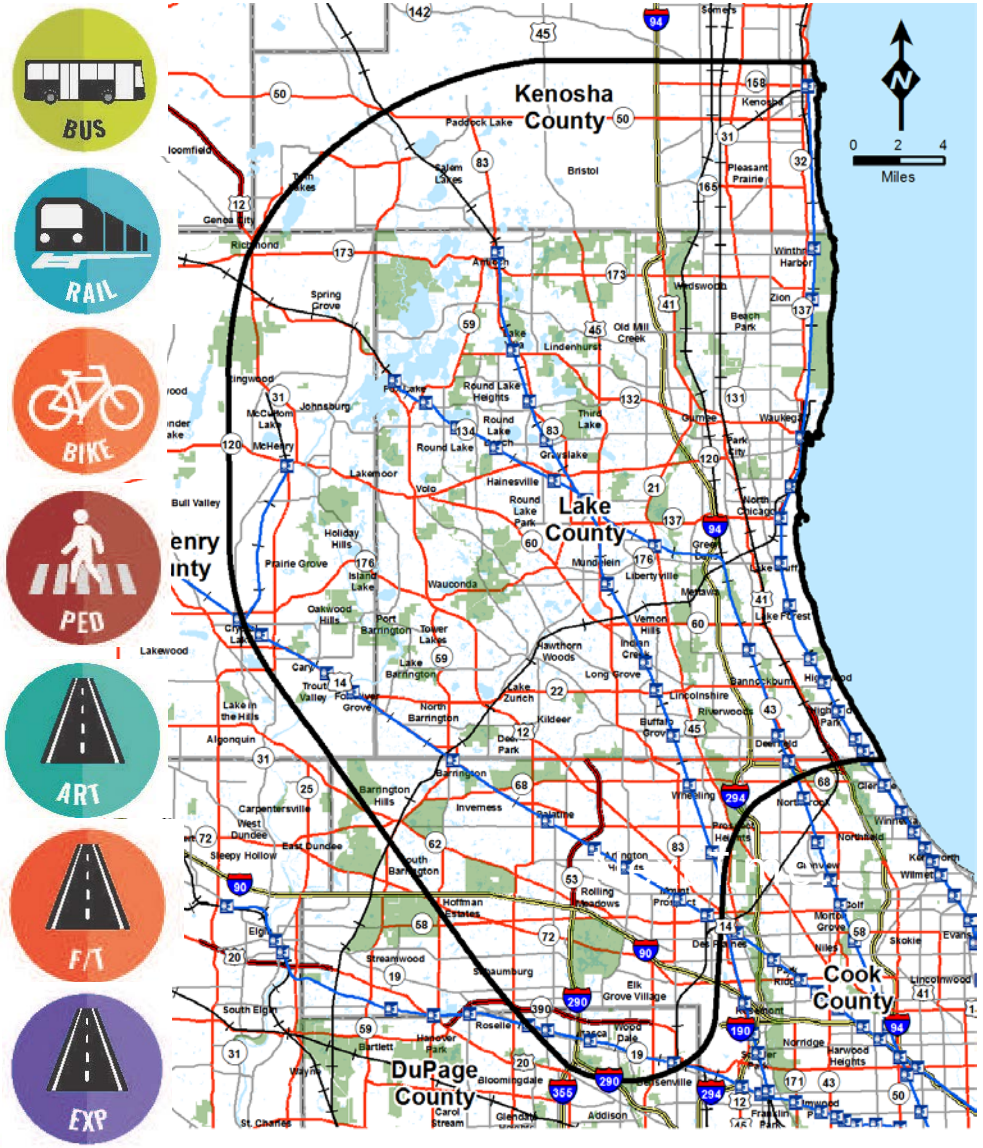
Active Transportation and **TSM Strategies** will be discussed in greater detail as the Alternatives Process Progresses…



Representative Design Treatments Serve as the Basis for System Alternatives

Today's Group Exercise – You Tell Us Where and What!

- **Locations for Improvements**
  - » *Existing Corridors*
  - » *New Corridors*
  - » *Shared Corridors*
  - » *Major realignments and Bypasses*
- **Modes (Types) of Improvements**
  - » *Roadway (Freeway/Tollway, Expressways, Arterials)*
  - » *Rail transit*
  - » *Bus transit*
- **Environmental Features**



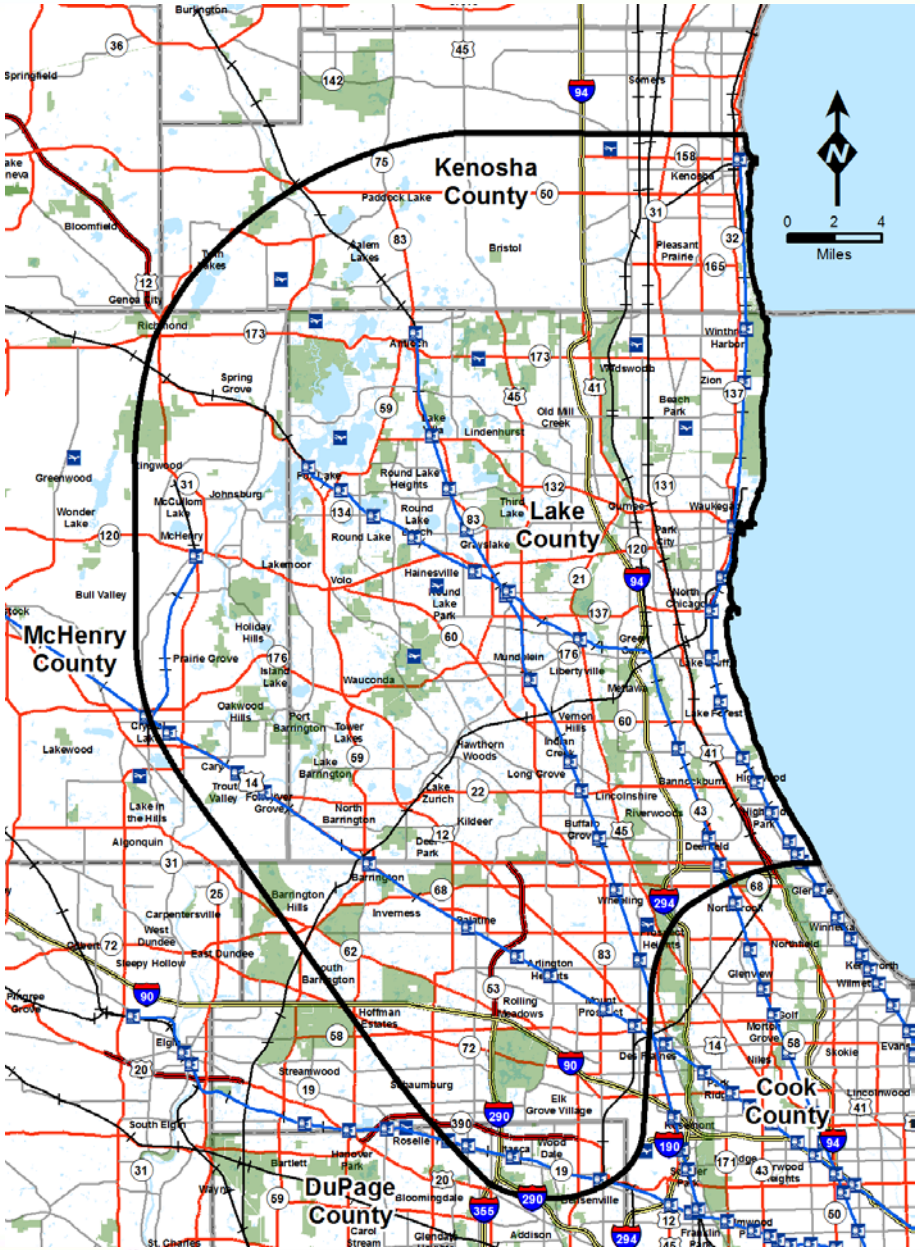
Map 1: Existing Roadway and Rail Transit System

Roadway and Rail Transit Features

- Interstate
- Freeway and Expressway
- Principal Arterial
- Minor Arterial
- Metra Line
- Metra Station
- Railroad
- Airport

Other

- Forest Preserve / State Park / WIDNR Managed Land
- County
- Project Area



Map 2: Existing Transit and Active Transportation System

Transit and Active Transportation Features

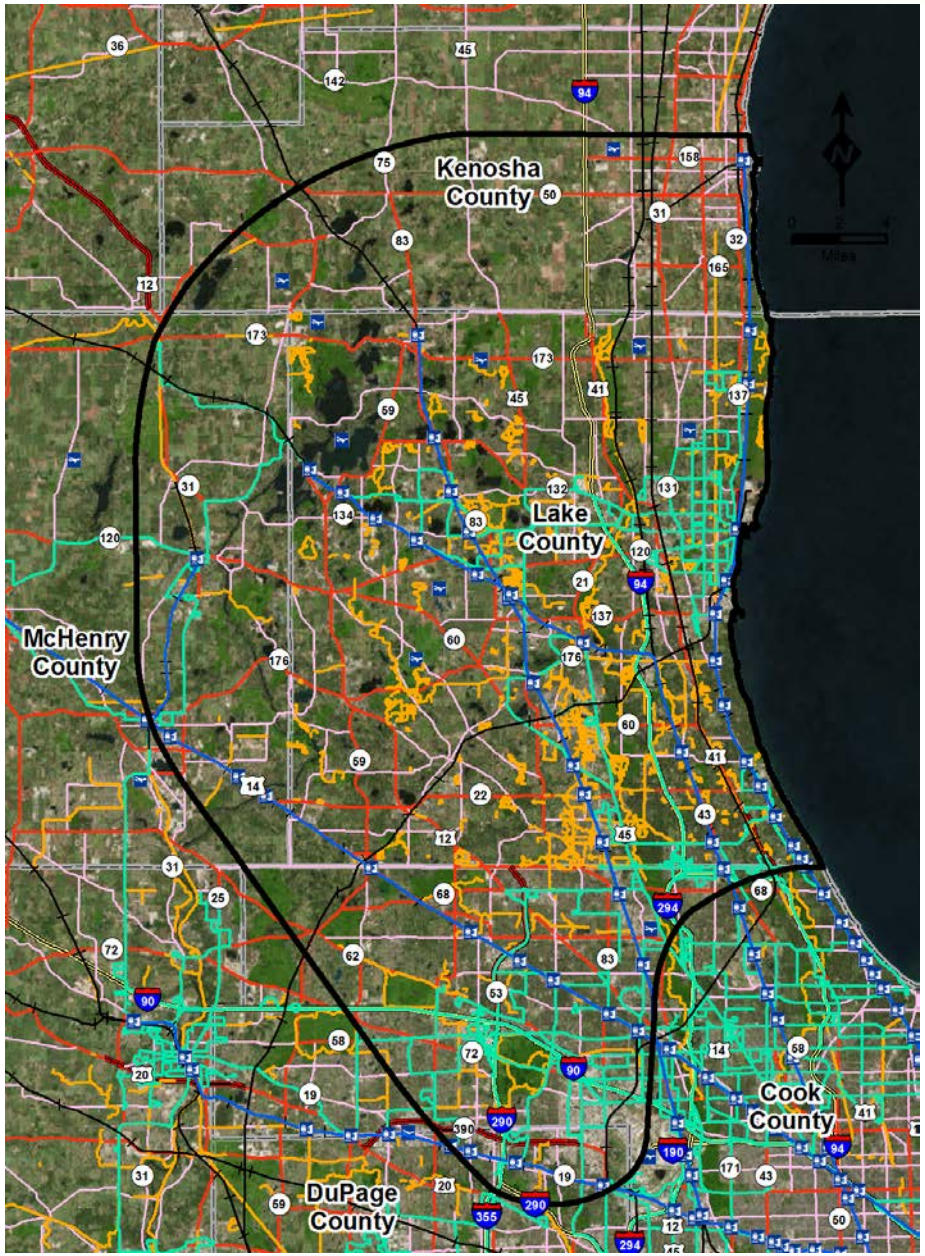
- Metra Line
- Metra Station
- Bus Route
- Bike Trail
- Airport

Other Transportation Features

- Interstate
- Freeway and Expressway
- Principal Arterial
- Minor Arterial
- Railroad

Other

- Forest Preserve / State Park / WIDNR Managed Land
- County
- Project Area



Map 3: Environmental Features - *Natural Resources*

Natural Resources

- Floodplain
- ADID Wetland
- NWI Wetland
- Forest Preserve / State Park / WIDNR Managed Land

Other

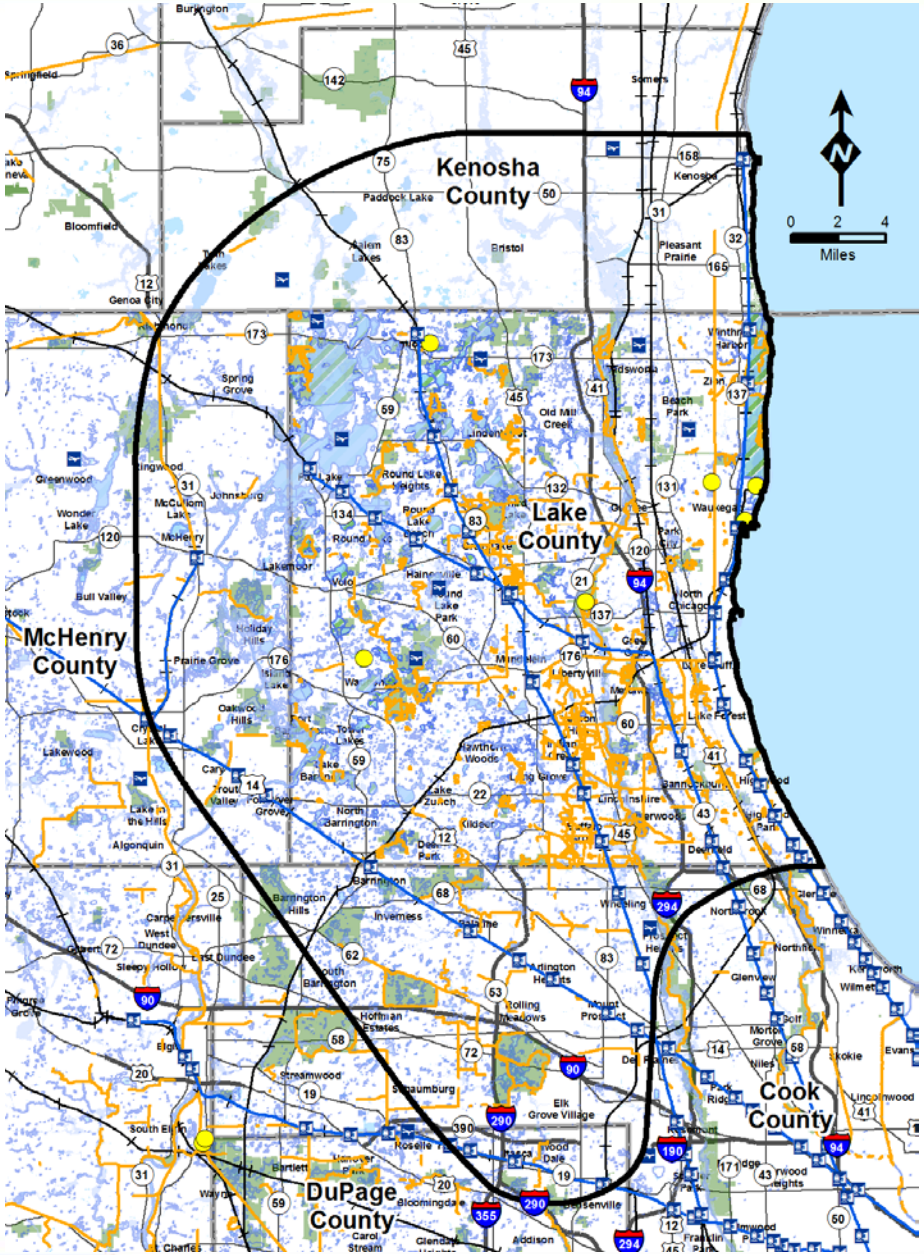
- Superfund Site

Transportation Features

- Metra Line
- Metra Station
- Railroad
- Bike Trail
- Airport

Other

- County
- Project Area



Map 4: Environmental Features - *Socioeconomic and Historic Resources*

Socioeconomic Resources

- Forest Preserve / State Park / WIDNR Managed Land
- Park
- Cemetery
- Education Facility / School
- Hospital / Medical Center
- City / Village Hall

Historic Resources

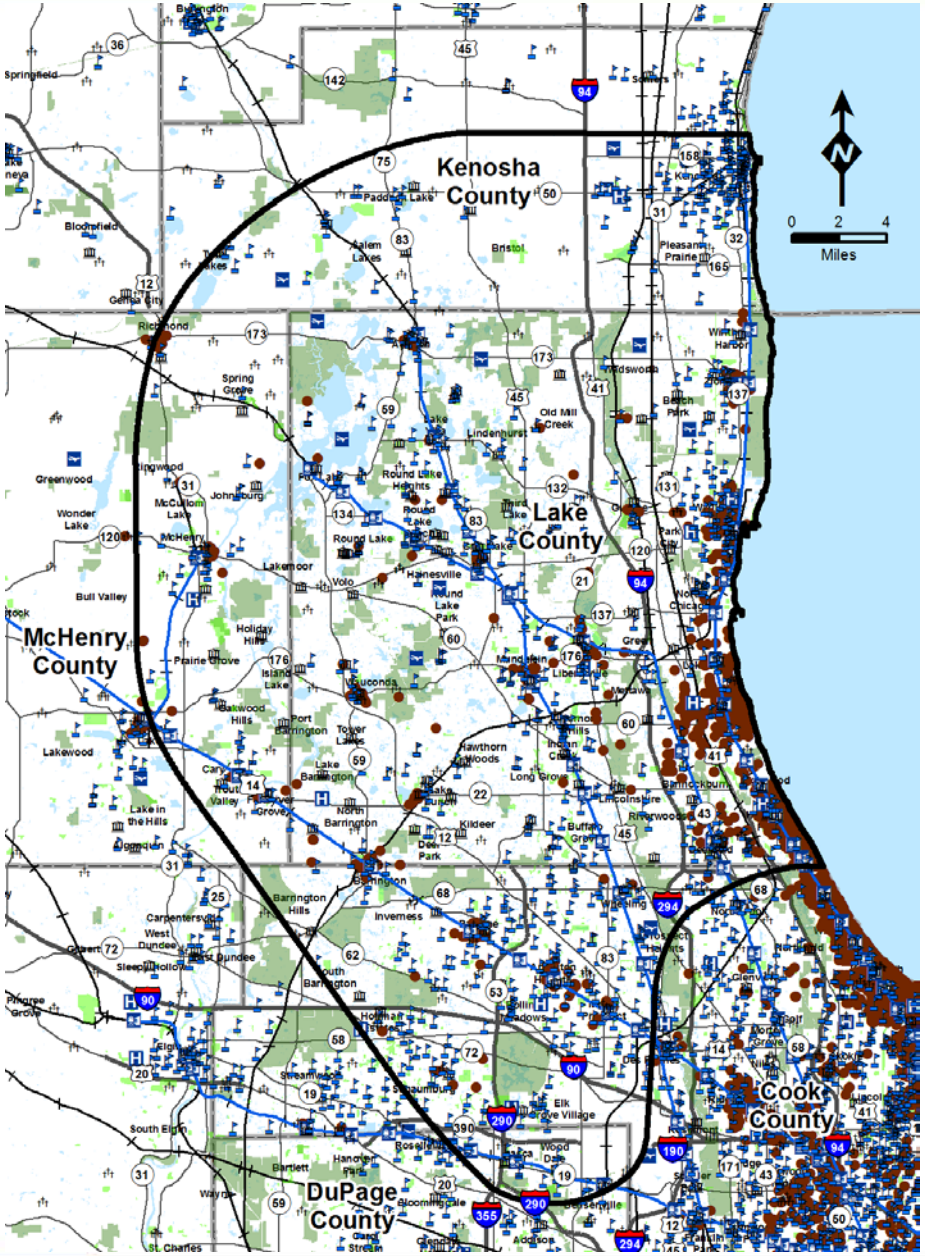
- Historic Site

Transportation Features

- Metra Line
- Metra Station
- Railroad
- Airport

Other

- County
- Project Area



Map 5: Severe/Extreme Roadway Congestion (Year 2050)

Severe/Extreme Congestion (Year 2050)

Roadway Links (See Source Data)

Other

Metra Line

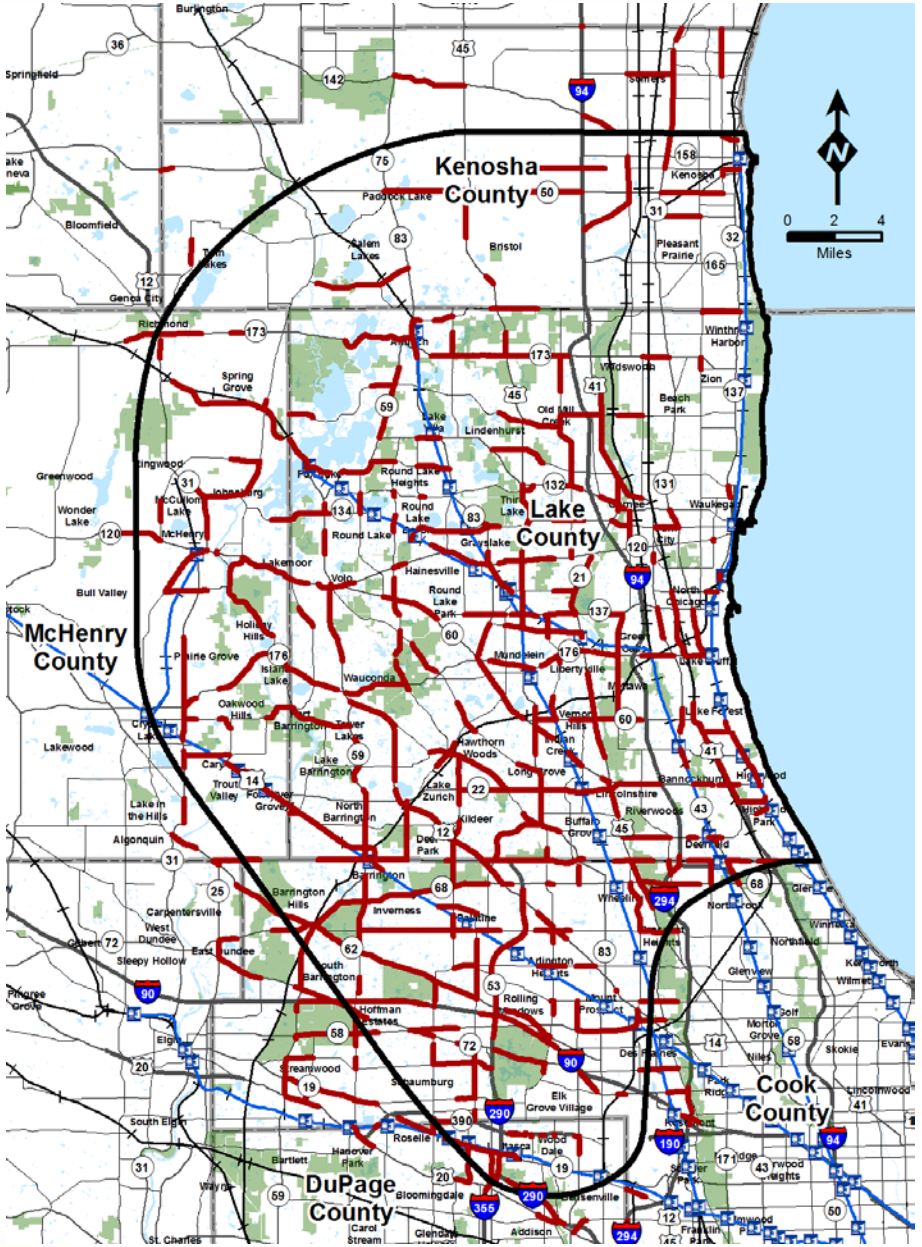
Metra Station

Railroad

Forest Preserve / State Park / WIDNR Managed Land

County

Project Area



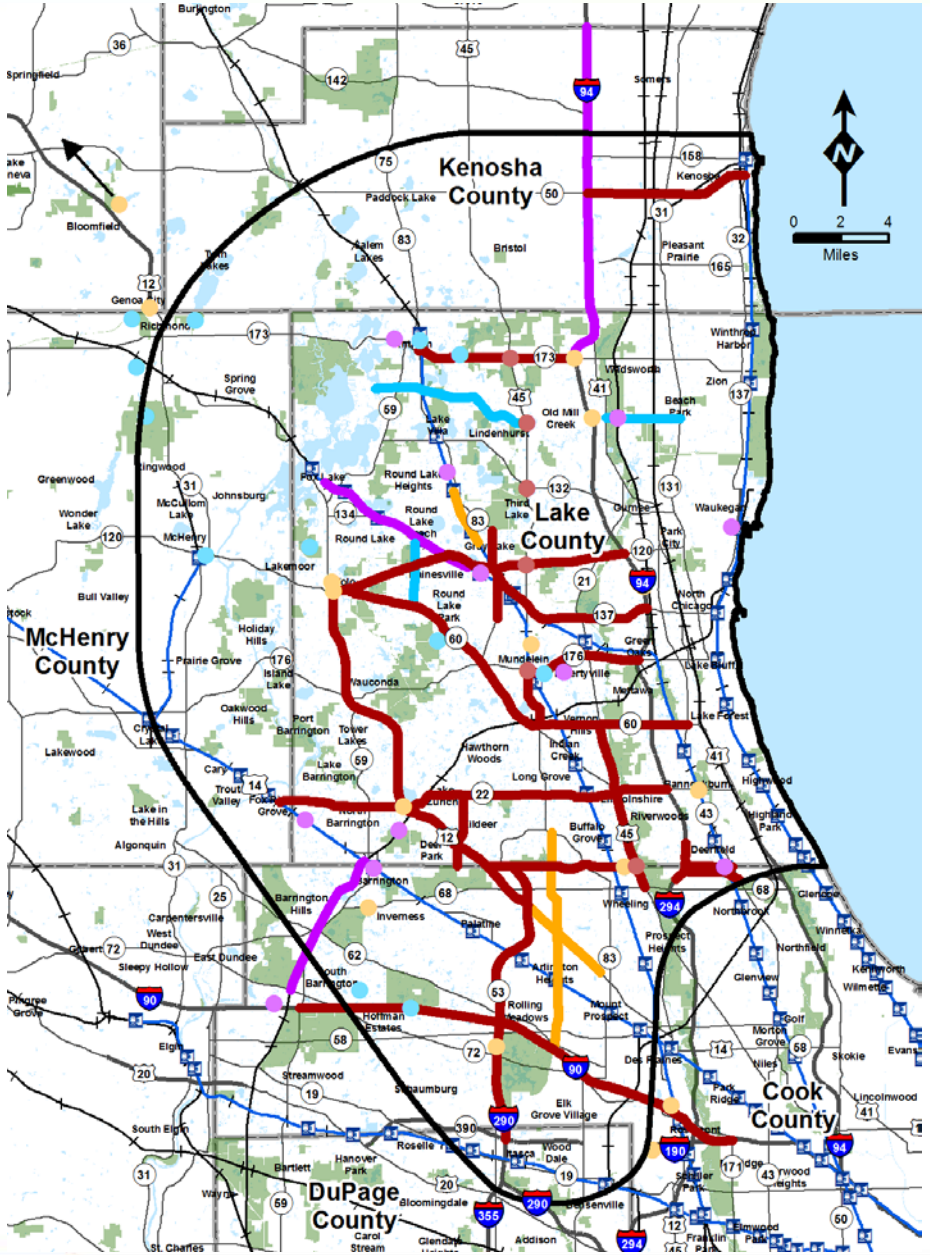
Map 6: Transportation Problems Identified at SPG #1

SPG #1 Identified Transportation Problems

- Congestion/Travel Time Reliability
- Transit Concerns
- Trouble Accessing Roadway/Transit
- Missing Walking/Biking Connections
- Congestion/Travel Time Reliability
- Transit Concerns
- Trouble Accessing Roadway/Transit
- Missing Walking/Biking Connections

Other

- Metra Line
- Metra Station
- Forest Preserve / State Park / WIDNR Managed Land
- County
- Project Area



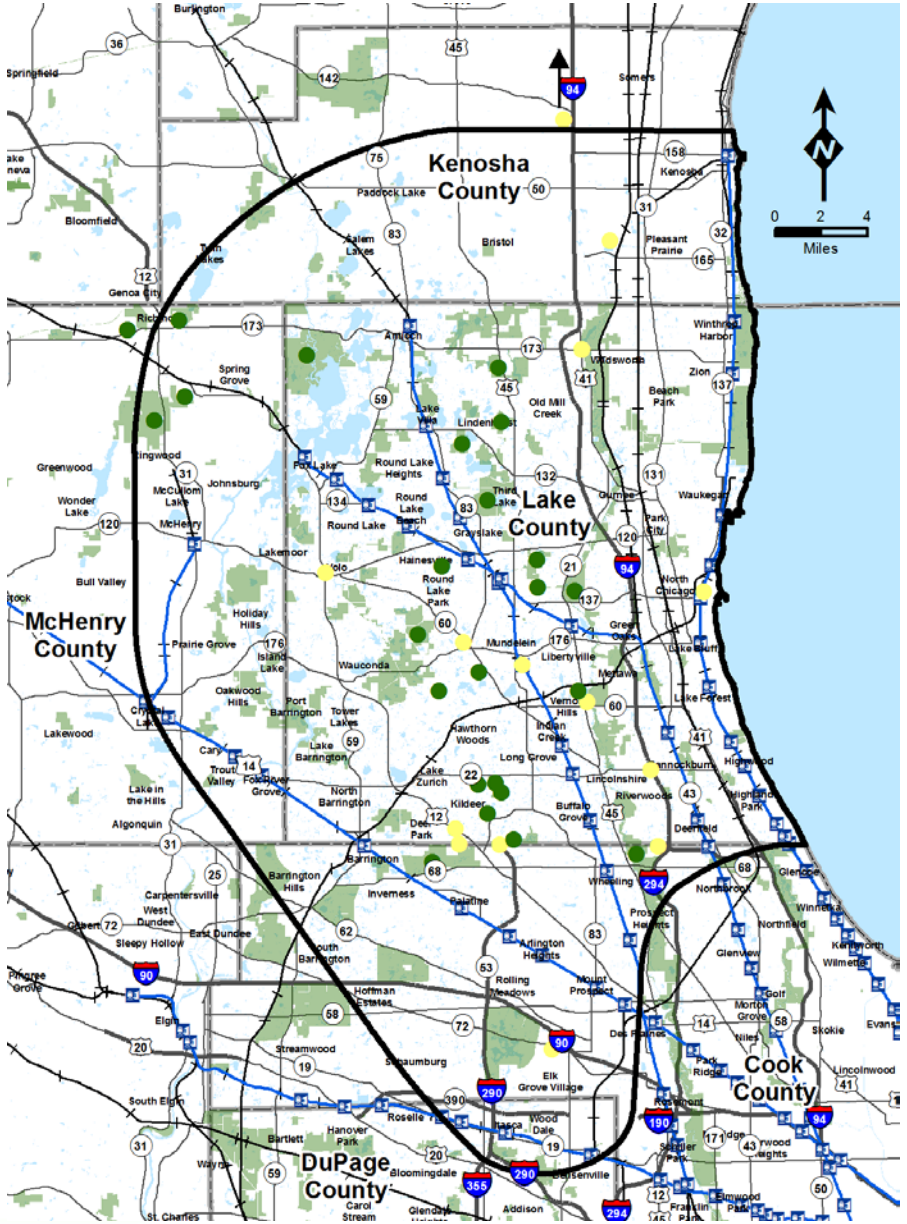
Map 7: Area Features Identified at SPG #1

SPG #1 Identified Area Features

- Economic Vitality
- Other (Historic, Environmental, etc.)

Other

- Metra Line
- Metra Station
- Forest Preserve / State Park / WIDNR Managed Land
- County
- Project Area



Map 8: Potential Roadway Improvements Locations Considered with Prior Studies

Prior Studies- Improvement Locations and Facility Types

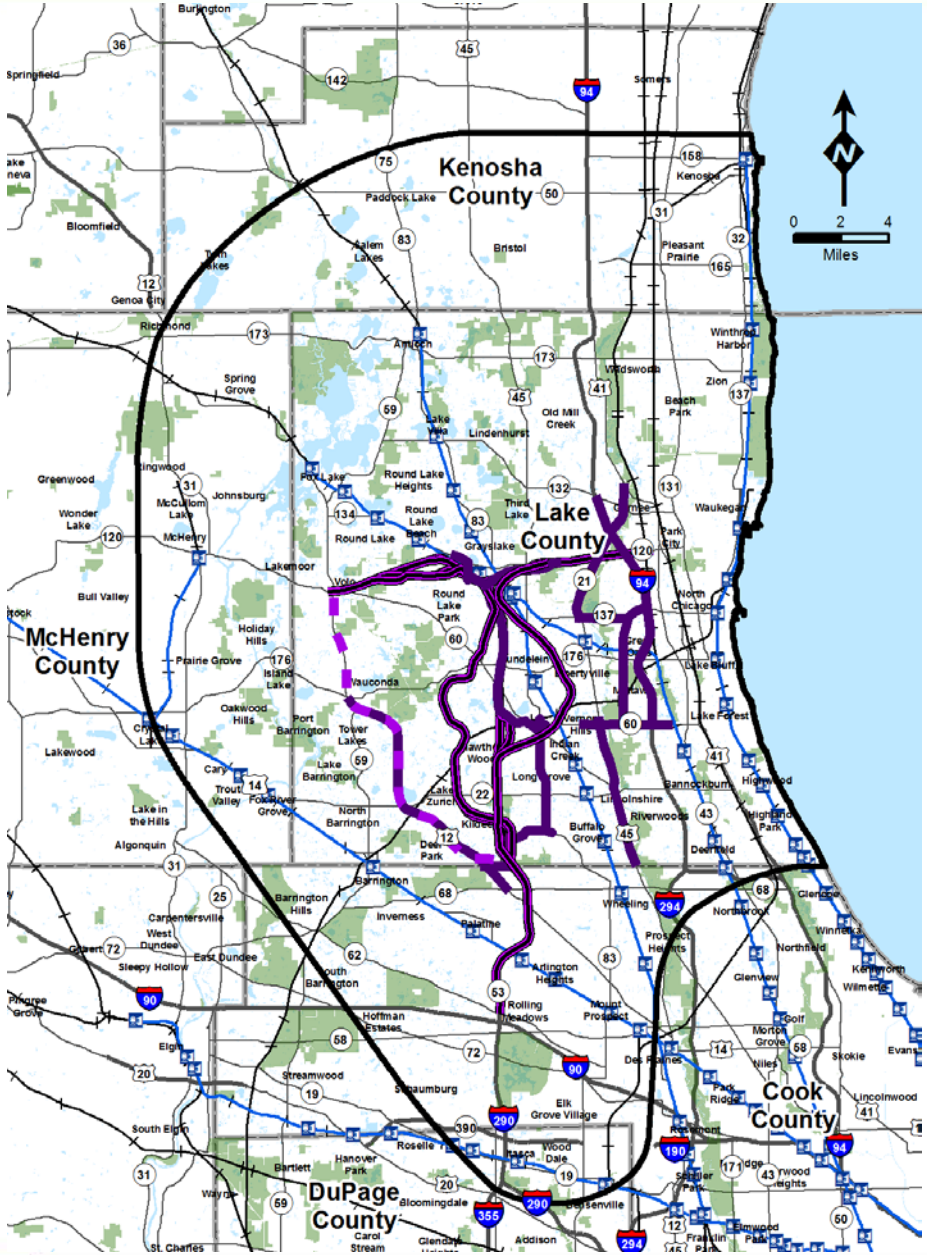
- Freeway/Tollway
- Expressway
- Arterial

Rail Transit Features

- Metra Line
- Metra Station
- Railroad

Other

- Forest Preserve / State Park / WIDNR Managed Land
- County
- Project Area



TRI·COUNTY ACCESS | LAKE McHENRY COOK

Any additional questions or thoughts?

Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

1	The environmental features have been already identified. The Forest Preserve has developed a Green Infrastructure Model and Strategy which should be used as a base map. T...
1	McHenry County has a Green Infrastructure plan also
1	Please make the maps used in the workshop available on your website
0	Parking at METRA stations is very limited which restricts use. Will this be addressed?
0	Address lack of transportation to barrington, wauconda, island lake, to and from CLC. A major destination

Thank you.

Attachment 4:

Stakeholder Participation Group
Meeting #3 Summary

Stakeholder Participation Group Meeting #3

PREPARED BY: Carla Mykytiuk, Tri-County Access Project Community Outreach

DATE: August 30, 2018, 2:30 p.m. to 4:30 p.m.

LOCATION: Holiday Inn Crystal Lake

This third Stakeholder Participation Group (SPG) meeting for the Tri-County Access Project (TCA Project) was held August 30, 2018. The purpose of the meeting was as follows:

- Present the Draft Purpose & Need, which is based on transportation problems discussed at the first SPG meeting on March 21, 2018 (SPG Meeting #1).
- Introduce the Initial Range of Alternatives to be Considered, based on input provided at SPG #2 on April 24, 2018 where members were asked to identify improvement components they suggest be considered to address the identified transportation problems.
- Ask SPG members to confirm the issues to be included as part of Project Scoping and a reminder that comments are being accepted through October 1 for inclusion in the formal Public Information Meeting record.
- Based on questions asked by SPG members at previous meetings, the project's environmental technical team was asked to discuss the environmental resource studies that will be performed as part of the Environmental Impact Statement.

Attendees

One hundred and forty-nine (149) individuals, representing varied interests in the project study area (municipalities, counties, agencies, transportation, business, and interest groups), were invited by the TCA Project Team to participate in the SPG. The full invite list can be found in the Stakeholder Involvement Plan available on the Project website. Of this number, the following 38 attended the meeting:

Jason Navota, Director	CMAP
Kenneth Westlake, Chief	Environmental Protection Agency
Howard Learner, President & Executive Director	Environmental Law and Policy Center
Tim Marabella, Executive Vice President	Great Lakes Construction Association
Josh Weger, Policy Director	IIIFFC
Michael J. Sturino, President & CEO	Illinois Road and Transportation Builders Association (IRTBA)
Ray Arbet, Public Works & Development Services Director	Kenosha County
Chris Geiselhart, President	Lake County Audubon Society
Shane Schneider, Director	Lake County Division of Transportation
Jim Anderson, Director of Natural Resources	Lake County Forest Preserve
Eric Waggoner, Director	Lake County Planning, Building, and Development

Linda Soto, Executive Director	Lake County Transportation Alliance
Susan Zingle	League of Women Voters
Brad Leibov, President and CEO	Liberty Prairie Foundation
Elizabeth Kessler, Director of Land Preservation	McHenry County Conservation District
Scott Hennings, Principal Transportation Planner	McHenry County DOT
Jim McConoughy, Interim President	McHenry County EDC
Joanna Colletti, Water Resources Manager	McHenry County Stormwater Management
David Kralik, Planning Director	METRA
Barbara Klipp, Executive Director	Midwest Sustainability Group
Stacy Meyers, Staff Attorney	Openlands
Thomas Ross, Executive Director	Pace Suburban Bus
Anthony Vega, Conservation Organizer	Sierra Club of Illinois
Christopher Hiebert, Chief Transportation Engineer	Southeastern Wisconsin Regional Planning Commission
Tim Grzesiakowski, Executive Director	Transportation Management Association
Martin J. McLaughlin, President	Village of Barrington Hills
Darren Monico, Village Engineer	Village of Buffalo Grove
Georgeann Duberstein, Trustee	Village of Hainesville
Joseph Mancino, Mayor	Village of Hawthorn Woods
Mike Hankey, Director of Transportation & Engineering	Village of Hoffman Estates
Michael Talbett, Chief Village Officer	Village of Kildeer
Karl Warwick, Village Administrator	Village of Lake Villa
Clay Johnson, Village Administrator	Village of Lindenhurst
Michael Sarlitto, Trustee	Village of Long Grove
Maria Peterson, County Board Member	Village of North Barrington
Richard Hill, Mayor	Village of Round Lake Beach
Natalie Karney, Village Engineer	Village of South Barrington
David Brown, Public Works Director	Village of Vernon Hills

In addition, the following elected officials participated in the meeting:

Edward Gallagher, District Director for State Senator Melinda Bush

The following TCA Project Team members led the SPG through the presentation and addressed questions:

Presenters:

- Reed Panther, Illinois Tollway

- Lidia Pilecky, Jacobs
- Jeff Frantz, Jacobs
- Brian Connor, Jacobs

In addition to SPG members, agency representatives, and the TCA Project Team, eight (8) stakeholders from the public and one representative from the media were in attendance to observe SPG Meeting #3. Public attendees were encouraged to submit comments via the TCA Project website or comment card. Seven comment cards were submitted at the meeting from four individuals.

Summary

Sign-In and Online Polling Registration

Upon arriving at the meeting, SPG members were asked to sign in. Assistance was offered to confirm that SPG members were signed into *PollEverywhere* and ready to use their mobile devices or tablets to participate in the online polling. The objective of the polling was to collect feedback throughout the meeting for the TCA Project Team to fully incorporate into the Project development and scoping process. Polling results can be found throughout the SPG Meeting #3 presentation available on the project website.

Meeting Kick-off

Lidia Pilecky of Jacobs, welcomed everyone to the third meeting of the SPG.

Meeting Agenda

The agenda for the meeting was as follows:

- Project Status Update
- Identifying Issues to be Addressed (Project Scoping)
- Draft Purpose & Need
- Initial Range of Alternatives to be Considered
- Environmental Resource Studies
- Next Steps

Meeting Presentation

The PowerPoint presentation (click here for SPG Meeting #3 presentation) featured an overview of the following:

Project Status Update
Ms. Pilecky explained that the formal Environmental Impact Statement (EIS) process is being advanced in conformance with the National Environmental Policy Act and in conformance with the Memorandum of Understanding implementing One Federal Decision under Executive Order 13807. The EIS process began on July 16, 2018 with the Federal Highway Administration's publication of the Notice of Intent in the Federal Register. The early planning studies that have been performed to date, including the early input we received from the SPG at our first two meetings, will now inform the EIS process. This early input establishes our common understanding of transportation needs in the TCA Project area and informs the range of issues and potential alternatives to be considered.

The TCA Project process was reiterated. Currently, the TCA Project Team is completing the "Needs Assessment" stage of the Project and advancing studies of a broad range of multi-modal Initial

Alternatives (formerly System Alternatives) alongside the No-Build Alternative. Based on findings of the Initial Alternatives studies, the next step will be to identify a set of Alternatives for Detailed Consideration (formerly Build Alternatives) that will be considered in detail. Results of analyses and public input will be used to support identification of a Preferred Alternative and will be documented in a formal document as the Draft EIS. The Draft EIS will be made available to the public and stakeholders for comment. The Federal Highway Administration, in collaboration with Project sponsors (the Illinois Tollway and IDOT) will consider the comments and decide on a Selected Alternative which will be identified and documented in the Final EIS and Record of Decision (ROD), expected to be issued in 2021.

Opportunities for public and stakeholder input are an essential element of the TCA Project. With the launch of the EIS process, a round of Public Information Meetings to introduce the TCA Project and to receive early public input will be conducted. All input received through these Public Information Meetings and at today's SPG Meeting will be considered as part of the now ongoing EIS scoping process.

SPG Meeting #1 and #2 Summaries

A brief synopsis of the first two SPG Meetings and how they are being used in the project study process was provided. Meeting summaries for the first two SPG Meetings can be found on the Project website.

During SPG Meeting #1, SPG members provided input on transportation problems and concerns and resources that are important in the area via a mapping exercise. The transportation problems and resources you identified are now being considered as part of the EIS scoping process.

Another mapping exercise was conducted during SPG Meeting #2. SPG members identified multi-modal improvement components to be considered. The improvement components you identified serve as the starting point for the Initial Alternatives that are now being developed.

Project Scoping

The TCA EIS scoping process began with FHWA's publication of a Notice of Intent (NOI) on July 16th, 2018. Scoping is intended to allow all interested parties the opportunity to identify the range of issues to be addressed when considering a projects' proposed action. For the TCA Project, all input received during the early planning study phase, including input received at the first two SPG meetings, will be considered during the Scoping process. Input received through the initial round of Public Information Meetings as well as ongoing input received via the project website and letters/comments from the public will also be directly considered with the Scoping process.

As part of the ongoing EIS scoping process, the TCA Project Team is requesting input on each of the three elements of the scoping process: Purpose and Need, range of alternatives to be considered to address identified transportation issues, and environmental resource studies. In the interest of providing maximum opportunities for input to the scoping process, FHWA has extended the scoping comment period through **October 1, 2018**.

Public Information Meetings

Recognizing the significant size of the TCA Project area and guided by input from several SPG members, the Illinois Tollway has decided to hold two identical Public Information Meetings at two different locations in the Project Area. Our first meeting was held on July 25th, and a second meeting will be held in Kildeer, IL (Concorde Banquet) on September 6th. The purpose of the meetings is to provide an overview of the project and to receive early input from residents, businesses and communities that will assist in the TCA Project Environmental Impact Statement (EIS) process. Information will be available on the project study limits, schedule, draft Purpose & Need, potential alternatives and issues to be addressed as part of the project.

At the first Public Information Meeting in Lakemoor, 275 persons attended from 64 communities and 6 counties (60% from Lake County, 20% McHenry County, 20% Cook, DuPage, Kenosha and Walworth Counties).

The public had an opportunity to participate in the mapping exercise conducted during SPG Meeting #2 on transportation issues, area resources, and improvement components. Some common themes from the first information meeting include:

- concerns about congestion and the lack of access in the Project area,
- concerns about effects on the areas' environmental resources and quality of life for area residents,
- Concerns and suggestions about specific portions of the area's transportation system – for example Routes 12, 22, 45, and 120.

This early public input complements and expands on similar input provided in our SPG meetings this Spring and will be considered as part of the ongoing scoping process.

Draft Purpose and Need

The Purpose and Need defines the problems that a project intends to address, informs how alternatives are developed, and supports the selection of a preferred alternative. Alternatives that are developed will be measured against their ability to correct the problems identified in the Purpose and Need.

As part of early coordination and analyses, the TCA Project Team identified Goals and Objectives for the Project, which were presented at SPG Meeting #2. The Goals and Objectives focused on transportation issues and incorporated both the results of transportation system performance studies under current and future (Year 2050) No-Build Alternative conditions, as well as early input received at the SPG meetings and from other stakeholders and agencies. Those Goals and Objectives now serve as the basis for the Draft Purpose and Need.

Stakeholder input is an important part of developing the Purpose and Need. At the first two SPG meetings, we asked for stakeholder input on the performance of the transportation system, where you experience travel-related problems, what parts of the system are working well, and what types of changes, if any, you think would be helpful.

Among the things we heard from you at prior meetings or that were corroborated by our transportation system performance findings are:

- Congestion and travel time reliability are your top transportation concerns
- The roads you most often avoid due to congestion are IL 22, IL 53, IL 83, IL 120, US 12, US 45, and Lake Cook Road
- Many of you are choosing which roadways to use based on travel time rather than distance – in other words, being willing to travel farther if it is faster
- Congestion affects route choices and is expected to worsen by the year 2050, from 190,000 hours of vehicle travel per day currently to 290,000 hours.
- From a worker productivity perspective, the average worker spends 9 days in traffic congestion per year currently, increasing to 11 days per year in 2050.
- Existing transit options do not adequately service employment destinations

The **purpose** of the TCA Project is to provide efficient travel options that meet current and future transportation needs by reducing congestion, providing modal options, and improving access to homes and jobs.

The Project **Needs**, that define the measures for meeting the Project purpose are:

- Relieve congestion and improve reliability of travel;
- Improve travel options that connect major origin and destination centers; and

- Improve local and regional travel efficiency.

The Draft Purpose and Need will be refined as needed, provided for public input, and will then be presented for concurrence from involved regulatory and resource agencies.

Initial Range of Alternatives to be Considered

A broad range of solutions, including the No-Build Alternative, will be considered for the TCA Project. Technical findings of the transportation system performance analysis will serve as the foundation for development of transportation solutions. Earlier studies and previously planned projects will also be reviewed and considered during the alternatives study process. Stakeholder input will be sought and encouraged throughout the process, beginning with input requested as part of SPG Meeting #2 and the initial Public Information Meetings. The solutions considered as part of the TCA Project will integrate avoidance and minimization of environmental impacts.

No-Build Alternative

The No-Build Alternative is the basis for defining future transportation needs in the 2050 planning horizon. The features of the No-Build Alternative include today's transportation system, Regionally Significant Projects identified as part of CMAP's *ON TO 2050 Plan* (October 2018), and programmed projects which will add travel lanes or improve intersections/interchanges in the TCA Project area.

The No-Build Alternative will be considered as an alternative throughout the EIS process. It will also serve as a benchmark for comparing the performance and impacts of other alternatives.

Developing Initial Alternatives

Stakeholders at SPG Meeting #2 were asked to identify improvements that could solve transportation needs in the Project area. The results of that mapping exercise were shared with the attendees of SPG Meeting #3 and can also be found in the SPG Meeting #2 summary. Members of the public will participate in an identical mapping exercise during the first round of Public Information Meetings. Input during SPG Meeting #2 showed a desire to incorporate multi-modal improvements at shared locations, to consider capacity improvements on existing roadways, and to consider a new freeway corridor in the Project area. Improvement components identified during these early meetings will inform the Initial Alternatives.

Based on public input and results from the transportation system performance analysis, 13 corridors are currently under consideration as part of the Initial Alternatives studies. These include new corridors, existing corridors and a combination of new and existing corridors. Inactive corridors are routes that were suggested by the SPG but are not currently under consideration since they either have been included for improvement in the 2050 No-Build Alternative, do not require additional capacity based on initial travel demand modeling, or they can be served by improvements along a parallel route.

Transportation Performance Measures

Transportation Performance Measures focus on the analysis of the transportation system including roadways, transit and active transportation. Preliminary performance measures that may be used to evaluate the travel performance characteristics of alternatives were briefly shared. Performance measures will be refined and further developed as the Purpose and Need statement is finalized.

System-level Travel Performance	Measure
Vehicle Miles Traveled (VMT) and Congested Vehicle Miles of Travel (CVMT)	Change and comparison in vehicle miles and congested vehicle miles traveled on the transportation network
Vehicle Hours Traveled (VHT)	Change and comparison of vehicle hours of travel on the transportation network
Vehicle Hours of Delay (VHD)	Change and comparison of vehicle hours of travel delay on the transportation network
Travel demand and Level of Services (LOS)	Change in segment-level travel demand and LOS on the transportation network
Travel Pattern Assessment	Comparison and Change in travel patterns in the Project Area
Travel Time Effectiveness	Comparative travel time changes for representative locations in the Project Area
Travel Efficiency	Reduction in travel time compared to total lane-miles added for the alternative
Roadway Safety Considerations	Comparison of predicated crash profiles for alternatives under consideration
Estimated Costs	Planning level cost comparisons for alternatives under consideration
Transit, Freight/Intermodal, Active Transportation	Comparisons of total new transit opportunities, access to freight and intermodal facilities, bike and pedestrian opportunities and connections

Environmental Resource Studies and Environmental Impact Analyses for Initial Alternatives
At previous SPG meetings, members expressed a desire to better understand how environmental impacts would be assessed as part of the EIS. Given the interest, the remainder of the meeting was dedicated to this topic. Jeff Frantz explained the overall approach for conducting environmental resource studies and impact analyses for the Initial Alternatives studies. At this early stage, the TCA Project Team will use available GIS data and information from prior resource and project studies. Field observations will also be performed to assess additional data needs and to clarify available GIS data. The Tollway will be sending out notification letters to the local governments where fieldwork may occur.

The environmental and engineering teams will work together to identify means to avoid impacts, initially focusing on high quality resource areas, and to consider engineering solutions which can help avoid and minimize impacts. Avoidance and minimization is always the first approach. The potential impacts associated with each Initial Alternative, including the No-Build Alternative, will be identified. The potential effects will then be discussed with stakeholders and regulatory and resource agencies.

Maps showing some, but not all, of the natural and socioeconomic database output that the TCA Project Team is continuing to refine were shown. These maps were provided during SPG Meeting #2 and are available on the Project website.

As part of the Initial Alternatives development, the following categories of resources are being considered:

- Socioeconomic Resources
- Community Facilities
- Land Use
- Parks and Recreation Sites
- Agriculture
- Cultural (Archaeological and Architectural)
- Air Quality
- Noise
- Aesthetics/Visual
- Hazardous and Special Waste
- Ecosystems and Habitats
- Threatened & Endangered Species
- Water Quality
- Floodplains
- Water Resources

A panel of environmental experts were on hand to discuss how community, cultural, aesthetics and visual, natural, and water resources will be analyzed during the Initial Alternatives studies. The evaluation of these resources will include qualitative as well as quantitative measures.

Community Resources

Chris Norrick discussed community and socioeconomic resources, such as land use, parks, protected lands. Some of the community resource considerations that will be evaluated include:

- Socioeconomic considerations – includes assessing community demographic trends in population, households, and employment. It also involves reviewing other demographic information to understand community characteristics.
- Land use considerations – includes reviewing existing land use and zoning and characterizing land uses and locating structures and buildings along Initial Alternatives corridors.
- Community resources or facilities – includes identifying and locating public facilities such as schools, churches, cemeteries, and government service buildings.
- Special lands – includes parks and recreation areas, other protected lands, as well as publicly owned recreation lands include federal, state, county, and community sites. Examples include state parks, such as Volo Bog, municipal parks, county facilities, Lake County Forest Preserve and McHenry County Conservation District sites. Other protected lands include national wildlife refuges, such as Hackmatack in McHenry County, Nature Preserves, and Illinois Natural Areas. There are also conservation areas owned by both public and private entities, such as Liberty Township and Openlands, to name a few.

This information will be used to evaluate potential impacts of Initial Alternatives to community resources, including the following:

- In terms of socioeconomics, this will involve compiling US Census information and CMAP forecasts to understand historic and forecast growth. We will also use census tract data along each Initial Alternative to assess potential impacts to special group populations.
- For community services and land uses, we will determine which buildings would be directly impacted by each alternative and will review land use plans to assess each alternatives' compatibility with those plans.

- For special lands, parks and recreation areas as well as other protected lands, our assessment will involve determining the nature of potential impacts to sites along each Initial Alternative.

Cultural Resources

Human and cultural resources, including historic sites, noise impacts, and air quality are also being considered. Jay Martinez led the discussion about how cultural resources – both historic and archaeological – is being considered.

The cultural resources that will be examined follow the U.S. Department of the Interior National Park Service (NPS) Categories of Historic Properties associated with the National Historic Preservation Act of 1966. These categories are as follows:

- Buildings – houses, barns, schools, and churches
- Structures – bridges and dams
- Objects – fountains/bubblers or monuments
- Sites – historic or prehistoric; this distinction is made in the United States by the presence of European contact
- Districts – groupings of historically important buildings

The first part of the research effort is a database review. After the database review is complete, field verification from public right of way will be conducted to confirm location, condition, and integrity of the gathered resources. Professional Archaeologists have access to an online database system that maps every known archaeological site in the state. Data will be gathered on the recorded archaeological sites along each Initial Alternative.

For historic sites a database called Historic and Architectural Resources Geographic Information System, or HARGIS, will be used to identify how many historic sites are along the Initial Alternatives. Mr. Martinez showed an image of the HARGIS database depicting a portion of the Village of Barrington in Cook and Lake Counties to explain how the database will be used.

Initial Alternatives will be evaluated based on several criteria, including the number of cultural resources impacted, the degree of impact to each resource, and the importance of the impacted resource. Input from the Illinois State Historic Preservation Agency will inform these assessments.

Aesthetic and Visual Resources

Jeff Eichenauer spoke about the aesthetic and visual considerations at this stage of the Project. The visual and aesthetic character of the Project will be determined by understanding three main categories of resources in the project area: the natural environment, the built environment, and the project environment. For each of the Initial Alternatives, information will be collected on features such as waterways and vegetation, buildings and structures, and geometrics and bridges that are within their viewsheds.

There are two types of viewsheds that will be considered for this project: static views towards the transportation improvements and dynamic views from the transportation improvements. Static views are typically based on observation experiences of project improvements from a specific place. Examples of static views could be from a residence, place of business, trail, park, etc. where the user is able to experience 360-degree views. Dynamic views are typically based on fluid observations of project improvements as travelers pass thru the project. The dynamic views are typically experienced by motorists and can change frequently based on based on role of the user (driver/passenger), direction and speed of travel, time of day, weather, etc.

Data gathering for the visual and aesthetic resources is expected to include:

- Review and examination of prior reports, aerial photography, GIS data, maps

- Collaboration with other project resource specialists
- Field verification to provide high level observations of existing conditions and to identify the general character of landforms, water bodies, vegetation, built environment densities, etc. that impact the viewsheds; and
- input from stakeholders on visual and aesthetic resources in the project viewsheds.

Stakeholder and user feedback is important as the TCA Project Team collects visual and aesthetic resource data and evaluates beneficial and adverse viewsheds both now and as the project advances. After it is determined how the viewsheds are experienced by users along each Initial Alternative, potential changes in the visual character will be evaluated along with opportunities to implement aesthetic enhancements. Data gathering, and evaluation considerations of visual quality will remain broad during the development and evaluation of Initial Alternatives.

Natural Resources

Jim Novak discussed the importance of and evaluation of Natural Resources; including wetlands and waters, habitats, and threatened and endangered species.

There are numerous resources that will be reviewed under the topic of Natural Resources. This not only includes natural resources that have regulatory protection, but resources that are important because of their scarcity or by the fact that they may provide habitat for wildlife, plants, or provide passive recreational opportunities for people (bird watching/hiking, etc.).

Wetlands and waterbodies are valued resources that are unique by themselves but also provide suitable habitat for numerous species of plants and animals. In addition, wetlands provide water quality benefits by filtering stormwater runoff and can attenuate flooding through natural depressional storage of stormwater. Wetlands are protected at the federal level under Section 404 of the Clean Water Act but also have protection under local county level ordinances and in cases of state sponsored projects, protection under state law (the Interagency Wetland Policy Act of 1989). Wetlands are very important because of the habitat they provide for plants and animals. Lake and McHenry County have identified wetlands that because of their qualities and functions are considered unsuitable for modification. These wetlands are called ADID wetlands (Advanced Identification sites). Because of their qualities avoidance of impacts is most important and when avoidance is not possible, extensive coordination with the regulatory agencies is required. All wetlands in the Project area, including ADID wetlands, will be inventoried.

Other natural areas such as forests, remnant native prairies, grasslands, and oak savannas, which currently do not have regulatory protection like wetlands, will also be inventoried. These are important representative native Illinois plant communities that are scarce throughout Illinois because of farming and development. During the evaluation phase of the project, the TCA Project Team will look for ways to minimize and avoid impacts to these important communities.

Many of the scarce and high-quality habitat sites in the Project area are already protected by the Forest Preserve Districts and the Illinois DNR – for example, the Rollins Savanna, the Chain O'Lakes State Park, and the designated Hackmatack Wildlife Refuge. But, not all natural resources in the Project area are protected by park districts or forest preserves; therefore, we will be reviewing undeveloped land parcels throughout the Project area to determine the condition of these lands, their aerial extent, and what potential habitat and functions they may provide to wildlife and plants.

Wildlife habitat can be split into aquatic, terrestrial, and avian habitats. Terrestrial species include mammals and reptiles that can be found throughout northern Illinois like deer, raccoons, and numerous species of snakes. Aquatic species include frogs, fish, and mussels which inhabit most of our streams, ponds and wetlands. Avian or bird species inhabit upland and aquatic sites and can include threatened and endangered species, Species of Concern and more common migratory birds. Because of the

Migratory Bird Treaty Act, the investigation of habitat will include areas that would not at first glance be considered high quality habitat areas but may provide nesting and foraging for migratory species. Also related to wildlife habitat is the identification of larger forest tracts. Both IDOT and the Tollway have memoranda of agreement with the IDNR to identify forest tracts of 20 acres because of their importance to wildlife. The TCA Project Team will be identifying these larger tracts. For wildlife, protecting habitat is as important as protecting the actual species themselves. This is especially true for threatened and endangered species.

We will inventory and document the presence, potential presence, and suitable habitat of state and federally listed threatened and endangered species.

Many, but not all of the important natural resources we will be reviewing have been documented on numerous databases. These include US Fish and Wildlife Service National Wetlands Inventory maps, Lake and McHenry County Wetland Inventory and ADID maps, and the federal and state databases for threatened and endangered species. The local forest preserve and conservation districts also have documented the presence of sensitive species and habitat within their boundaries as well. Other projects and studies have been completed in the Project area and information that has been collected for those projects will be considered during the evaluation phase to supplement what is available to us from desktop and field reviews of natural resources.

Field investigations will be completed to ground truth the databases when possible and will also be completed to add information to the existing data that has been already reviewed. The TCA Project Team will look at potential wildlife habitat areas identified during the desktop reviews to determine their suitability as habitat for key species. The evaluation of local open space features will also note whether these open spaces are vulnerable to development not related to this project.

Our assessment of wildlife and habitat will consider the regulatory framework of current natural resource protection laws and policies. Upon completion of the initial inventories, summaries of the natural resources will be compiled and prior to formal evaluation of the impacts, coordination with the pertinent natural resource agencies will occur to solicit their input and to request additional information on resources in the Project area.

The evaluation of the Initial Alternatives will look at all areas and determine their potential to provide habitat, including habitat for threatened and endangered species, and how the Initial Alternatives may affect these habitats. Considerations for habitats in natural areas include - Forests for endangered bat species, grasslands for declining bird and pollinator insect species (like the rusty patch bumblebee), and wetlands for the variety of species these areas harbor.

Water Quality

Karen Kabbes spoke about the importance of maintaining the quality of the region's water resources to the project study area's quality of life. The evaluation of both surface water and groundwater is an important part of this study. The TCA Project Team will begin by collecting data about the existing quality of surface waters in the Project area.

There are a number of waterways that are currently used for all types of uses, including recreation. They support a wide range of fish, mussels and natural life. Several waterways are already noted as impaired and cannot be enjoyed for a wide range of uses. Available data on all waterways potentially impacted by the Initial Alternatives will be obtained to determine their current state.

Concerns have already been raised about certain pollutants that are associated with roadways and adjacent land development. With the help of regional water quality data, several pollutants such as total suspended solids and salt chlorides have already been identified as pollutants of concern. We will obtain and analyze information about the existing level of these chemicals in the waterways and land uses. Another concern related to healthy streams is the physical obstructions or disruption to in-stream habitats that can result as a side effect of development, thus negatively effecting the range, areas of

refuge and ecosystem support of mussels and other aquatic organisms. Therefore, the TCA Project Team will review physical attributes of waterways in the region.

Groundwater has been a historically important source of water supply to the region. While more areas are accessing Lake Michigan water, many areas residents and business still rely on groundwater. This Project will identify where there are existing public and private wells and areas of groundwater recharge. Existing aquifers in the area, both the shallow aquifers and deep aquifers, that supply the water for the region will also be noted.

The TCA Project Team will review available aerial and survey data, past studies and data obtained by local, state and federal agencies and research institutions. Information being gathered will include existing waste water treatment facilities and discharge locations, as well as locations and conditions of the region's watersheds. Field verification of data collected will be performed to review potential signs of instream waterway obstructions or habitat changes.

The evaluation of Initial Alternatives will consider potential impacts related to changes to waterways and land cover, as well as increases in the amount of pavement areas and impervious surfaces as related to stormwater runoff pollutants.

Next Steps
The SPG and public meeting schedule was outlined as follows:

- The first of this Public Information Meeting series was held on July 25th, 2018.
- The second of this Public Information Meeting series will be held on September 6th, 2018.
- SPG Meeting #4 will be held in early 2019 and will provide an opportunity for input on the Initial Alternatives studies.

An overview of the TCA Project schedule was provided (see SPG Meeting #3 Presentation deck).

SPG members and public observers were reminded about ways to stay involved in the TCA Project:

- As representatives of area communities, organizations, agencies, and interest groups, serving constituents through continued active participation in the SPG is vital, particularly during these early stages of the study process.
- The general public will have numerous opportunities to be informed and to provide input. Opportunities include TCA Project public meetings and hearings, fact sheets, one-on-one meetings with TCA Project Team members, and team presentations to groups.
- The public can reach the TCA Project Team via email (TriCountyAccess@getipass.com).
- The TCA Project website (www.tricountyaccess.org) is a central source for up-to-date information about the Project and the place to go to submit comments, questions, and requests for information.

Responses to Questions and Comments

Throughout SPG Meeting #3, SPG members had the opportunity to submit questions. At appropriate breaks in the presentation and as time allowed, questions were addressed. Substantive questions submitted with applicable responses are presented in this section. Typos and grammatical errors have been corrected and duplicates have been removed.

Thoughts and Questions Submitted Regarding the TCA Project Draft Purpose & Need

Question	Response
How is protecting and preserving environmental values being incorporated into one of the goals in the purpose and need?	The emphasis of the EIS and the NEPA process in general is in understanding and disclosing the potential environmental effects of a proposed project so that local, state, and federal agencies, as well as the general public, can provide input on the project and the values to be considered in decision-making. These values include balancing protecting the environment, improving or preserving quality of life, and providing transportation solutions. Purpose and Need statements are required to specify the purpose and need to which the agency is responding in proposing the alternatives. As a transportation agency, the purpose and need for FHWA led-projects focus on transportation issues or deficiencies that are being addressed. As part of the EIS, a discussion will be included of the environmental impacts of the alternatives as well as any adverse environmental impacts which cannot be avoided. See 40 CFR 1500.16 Environmental consequences for the topics which will be discussed in the EIS.
The purpose and needs does not address environment impacts	
Protecting quality of life should be included	
This project needs to include natural resource protection as a main driver.	
Why isn't environmental preservation started up front as a purpose and need	
Roads cause environmental problems like fragmentation. You need to go beyond typical in your purpose and need	
Failure to include Environmental considerations within the Purpose and Need are indicative of incomplete and narrow planning efforts. A ton of comments have been issues concerning Environmental considerations which ought to have been included within the Purpose and Need.	
Purpose and need should consider impacts to communities, quality of life, accessibility, and environmental resources	
Purpose and need should include quality of life and globally important natural	
Natural resource protection is a need and should not be relegated to the natural resource analysis.	
Purpose and need should acknowledge the BRAC principle that Transportation, Environment and Community Quality of Life should complement and be reflected in a balanced solution and not solely focus on road needs.	
Purpose should reflect other goals, e.g., quality of life, environment	

Question	Response
Climate resiliency needs to be a primary factor	Resiliency will be a design consideration for all alternatives under consideration.
I do not agree with statement as drafted. It does not include a myriad of issues raised over past several months.	The analyses that support the Purpose and Need are supported with feedback we have received from stakeholders. We are happy to discuss the components of the Purpose and Need further if you have specific questions.
Need emphasis on local roads for local trips, running errands - not everything requires a major highway.	Improving local and regional travel efficiency is identified as one of the Project's draft needs. For example, in portions of the project area, local roads are being used for longer trips. By moving longer trips to transit or roadways intended to carry longer trips, the performance of local roads may improve.
How will the purpose and need recognize that the CMAP draft ONTO 2050 plan has de-prioritized the proposed Lake County IL-53 Tollway Extension - Tri County Access project, and does not treat it as a fiscally constrained project?	CMAP's preliminary recommendation states: "The TCA Project could offer significant regional mobility benefits for the Chicago metro region, but points out that environmental studies must still be completed to support a decision and to reach consensus". The Illinois Tollway supports this recommendation by CMAP, which aligns with the purpose of our recently launched Tri-County Access Project environmental study and its overall goal – to identify an innovative, environmentally responsible, and fiscally sound regional transportation solution.
Questions or thoughts regarding Funding	
How will the final recommendations be funded? What type of time schedule will be developed along with priorities?	Funding along with an implementation plan and schedule are among the topics that will be considered during the alternatives evaluation. Our goal is to identify a fiscally sound regional transportation solution which considers the resources and constraints of area transportation providers. See response above.
Funding?	

Question	Response
Illinois must stop financing infrastructure with a "capital bill" once every 10 years. These boom and bust cycles do not deliver reliable maintenance of the system nor will meaningful expansions ever be possible this way. State leaders must deliver reliable annual funding for critical public infrastructure.	State transportation agencies in the State of Illinois receive the majority of their annual funding from the collection of vehicle registration fees and gas taxes. These revenue streams are distributed through the state budget process and are predominately allocated to repairing roads and replacing bridges. Large infrastructure projects such as those designed to address congestion and provide system expansion traditionally have relied on an enhanced program through a Capital Bill because undertaking them with traditional revenue sources is not feasible. Ultimately, statewide public infrastructure funding policy decisions are beyond the scope of this project.
See the Illinois Economic Policy Institute's website www.illinoisepi.org for reliable info on the extent of underfunding of the state transportation system.	
Questions or thoughts regarding Environmental Resource Studies	
How will Executive order 13807 impact the EIS process?	The Federal Highway Administration designated the TCA Project as a “major infrastructure” project and is therefore subject to the requirements of Executive Order (EO) 13807. The EO directs Federal agencies to follow a unified environmental review and authorization process when multiple federal agencies have authorization decisions, resulting in timely environmental reviews and coordinated permitting processes. The lead Federal agency (FHWA) and the project sponsors (Illinois Tollway, and IDOT) are working closely with federal and state regulatory agencies to ensure that their input is obtained and considered early and throughout the project process, and that the environmental review and permitting process for the TCA Project is coordinated, thorough, and transparent.

Question	Response
I can't emphasize natural resources enough. Our air quality is currently rated F by the Respiratory Health Assoc., flooding is becoming routine. More pavement and more cars will not help.	The TCA Project will consider all of the resources you have noted, in addition to socioeconomic resources, such as impacts to minority and low-income communities, homes and businesses, and access to public services and facilities. Existing congestion contributes to lower air and water quality. The TCA Project will consider how any alternatives, including taking no action, improving transit, improving active transportation, and improving roads, will impact both natural and socioeconomic resources.
You need to factor in mitigation needs early in the process. Future development associated with the project needs to be considered. Future opportunities laid out in the McHenry and Lake County green infrastructure plans. They are readily available.	While mitigation may be required for the project, our initial focus is on identifying means to avoid and minimize impacts to resources. When mitigation is considered, the project team will coordinate with resource and regulatory agencies and local land management agencies to help identify and evaluate the best options for mitigation, including opportunities identified in published plans, such as those you mention.
Do it right. Study and use the data that already exists and make educated and informed decisions. Impacts to natural resources to accommodate frustrations to travel time is not a reason to extinguish or adversely impact our irreplaceable natural resources. Proceed with caution.	The TCA Project will leverage prior studies, in addition to completing updated or new studies, where warranted. The solutions that will be considered will be evaluated based on their ability to balance transportation needs with potential adverse impacts to natural and socioeconomic resources.
NWI maps are no substitute for wetland delineations. You need a geoplatform where we can interact with your data. Mitigation costs should be weighed into build alternative costs.	Given the 1000 square mile project study area, in consultation with regulatory agencies, we have proposed the use of available published information while identifying the initial alternatives. Field studies, including wetland delineations, will be performed for the alternatives that will be carried forward for detailed examination in the Environmental Impact Statement. Mitigation will be included in the estimated costs for alternatives under consideration.
How much will be original, on the ground studies vs secondary research? Please do this part as carefully and thoroughly as possible - this is what drives the quality of life.	Given the 1000 square mile project study area, in consultation with regulatory agencies, we have proposed the use of available published information while identifying the initial alternatives. Field studies, including wetland delineations, will be performed for the alternatives that will be carried forward for detailed consideration in the Environmental Impact Statement.

Question	Response
Questions or thoughts regarding Alternatives Development	
I'm happy to report that the long standing, infamous traffic congestion on the 120 going west from the 45 has been eliminated by a new right turn lane at the 120 and Hainesville Rd. Also, computer-controlled traffic lights have been installed from 45 west on 120 to 134.	Your comment is noted.
Will multi modal aspects be considered and which ones?	The TCA Project will examine the compatibility of expanded transit service with the area's land use patterns and future travel characteristics and will determine how transit can be included as an element of a multi-modal transportation solution. Multi-modal solutions to be considered include expanded bus and shuttle services, accommodations for bicycles and pedestrians, and complementary transportation system and demand management strategies.
The draft purpose says the goal includes "provide modal options" - let's hope the preferred alternative isn't car centric.	Improving travel options that connect major origin and destination centers in the project area is identified as part of the Project's draft purpose. The TCA Project will examine the compatibility of expanded transit service with the area's land use patterns and future travel characteristics and will determine how transit can be included as an element of a multi-modal transportation solution. Currently, approximately 2% of daily trips which both begin and end in the TCA Project area (internal trips) and 3% of daily trips that begin or end outside the area use transit service.
SW Lake County is sorely lacking connectivity to College of Lake County and Waukegan. We need public transportation for our students and residents.	Improving travel options that connect major origin and destination centers is identified as part of the Project's draft purpose. The TCA Project will examine the compatibility of expanded transit service with the area's land use patterns and with future travel characteristics and will determine how transit can be included as an element of multi-modal transportation solution.
How do we incorporate the EJE RR and add stations to existing RR lines at nodes?	The TCA Project will examine the compatibility of expanded transit service with the area's land use patterns and future travel characteristics and will determine how transit can be included as an element of a multi-modal transportation solution. Improving access to existing rail transit

Question	Response
	lines is among the options that will be considered.
Transit usage is declining while passenger rides are up. Why is this study emphasizing transit?	Improving travel options that connect major origin and destination centers is identified as part of the Project's draft purpose. The TCA Project will examine whether expanding transit service is compatible with the area's land use patterns and with future travel characteristics and will determine how transit can be included as an element of multi-modal transportation solution. Currently, approximately 2% of daily trips which both begin and end in the TCA Project area (internal trips) and 3% of daily trips that begin or end outside the area use transit service.
Public transit should be at the center of this study and it doesn't seem like it's being taken seriously. Can there be a clear commitment from the Tollway?	
There should be a focus on multi-modal transportation, your presentation is still car centric.	
Need to recognize that building more roads leads to more driving and doesn't ultimately reduce congestion.	Alternatives to be considered include widening existing roads, new roads, expanding transit service and active transportation (bicycle and pedestrian) options, and transportation system and demand management strategies. A suite of multi-modal transportation performance measures will be used to evaluate the relative ability of each alternative, as compared to the No-Build Alternative, to address the project purpose and need.
What happens if you propose what you see as appropriate and reasonable alternatives but there is no consensus?	All stakeholder and public input is welcome and will be duly considered by the project team as they leverage prior study efforts, identify environmentally responsible solutions, and integrate innovative technologies to identify solutions to the area's transportation issues. Ultimately, project decisions will be made by FHWA, the Tollway, and IDOT and will be informed by input from the public and involved stakeholders.
Routes 22 and 176 are traffic nightmares at any time of the day. We need east-west solutions first!	Your comment has been noted.

Question	Response
What is the width of corridor to be evaluated. What if the effect of the improvement extends beyond the corridor study width. Has this been considered?	A broad range of alternatives will be considered with the TCA Project, including improvements along existing and new roadway corridors. The extent and width of corridor study areas will allow consideration of a broad range of location and design treatments, with the objective of identifying effective transportation solutions which minimize impacts to natural and socioeconomic resources.
Emphasis on fact that if Route 53 is extended the route is not cut in stone and may very well change. Land swaps happen.	
Will the tollway continue with smart roads and mass transit partnerships?	The TCA Project will investigate a broad range of alternatives including consideration of transportation system demand and management strategies which would integrate innovations such as the SmartRoad concept. Additionally, transit improvements will be examined as an integral part of the alternatives evaluation process. The project sponsors will be working in coordination with the transit service providers to identify opportunities for partnered solutions.
Can IPass transponders be leveraged for data collection related to System Alternatives?	Yes, information from CMAP's regional travel demand model and relevant data from the Illinois Tollway's IPASS system is being used to understand travel demand and traffic patterns in the project area.
Why have questions concerning auto versus truck traffic growth trends not been answered? Why have inquiries as to whether this is essentially a Chicago truck by-pass route connecting Indiana to Wisconsin gone unanswered? Considering truck traffic outpacing automobile traffic, when will Lake County residents be directly asked their views on a truck by-pass to Wisconsin being rammed up the middle of their county?	Vehicle classification information is contained within the existing and projected traffic database and will be considered as part of the alternatives evaluation process. Existing and forecast (Year 2050) traffic for the no-build alternative, by vehicle type, was presented at the March 23, 2018 SPG Meeting, and is available on the project website. Similar estimates of forecast traffic demand will be developed for the range of alternatives to be considered.
Considering Mr. Schillerstrom's comments at a recent City Club of Chicago meeting, how can anyone have any confidence in the ITA fairly assessing a "no build" option?	The “no-build” or “no-action” alternative is required to be evaluated in NEPA and is the baseline condition that all other alternatives are compared against for both adverse and beneficial effects. The “no-build” alternative will be developed and carried forward throughout the entire environmental review process for comparison purposes and is eligible to be identified as the selected alternative.

Question	Response
Questions or thoughts regarding Travel Demand Modeling	
Your population trend info is out of date	Socioeconomic data for the TCA Project is being developed in conjunction with CMAP to ensure consistency with the overall regional growth forecasts represented in the CMAP ON TO 2050 Plan. The CMAP On TO 2050 Plan was approved in October 2018 following a three-year process that featured extensive research, analysis, and public engagement. Information regarding the CMAP socioeconomic forecasts can be found at https://datahub.cmap.illinois.gov/dataset/2050-forecast-of-population-households-and-employment.
Have population forecasts been adjusted based on recent trends of stagnant growth?	
Have you considered declining population trends in last four years?	
How has the scoping effort been adjusted to answer the numerous questions challenging growth trajectories of population, automobile and truck traffic stated in early justification arguments? For example: people are fleeing the State in record numbers.	
What population growth (flat) forecast for Lake County are you using for your analysis?	
Young people are moving away and not coming back to the suburbs unless there exists a good public transportation system. How do you justify the 53 extension?	
More and more people (specifically millennials) don't own vehicles. They are migrating to city centers with reliable public transportation. Your projections rely on outdated trends	
The landscape and area has changed including forecasts for population and better mapping and understanding of natural resources.	The Project team will use published information to understand natural and socioeconomic resources in the project area and to evaluate the potential environmental impacts of the initial alternatives to be considered. Field studies, including wetland delineations, will be performed for the alternatives that will be carried forward for detailed consideration in the Environmental Impact Statement.
Need to think differently with changes in technology, options for telecommuting, etc.	The industry is adopting emerging transportation trends and technologies to enhance the operations and design of transportation systems. Examples include: new techniques and design treatments to detect, optimize and better manage traffic flow (for example, ITS, traffic incident management, communication networks, emergency management, information sharing systems); treatments to minimize effects on the environment (for example, devices which trap silt and illumination systems imbedded in the roadway); design features to accommodate emerging vehicle trends and technologies (for
Integrate infrastructure for electric vehicles.	

Question	Response
	example, inductive pavements for electric cars, roadway features for connected/autonomous vehicles, effects of ride-share services); and employment trends (for example, teleworking). These trends and emerging technologies will be considered as part of the alternatives evaluation process.
Relationship to commercial traffic, and commuter traffic have separate considerations and don't fit nearly in those categories	A suite of multi-modal transportation performance measures will be used to evaluate the relative ability of each alternative, as compared to the No-Build Alternative, to address the project purpose and need. Vehicle classification information is contained within the existing and projected traffic database and will be considered as part of the alternatives evaluation process.
How has the EIS scoping effort planned to account for the dramatic income disparity between annual incomes leaving the state (averaging over $100K) with those being created (averaging upper $30K range) within the state?	Socioeconomic data for the TCA Project is being developed in conjunction with CMAP to ensure consistency with the overall regional growth forecasts represented in the CMAP *ON TO 2050 Plan*. Information regarding the CMAP socioeconomic forecasts can be found at https://datahub.cmap.illinois.gov/dataset/2050-forecast-of-population-households-and-employment.
Uber and lift solutions greatly exaggerated as the numbers grow you take away from mass transit putting more vehicles on road.	
Employers and potential employers needs for maintaining or increasing talent pool size and ability to move goods.	Your comment is noted. This issue is outside the scope of this project.
Do we know how many homeowners built their houses abutting the already existing future Route 53 corridor?	No; municipal and county officials responsible for zoning, permitting and economic development should be able to provide this information.
It has been stated that CMAP data is the basis for justifying need for this project. How does this data support the solution when it appears most of the round-trip origin/termination data is within the Lake County boundaries? In other words… why is this project labeled "tri-county" since it impacts mostly Lake County?	A robust study area that covers the Tri-County region is necessary to understanding the area's current and future travel characteristics. Since the 1970s, the project study area has experienced a 56% growth in population and a 66% growth in employment. Additional growth is forecast in the coming decades. As population and employment densities increased, travel interactions between Lake County and adjoining counties have also increased. As we look to the future, these travel interactions are expected to continue.
When asked at the recent public forum whether the newly announced Foxconn facility in southern Wisconsin along with existing U-Line and Amazon facilities just across the WI/IL border were contemplated in recent planning for the project… ITA representatives responded "YES".	

Question	Response
Traffic volumes on arterial roadways in extreme southern Lake County have actually decreased for the first time in over 40 years of data collection. Doesn't this inflection point in traffic volume obviate the need for a new massive superhighway as a solution to solving current local traffic congestion?	The TCA Project is considering current and future travel characteristics across the entirety of the TCA Project area, which includes Lake County and portions of Cook and McHenry counties. The TCA Project will evaluate a broad range of alternatives from widening and improving existing roads, building new roads, expanding transit and active transportation, enhancing transportation system and demand management, to the No-Build Alternative.
Considering east-west traffic outpaces north-south almost 5 to 1, why hasn't an option to decouple Route 53 from Route 120 been considered?	Your suggestion to consider improvements along the IL 120 corridor independently of the IL 53 corridor will be considered as part of the alternatives evaluation process. Prevalent travel patterns in the project area include a combination of north-south, east-west, northwest-southeast travel movements. Information regarding existing and forecast (Year 2050) travel characteristics in the project area was presented at the March 23, 2018 SPG Meeting and is available on the project website.
Questions or thoughts regarding Transportation Performance Measures	
No factor for environmental impacts. Future land use is not considered. Public transit options are not considered.	A variety of criteria will be used to evaluate both the performance characteristics and environmental impacts of alternatives. A suite of multi-modal transportation performance measures will be used to evaluate the relative ability of each alternative, as compared to the No-Build Alternative, to address the project purpose and need. The potential effects of alternatives on future land use characteristics will be considered and evaluated as part of the alternatives evaluation process. Environmental impacts to the area's natural and socioeconomic resources will be evaluated independently of the transportation performance analysis for each alternative, including the No-Build Alternative, and will inform the determination of a preferred alternative.
Seem to be appropriate criteria	Your comment has been noted.
How will the representative locations be chosen for the "Travel Time Effectiveness" performance measure?	Locations corresponding with the prevalent travel desires across the project area will be used to compare relative travel times and effectiveness across the range of alternatives under consideration. Additional origin-

Question	Response
	destination pairs corresponding with corridors that will be considered for improvement will be identified and evaluated as part of the alternatives process.
They need to include loss of ecosystem services destroyed by road construction	The TCA Project will consider the noted resources, in addition to other natural and socioeconomic resources. Existing congestion contributes to lower air and water quality. The TCA Project will consider how any alternatives, including taking no action, improving transit, improving active transportation, and improving roads, will impact both natural and socioeconomic resources.
Emissions	
Measure of reduction in use of sustainable energy is needed	
How are vehicle hours of delay determined and studied? How will these factors be weighted? Is cost in development and on users being considered?	Vehicle hours of delay represents delay experienced by motorists under actual and forecasted conditions as compared to free-flow conditions. It is generated using the travel demand model. A suite of multi-modal transportation performance measures will be used to evaluate the relative ability of each alternative, as compared to the No-Build Alternative, to address the project purpose and need. A variety of transportation performance measures will be used to evaluate an alternative's effectiveness in meeting the project's purpose and need and will be considered in total. Planning-level cost estimates will be prepared as part of the alternatives evaluation process.
Travel demand and level of services, vehicle hours of delay, Travel time effectiveness	
What year for crash level data, cost level data, and congestion level data will be used?	2011 to 2015 crash data is used for the project. This is the most recent available complete five-year data. Planning level cost estimates will be prepared during the alternatives evaluation process. Cost analyses will identify estimated costs in present year terms but will consider the potential future effects of cost escalation. Forecast Year 2050 travel demand will be used to evaluate the performance characteristics of project alternatives.
Will personal travel in lieu of vehicle based measures be used? Blending vehicle and transit travel.	Both vehicle and transit travel performance will be measured for the project. A measure of personal trip and travel time will be utilized for alternatives evaluation.
Need to look at warrants for traffic signals for roadway safety considerations.	Potential intersection improvements and new traffic signal locations will be considered during the alternatives evaluation process.

Question	Response
Travel time effectiveness, Travel demand and level of service, Estimated costs - but not to the sacrifice or impact to natural resources, Roadway safety	Transportation performance measures will be evaluated to determine if an alternative meets the purpose and need of the project. Estimated costs will be identified as part of the alternatives evaluation. Environmental impacts to the area's natural and socioeconomic resources will be evaluated independently of the transportation performance analysis for each alternative, including the No-Build Alternative, and will inform the determination of a preferred alternative. e.
Estimated costs should be broken out to show value of environmental resources impacted	
Are you considering environmental impacts? Are you considering that building new roads leads to more driving and doesn't ultimately solve congestion issues? Need to include environmental factors.	
How will preserving natural features be considered as one of the performance criteria? How will it be weighted? How will preserving natural resources be integrated into the performance metrics? How will it be weighted?	Transportation performance measures will be used to determine whether an alternative will help solve the transportation problems identified with the project purpose and need. Alternatives that cannot address these problems will not move forward. Those that do will be evaluated for their impacts to natural and socioeconomic resources. This evaluation will be coordinated with the resource and regulatory agencies with jurisdiction over potentially impacted resources and with the general public and all involved stakeholders. The project does not propose to use a weighting scheme.
Travel efficiency should be number 1.	
Trip time reductions not VHT should be the goal, Carbon and other air pollution reductions should be considered, Trip time reductions and not VHT should be the goal, Trip time reductions and not VHT should be the standard	
Seems like this process is really rushed. Only one measure for non-car transit?? Multimodal measure, the last one, is much less quantitative than the car-based measures.	A suite of multi-modal transportation performance measures will be used to evaluate the relative ability of each alternative, as compared to the No-Build Alternative, to address the project purpose and need. Multi-modal performance measures are expected to include existing and projected transit ridership, transit network coverage, and system connectivity measures.
How will you determine which roads to be measured first? Are cut throughs through neighborhoods part of these performance measurements? What percentage do you consider "the general public"?	Transportation performance measures will be used to determine whether an alternative will help solve the transportation problems identified with the project purpose and need. The ability to provide efficient travel options and to reduce cut-through traffic in neighborhoods will be considered as part of the transportation performance analysis.
What is weighting for each variable? What is overall weighting for each category? Is there a point range for each metric such as 0 to 5 with description to support each numeric score?	Transportation performance measures are not ranked but used to evaluate the entire system's performance as it pertains to the transportation

Question	Response
	problems identified in the project purpose and need.
These are reasonable and industry standard measures that should be considered.	
Travel time effectiveness! Travel demand and LOS, Travel efficiency, Comparison of new transit and freight movement opportunities.	
Performance measures should be conducted by trained professionals in the transportation industry and not by the loudest voices. Analysis of freight traffic should be highlighted due to its impact on area roads. This process is being hijacked by an extremist minority who want to kill this project. The overwhelming majority of Lake County residents want this project completed.	Your comment has been noted.
Will there be simulations on how grade separation can improve intersections on needed intersections? How will public transit be evaluated? Your performance measures are very car centric and transit/freight/intermodal are lumped into one measurable at the end.	A suite of multi-modal transportation performance measures will be used to evaluate the relative ability of each alternative, as compared to the No-Build Alternative, to address the project purpose and need.
No build scenario must address the cost of congestion.	The cost of congestion is among the factors that will be considered during the alternatives evaluation process.
Questions or thoughts regarding Stakeholder Involvement	
When will we receive answers to questions we submitted in July?	Responses to questions submitted at the July 25, 2018 Public Open House Meeting will be included as part of the official Public Meeting record and considered as part of the scoping process. As such, responses will be disseminated after the comment period closes on October 1, 2018.
The public comment period doesn't feel very public since we don't have the opportunity to actually hear what others are thinking at a truly public meeting. Don't know when we'll receive answers to written questions.	The Public Meeting record will provide a summary of comments received through October 1, 2018 (the close of the scoping comment period) along with responses to comments. The Public Meeting record and responses will be shared on the project website when available.
Times for public meetings do not go late enough. They should end at 8PM	We will take this into consideration in scheduling future Public Meetings.

Question	Response
The public deserves to be notified about the SPG meetings when we learn about them (via the website)	Notifications regarding future meetings will be provided to SPG members at least four weeks prior to SPG meetings and will be posted on the project website.
Please get input from farther west and north. Very unbalanced input to date.	We will continue to encourage input from the public and all stakeholders across the TCA Project area.
Public meetings should be held in the corridor and materials such as purpose and need statements should be available before we meet. We should have more access to speak freely rather than in scrolling sound bites.	Given the large size of the project study area, meetings have and will continue to be held throughout the area to give all who may be impacted by the range of potential alternatives an opportunity to attend. The public can view all information displayed during Public Meetings and submit comments through the TCA website at any time. Public comments submitted within the Public Meeting comment period will be included in the meeting record.
People living in alternative pathway options need a heavier weighted input and focus than those not living in the area.	The SPG is not a voting entity; all project decisions will be made by FHWA, the Tollway, and IDOT with input from all cooperating and participating agencies, the SPG, and the public. Transportation performance measures will be evaluated to determine if an alternative meets the purpose and need of the project; environmental impacts will be identified and evaluated for each alternative. A preferred alternative will be selected that best balances achieving the project's purpose and need and minimizing impacts to the natural and human environment.
Those living in impacted areas need weighted votes	
A more transparent process than your "hide the ball" tactics.	The TCA Project strives to offer robust opportunities for public interaction and input at key milestones during the EIS study process. Those opportunities are described in the Stakeholder Involvement Plan (v 3.0; December 2018), available on the TCA Project website, which describes the project's planned activities to meet the federal requirements for public and agency engagement under the National Environmental Policy Act, FHWA environmental regulations, and Executive Order 13807. The TCA Project's planned public engagement activities go above and beyond the minimum federal requirements. The project team is always open to suggestions to improve upon our efforts to engage and solicit input from the stakeholders and the public.

Question	Response
Agree with comment on screen that at some point we need to ask questions via mic - so we can all hear each other.	The project team is always open to suggestions to improve upon our efforts to engage and solicit input from the stakeholders and the public. Future SPG meetings will be structured to encourage interaction and to allow all members to participate equally.
We need a forum at these meetings to ask public questions with a mic and not via an app	
Really dislike this form of questions; why can't we just ask things?	
WTF, who are the people on the right that get to peak?	
I think you are proceeding w/o appropriate public input - second meeting is next week; no meetings east or north yet, I am concerned that this process is initiated and managed by the Illinois State Toll Highway Authority. They build roads. They are a hammer that sees every problem as a nail. Please get unbiased, independent supervision.	
More generic -- can we see the questions we'll be asked in advance? These are big issues, the answers deserve to be well-thought-out, and I'm simply racing to answer.	For future SPG meetings, an overview of requested input will be included in the meeting notification. All SPG presentation materials and polling questions will be available on the website after the meeting for further comment.
Only 15% of responses favored building new roads. Let the record reflect this.	All polling responses are recorded in the meeting summary.
Since $25M of a much larger EIS budget has already been allocated, how much of the total budget will actually be used to conduct the EIS versus the current marketing and advertising blitz the Tollway seems currently focused on? Where can the detailed project budget be found?	Public involvement is an integral component of the EIS process. Recognizing the substantial level of public interest, the Illinois Tollway, FHWA and IDOT (as lead agencies for the TCA Project EIS) will provide extensive opportunities for public interaction and input throughout the course of the project.
Where exactly does the scoping of this EIS address procedural and engagement principles, dispute resolution, due diligence and fact-checking activities, conflict of interest disclosures, etc.?	The TCA Project Stakeholder Involvement Plan (v 3.0; December 2018) describes the project's planned activities to meet the federal requirements under the National Environmental Policy Act, FHWA environmental regulations, other federal laws, and Executive Order 13807. The scoping process provides an opportunity for federal, state, and local agencies, affected Indian tribes, and other interested persons to provide input on the issues to be analyzed in depth in the Environmental Impact Statement. The project sponsors (FHWA, Illinois Tollway, and IDOT) have established an engagement process that allows stakeholders and the general public to provide comments or ask questions on scoping topics as well as issues

Question	Response
	such as those you have raised. The opportunity to provide input will continue throughout the project.
How has the EIS scoping effort proposed to "square up" or reconcile Tollway assumptions made with respect to system-wide traffic growth rates used in their recent bond issues (fractional rates compared to double digit 20 years ago) versus those evidenced in their initial apparent pro-build marketing campaign. Since the 70's version of a proposed Rte. 53 extension path has since lapsed with no ten-year reviews, what exactly is being studied in this EIS? Since there is no "authorized" corridor, how can scoping of the EIS be completed at this juncture?	Traffic projections for the TCA Project are being developed in conjunction with CMAP to ensure consistency with traffic projections used for transportation projects across the Chicago metropolitan region. The intent of the TCA Project is to analyze transportation problems across a wide study area and evaluate alternatives, which includes the IL 53 corridor, existing roadway corridors, transit improvements, and taking no action. An "authorized" corridor is not required for an EIS to consider alternatives.

Stakeholder Participation Group Meeting #3

August 30, 2018

MOBILITY FOR TODAY AND TOMORROW

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Illinois Tollway

Agenda

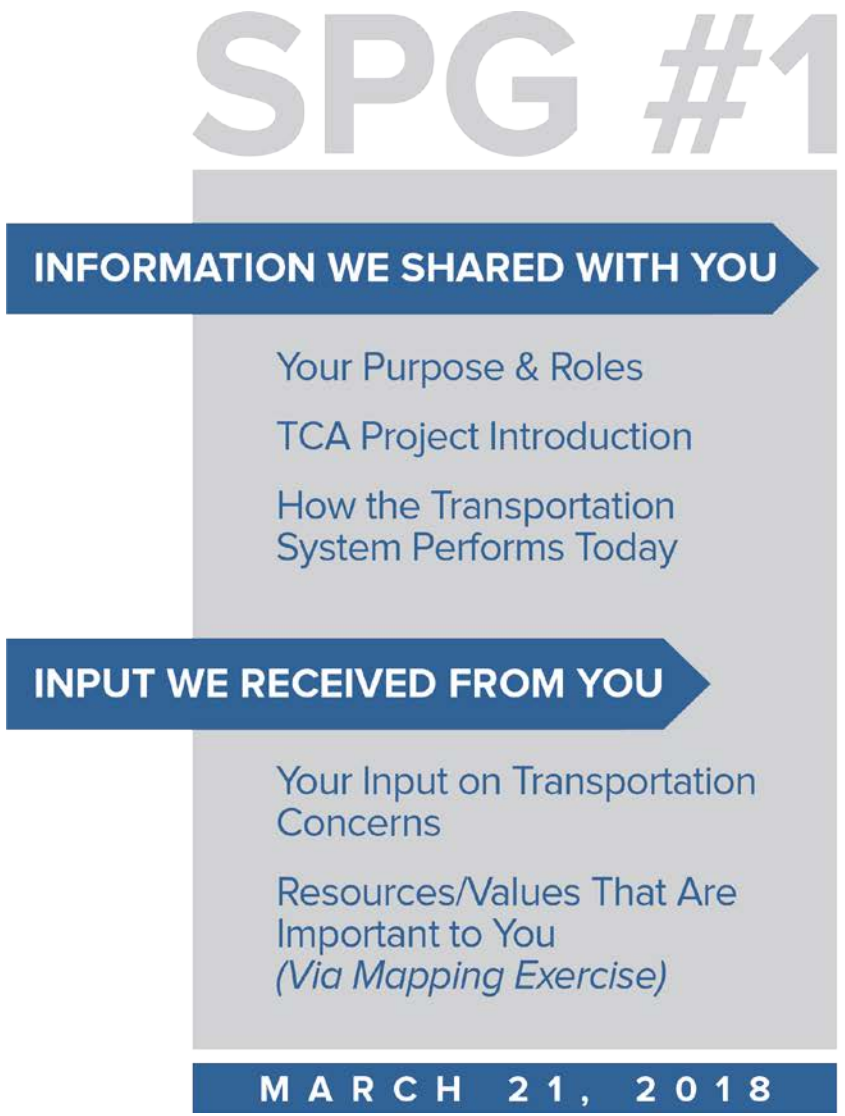
- Project Status Update
- Identifying Issues to be Addressed (Project Scoping)
- *Draft* Purpose & Need
- Initial Range of Alternatives to be Considered
- Environmental Resource Studies
- Next Steps

Tri-County Access Project Schedule

- SPG = Stakeholder Participation Group Meetings
- PM = Public Open House Meetings
- Public Hearing
- NOI = Notice of Intent
- ROD = Record of Decision

****The process is being implemented according to the Memorandum of Understanding Implementing One Federal Decision Under Executive Order 13807*

What We Have Done so Far…



Full meeting summaries for all SPG Meetings can be found on the project website: **TriCountyAccess.org**

Collecting Your Input during Today's Meeting

- ***PollEverywhere*** will be used to collect and record all input and questions today
- ***PollEverywhere*** Instructions:
  - » *Use your WIFI connected device to connect to the Poll*
  - » *You will be taken directly to the Poll*
  - » *Everyone has been pre-registered – username is your email address and password is* ***TCASPG3***
  - » *During today's presentation, you will be able to use PollEverywhere to ask questions of our panel*

Project Scoping

Project Scoping: What is it?

- **Notice of Intent (NOI)** issued July 16, 2018
- **Scoping** ensures that the range of issues related to the proposed action are addressed and all significant issues identified; input is invited from all interested parties
  - » *Stakeholder Participation Group Meetings/Workshops*
  - » *Public Open House Meetings*
  - » *Project Website*
  - » *Ongoing Input from Stakeholders (Letters, Comments)*
- The end of the scoping comment period has been extended to **October 1, 2018**

Public Open House Meetings

- **Two identical Public Open House Meetings at two different locations**
  - » *July 25, 2018 from 4 – 7 PM in Lakemoor, Illinois*
  - » ***September 6, 2018 from 4 – 7 PM in Kildeer, Illinois***
- **Purpose:**
  - » *Provide a project overview*
  - » *Receive public input*
- **Includes** informational boards and video, an interactive mapping exercise, and resource/technical specialists to answer questions and address issues

275 Stakeholders from 64 Communities and 6 Counties attended the Public Open House Meeting in Lakemoor

What we have heard so far….

Draft Purpose & Need

The **Purpose & Need** will Inform how Alternatives are Developed and Support Selection of a Preferred Alternative

- **What is it?**
  - » *Defines what problems will be addressed*
  - » *Starting point for development/evaluation of alternatives*
  - » *Defines the objectives that improvements should achieve*

- **Stakeholder input** is an important consideration in development of the **Purpose & Need**
- Goals and Objectives identified at SPG #2 help inform the ***Draft*** **Purpose & Need**

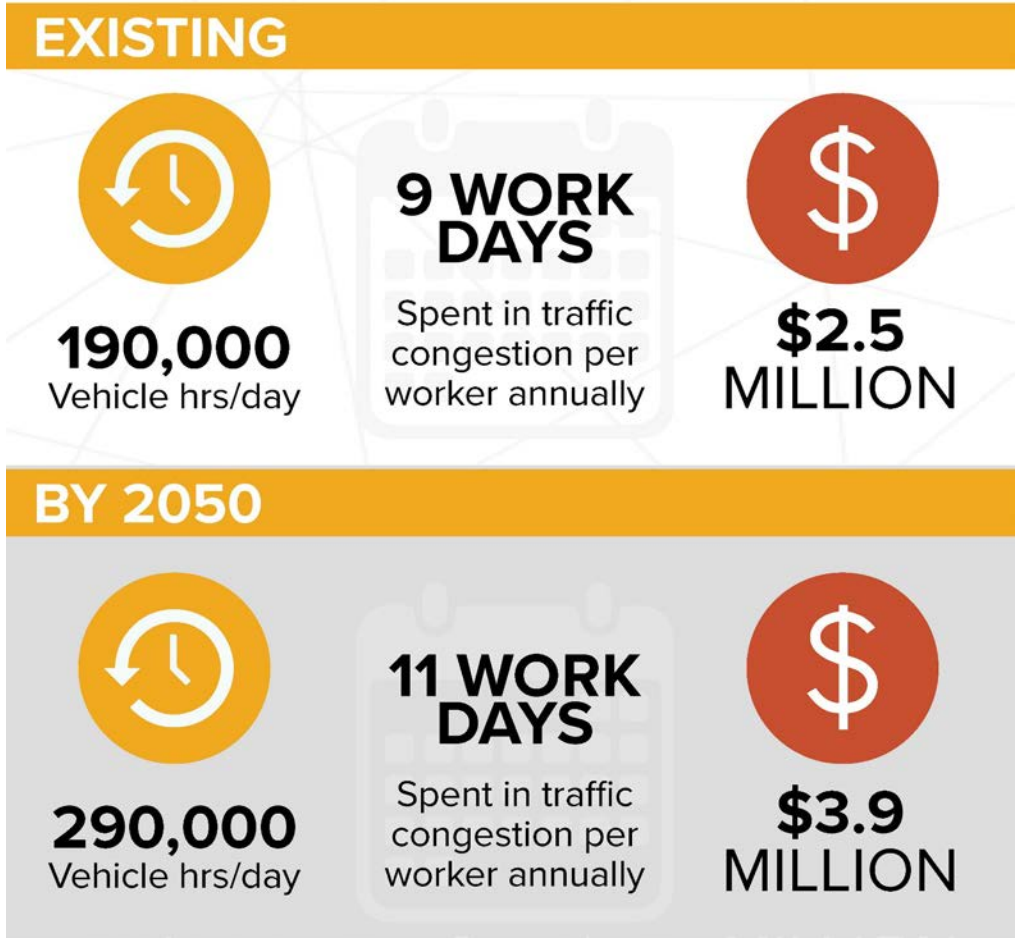
Transportation Problems – What Have We Learned?

What we have heard from you so far…

- **Congestion** and **travel time reliability** are your top concerns
- The roads you most often avoid due to congestion are **IL 22, IL 53, IL 83, IL 120, US 12, US 45** and **Lake Cook Road**
- Drivers choose routes based on **time** rather than distance
- Congestion affects your **route choice**
- Existing **Transit** options do not adequately service employment destinations

Areas you avoid to bypass congestion

Current Roadway Network

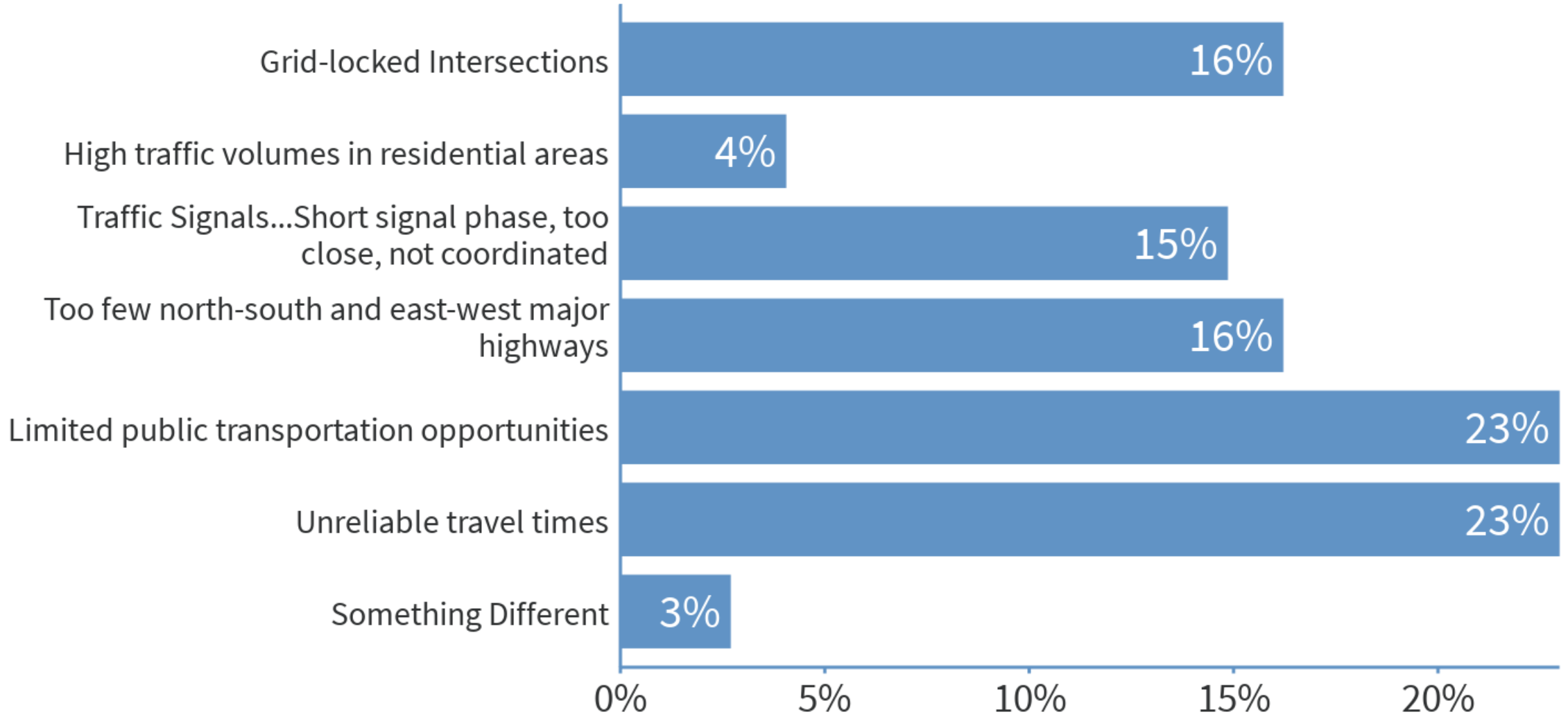


Draft Purpose & Need

- Tri-County Access **Purpose** Statement
  - » *The goal of the Tri-County Access Project is to provide efficient travel options that meet current and future transportation needs by reducing congestion, providing modal options, and improving access to homes and jobs.*
- Project **Needs**

What do you find the most frustrating when traveling in the Tri-County Access Project area (select up to two)?

When poll is active, respond at **PollEv.com/spg3**



What do you see as the key contributing factors to the area's transportation issues?

When poll is active, respond at **PollEv.com/spg3**

"Inability to commit to a solution that complements existing land uses, such as globally significant natural features"

"Lack of consistent investments to keep up with population growth and expansion of major employeers"

"Lack of Foresight to western Lake County growth"

"Too many poorly-planned residential developments that aren't integrated with the current and near-future roads/highways."

"Public transportation times convenient to Chicago"

"Rt 53 extension"

"Lack of transit"

"Creating solutions based on a mode of transportation that will be drastically different in 20 years"

"What role does innovation play in traffic use"

"not enough funding for existing road improvements"

"Need more funding and access to public transit"

"Lack of coordination Between municipal wrt development"

"badly planned development, competition between villages, no coordination"

"Added mass transit"

"How has the scoping effort been adjusted to answer the numerous questions challenging growth trajectories of population, automobile and truck traffic stated in early justification arguments? For example: people are fleeing the State in record numbers. Why does the ITA's assumption

Thoughts or questions related to the Tri-County Access Project Draft Purpose & Need?

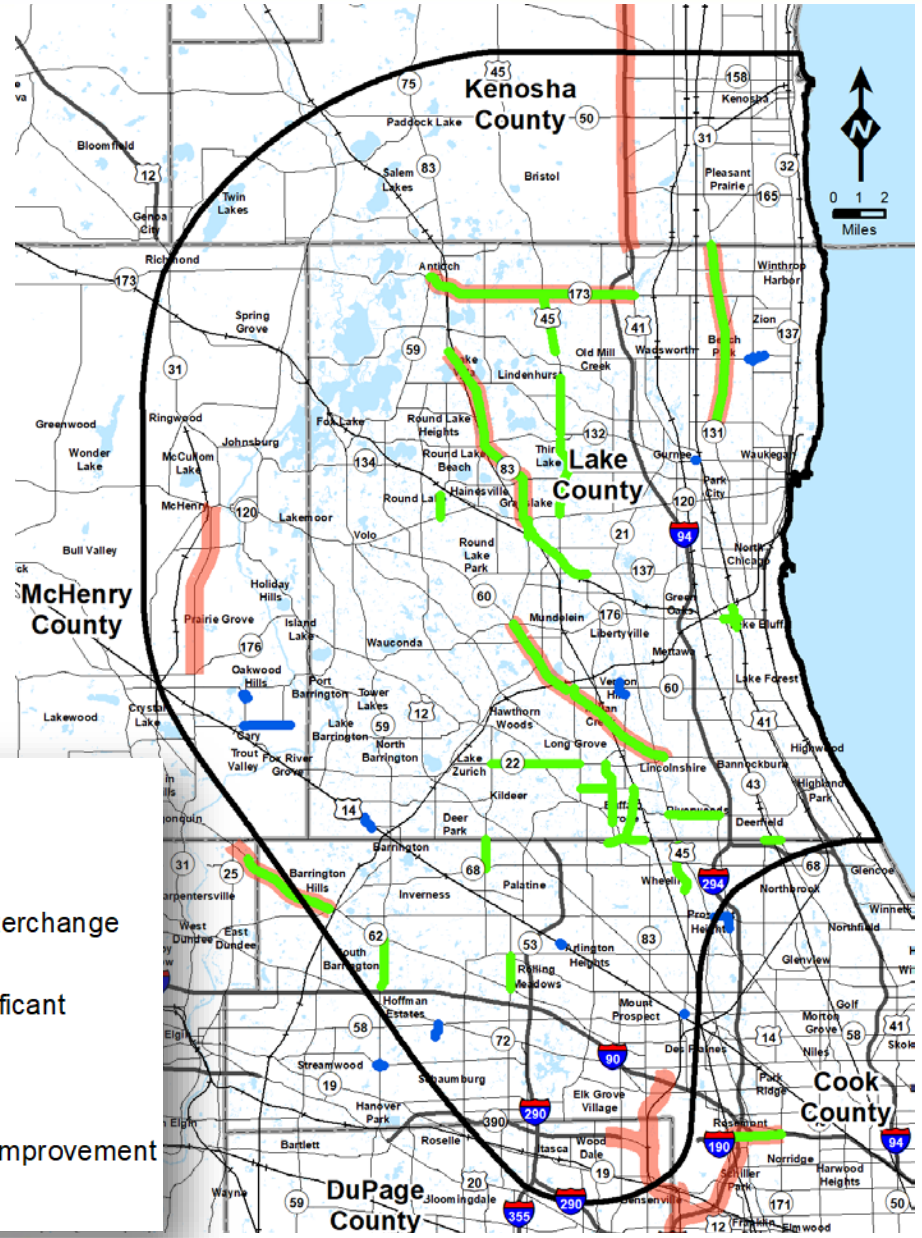
Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

3	Illinois must stop financing infrastructure with a "capital bill" once every 10 years. These boom and bust cycles do not deliver reliable maintenance of the system nor wi...
2	The purpose and needs does not address environment Al impact
2	Climate resiliency needs to be a primary factor
2	Public meetings should be held in the corridor and materials such as purpose and need statements should be available before we meet. We should have more access to speak f...
2	How is protecting and preserving environmental values being incorporated into a one of the goals in the purpose and need?
2	Transit usage is declining while passenger rides are up. Why is this study emphasizing transit?

Initial Range of Alternatives to be Considered

The **No-Build** Alternative

- Basis for 2050 planning horizon
- Considered as an alternative throughout EIS alternative studies
  - » *System Alternatives, Build Alternatives, and a potential Selected Alternative*
- The benchmark for comparing performance and impacts of alternatives



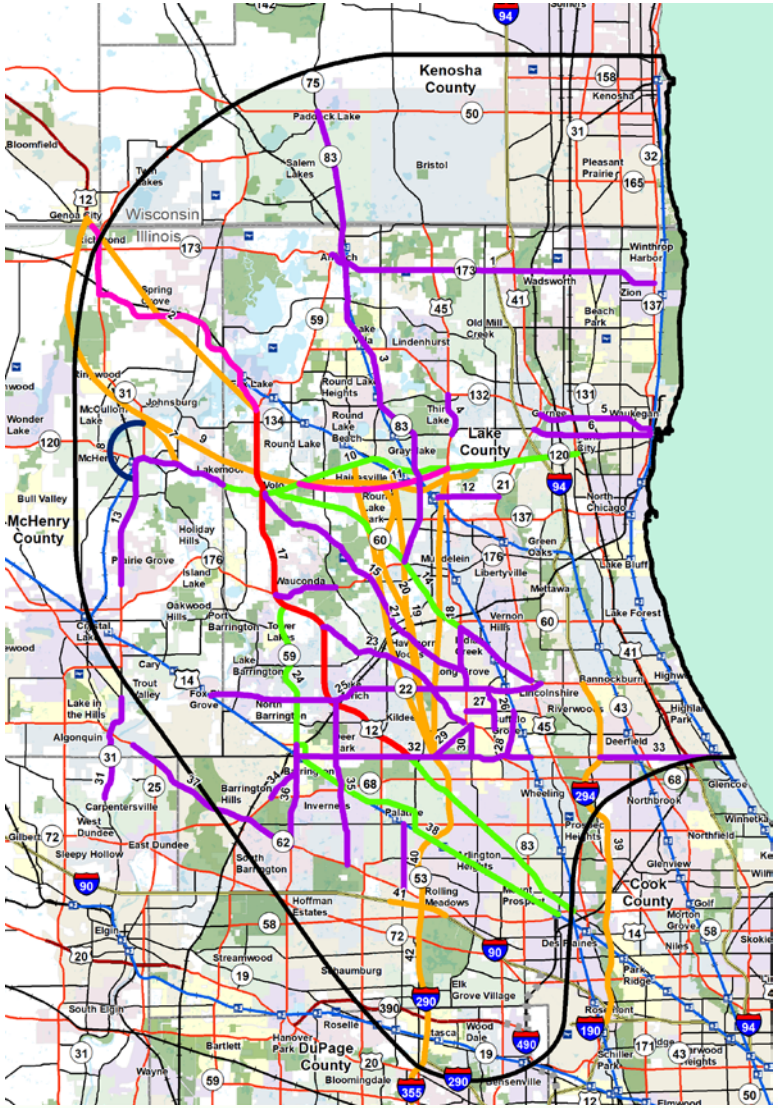
Improvement Components You Identified

SPG Identified Roadway Improvements

SPG #2 Roadway Improvements

Improvement Type

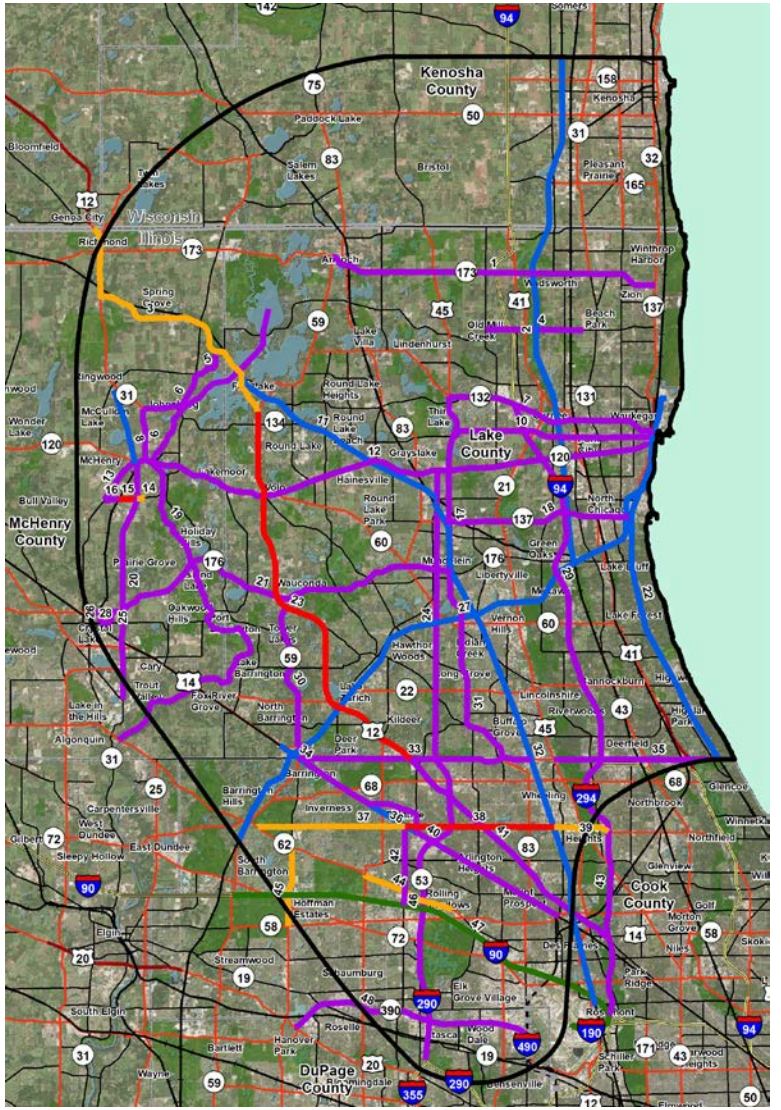
- Arterial
- Arterial, Expressway
- Arterial, Expressway, Freeway/Tollway
- Arterial, Freeway/Tollway
- Expressway
- Freeway/Tollway



SPG Identified Transit/Active Transportation Improvements

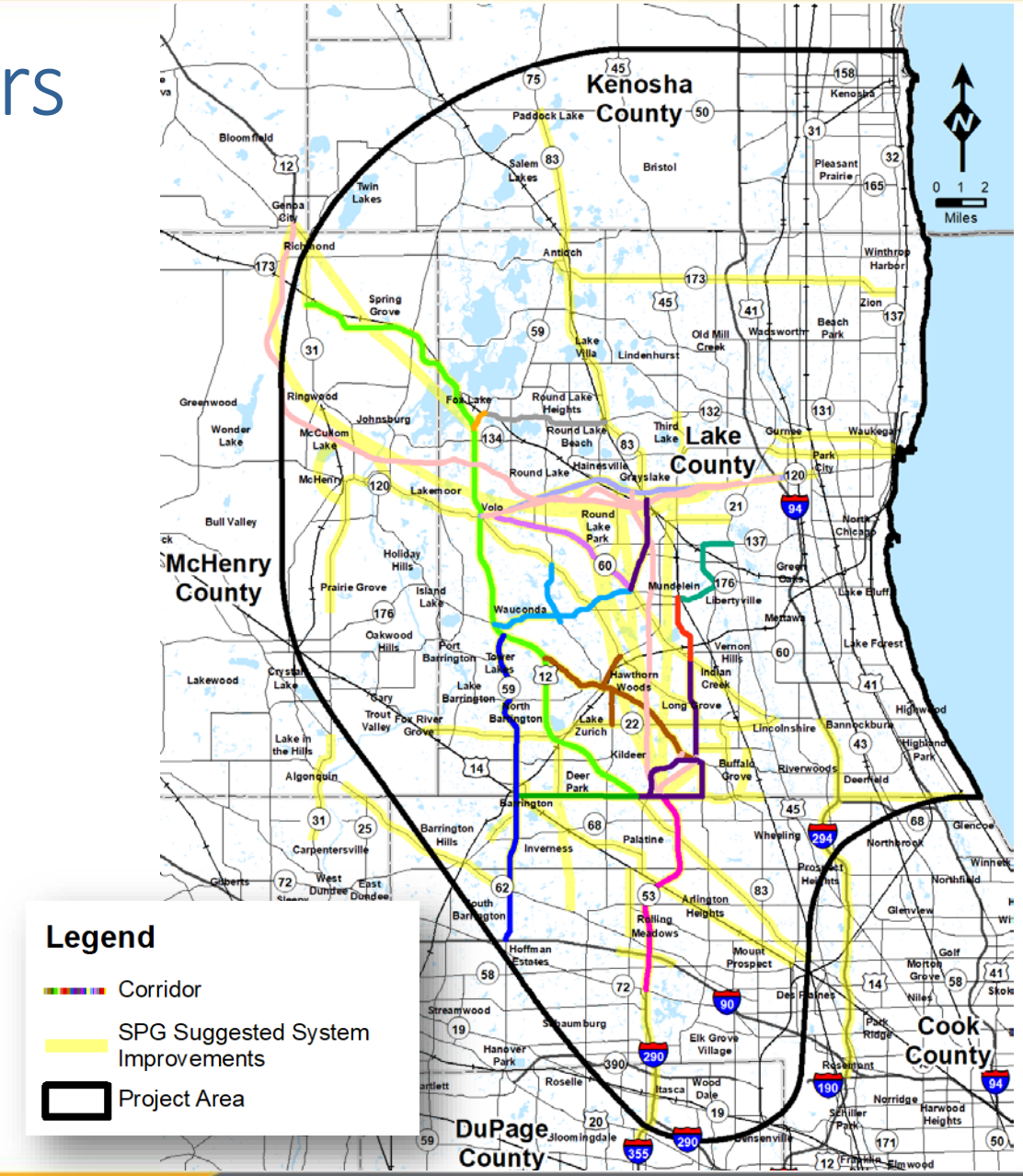
SPG #2 Transit and Active Transportation Improvements

- Bicycle Improvement
- Bus Transit
- Bus Transit, Bicycle Improvement
- Bus Transit, Rail Transit
- Rail Transit

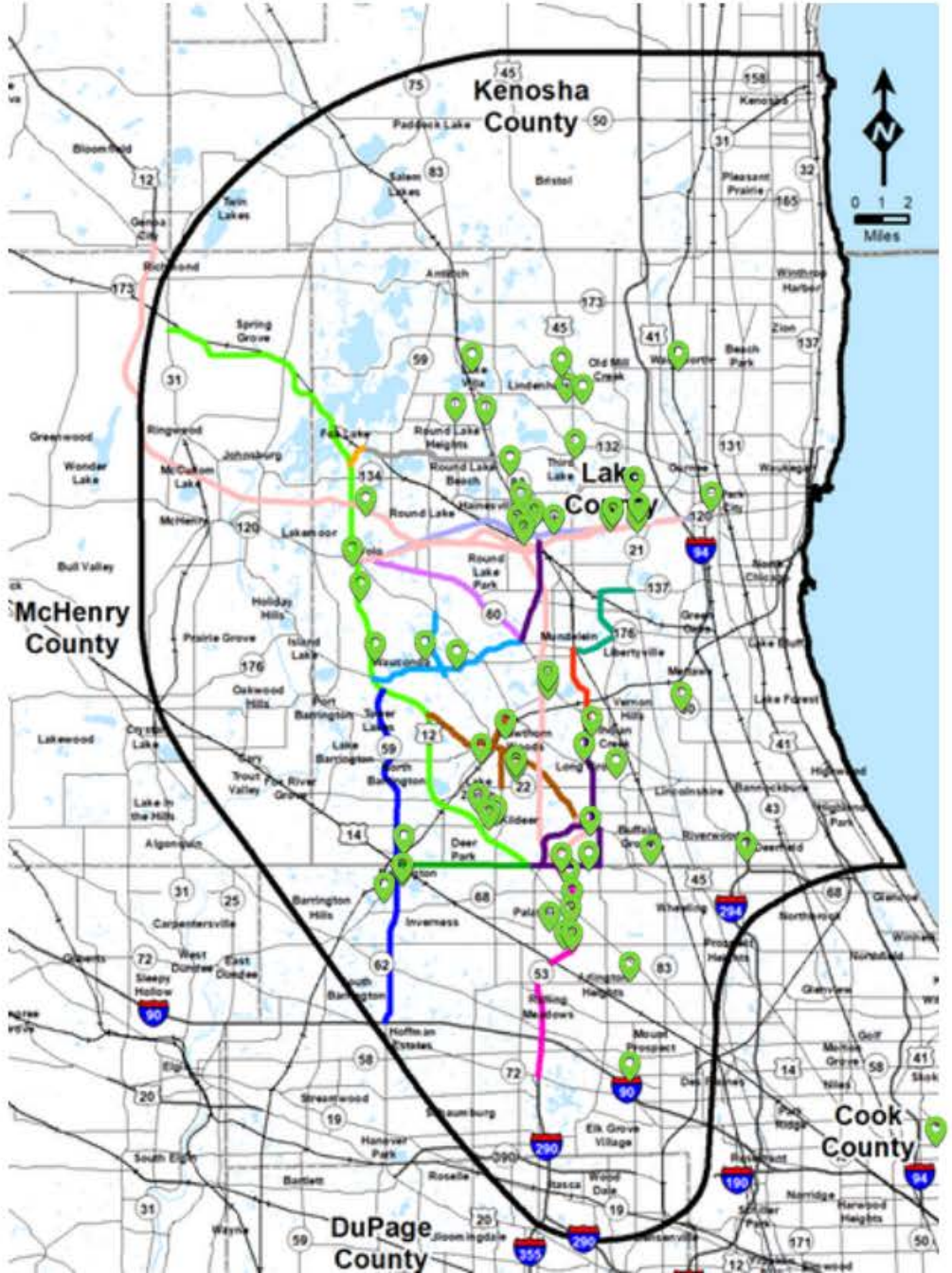


System Alternatives – Corridors Under Consideration

- Corridors under consideration include:
  - » *New Corridors*
  - » *Existing Corridors*
  - » *Combination of New and Existing Corridors*
- Early planning efforts have tested, evaluated and highlighted corridors to be actively considered. Inactive corridors include:
  - » *Routes that have been included for improvement in the 2050 No-Build Alternative.*
  - » *Routes that did not require additional lane capacity based on the initial travel demand modeling.*
  - » *Routes which can be served by improved parallel routes.*

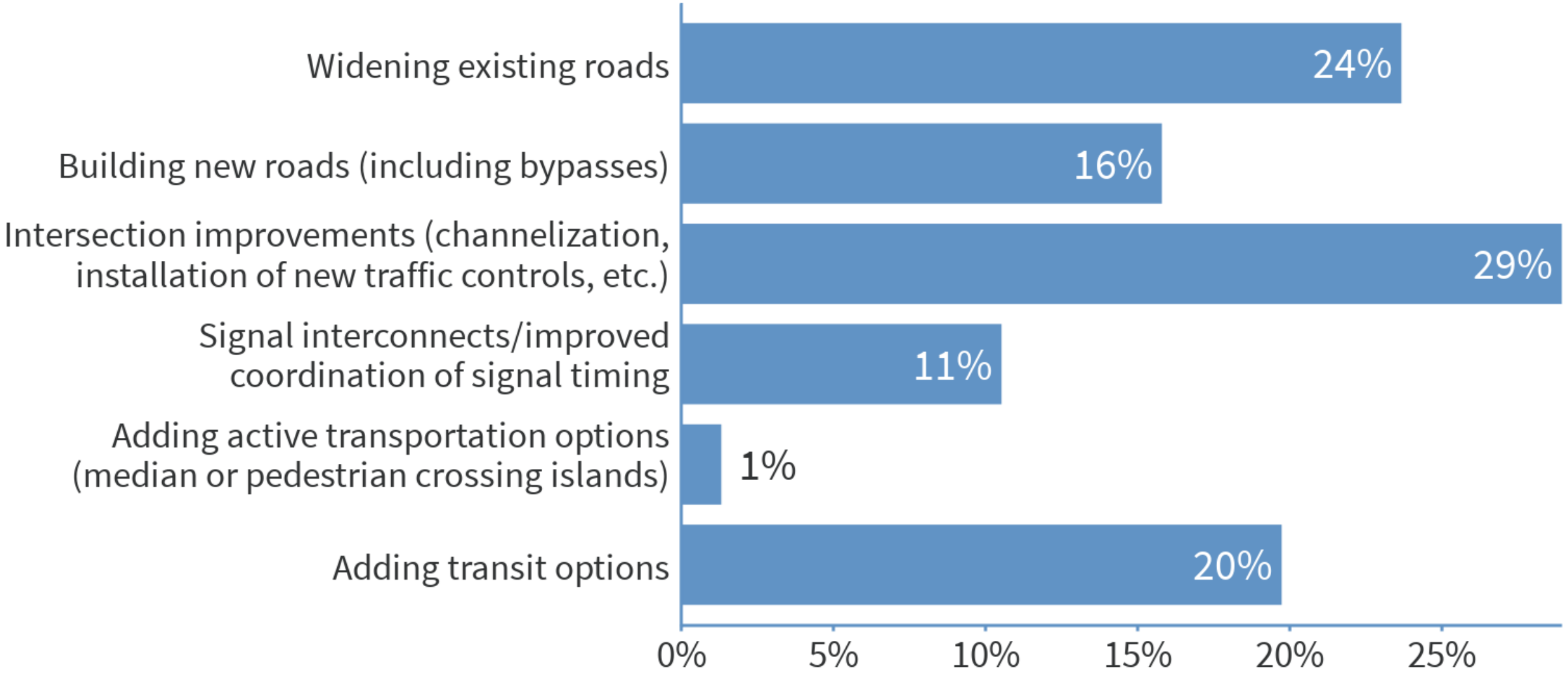


Of the corridors currently under consideration, which areas are the worst performing? (Choose up to two)



For those alternatives involving construction, which two strategies do you believe would have the largest impact on travel time reliability and congestion relief?

When poll is active, respond at **PollEv.com/spg3**



Developing a Range of Alternatives

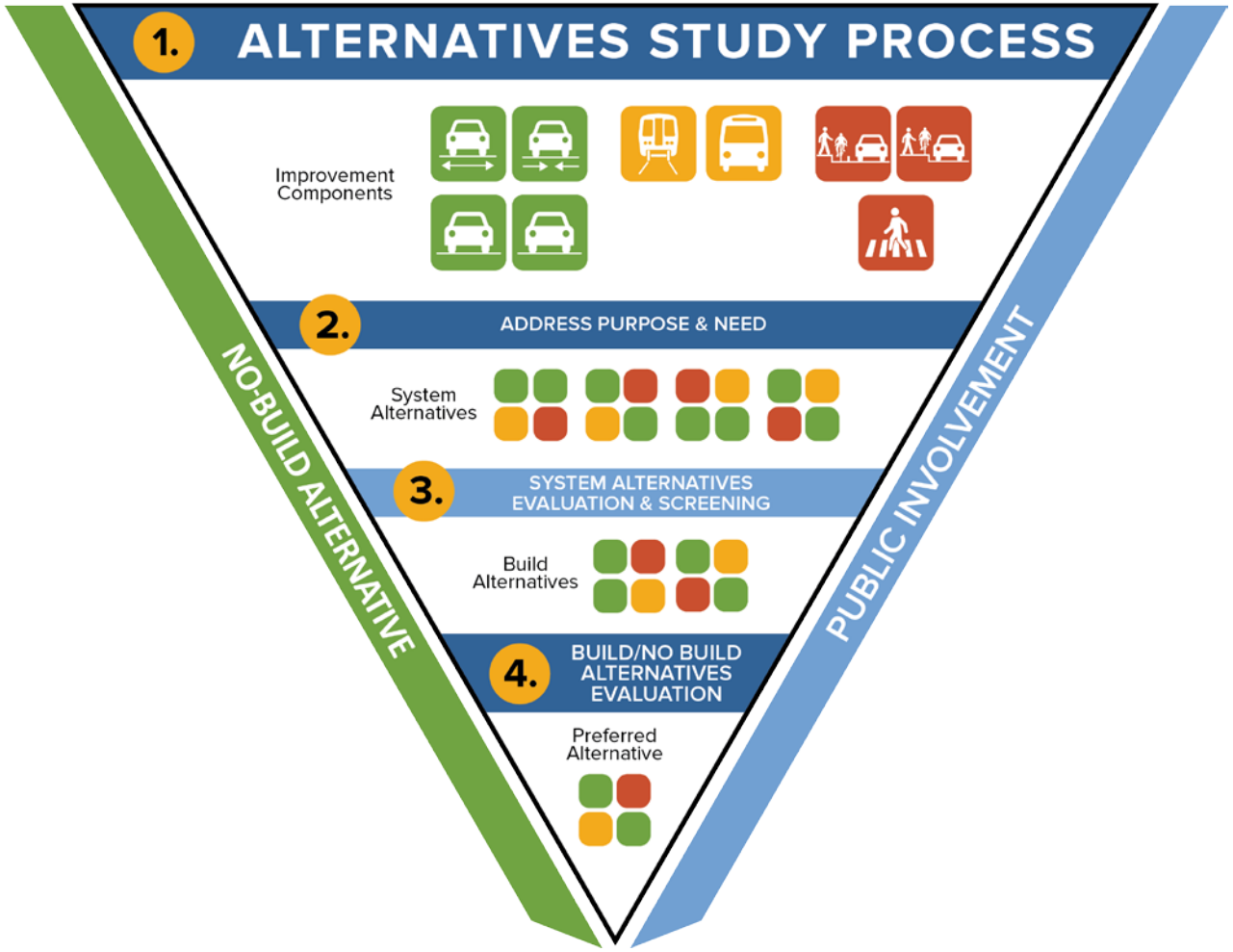
- **Stakeholder Input will continue to be sought throughout the project**
- **Prior studies** and previously planned projects will be considered during data collection
- Alternatives must also integrate avoidance and minimization of **environmental impacts**
- **Transportation System Performance (TSP)** Analysis serves as the foundation for development of System Alternatives
  - » *Identifies project area issues and needs*
  - » *Informs team of travel desires and service gaps within the project area*

How Performance of System Alternatives will be Measured

System-level Travel Performance	Measure
Vehicle Miles Traveled (VMT) and Congested Vehicle Miles of Travel (CVMT)	Change and comparison in vehicle miles and congested vehicle miles traveled on the transportation network
Vehicle Hours Traveled (VHT)	Change and comparison of vehicle hours of travel on the transportation network
Vehicle Hours of Delay (VHD)	Change and comparison of vehicle hours of travel delay on the transportation network
Travel demand and Level of Services (LOS)	Change in segment-level travel demand and LOS on the transportation network
Travel Pattern Assessment	Comparison and Change in travel patterns in the Project Area
Travel Time Effectiveness	Comparative travel time changes for representative locations in the Project Area
Travel Efficiency	Reduction in travel time compared to total lane-miles added for the alternative
Roadway Safety Considerations	Comparison of predicated crash profiles for alternatives under consideration
Estimated Costs	Planning level cost comparisons for alternatives under consideration
Transit, Freight/Intermodal, Active Transportation	Comparisons of total new transit opportunities, access to freight and intermodal facilities, bike and pedestrian opportunities and connections

System Alternatives Development – What's Next?

- ▶ Identify Improvement Components
- ▶ Identify and Evaluate System Alternatives
- □ Identify and Evaluate Build Alternatives
- □ Select Preferred Alternative/ No-Build Alternative



Questions or thoughts regarding Transportation Performance Measures?

Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

2	Seems like this process is really rushed.
2	Analysis of freight traffic should be highlighted due to its impact on area roads.
2	How will the representative locations be chosen for the "Travel Time Effectiveness" performance measure?
2	What is weighting for each variable?
2	Travel demand and LOS.
2	Considering east-west traffic outpaces north-south almost 5 to 1, why hasn't an option to decouple Route 53 from Route 120 been considered?
2	Travel efficiency.

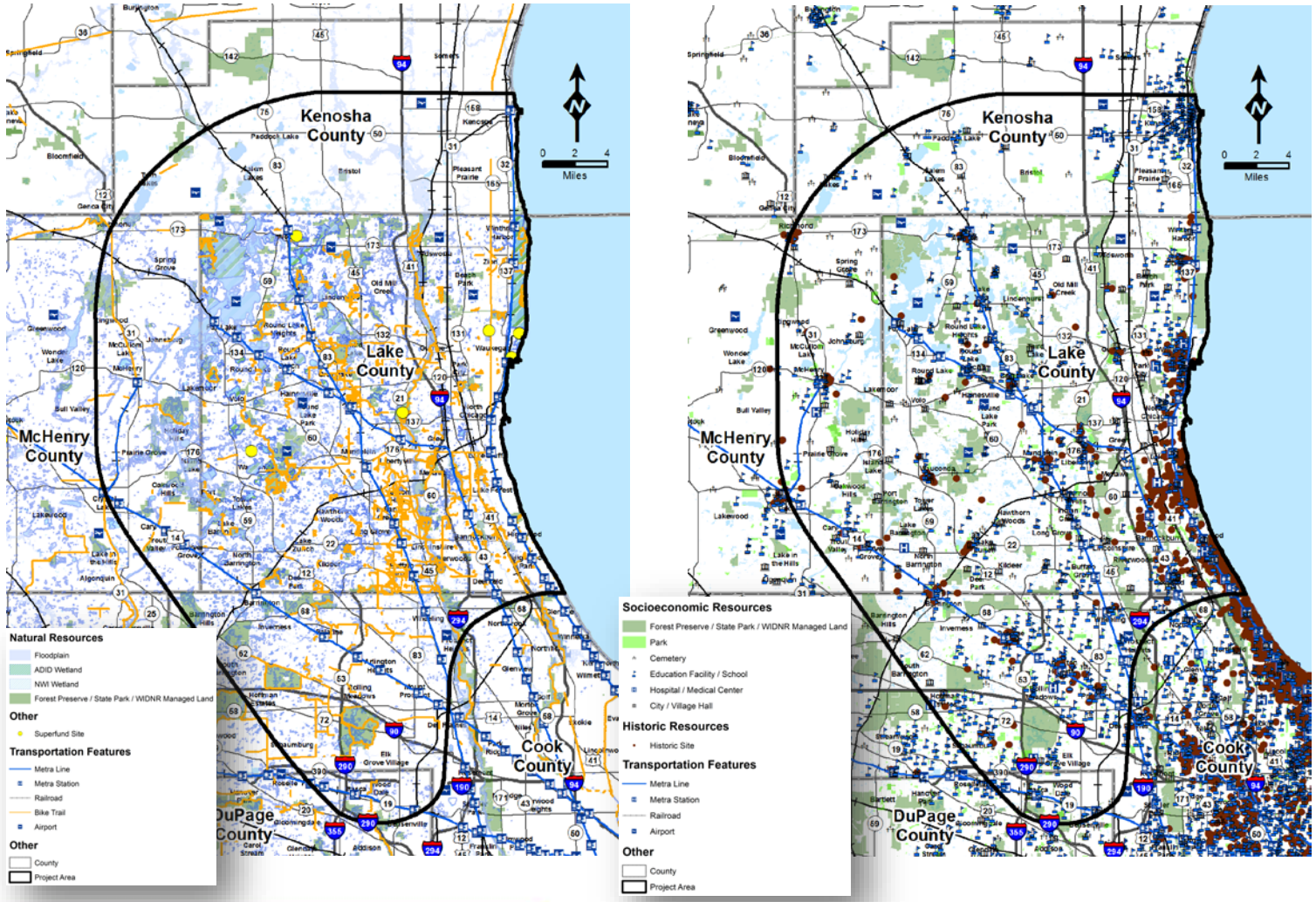
Environmental Resource Studies

Environmental Resource Study Process

- Collect and analyze available data
  - » *Reports and studies*
  - » *GIS/spatial data*
- Field observations
  - » *Validate or enhance understanding of resources*
- Identify avoidance and minimization opportunities
  - » *Prioritize avoidance, with initial focus on high quality areas*
  - » *Identify locations where engineering solutions can minimize impacts*
- Determine potential environmental effects of alternatives
- Coordinate with stakeholders and resource agencies

Environmental Resources to be Considered

- Socioeconomic Resources
- Community Facilities
- Land Use
- Parks and Recreation Sites
- Agriculture
- Cultural (Archaeological and Architectural)
- Air Quality
- Noise
- Aesthetics/Visual
- Hazardous and Special Waste
- Ecosystems and Habitats
- Threatened & Endangered Species
- Water Quality
- Floodplains
- Water Resources



Community Resource Considerations

- Socioeconomic Characteristics
  - » *Population, household, and employment data (historic and forecast)*
  - » *Other demographic information, such as income, ethnicity and race*
- Land Use
  - » *Land use, zoning, comprehensive plans*
  - » *Buildings/structures along corridors*
- Community Facilities/Services
  - » *Public services and facilities (schools, government facilities, libraries)*
  - » *Other community places (hospitals, churches, cemeteries)*
- Special Lands
  - » *Publicly owned park and recreation lands and wildlife refuges*
  - » *Nature preserves and natural areas*
  - » *Conservation/open space lands owned by government entities (e.g., Liberty Township) and land conservancy entities (e.g., Openlands)*

How Community Resources will be Considered in the Evaluation

- Socioeconomics
  - » *Evaluate demographic trends*
  - » *Evaluate census data to ensure that special groups (e.g., minority, low income) do not suffer a disproportionate share of adverse effects and are not denied transportation benefits*
- Community Facilities and Land Use
  - » *Quantify and evaluate site-specific impacts to community facilities*
  - » *Quantify displacements by land use (e.g., commercial, residential)*
  - » *Assess land use compatibility*
- Parks/Recreation Sites and Other Special Lands
  - » *Quantify impacts to recreation and other special lands*
  - » *Evaluate site-specific effects to each impacted property*

What are the important Community Resources in your community?

When poll is active, respond at **PollEv.com/spg3**

"Clean air"

"Large areas of open land unfragmented by roads"

"Floodplain & riparian areas"

"Wildlife corridors,"

"Wetlands"

"Habitat corridors"

"Quietness"

"Water resources - groundwater."

"Des Plaines River - pollution impacts"

"Water needs resulting from future development - can the aquifers support what's coming?"

"Air quality."

"Downtown areas"

"Open space, historic sites"

"Sporting fields, golf courses"

"MCCD lands"

"Ground water protection."

"Has the potential of flooding and storm water management issues been considered given the changing weather patterns?"

"53/120 construction will improve air and water quality"

"Much of what's being submitted here are luxuries enjoyed by those who already live comfortably from an economic standpoint."

"Farmland"

"Have we got a diverse group of stakeholders providing input at these meetings? Input seems skewed."

"Undeveloped land"

"Volunteers are extremely valuable to the ecology and economy of the region."

"Transit options that work for all socioeconomic classes"

Cultural (Archaeological and Architectural) Resource Considerations

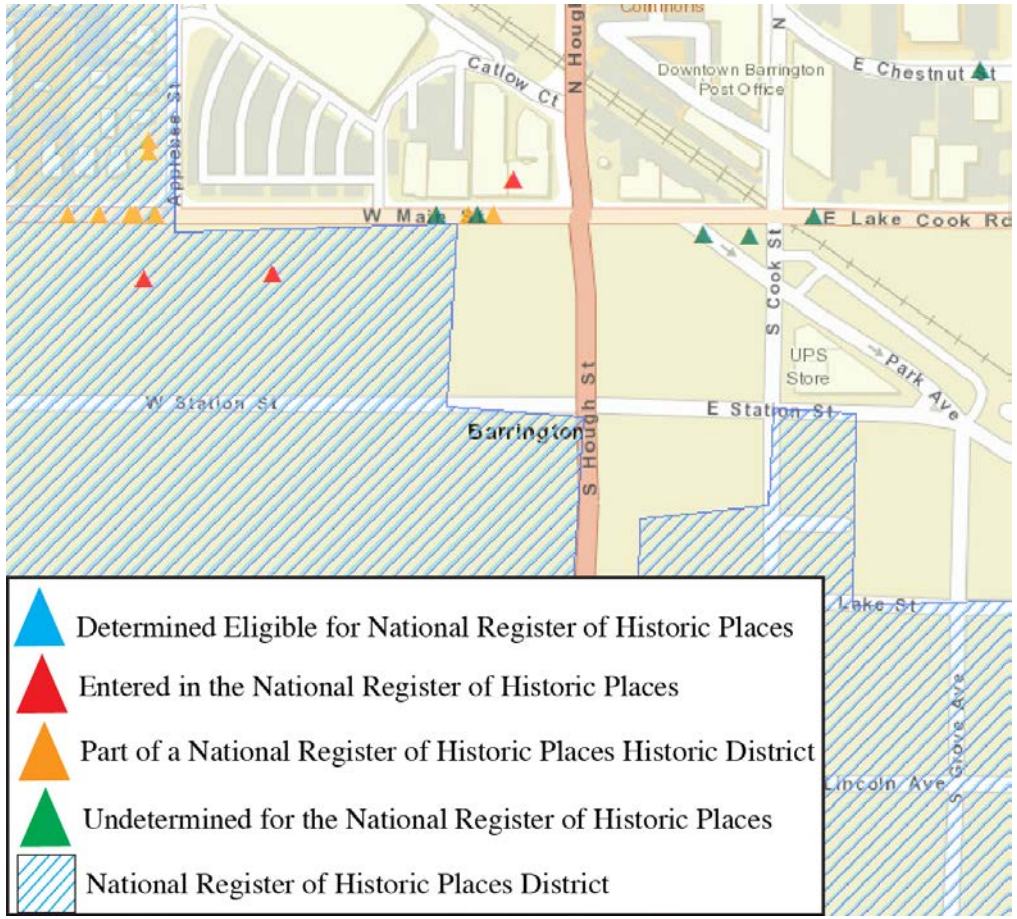
- Buildings - *Houses, Barns, Churches*
- Structures - *Bridges, Dams*
- Objects - *Fountains, Monuments*
- Sites - *Historic or Prehistoric*
- Districts - *Groupings of Historically Important Buildings*

Images are representative of the Project Area. They do not represent impacts.

©2018 Midwest Archaeological Research Services

How Cultural (Archaeological and Architectural) Resources will be Considered in the Evaluation

- Database Review
  - *Illinois Inventory of Archaeological Sites*
  - *HARGIS (Historic and Architectural Resources Geographic Information System)*
- Field Verification-System Alternative Phase
  - *Will be completed on all National Register of Historic Places buildings, structures, and districts listed on HARGIS*
  - *Photograph historic properties from public right-of-way*
  - *Confirm location, condition, and integrity*
- Evaluation of Cultural Resources
  - *Recommend which alternatives would have the greatest and least level of impact on the cultural resources identified*
  - *All recommendations will be reviewed and evaluated by the Illinois State Historic Preservation Agency*



Adapted from HARGIS

Aesthetic and Visual Resource Considerations

PROJECT RESOURCES

Representative geometrics, structures, and fixtures that compose the project environment.

BUILT ENVIRONMENT

Buildings, structures, and artifacts that compose the man-made environment.

NATURAL RESOURCES

Land, water, vegetation, and animals that compose the natural environment.

VIEWSHEDS → STATIC VIEWS TOWARD THE IMPROVEMENTS & DYNAMIC VIEWS FROM THE IMPROVEMENTS

How Aesthetic and Visual Resources will be Considered in the Evaluation

- Data Gathering
  - *Obtain information on natural and built features*
  - *Obtain information on system alternative features*
  - *Conduct field observations to establish the character of the viewsheds*
  - *Obtain input from stakeholders on visual and aesthetic resources in the project viewsheds*
- Evaluation Considerations
  - *Potential for changes in visual character*
  - *Potential for aesthetic enhancement opportunities*

What historic, natural, cultural and entertainment resources or events help support the local economy?

When poll is active, respond at **PollEv.com/spg3**

"Various community celebrations, fests, recognition of local environmental heroes."

"Libertyville prairie"

"They all do - critical and THE ASSET of Lake and McHenry County. Can't be replaced and make it a destination for flora and fauna and humans."

"The natural and cultural resources are invaluable and human existence and quality of life dependent upon it."

"Hospitals"

"Jobs that pay middle class wages lead to local cultural vibrancy - not the other way around."

"Farm stands & seasonal events"

"Agricultural intensive events & activities (horse, apple orchards, fall fests, nurseries/flower stands)"

"Community events"

"Expanding number of restaurants in the area"

"Nippersink creek canoe tr"

"Historic barn of 1850 vintage"

"Things that can be moved - "music center, farm stands" - are not as crucial as things that cannot be moved - apple orchards, etc."

"Music venue in shopping center"

"Conservation area"

"Recreation is a billion dollar industry"

"Forest preserves"

"Open Space is extremely valuable for people's health."

"Parks and multi use shopping center"

"Glacial Park kames"

"College of Lake County"

"Most of these responses are nonsensical."

"Independence Grove"

"Oak woodlands"

Natural Resource Considerations

- Existing Natural Areas to be Reviewed
  - » *Wetlands and Waterbodies*
    - – Swamps, Marshes, Bogs or Similar Areas
  - » *Forests, Native Prairies, Grasslands*
  - » *Unprotected and Undeveloped Lands*
  - » *Protected Lands (Forest Preserves, Conservation Areas)*
- Resources within Natural Areas
  - » *Regulated Waters of the U.S.*
  - » *Wildlife Habitat (Aquatic, Terrestrial, Avian)*
- Threatened & Endangered Species/Habitat
  - » *Federal (e.g., Northern Long-Eared Bat)*
  - » *State (e.g., Blanding's Turtles)*

Photo by Steve Taylor, University of IL

How Natural Resources will be Considered in the Evaluation

- Review of Federal, State, Local Databases
  - *e.g., U.S. Fish and Wildlife Service National Wetlands Inventory, Lake County Wetland Inventory, and State And Federal Lists of Threatened and Endangered Species*
- Field verification of natural areas
  - *Confirm presence, absence and location of areas*
  - *Identify habitat potential*
  - *Characterize outside threats to these areas*
- Considerations for habitats within natural areas
  - ***Forests and Riparian Corridors** - provide suitable habitat for many species but in particular bats, including the Northern Long Eared Bat*
  - ***Grasslands** - provide cover for declining populations of grassland birds and migratory birds as well as potential habitat for the recently federally listed rusty patch bumblebee*
  - ***Wetlands** - Numerous sensitive species of flora and fauna thrive here*
- Threatened & Endangered species and suitable habitat is priority

Photo By Mike Redmer, USFWS

What are the important Natural Resources (Wetlands, Threatened & Endangered Species, etc.) in your community?

When poll is active, respond at **PollEv.com/spg3**

"Groundwater" "Headwaters" "Des Plaines river watershed and Fox River watershed"

"We have extensive wetlands along the Des Plaines, and significant forest and upland forest preserve holdings. Again, I'm in Wadsworth, so not likely to be impacted immediately by 53, but could be by subsequent changes to 94 and 41. And by the way, if I'd had this (and the other) questions in advance, I could have gotten input from the entire League of Women Voters and given you a much better answer."

"Too many to list independently!" "Oak Groves" "wildlife corridors" "High q quality mussel species diversity"

"Grasslands, prairie, oak forests"

"We shouldn't be choosing them independently. They are all interconnected. It's like you are asking us which ones we should leave alone and which ones should be on the chopping block"

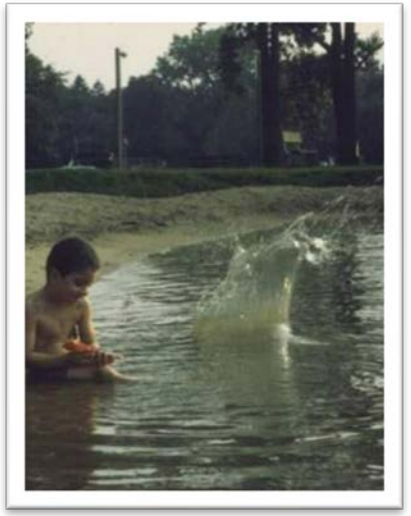
"Have you considered the connectedness of endangered species from underground?" "Streams"

"Large unfragmented restored habitats"

"There should be no "favorite children" and false competition among resources. Any solution should be balanced against the need for open

Water Quality Considerations

- Surface water and groundwater support natural and recreational resources
- Rivers, Lakes and Streams
  - » *Recognized Water Quality Concerns*
    - – Impaired waterbodies
    - – Pollutants of concern
  - » *Current physical attributes*
    - – Instream obstructions (dams) and lack of instream habitat
- Groundwater
  - » *Identification of public and private wells and recharge areas*
  - » *Location of existing aquifers, both shallow and deep*



How Water Quality will be Considered in the Evaluation

- Data Sources
  - » *Aerial imagery data*
  - » *Existing local, state and federal water quality data and water infrastructure data*
- Potential Water Quality Effects
  - » *Analyze and identify potential impacts to water quality*
  - » *Consider how expected future development would impact water resources*

What are your concerns about water quality, flooding, etc. in your community?

When poll is active, respond at **PollEv.com/spg3**

"Salt spray from roads"

"Flooding from potential increase in impervious surfaces from a new road."

"Mitigation still destroys the resource being mitigated for"

"Safe, unpoluted drinking water should be available to the entire human race for free. No one should ever have to pay for something so essential to life."

"With Global Warming, flooding is a serious concern, where are you going to store all the rain water?"

"Designing and operating transportation facilities to accommodate increasing occurrence of extreme weather events."

"More flooding as number of wetlands and open space is decreased"

"We have high quality streams now. A major road project will degrade them regardless of BMPS. just look at what happens on small projects now"

"Mitigation for future impacts of the build alternative"

"The village of Hainesville relies completely on its own aquifer which produce better quality than Lake Michigan."

Questions or thoughts regarding Environmental Resource Studies?

Please note that due to space restrictions, this slide includes only a sample of questions submitted during the meeting. Not all questions shown were addressed during the meeting; all questions submitted will be included in the meeting summary.

1	Mitigation costs should be weighed into build alternative costs.
1	How will Executive Order 13807 specifically affect the Rt. 53 EIS process?
1	Future opportunities laid out in the McHenry and Lake County green infrastructure plans. They are readily available.
1	Consider impacts of potential future developments
0	How much will be original, on the ground studies vs secondary research?
0	You need to factor in mitigation needs early in the process
0	NWI maps are no substitute for wetland delineations.

Next Steps

What's Next?

EARLY PLANNING STUDIES | PREPARATION OF ENVIRONMENTAL IMPACT STATEMENT

2018 | 2019 | 2020 | 2021

Draft EIS

Final EIS

ROD

Needs Assessment

System Alternative Studies
Planning, Cost Analysis, Environmental Studies

Build Alternative Studies
Preliminary Engineering, Environmental Studies, Funding/Financial Studies

Alternative Selection & Study Completion
Preliminary Engineering Plans, Implementation/Financial Plan

STAKEHOLDER INVOLVEMENT

1 2 3 4 5 6 7 8

NOI

We Are Here

- SPG = Stakeholder Participation Group Meetings
- PM = Public Open House Meetings
- Public Hearing
- NOI = Notice of Intent
- ROD = Record of Decision

SPG Meeting Schedule

SPG MEETING #1
March 21, 2018

Kickoff, Transportation Issues, Context Audit

SPG MEETING #2
April 24, 2018

Goals & Objectives, System Alternative Improvement Components

SPG MEETING #3
August 30, 2018

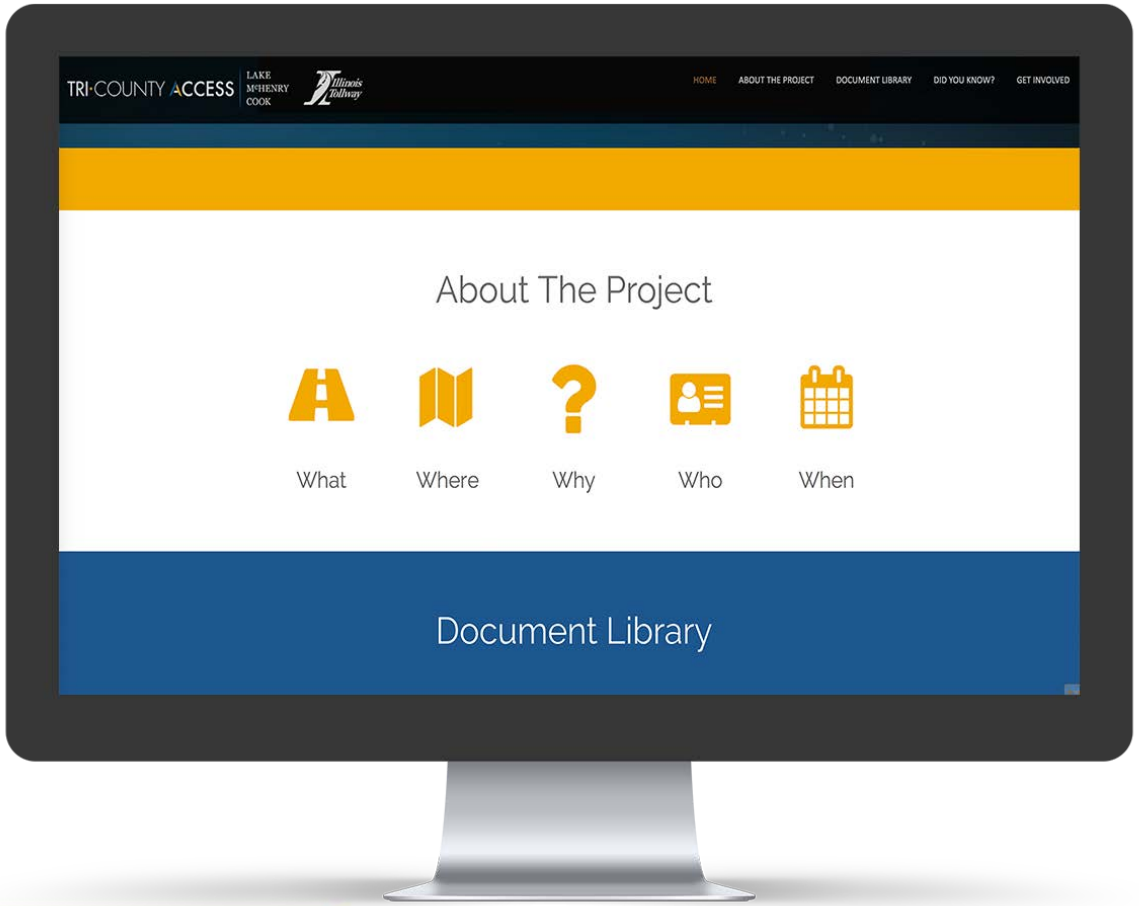
Draft Purpose & Need, Project Scoping

SPG MEETING #4
Early 2019

System Alternatives Features & Evaluation

Ways to Stay Involved

- Stakeholder Participation Group
- Public Meetings/Hearing
- Factsheets
- Speakers' Bureau
- One-on-One Meetings
- Project Website
  - » *www.TriCountyAccess.org*



Thank you!

Attachment 5:

Public Information Meeting #1

Summary

TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW
LAKE
McHENRY
COOK

Public Information Meeting Summary

The **Tri-County Access (TCA) Study Team thanks you** for the comments provided in response to the first set of Public Information Meetings (PIMs) for the TCA Study. The meetings were held to provide a study overview and to receive public input. Held in an open-house format, the PIMs included informational boards, a brief introductory video, and an interactive mapping exercise. The Study area limits, schedule, draft Purpose and Need, environmental considerations and the alternatives development process were presented. Personnel from the Illinois Tollway and their consultants, as well as the Illinois Department of Transportation (IDOT), were present to answer questions and receive comments about the TCA Study. Combined, approximately 700 people attended the meetings.

PUBLIC INFORMATION MEETINGS
July 25, 2018 4:00 PM to 7:00 PM Countryside Banquets Lakemoor, Illinois Attendees: 280*
September 6, 2018 4:00 PM to 7:00 PM Concorde Banquets Kildeer, Illinois Attendees: 420*

All comments received during the public comment period (July 16, 2018 to October 1, 2018) are part of the official PIM record and are considered part of the Study scoping process. Scoping provides all interested parties the opportunity to identify significant issues to be considered in the Study's proposed action. A total of 620 comments were received at the PIMs and during the public comment period, with 546 unique commenters (74 submitted multiple comments) and 272 requested responses.

As many of the commenters asked similar questions or expressed similar concerns, this summary has been prepared to provide an overview of the TCA Study and address the comments that have been received. Information and materials provided at the PIMs, as well as this summary document are available on the TCA website at TriCountyAccess.org.

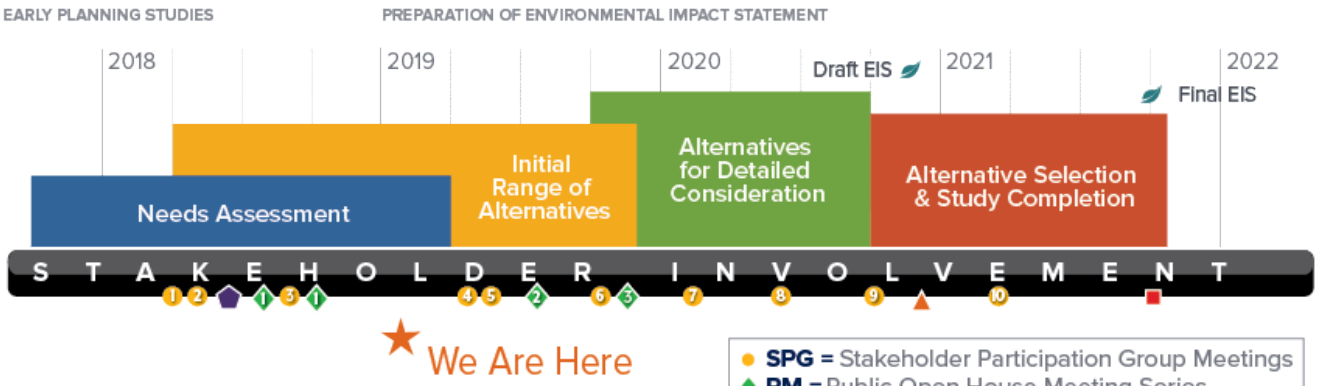
WHAT WE HEARD AND HOW WE ARE ADDRESSING YOUR CONCERNS:

- Frustration with existing traffic congestion and failure of road improvements to keep pace with development – See *Page 2, Purpose and Need*
- Opposition to extending Illinois Route 53 and/or support for the No-Build Alternative - See *Page 3, We are Here*
- Support for extending Illinois Route 53 and/or major transportation improvements – See *Page 3, We are Here*
- Requests for improvements to east-west and/or other existing roads (i.e. Illinois Route 120, U.S. Route 12) - *Page 3, We are Here and Step 3 - Alternatives for Detailed Consideration*
- Environmental and quality of life concerns – See b*ottom of page 3*
- Support for transit-only or active transportation solutions to regional transportation problems - See *Page 4, Transit and Active Transportation Alternatives*
- Costs/funding concerns – See *Page 4, Cost and Funding Concerns*
- Requests for additional public input opportunities – *See Page 4, Public Input Opportunities*

Tri-County Access Study Environmental Impact Statement

On July 16, 2018, the Federal Highway Administration (FHWA) published a notice of intent (NOI) to prepare an Environmental Impact Statement (EIS) for the Tri-County Access (TCA) Study, a proposed transportation improvement project in Lake, northern Cook, and eastern McHenry counties. Led by FHWA and jointly sponsored by the Illinois Tollway and the Illinois Department of Transportation (IDOT), the TCA Study is intended to identify regional transportation solutions to reduce congestion, improve reliability of the transportation system, and improve travel options to reach major destinations throughout the 1,000 square-mile TCA Study area. Alternatives under consideration to address these issues include (1) improvements to the existing roadway network; (2) construction on new alignment; (3) improvements to transit, including rail and bus; (3) improvements to bicycle and pedestrian facilities; (4) transportation system management/transportation demand management strategies; and (5) taking no action. The Final EIS will conclude with a Record of Decision (ROD) by FHWA, which documents how the preferred alternative was selected, describes the alternatives considered and discusses the plans for mitigation and monitoring of environmental resources, if necessary. Completion of the EIS is required to secure regulatory approvals and to make any components of the preferred alternative eligible for federal funding.

Tri-County Access Study Schedule



****The process is being implemented according to the Memorandum of Understanding Implementing One Federal Decision Under Executive Order 13807*

The TCA Study will be advanced in conformance with the National Environmental Policy Act (NEPA) and associated federal and state requirements meant to integrate environmental values and public interaction into transportation improvements.

Step 1: Needs Assessment (Project Initiation/Scoping/Purpose and Need)

In this step of the study process we identified stakeholders, notified agencies of the Study, established the Study Team and Stakeholder Participation Group (SPG), and continue to conduct formal and informal scoping activities that encourage all interested parties to provide comments and suggestions to ensure that the full range of issues related to the EIS process are addressed and all significant issues are identified. Other activities during this step include collecting information about the Study area, performing transportation system performance studies, and establishing the Purpose and Need statement.

DRAFT

Tri-County Access (Draft) Purpose and Need

The Draft Purpose and Need was developed through research and information gathered through initial planning studies, as well as from input received from the SPG and public meetings.

TCA Study Needs:

- Inadequate travel options to reach regional destinations
- Widespread congestion and unreliable travel times

The Purpose of the TCA Study is to identify efficient travel options that meet current and future transportation needs by improving access to regional destinations and by reducing congestion. The Study recognizes the area's unique environmental resources and is committed to developing transportation solutions that minimize environmental impacts. The Draft Purpose and Need is available for public review on the TCA website (TriCountyAccess.org). The posting marked the start of a 30-day period for public comments.

WHAT IS PURPOSE AND NEED?

- Establishes the overarching purpose of a project or study
- Identifies the problems to be addressed
- Defines performance objectives that alternatives should achieve
- Starting point for development and evaluation of alternatives

Step 2: Initial Range of Alternatives

This step began with the identification of a broad range of Initial Improvement Components (that is, elements of potential alternatives) including potential improvements to various existing and new roadways, transit, active transportation, and transportation management strategies. The Initial Improvement Components are being combined and tested to identify the Initial Range of Alternatives to be considered. Each of the initial alternatives to be considered must address the TCA Purpose and Need. The Initial Range of Alternatives is being developed by leveraging information gathered from previous studies, input from stakeholders, and an understanding of existing and future travel patterns. The Initial Range of Alternatives will be developed and evaluated at a conceptual level, to allow an initial evaluation of their relative performance characteristics and environmental consequences, as compared to the No-Build Alternative. The No-Build Alternative will be considered as an alternative throughout the EIS process and will also serve as a benchmark for comparing the performance and impacts of other alternatives. The No-Build Alternative incorporates currently planned major transportation projects as identified in regional planning efforts and is being used as a basis for determining future transportation performance.

WHAT IS THE NO-BUILD ALTERNATIVE?

- Baseline condition that all other alternatives are compared against
- Basis for 2050 planning horizon
- Includes committed projects in agency programs for which Phase I approvals have been secured
- Considered as an alternative throughout EIS alternative studies
- Eligible to be identified as the Preferred Alternative

The intent of the Study is to examine in detail the potential impacts of a reasonable range of alternatives and their effects. In the Initial Range of Alternatives phase of the Study, the characteristics of alternatives are still being developed and assessed; therefore, it is too early to eliminate alternatives from consideration. However, public support and opposition for various alternatives will be evaluated and considered at every step of the EIS process.

Step 3: Alternatives for Detailed Consideration

This step begins with the identification of the build alternatives to be carried forward for detailed consideration. The Alternatives for Detailed Consideration will be developed to a greater level of detail, to allow a refined evaluation of their performance characteristics and environmental effects, as compared to the No-Build Alternative. Findings and public input will support identification of the Preferred Alternative, which will be presented in the Draft Environmental Impact Statement (Draft EIS). A Preferred Alternative will be selected that best balances achieving the Study's Purpose and Need with minimizing impacts to the natural and human environment. Stakeholder input on the Draft EIS and the identified Preferred Alternative will be solicited.

Step 4: Alternative selection and study completion

This step of the process begins with circulation of the Draft EIS for a public comment period. Draft EIS comments will be reviewed and addressed in preparation of the Final EIS. This step concludes with preparation of the Final EIS and a Record of Decision by FHWA formally identifying the selected alternative; along with preliminary engineering studies for the Preferred Alternative and the development of the Study Implementation and Financial Plan.

Environmental and Quality of Life Considerations

The TCA Study will consider how any alternative, including the No-Build Alternative, will impact both natural and socioeconomic resources. In compliance with NEPA, any environmental effects of a proposed action will be disclosed. The first priority is to avoid and minimize environmental effects and these efforts will be documented throughout the process. Where effects cannot be avoided and/or minimized, mitigation requirements will be applied and coordinated. When mitigation is considered, the TCA Team will coordinate with resource and regulatory agencies and local land management agencies to help identify and evaluate the best options for mitigation. Opportunities will be sought to link transportation solutions with sustainable environmental approaches and opportunities for enhancement.

DRAFT

In addition, the TCA Team will assess the potential health effects of the proposed action following the current policies of their respective agencies as well as other applicable state and federal policies. Health is an integrated aspect of such analyses as air quality, water quality, and noise impact assessment for both the during and post-construction conditions.

Transit and Active Transportation Alternatives

The TCA alternatives development process will consider a variety of travel modes (roadway, transit, active transportation) as well as enhancements to transportation system management. At SPG Meeting #2, SPG members helped determine the locations and types of improvements that should be considered in the TCA study area roadway (existing roads, including arterials, new roads) and transit (rail and bus transit) networks. The TCA Team will consider strategies for integrating active transportation (bike and pedestrian) and enhanced transportation system management strategies when developing alternatives. The TCA Study will examine the compatibility of expanded transit service within the region and will determine how transit can be included as a standalone or an element of a multi-modal transportation solution. Multi-modal solutions to be considered include expanded bus and shuttle services, accommodations for bicycles and pedestrians, and complementary transportation system and demand management strategies. Transit alterative development will be guided by early input from Regional Transit Authority and Transit Service Boards (Pace and Metra), development of a TCA Regional Transit Policy Framework, identification of key Study area travel characteristics, support from regional planning efforts such as the CMAP *ON TO 2050 Plan*, RTA *2018 – 2023 Strategic Plan*, Pace *Vision 2020,* and review of best practices from comparable systems with similar land use and socioeconomic characteristics. Transit alternatives will be evaluated for achieving the Purpose and Need of the Study.

Cost and Funding Concerns

Funding along with an implementation plan and schedule are among the topics that will be considered during the alternatives evaluation. The goal is to identify a fiscally sound regional transportation solution which considers the resources and constraints of area transportation providers. In order to issue a Record of Decision on a selected alternative, FHWA requires a detailed project management plan which will address funding and financing, budget, schedule and phasing.

DRAFT

Public Involvement Opportunities

The TCA strives to offer robust opportunities for public interaction and input at key milestones during the EIS study process. Those opportunities are described in the Stakeholder Involvement Plan, available on the TCA website, which describes the TCA's planned activities to meet the federal requirements for public and agency engagement under NEPA, FHWA environmental regulations, and Executive Order 13807. The TCA's planned public engagement activities go above and beyond the minimum federal requirements. The Study Team and project sponsors are continually striving to enhance opportunities to engage and solicit input from the stakeholders and the public.

WAYS TO STAY INVOLVED?

- Project Website - TriCountyAccess.org
- Submit a Comment
- Join Mailing List
- Attend Public Meetings
- Request a Small Group Meeting

TRI·COUNTY ACCESS

MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

WELCOME

TriCountyAccess.org

Tri-County Access Public Open House Meeting #1

***Join the Discussion** and provide your suggestions on how to best meet our transportation challenges.*

- **SIGN-IN**
- **VIEW SHORT VIDEO PRESENTATION**
- **REVIEW EXHIBITS**

STATION 1 Project Introduction

STATION 2 Transportation Performance Characteristics

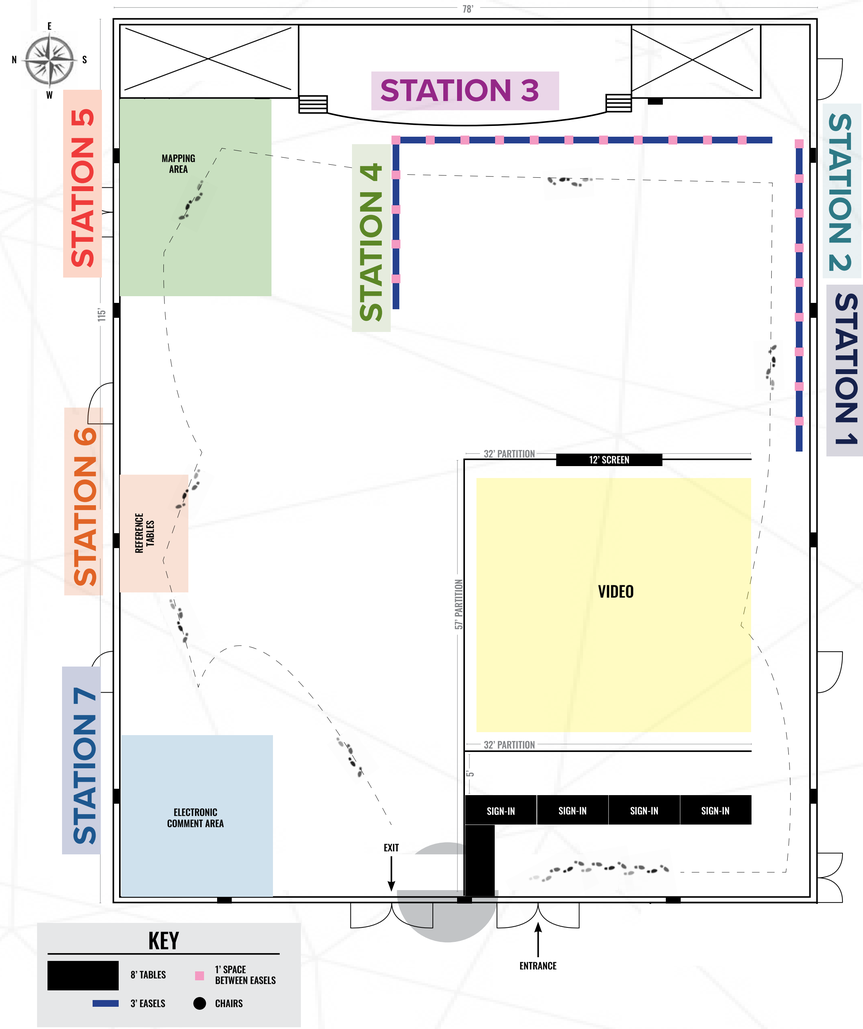
STATION 3 Environmental

STATION 4 Purpose & Need and Alternatives Analysis Process

STATION 5 What are your solutions?

STATION 6 Reference Table

STATION 7 Comment Area



You are encouraged to speak with project team members, ask questions and receive information about the Project.

STATION 1

Project Introduction

MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Tri-County Access Project Team

LEAD AGENCY

U. S. Department of Transportation
Federal Highway Administration

PROJECT SPONSOR/JOINT LEAD AGENCY

Illinois Tollway

JOINT LEAD AGENCY

Illinois Department of Transportation

T·E·A·M

LEAD PROJECT ENGINEERS

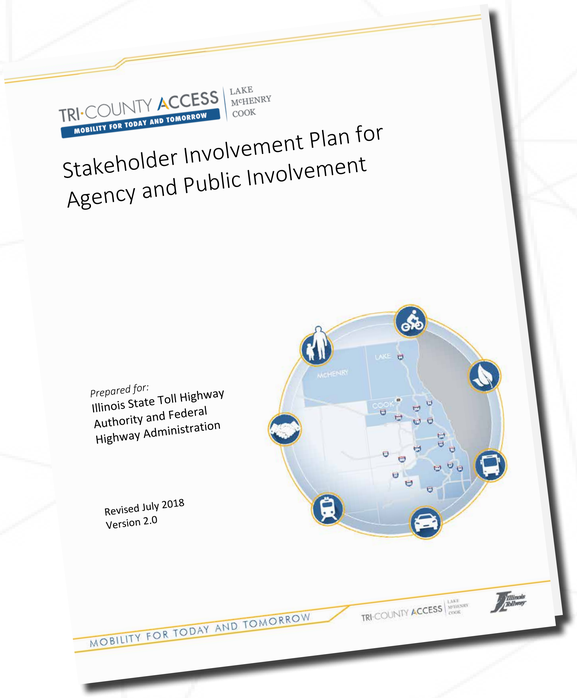
CH2M/KNIGHT TEAM

MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Public Involvement



PURPOSE OF STAKEHOLDER INVOLVEMENT PLAN

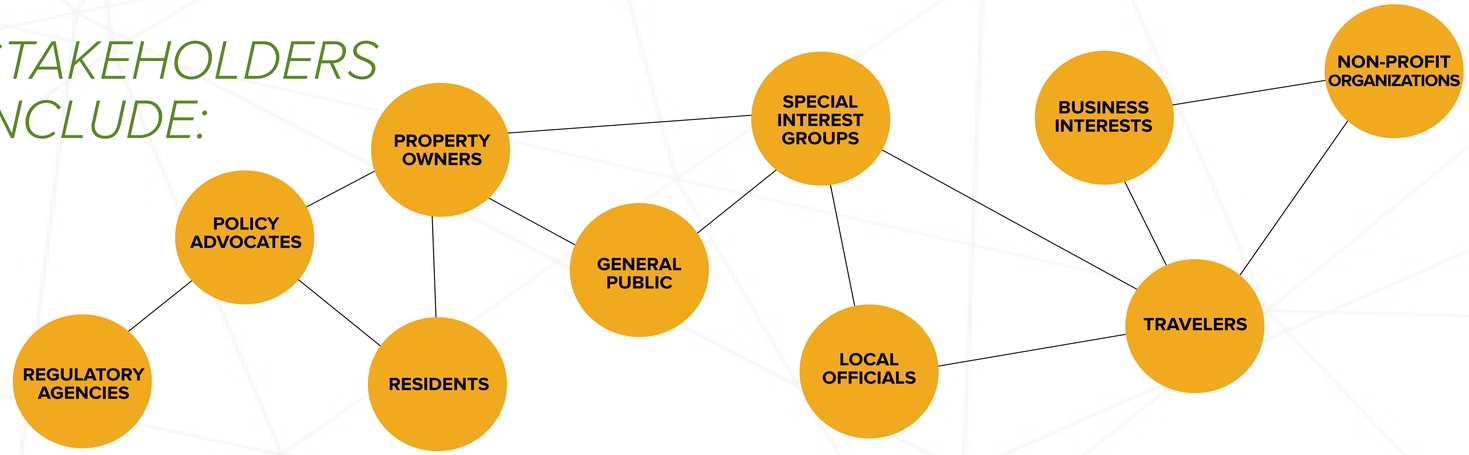
Identifies roles & responsibilities of participants
Establishes timing of stakeholder activities
Provides guidance for participation

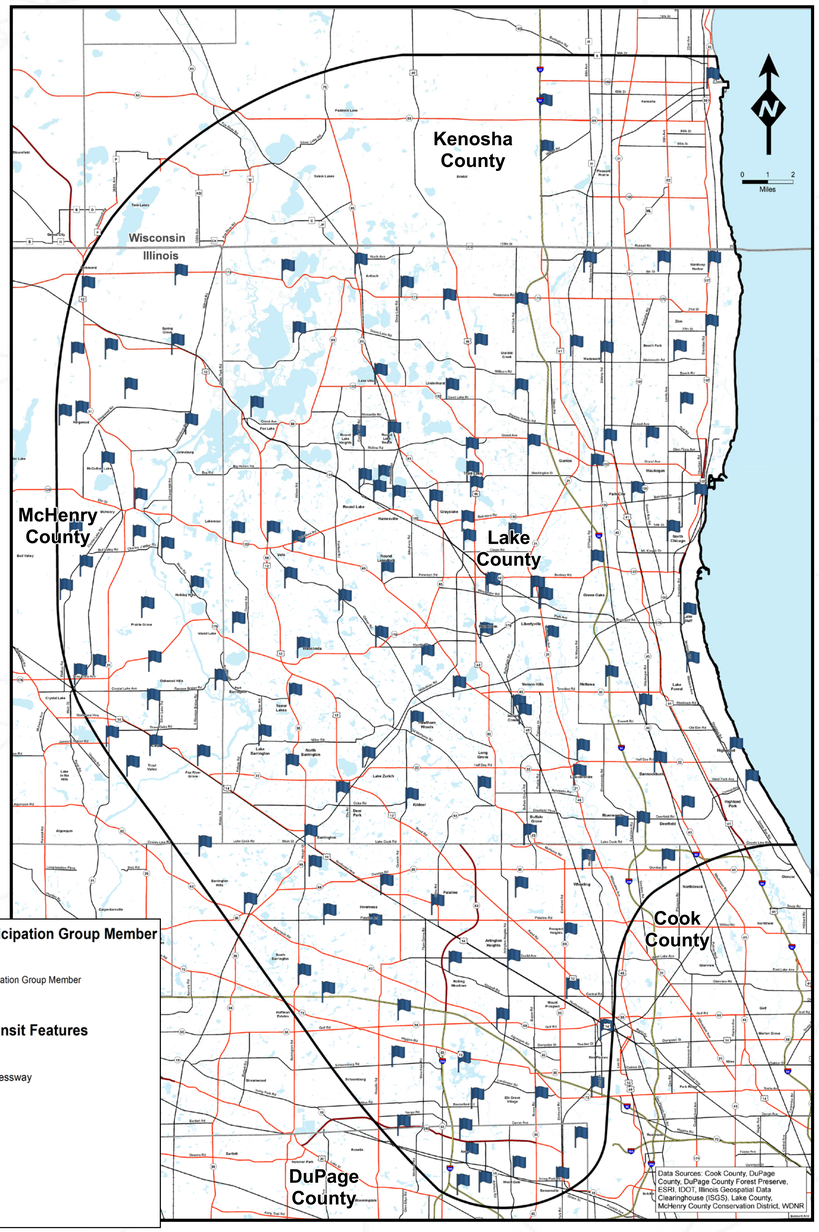
GENERAL RESPONSIBILITIES OF Stakeholder Participation Group (SPG)

OVER 150 INVITED THROUGHOUT THE ***PROJECT AREA***

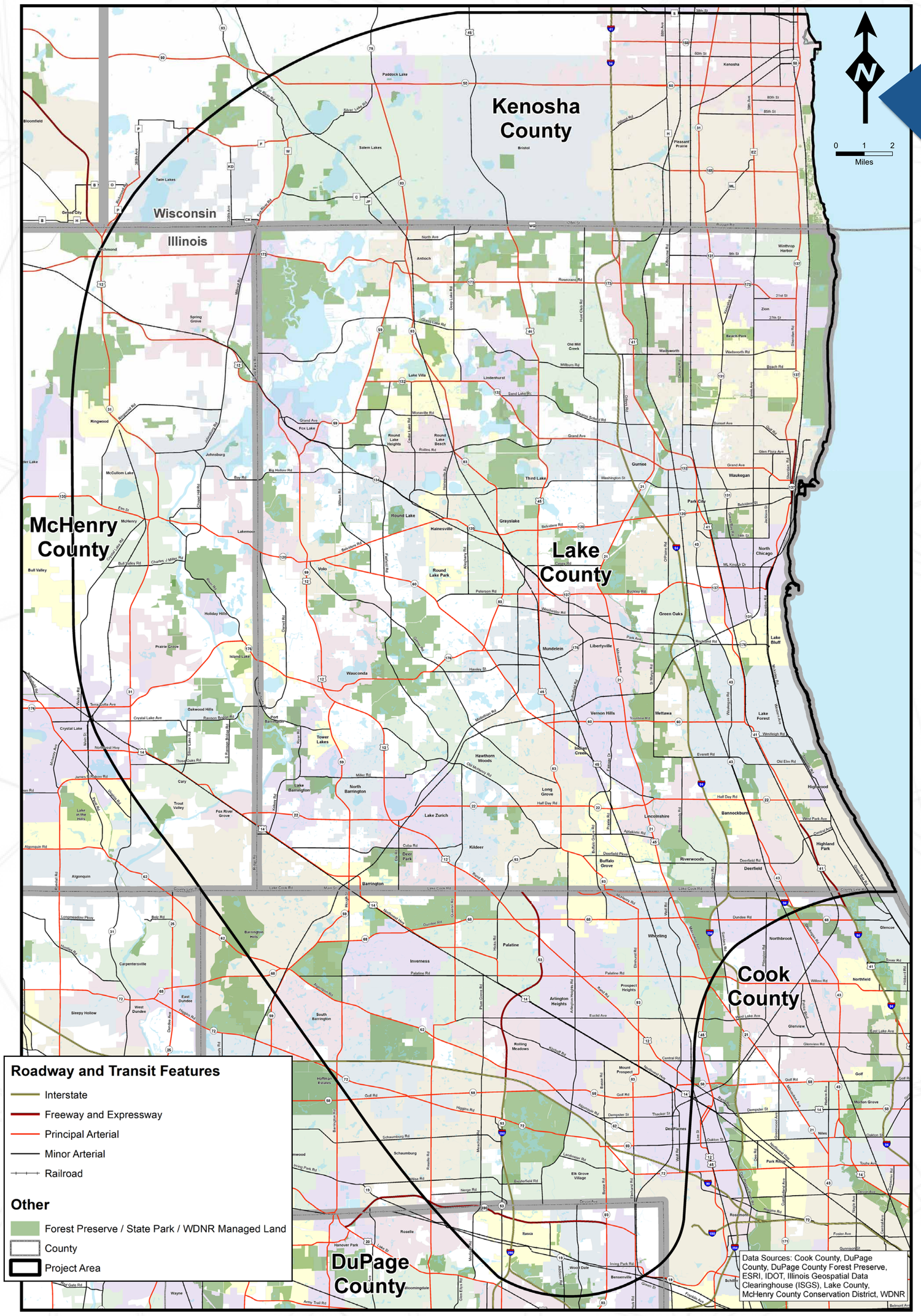
- **Commit** to attending meetings
- **Support** the public involvement process as outlined in the Stakeholder Involvement Plan
- **Identify** community, environmental, economic resources, and transportation issues
- **Provide** input on study data and technical analyses
- **Share** information and encourage broader community input

STAKEHOLDERS INCLUDE:





Tri-County Access Project Area



Approximately

1000

SQUARE MILES

Three primary

Counties

Lake, eastern McHenry and northern Cook

Two adjoining

Counties

Portions of Kenosha and DuPage

Why ***Now?***

- Development in the Tri-County region has outpaced transportation improvements.
- Congestion is widespread **today**, with **1/3 of the roadway** network congested during rush hours.
- **By 2050**, the total time added to travel due to traffic congestion-related delays during rush hours will be **over 55%** than they are now.

Join Us On This Journey

Stay **Connected**

- Public Meetings/Hearing
- Factsheets
- Speakers' Bureau
- One-on-One Meetings
- Project Website

Comment Forms

- Written and online comment forms
- Comments received by ***August 25, 2018*** will become part of the Public Meeting #1 record

Project **website**

Visit **TriCountyAccess.org**

Delivering a Comprehensive Regional Strategy

Did you ***Know?***

As travel demand on area roadways continues to increase, rush hour travel times on many of the region's roads is expected to drop to less than 20 miles an hour by 2050.

The Tri-County Access Project is following the National Environmental Policy Act (NEPA) process, which is the nation's most comprehensive approach to evaluating and disclosing the effects that infrastructure projects may have on the environment.

Public input is critical to the Tri-County Access Project and the NEPA process. In addition to public meetings and comment opportunities, the Project includes a Stakeholder Participation Group that includes more than leaders invited from 85 communities, agencies and associations with a wide array of interests.

Project Schedule

EARLY PLANNING STUDIES

PREPARATION OF ENVIRONMENTAL IMPACT STATEMENT

2018

2019

2020

2021

Draft EIS

Final EIS

Needs Assessment

System Alternative Studies

Planning, Cost Analysis, Environmental Studies

Build Alternative Studies

Preliminary Engineering, Environmental Studies, Funding/Financial Studies

Alternative Selection & Study Completion

Preliminary Engineering Plans, Implementation/Financial Plan

STAKEHOLDER INVOLVEMENT

1 2 3 4 5 6 7 8

We Are Here

- SPG = Stakeholder Participation Group Meetings
- PM = Public Open House Meetings
- Public Hearing

STATION 2

Transportation Performance Characteristics

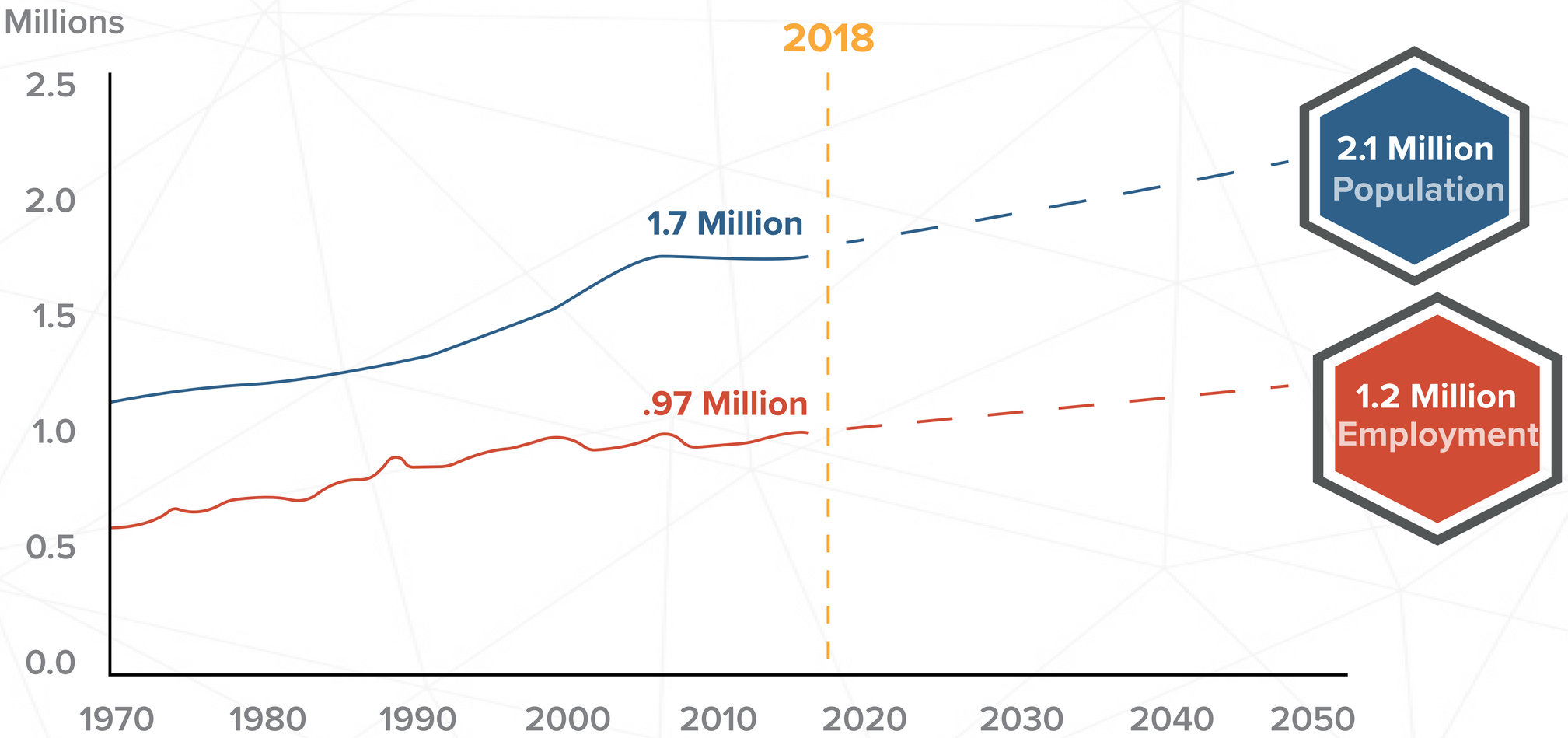
MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

TRI·COUNTY ACCESS | LAKE McHENRY COOK

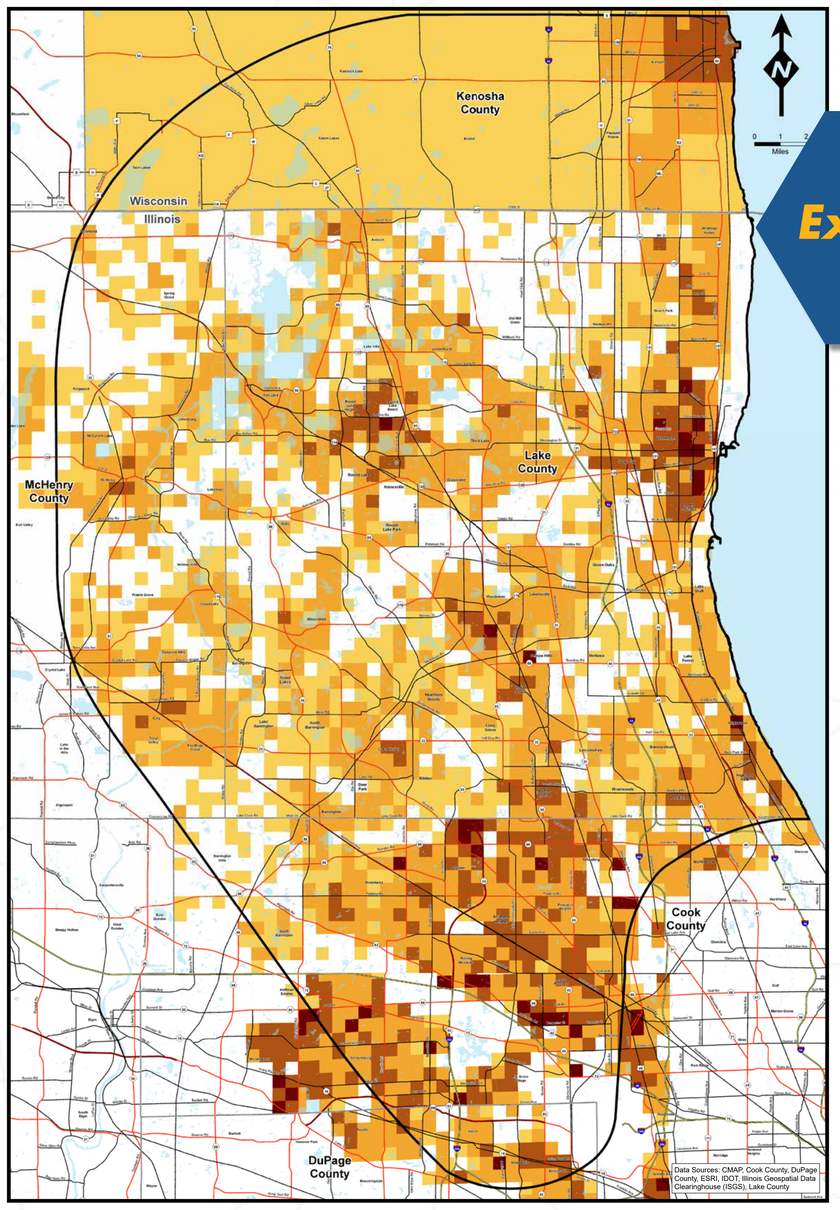
Population & Employment Expected to Rise in the Project Area

POPULATION & EMPLOYMENT
EXPECTED TO INCREASE
24% BY 2050



Source: The Chicago Metropolitan Agency for Planning's (CMAP) Draft ON TO 2050 Comprehensive Regional Plan. The Draft ON TO 2050 Plan is now available at www.cmap.illinois.gov/onto2050 for public comment through August 14.

Population Density Expanding North & West



By 2050

30% *growth in Lake Co.*

19% *growth in Cook Co. + DuPage Co.*

39% *growth in Kenosha Co.*

58% *growth in McHenry Co.*

Population Per Square Mile

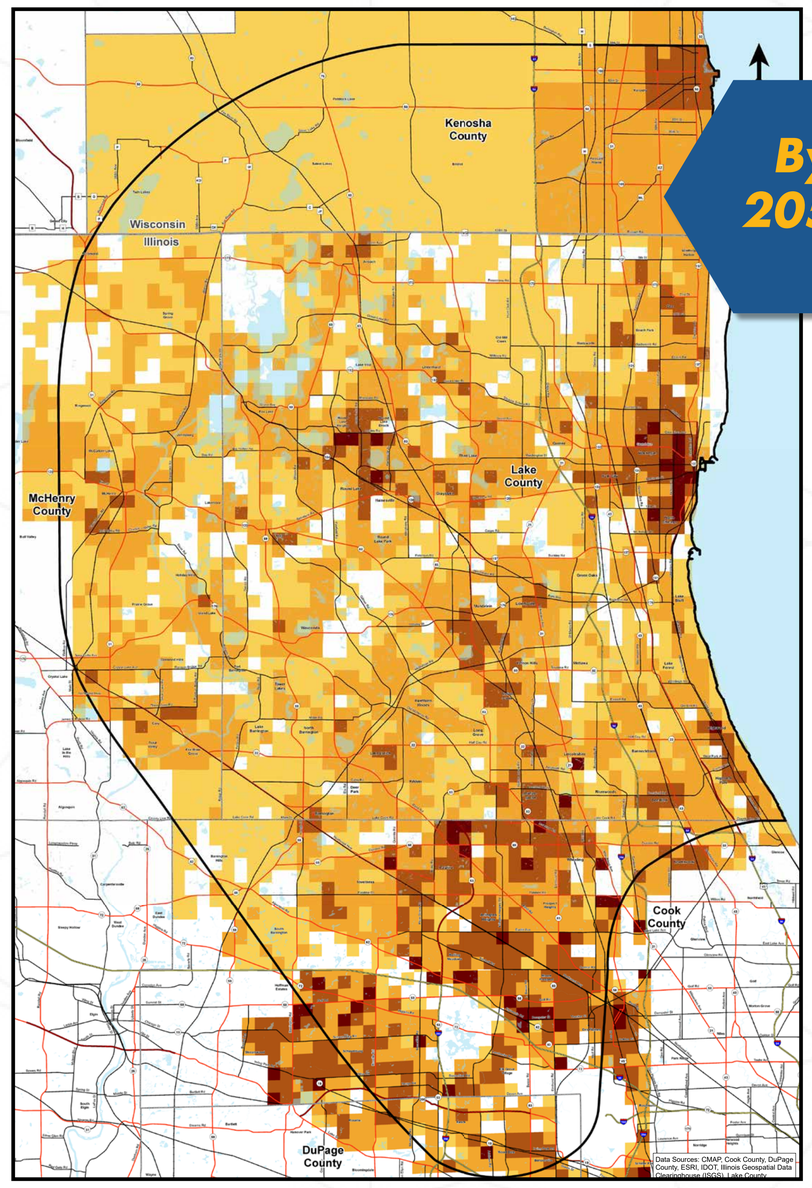
- < 100
- 100 - 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- > 10,000

Roadway and Transit Features

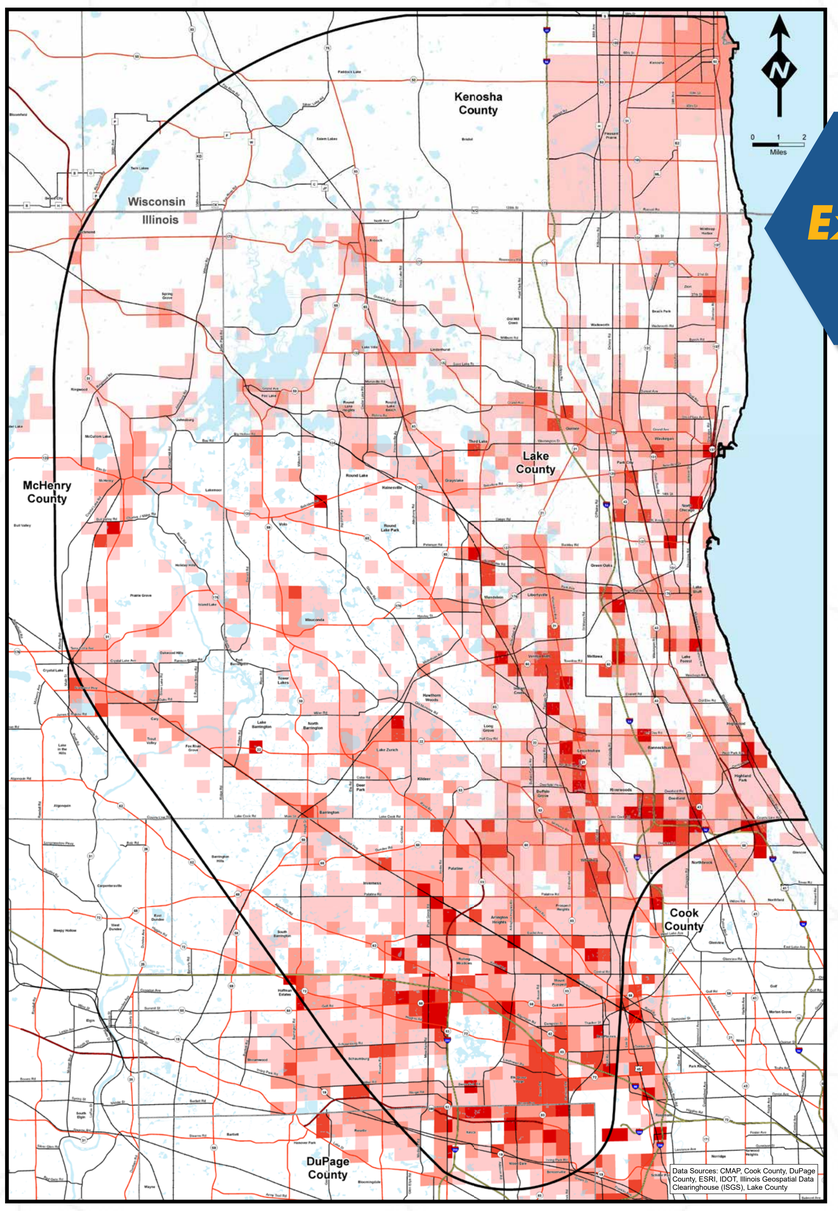
- Interstate
- Freeway and Expressway
- Principal Arterial
- Minor Arterial
- Railroad

Other

- County
- Project Area



Employment Density Expanding North & West



By 2050

23% *increase in Lake Co.*

15% *increase in Cook and DuPage Co.*

63% *increase in Kenosha Co.*

57% *increase in McHenry Co.*

Employment Per Square Mile

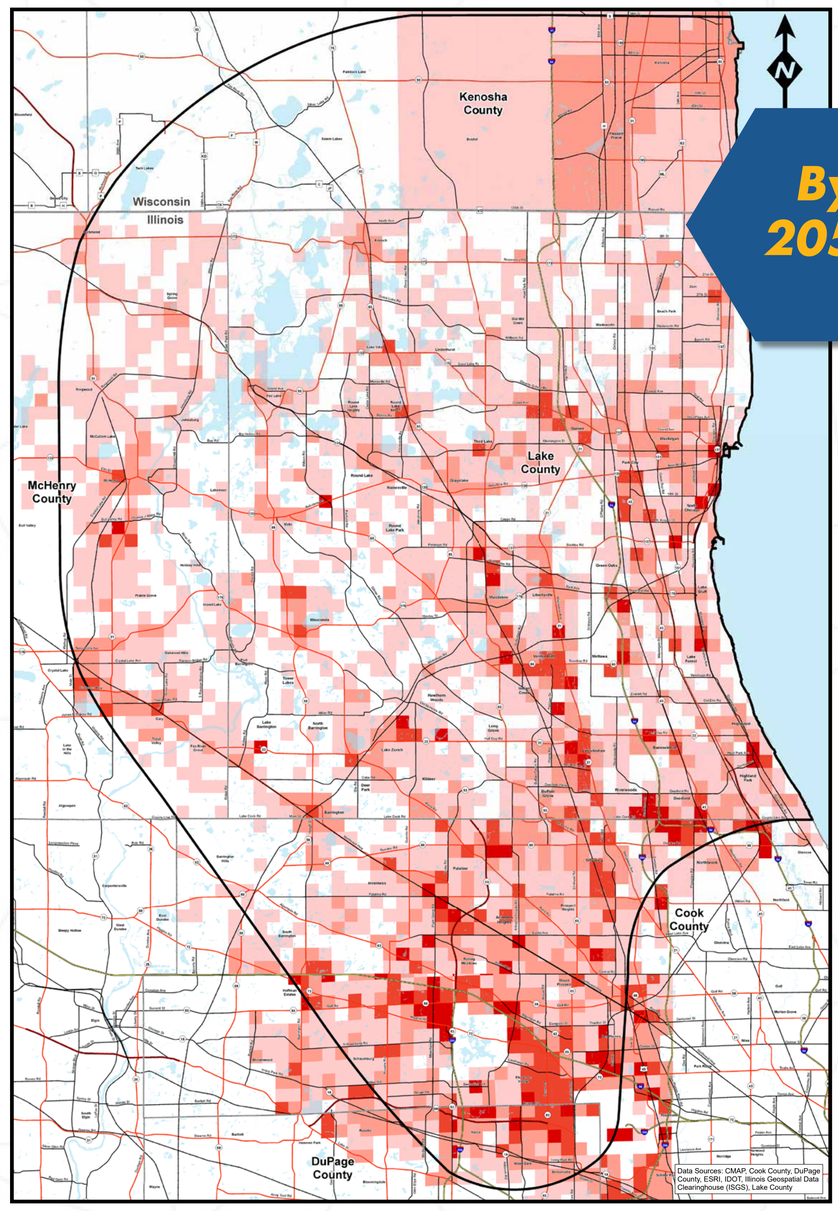
- <100
- 100 - 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- > 10,000

Roadway and Transit Features

- Interstate
- Freeway and Expressway
- Principal Arterial
- Minor Arterial
- Railroad

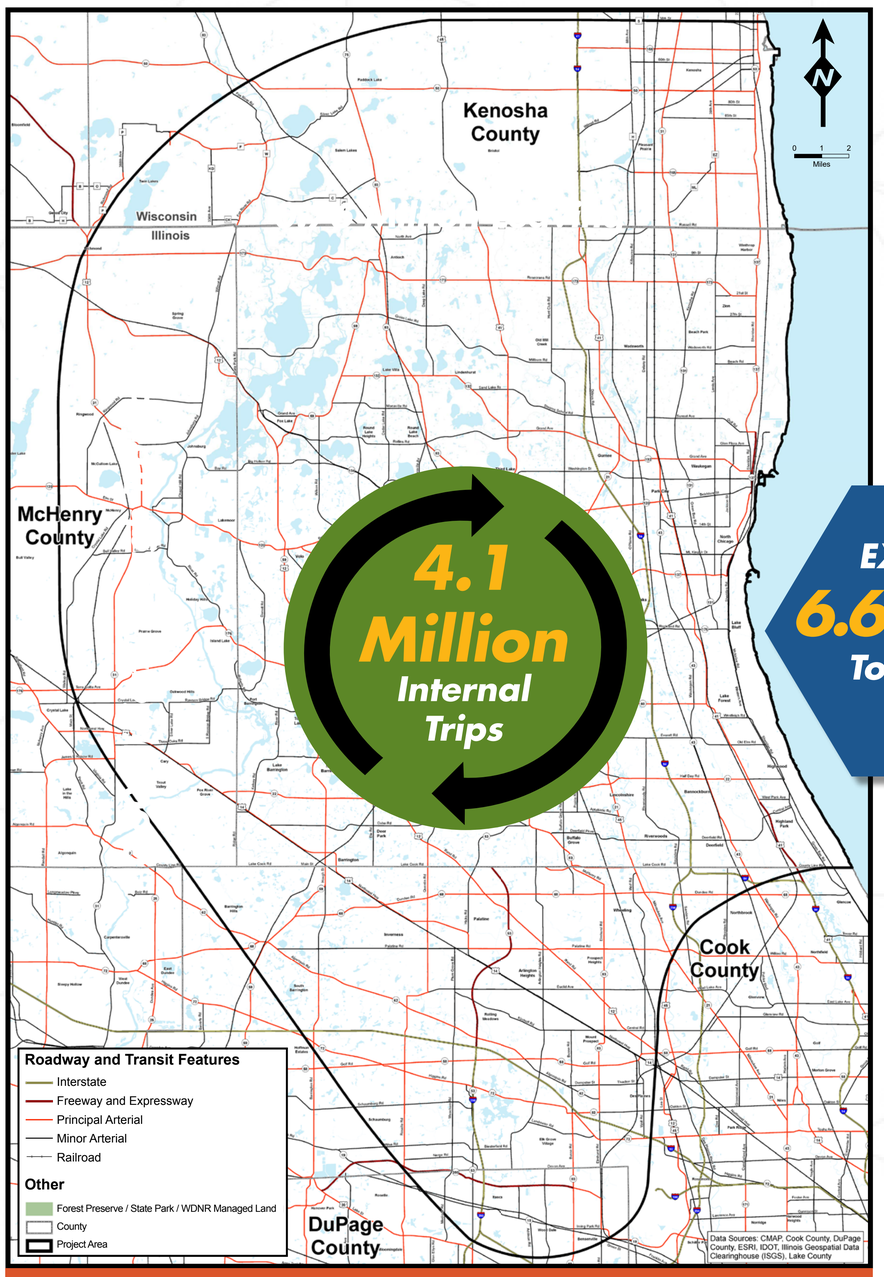
Other

- County
- Project Area



Daily Roadway Trip Patterns

EXISTING TOTAL DAILY TRIPS

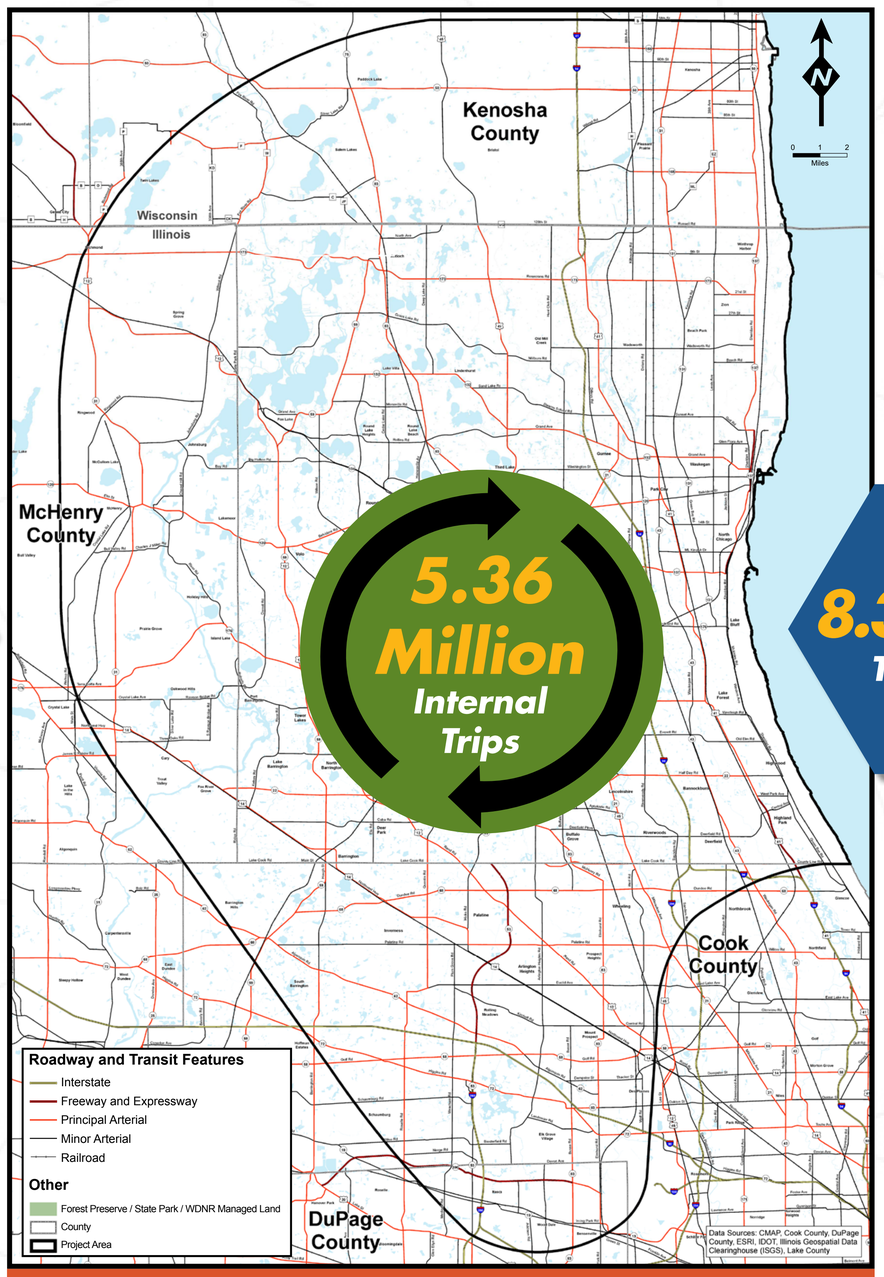


4.1 Million Internal Trips

EXISTING 6.6 Million Total Daily Trips

1.96 Million Entering and Leaving

2050 TOTAL DAILY TRIPS



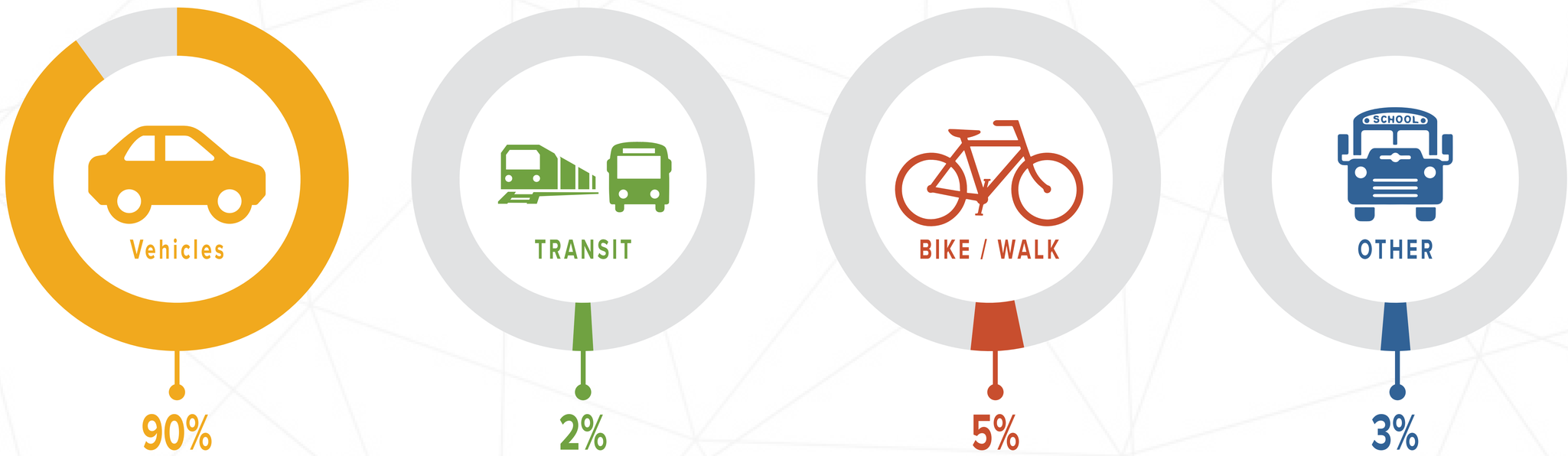
5.36 Million Internal Trips

BY 2050 8.3 Million Total Daily Trips

25% INCREASE

2.38 Million Entering and Leaving

HOW DO PEOPLE GET AROUND?



PROJECT STUDY AREA HAS

OVER 500 MILES

OF TRAILS USED FOR...

...RECREATIONAL PURPOSES RANGING FROM CYCLING TO BIRD WATCHING!

MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

TRI·COUNTY ACCESS | LAKE McHENRY COOK

STATION 3

Environmental

MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Environmental Resources to be Considered

NATURAL RESOURCES

- Ecosystems and Habitat
- Threatened and Endangered Species
- Water Quality
- Flood plains
- Water Resources

HUMAN AND CULTURAL RESOURCES

- Archeological
- Historic
- Air Quality
- Noise
- Aesthetics/Visual
- Special Waste

SOCIOECONOMIC RESOURCES

- Community
- Land Use
- Parks and Recreation Sites
- Agriculture

Environmental Resource Study Process

- **Collect and analyze available data**
  - Reports and studies
  - GIS and spatial
- **Update database based on field observations**
  - Modify locations
  - Add descriptions/details
- **Identify avoidance and minimization opportunities**
  - High quality areas
  - Locations where engineering solutions can minimize impacts
- **Determine potential environmental effects of alternatives**
- **Coordinate with stakeholders and resource agencies**

Environmental Features - *Natural Resources*

Natural Resources

- Floodplain
- ADID Wetland
- NWI Wetland
- Forest Preserve / State Park / WIDNR Managed Land

Other

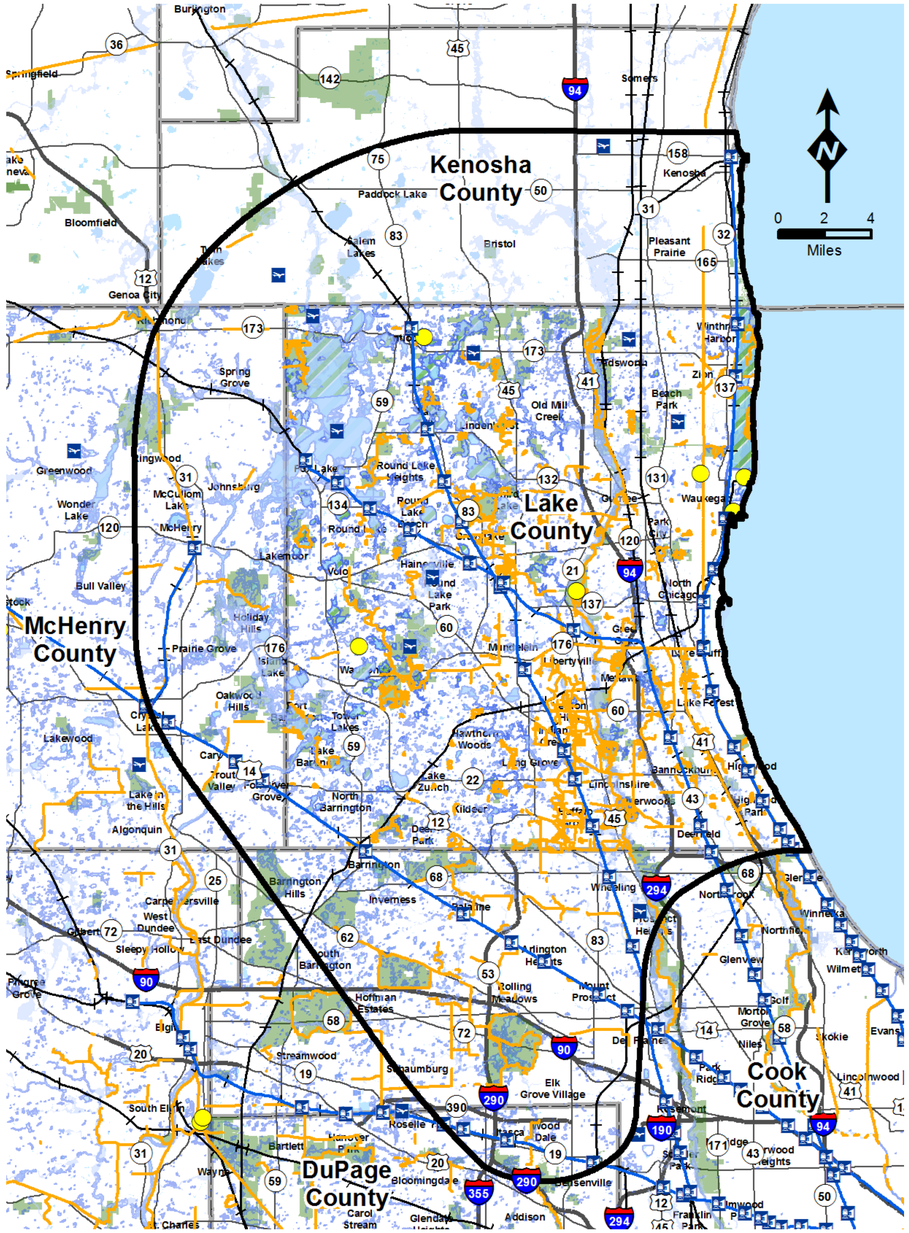
- Superfund Site

Transportation Features

- Metra Line
- Metra Station
- Railroad
- Bike Trail
- Airport

Other

- County
- Project Area



Environmental Features -
Socioeconomic and Historic Resources

Socioeconomic Resources

- Forest Preserve / State Park / WIDNR Managed Land
- Park
- Cemetery
- Education Facility / School
- Hospital / Medical Center
- City / Village Hall

Historic Resources

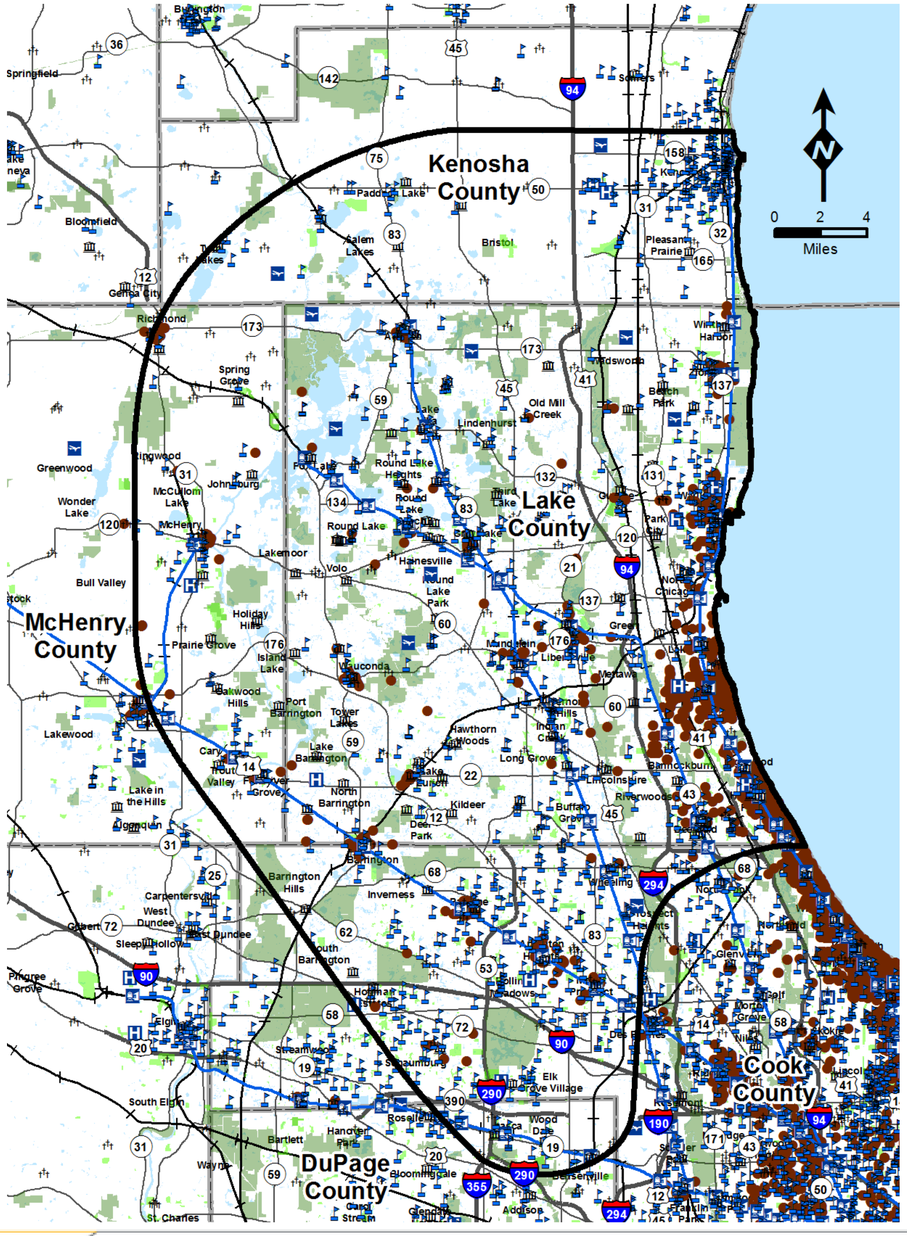
- Historic Site

Transportation Features

- Metra Line
- Metra Station
- Railroad
- Airport

Other

- County
- Project Area



Draft Purpose & Need

Purpose

To provide **EFFICIENT TRAVEL OPTIONS** that meet current and future transportation needs by **reducing congestion**, **providing modal options**, and **improving access** to homes and jobs.

NEED Relieve congestion and improve reliability of travel

NEED Improve travel options that connect major origin and destination centers

NEED Improve local and regional travel efficiency

Project NEEDS define measures for meeting the ***Project PURPOSE***

STATION

4

Purpose & Need and Alternatives Analysis Process

MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

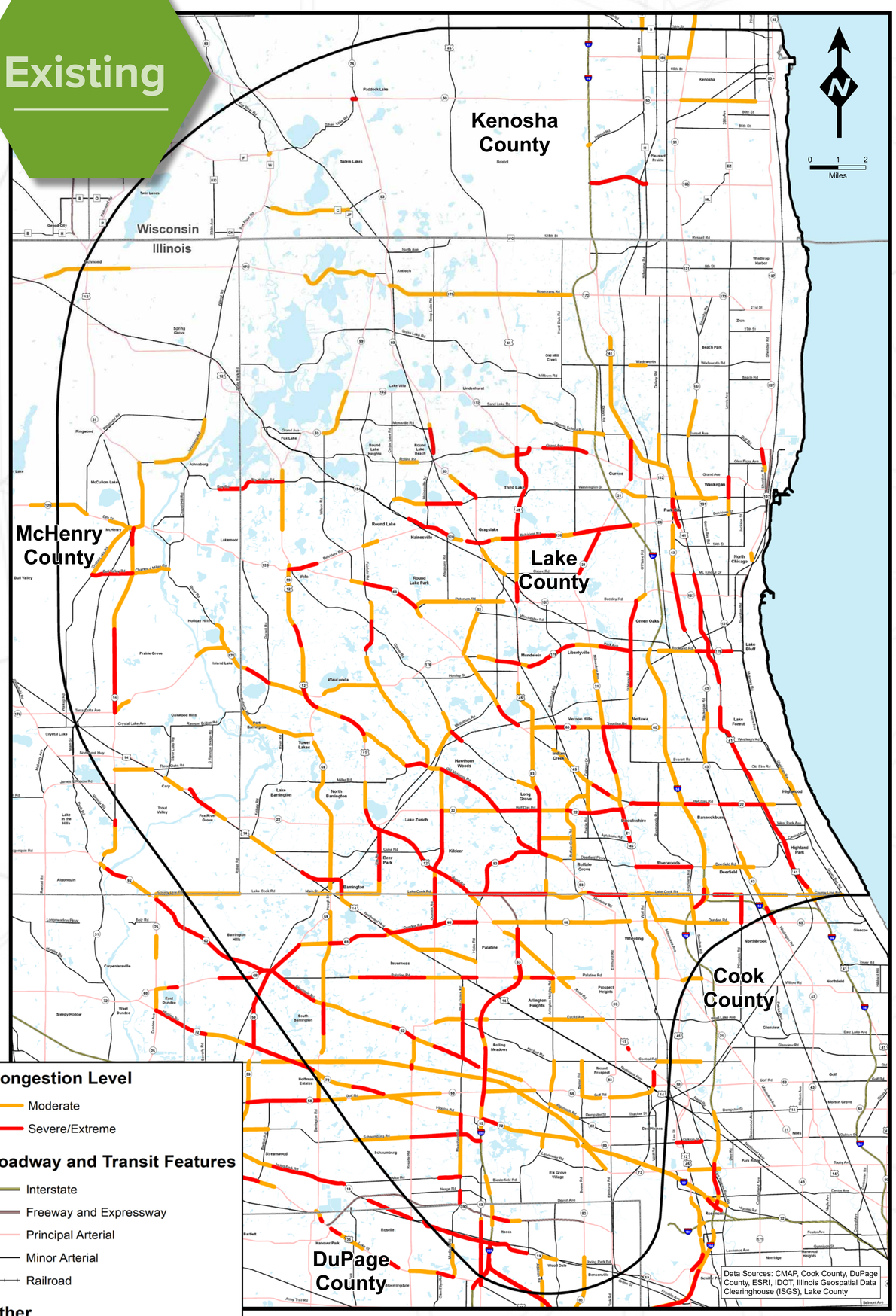
TRI·COUNTY ACCESS | LAKE McHENRY COOK

NEED

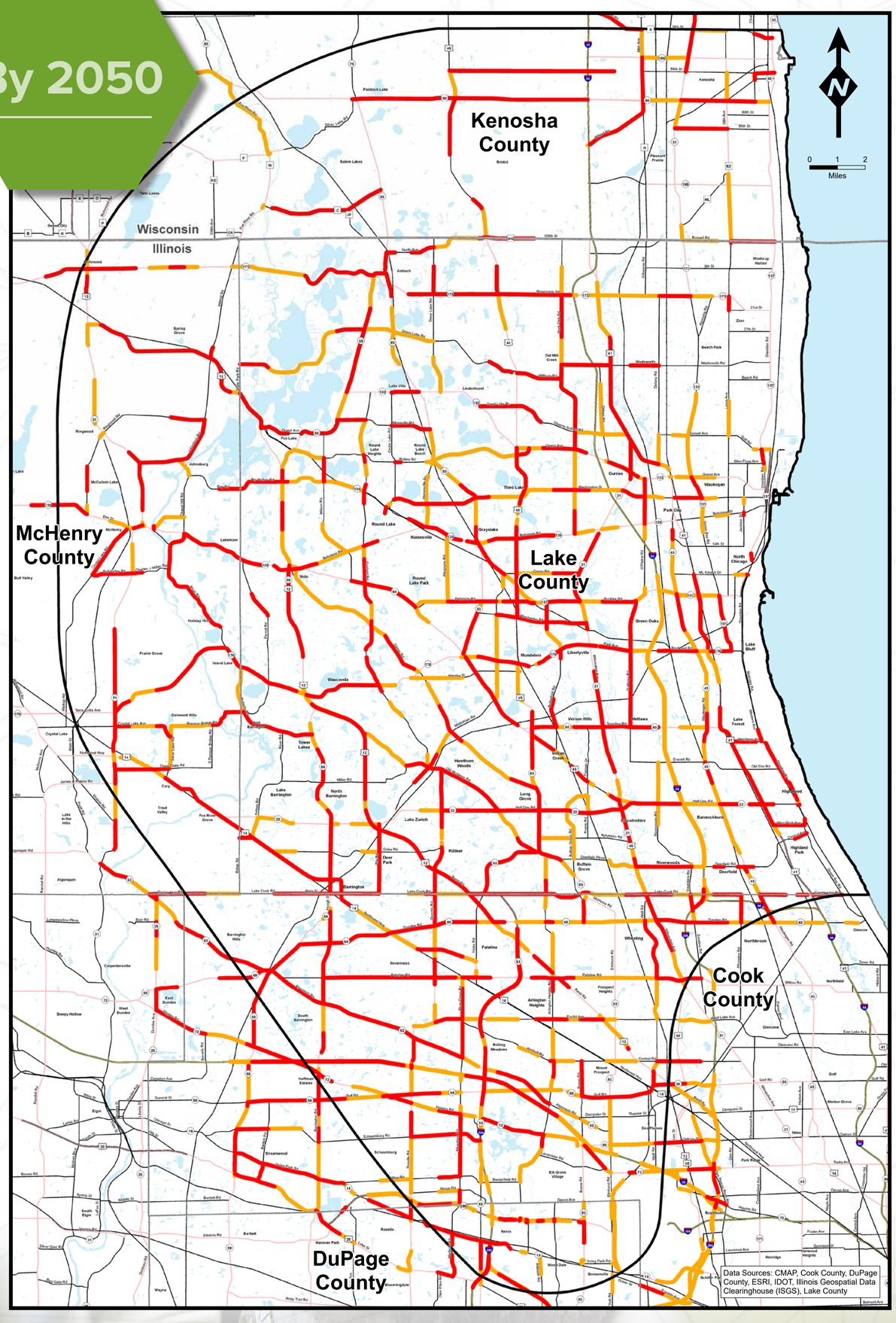
Relieve Congestion and Improve Reliability of Travel

CONGESTION CONTINUES TO GROW AND SPREAD

Existing



By 2050



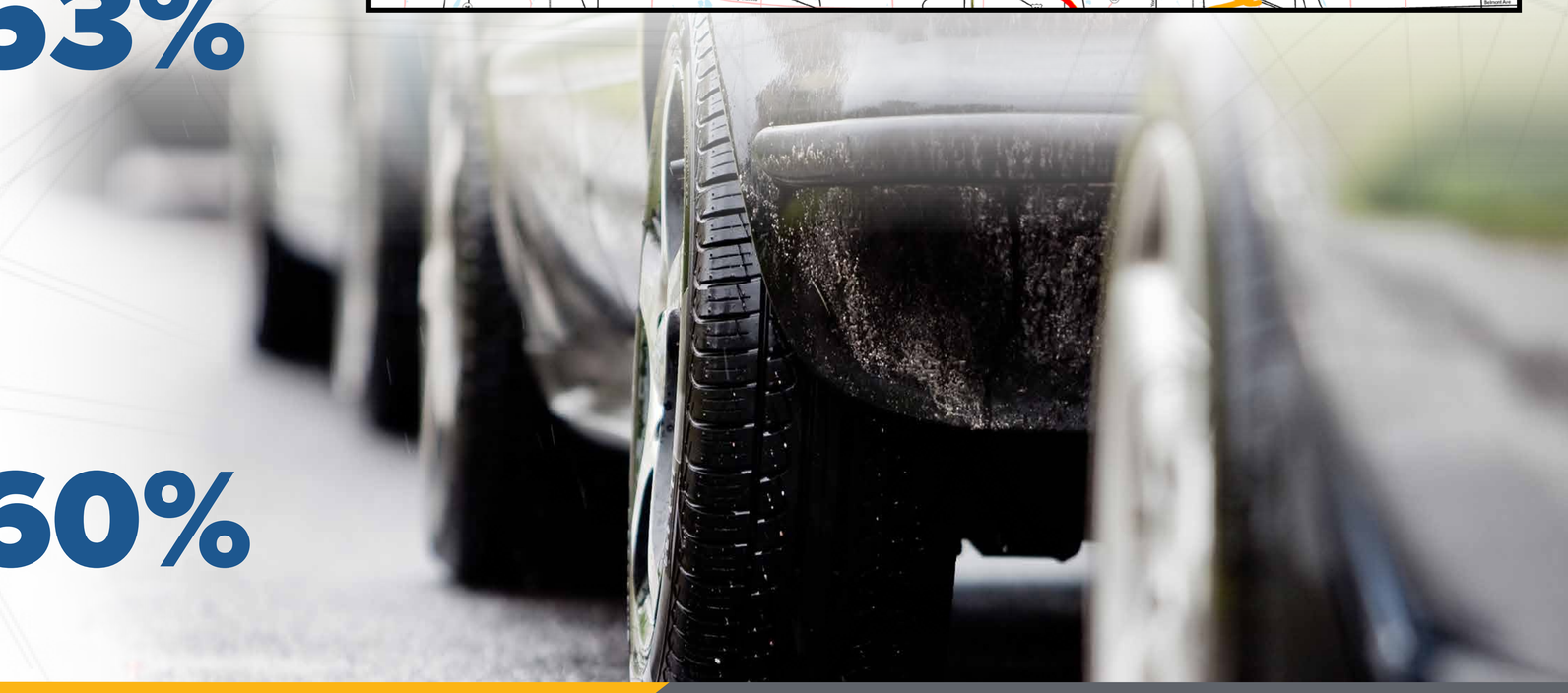
Congested vehicle miles

traveled will increase by **53%**

Severe/Extreme

congested vehicle miles

traveled will increase by **60%**



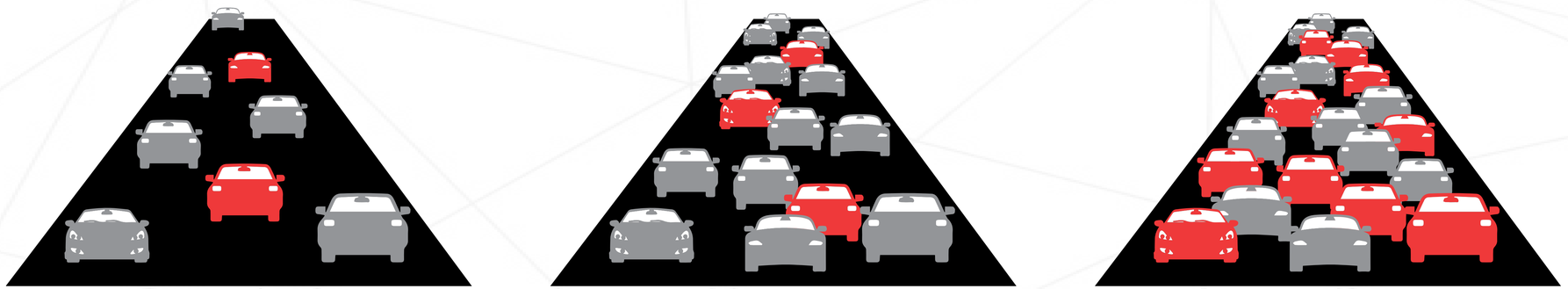
NEED

Relieve Congestion and Improve Reliability of Travel

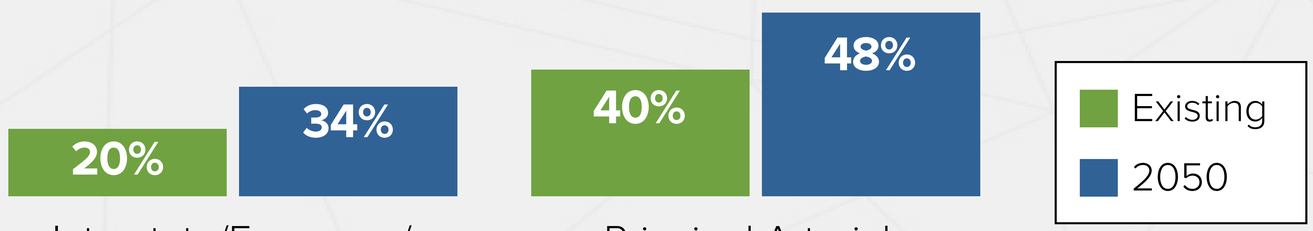
TRAFFIC CONGESTION CONTINUES TO WORSEN

Traffic measured in terms of **LEVEL OF SERVICE (LOS)**
Scaled from **A (best – free flow)** to **F (worst – congested flow)**

LOS D (Moderate) is goal in large metropolitan areas
LOS E (Severe) and **F (Extreme)** speeds are below 1/3 of the posted speed limit



Severe/Extreme Congestioned Miles During Peak Periods
(South of IL 120)



NEED

Relieve Congestion and Improve Reliability of Travel

TRAFFIC CONGESTION COSTS TIME AND MONEY

Current Roadwork Network:

EXISTING

190,000
Vehicle hrs/day

9 WORK DAYS
Spent in traffic congestion per worker annually

$2.5 MILLION

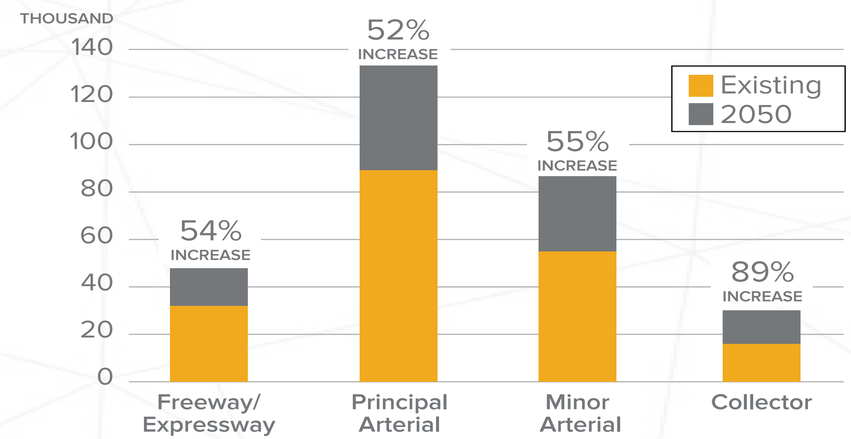
BY 2050

290,000
Vehicle hrs/day

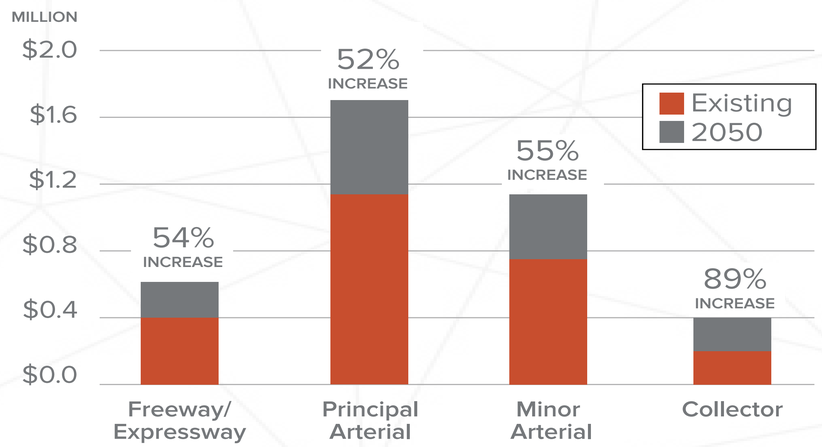
11 WORK DAYS
Spent in traffic congestion per worker annually

$3.9 MILLION

VEHICLE HOURS OF DELAY DURING RUSH HOUR



COST OF TRAFFIC CONGESTION DURING RUSH HOUR

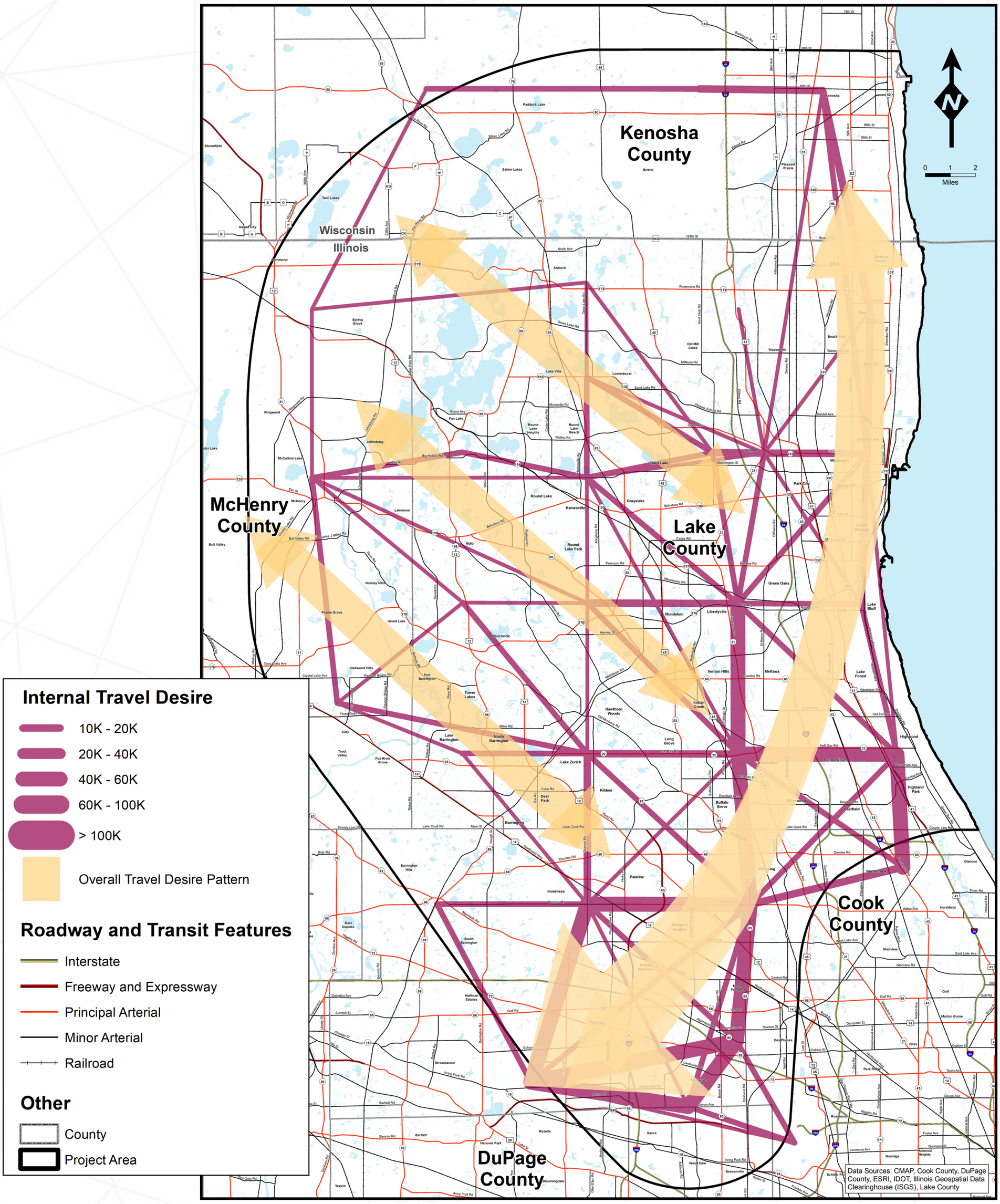


Source: The Chicago Metropolitan Agency for Planning's (CMAP) Draft ON TO 2050 Comprehensive Regional Plan. The Draft ON TO 2050 Plan is now available at www.cmap.illinois.gov/onto2050 for public comment through August 14.

NEED

Improve Travel Options that Connect Origin and Destination Centers

REGIONAL TRIPS ATTRACTED TO MAJOR ORIGIN & DESTINATION CENTERS



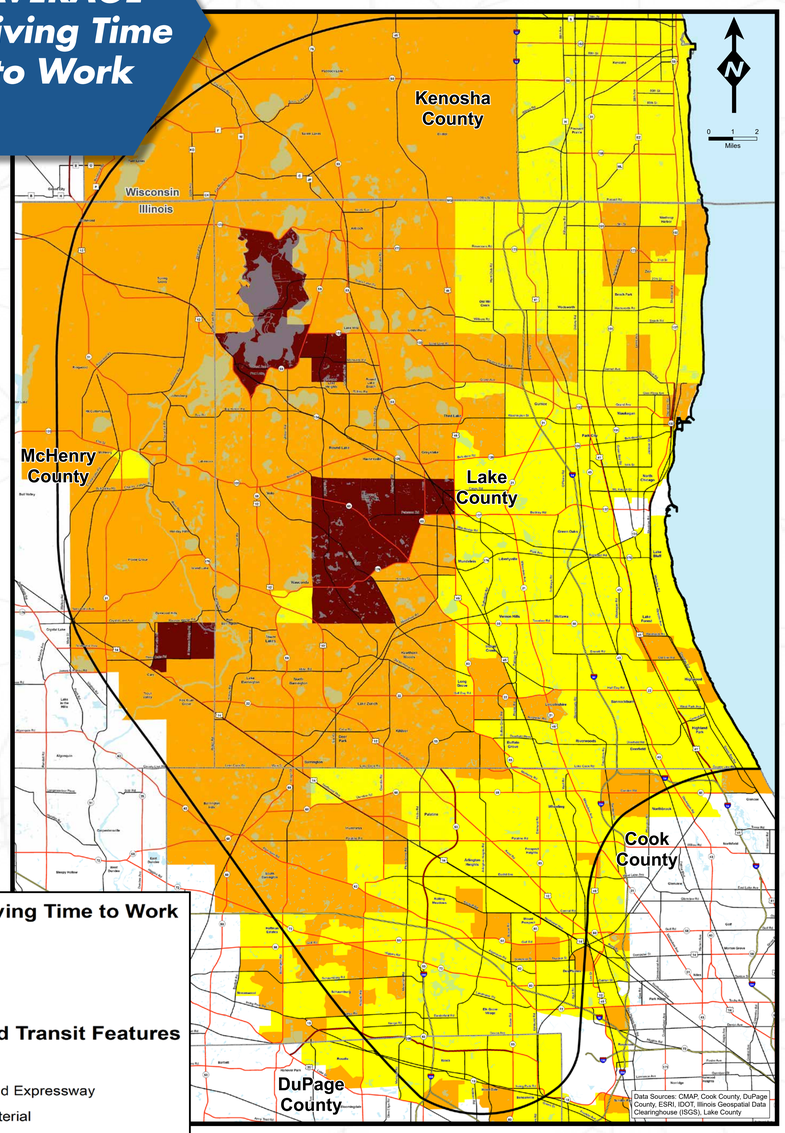
- There are concentrations of employment centers in the southern part of the project area and in Chicago
- **By 2050,** both population and employment are expected to expand further to the north and west; with ***population expected to grow more than employment***
- Increasing the number of longer trips to reach employment centers

NEED

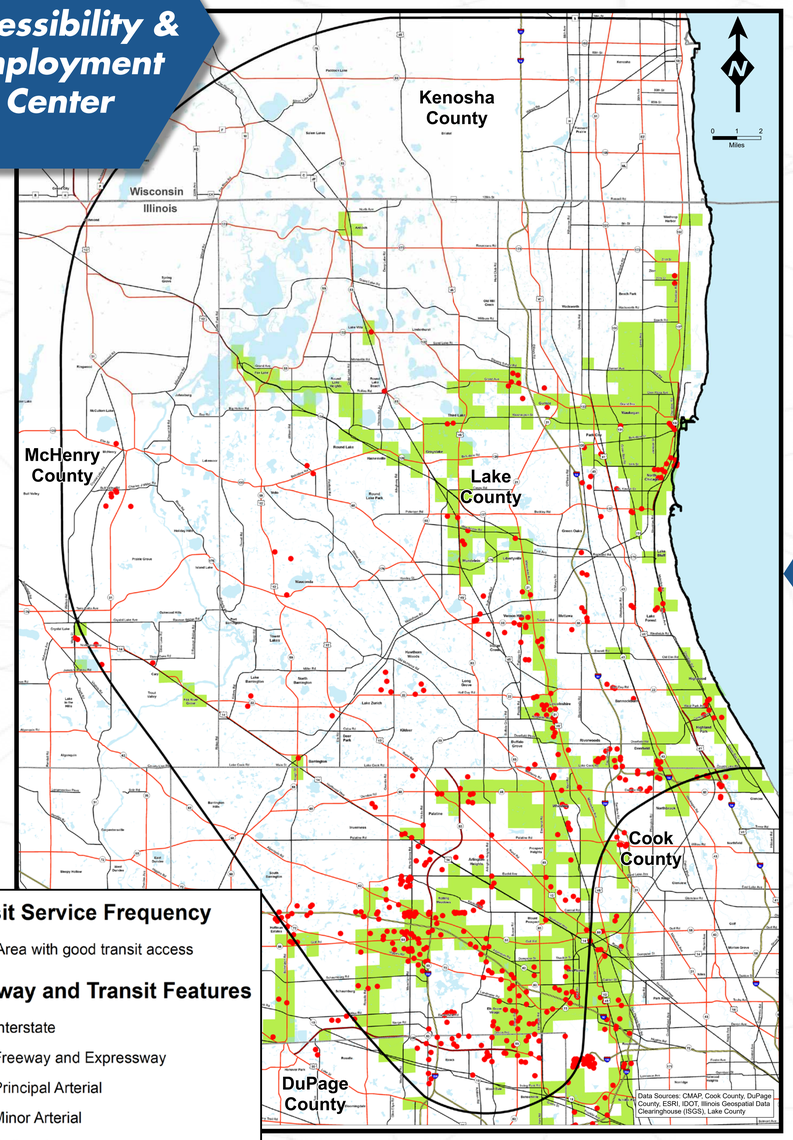
Improve Travel Options that Connect Origin and Destination Centers

Efficient Travel Options in the Project Area are Lacking

AVERAGE Driving Time to Work



TRANSIT Accessibility & Employment Center



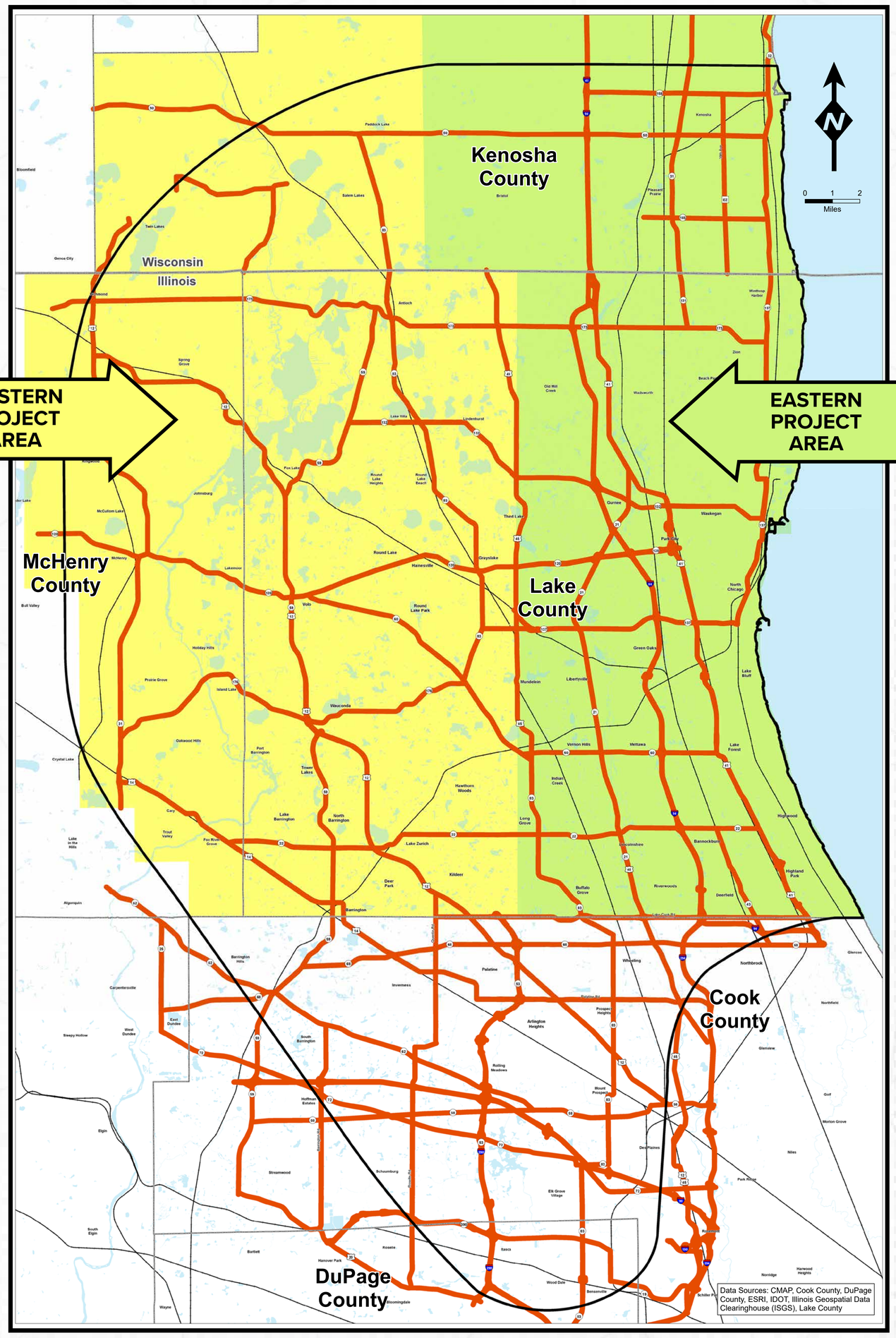
EXISTING TRAIN AND BUS OPTIONS DO NOT ADEQUATELY SERVICE EMPLOYMENT DESTINATIONS

- Transit predominantly serves southeast Lake County and Chicago
- Northwest Cook County not served by high-capacity/speed transit service from Lake or McHenry Counties

NEED

Improve Local and Regional Travel Efficiency

RIGHT TRIP + RIGHT FACILITY = EFFICIENCY



58% AVAILABLE MAJOR ROADWAYS

38% LONG DISTANCE DEMAND

46% AVAILABLE MAJOR ROADWAYS

49% LONG DISTANCE DEMAND

THE ROADWAY NETWORK IS LESS DEVELOPED IN THE WESTERN HALF OF THE PROJECT AREA.

Interstate/Freeway/Expressway/ Principal Arterial Lane Miles

Regional Trips (10 miles or more)

The roadway classification system

- For the system to function efficiently, longer trips should easily reach major roadways (interstates / freeways / expressways or principal arterials)
- Shorter trips should remain on minor arterials and collectors

Transit

- Reliable fixed route transit (bus) service requires dedicated travel way

What is the No-Build Alternative?

Components of the No-Build Alternative

- Capacity improvements and interchange/ intersection improvements identified in CMAP's ON TO 2050 Plan and current Transportation Improvement Program

- Short-term minor improvements, including safety and maintenance projects

The No-Build Alternative MUST ALWAYS be considered

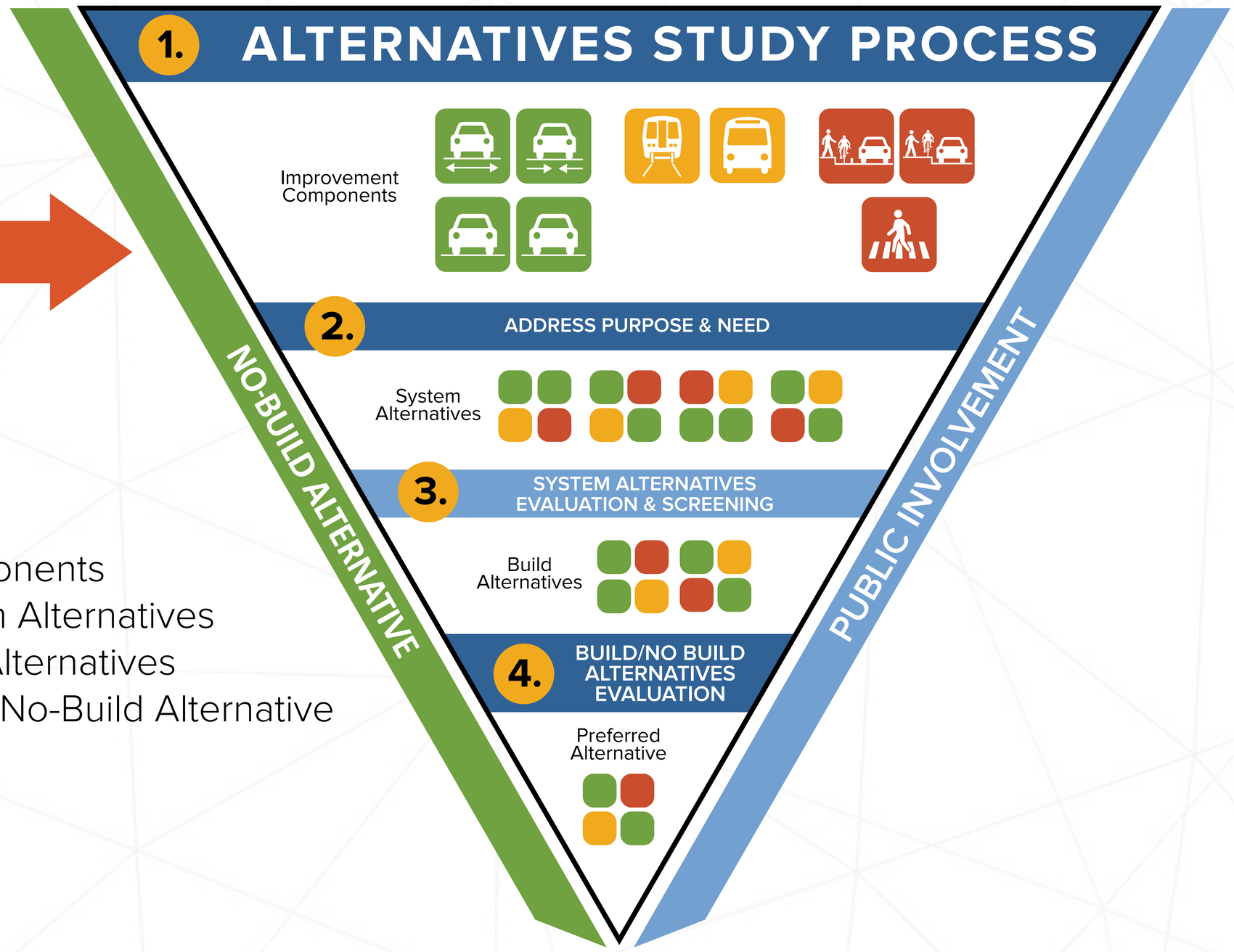
- May be a reasonable alternative, especially where the impacts are high and the need is relatively minor

- Serves as a benchmark, against which the impacts of the other alternatives can be compared

The Draft ON TO 2050 Plan
is now available at
www.cmap.illinois.gov/onto2050
for public comment through August 14.
The Draft CMAP ON TO 2050 Plan is also available for review this evening at the Reference Table Station 6.

Alternatives Analysis Process Overview

WE ARE HERE



1. Identify Improvement Components
2. Identify and Evaluate System Alternatives
3. Identify and Evaluate Build Alternatives
4. Select Preferred Alternative/No-Build Alternative

Transportation System Performance (TSP) Analysis serves as the foundation for development of transportation solutions

INFORMS
travel desires & service gaps within project area

IDENTIFIES
project area issues & needs

PRIOR STUDIES
and previously planned projects will be considered

SOLUTIONS
must integrate avoidance and minimization of environmental impacts

STAKEHOLDER INPUT WILL BE SOUGHT THROUGHOUT THE PROJECT

HOW WILL ALTERNATIVES BE EVALUATED?

- Do they meet Purpose and Need?
- What Qualitative and Quantitative Measures will be considered?
  - » Travel/Design Performance
  - » Environmental Impacts
  - » Land Use/Socioeconomic Impacts
  - » Financial

Types of Transportation Improvements to be Considered

MULTIPLE TRANSPORTATION MODES

- ACTIVE TRANSPORTATION
- ROADWAY
- TRANSIT

LOCATIONS

- EXISTING CORRIDORS
- NEW CORRIDORS
- SHARED CORRIDORS

OR COMBINATION

TRANSPORTATION SYSTEM MANAGEMENT (TSM) STRATEGIES

- DESIGN
- POLICY
- TECHNOLOGY

STATION

5

What are your

Solutions?

MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

TRI·COUNTY ACCESS | LAKE McHENRY COOK

STATION

6

Reference

Table

STATION 7 Comment Area

MOBILITY FOR TODAY AND TOMORROW

PM #1 JULY 2018

TRI·COUNTY ACCESS | LAKE McHENRY COOK

Attachment 6:

Agency Coordination Meetings Summary

Summary of Agency Input

As the TCA Project progressed, the Project Team coordinated with a broad range of agencies, including counties, municipalities, and other transportation agencies.

Table 1 summarizes external Agency Coordination meetings.

Table 1. Agency Coordination Meetings Summary

Meeting	Date	Project Team Met With	Purpose/Topics	Summary of Outcomes
CMAP - Project Kickoff Meeting	8/28/2017	CMAP	• Coordination plan for ON TO 2050; introduction of NEPA process and CMAP support requirements	• Discussion of CMAP/ON TO 2050 coordination • Overview of NEPA process and relationship to prior studies
CMAP - Travel Modeling Coordination	8/30/2017	CMAP	• Coordination of CMAP travel demand model inputs/support (No-Action Alternative); ON TO 2050 Plan schedule	• Review/discussion of ON TO 2050 schedule and milestones • Discussion of ON TO 2050 data coordination and CMAP travel demand modeling and land use forecasting support
CMAP - Travel Modeling Coordination	11//9/2017	CMAP	• TCA Project travel demand modeling methodology review; coordination of CMAP travel demand model inputs/support (No-Action Alternative)	• Presented draft travel demand modeling methodology • Confirmed CMAP input schedule for No-Action Alternative modeling
Lake County DOT Initial Coordination	12/5/2017	Lake County DOT	• TCA project introduction; discuss County involvement, priorities and goals; project delivery coordination	• Introduced TCA project • Discussed coordination procedures with County DOT and leadership
Cook County DOT Initial Coordination	12/5/2017	Cook County DOT	• TCA project introduction; discuss County involvement, priorities and goals; project delivery coordination	• Introduced TCA project • Discussed coordination procedures with County DOT and leadership
McHenry County DOT Initial Coordination	12/6/2017	McHenry County DOT	• TCA project introduction; discuss County involvement, priorities and goals; project delivery coordination	• Introduced TCA project • Discussed coordination procedures with County DOT and leadership
CMAP - Travel Modeling Coordination (No-Action Alternative)	1/22/2018	CMAP	• No-Action Alternative coordination (socioeconomic forecast data release, baseline network)	• Confirmed CMAP data transmittal schedule for No-Action Alternative modeling (2/2/18) • Discussed CMAP updated process/schedule for ON TO 2050 project identification

Table 1. Agency Coordination Meetings Summary

Meeting	Date	Project Team Met With	Purpose/Topics	Summary of Outcomes
NEPA/404 Merger Agency Group Meeting #1	2/8/2018	FHWA, IDOT, NEPA/ 404 Merger Agency Group	• TCA Project introduction	• Introduced the TCA Project study process and objectives • Discussed regulatory/resource agency coordination procedures, including project updates at scheduled NEPA/404 Merger Meetings -Provided an overview of the SIP including the formation of a SPG; confirmed that SPG meeting notifications will be provided to regulatory/resource agencies
Joint Transit Agency Meeting	4/12/2018	RTA, Pace, Metra	• TCA Project introduction; input on transit system performance characteristics and gaps	• Introduced the TCA Project • Discussed transit system performance characteristics • Initiated discussions regarding the TCA alternatives study process • Confirmed transit agency's commitment to support the TCA Project process
Joint Open Land Management Agency Meeting	5/21/2018	County Forest Preserve Districts (Lake, McHenry, Cook), Illinois Nature Preserve Comm., Openlands	• Provide the land management agencies with a project overview (process, environmental analysis procedures), discuss data needs, and discuss long term plans of your respective agencies.	• Introduced the TCA Project • Introduced the alternatives study process • Coordinated project data sources • Confirmed land management agency's commitment for involvement in the TCA Project process
NEPA/404 Merger Agency Group Meeting #2	6/21/2018	FHWA, IDOT, NEPA/ 404 Merger Agency Group	• Draft Goals and Objectives - introduction; Range of Alternatives Under Consideration (System Alternatives) - introduction	• Presented/discussed highlights of recent public involvement meetings and a preview of upcoming meetings • Presented draft Goals and Objectives • Introduced the Alternatives Study process
IDOT Coordination	7/20/2018	IDOT (D1)	• Obtain DOT input to TCA No-Build Alternative	• Obtained DOT input to TCA No-Build Alternative, in particular TIP project status
Lake County DOT Coordination	7/23/2018	Lake County DOT	• Obtain DOT input to TCA No-Build Alternative	• Obtained DOT input to TCA No-Build Alternative, in particular TIP project status

Table 1. Agency Coordination Meetings Summary

Meeting	Date	Project Team Met With	Purpose/Topics	Summary of Outcomes
McHenry County DOT Coordination	7/27/2018	McHenry County DOT	• Obtain DOT input to TCA No-Build Alternative	• Obtained DOT input to TCA No-Build Alternative, in particular TIP project status
NEPA/404 Merger Agency Group Meeting #3	9/13/2018	FHWA, IDOT, NEPA/ 404 Merger Agency Group	• Information only presentation • Project Status Update • Stakeholder Involvement • Draft Purpose and Need • Next Steps	• USEPA appreciated the off-cycle merger group meetings in order to stay on track with the Project schedule • Aggressive TCA schedule requires the Project team to be sure that the studies are done in a reasonable timeframe. Detailed field studies will need to be completed for the USFWS to decide on the Preferred Alternative.
Lake County DOT Coordination Meeting	10/18/2018	Lake County DOT	• Revised project schedule • Initial Range of Alternatives to be Considered development process • Receive input on the corridors being considered and proposed local coordination effort	• Tollway transmitted LCDOT the Corridor Questionnaires for all existing and new transportation corridors currently under consideration within Lake County and requested return of completed questionnaires.
Lake County SMC GIS Data Request Meeting	10/23/2018	Lake County SMC	• GIS data needs	• SMC will provide the GIS data via a Google drive website
Lake County DOT Coordination Meeting	1/9/2019	Lake County DOT	• Provide update on Study status including the on-going agency coordination, the Draft Purpose and Need, the Initial Range of Alternatives to be Considered, and Public Involvement Look Ahead.	• LCDOT requested prioritization of 2040 trail expansion. • Discussion of ongoing one-on-one local agency coordination.
Joint Transit Agency Meeting	1/10/2019	RTA, Pace, Metra	• Overview of TCA Project; input on Study Introduction; Draft Purpose and Need; Alternatives Development Process; Transit Policy Framework; Next Steps	• Received input on Draft Purpose and Need; Alternatives Development Process with Transit Only Alternative; Transit Policy Framework
NEPA/404 Merger Agency Group Meeting #4	2/7/2019	FHWA, IDOT, NEPA/ 404 Merger Agency Group	• Information only meeting to share: • TCA Status Update	• Presented/discussed scoping comments, permitting timeframes and FHWA dashboard and

Table 1. Agency Coordination Meetings Summary

Meeting	Date	Project Team Met With	Purpose/Topics	Summary of Outcomes
			• Purpose and Need Update/Comments • Scoping Comments • Alternatives Development Update • Environmental Field Studies • Permitting Timeframes • Next Steps	environmental field studies in-depth

DOT = Department of Transportation
MOU = memorandum of understanding
SMC = Stormwater Management Commission

Attachment 7:

Small Group Meetings Summary

Small Group Meetings Summary

From November 2018 to January 2019, a series of Small Group Meetings were held with 13 municipalities in the TCA Project study area. The purpose of these meetings were to provide an updated TCA Project schedule, a summary of the Project's Purpose and Need and No-Build Alternative, discuss the Initial Range of Alternatives to be Considered development process, and receive input on the corridors being considered. It was intended that the Project Team would meet with each municipality in the study area to elicit early input on improvement features for corridors to be considered with the Initial Range of Alternatives. Of these, only 13 meetings were held before the study was suspended. They include:

- Village of Barrington
- Buffalo Grove
- Grayslake
- Gurnee
- Hainesville
- Lakemoor
- Long Grove
- Mundelein
- Round Lake
- Schaumburg
- Volo
- Wauconda
- Hawthorn Woods

Corridor questionnaires were developed for existing and potential new corridors to gather input and inventory prior studies, identify important corridor features, and solicit input from communities about future land use plans. The questionnaires were also meant to gather information regarding transit and active transportation improvements in the corridors.

In addition to agreeing to completing the questionnaires, input from the meetings included the following:

- The Village of Barrington recommended studying an improvement along US 14 in place of IL 59 and Lake Cook Road. The project team noted that initial modeling efforts have not shown a need for an improvement along US 14, but that potential benefits of improvements along this corridor will be reviewed. Barrington also recommended engaging the Barrington Area Council of Governments represented by Janet Agnoletti.
- The Village of Buffalo Grove feels that there is a regional need to direct traffic to the north and then disperse appropriately to the east and west along existing arterials.
- Hainesville expressed a desire to grade separate Metra's North Central Service (NCS) rail line and IL 120. The northbound and southbound NCS trains share one track and when the service operates at the same time, the trains may be stopped for a considerable amount of time to allow each other to pass. Traffic can be stalled for 15 minutes when this happens.
- At this time, Hainesville is satisfied with the Metra service in their community. Hainesville is supportive of improving IL 120. The Village referenced a recent meeting between a group of mayors

within Lake County, including Hainesville, Illinois State Representative Melinda Bush and IDOT regarding the need for an improvement along IL 120.

- Mundelein mentioned a study of the NCS Metra rail line, owned by Canadian National. The Project is being performed on a grant from RTA, and SB Freedman was recently selected to perform the Project. The ongoing study is meant to increase the serviceability in the communities along the line. A major part of the Project will be to research funding sources for the project improvements.
- The Village of Hawthorn Woods agreed to fill out the questionnaires for existing corridors and submit them to the project team for consideration but noted that the Village opposes the IL 53 corridor and does not intend to provide input regarding this corridor. Further, the Village referenced a prior written commitment that the originally recorded alignment for the IL 53 corridor will not be pursued. The Village will provide the project team with a copy of that commitment.

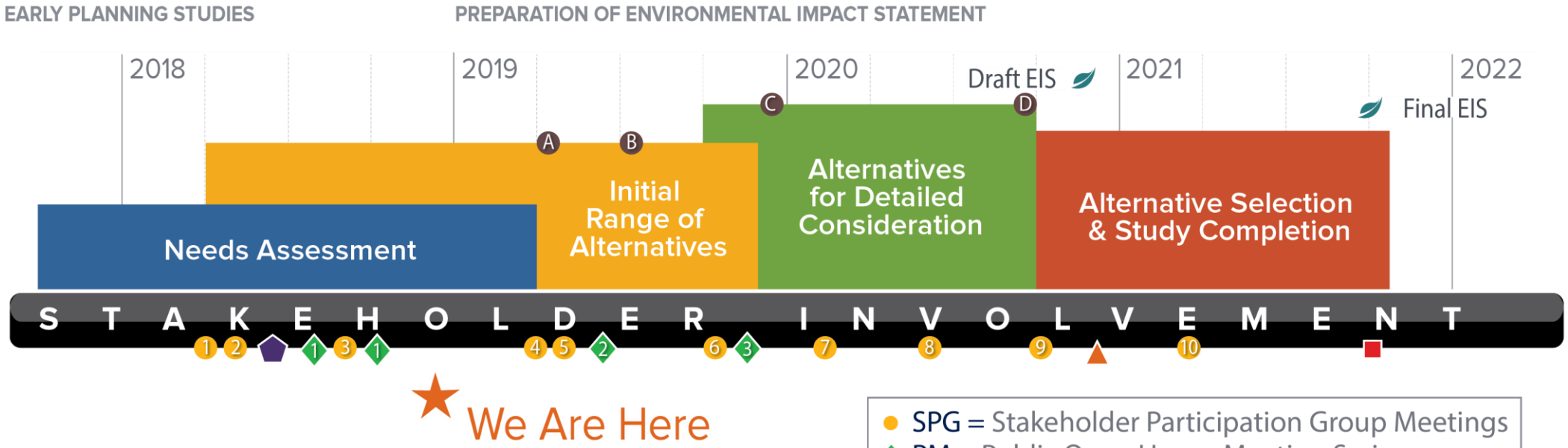
Local Agency Technical Meetings – Corridor Improvement Considerations

November/December - 2018

Agenda

- **Project Status and Schedule Overview**
- **Summary of Purpose & Need and the No-Build Alternative**
- **Initial Range of Alternatives to be Considered – Introduction and Discussion**
  - *Improvement Corridors*
  - *Corridor Improvement Considerations Questionnaire*
  - *Planning Scenarios*
- **Next Steps**

Project Schedule



- SPG = Stakeholder Participation Group Meetings
- PM = Public Open House Meeting Series
- Public Hearings
- NOI = Notice of Intent
- ROD = Record of Decision

***The process is being implemented according to the Memorandum of Understanding Implementing One Federal Decision Under Executive Order 13807*

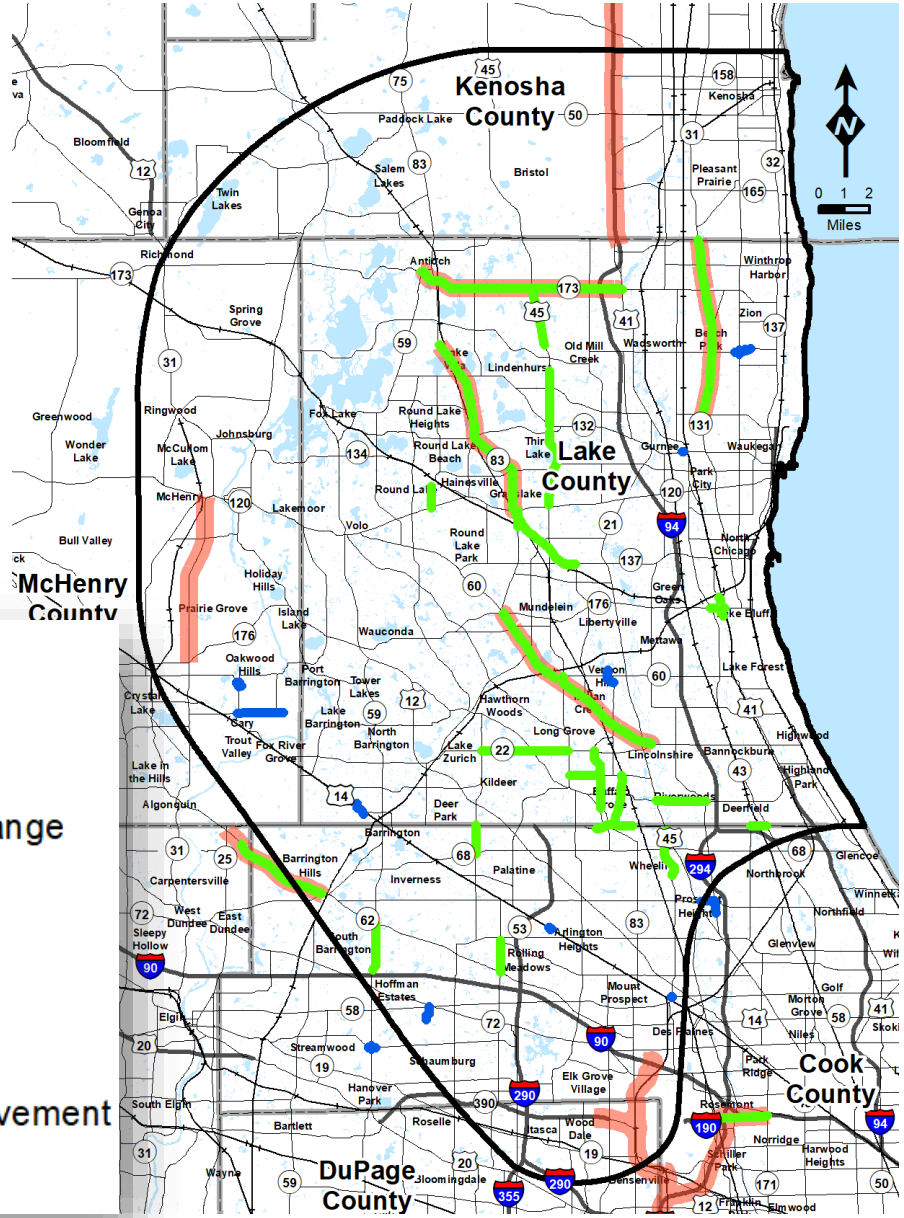
TCA Concurrence Points

- (A) Purpose and Need (Spring 2019)
- (B) Initial Range of Alternatives to be Considered (Summer 2019)
- (C) Alternatives for Detailed Consideration (Winter 2019/2020)
- (D) Preferred Alternative (Fall 2020)

Effective October 2018

The No-Build Alternative

- Basis for 2050 planning horizon
- Considered as an alternative throughout EIS alternative studies
- The benchmark for comparing performance and impacts of alternatives

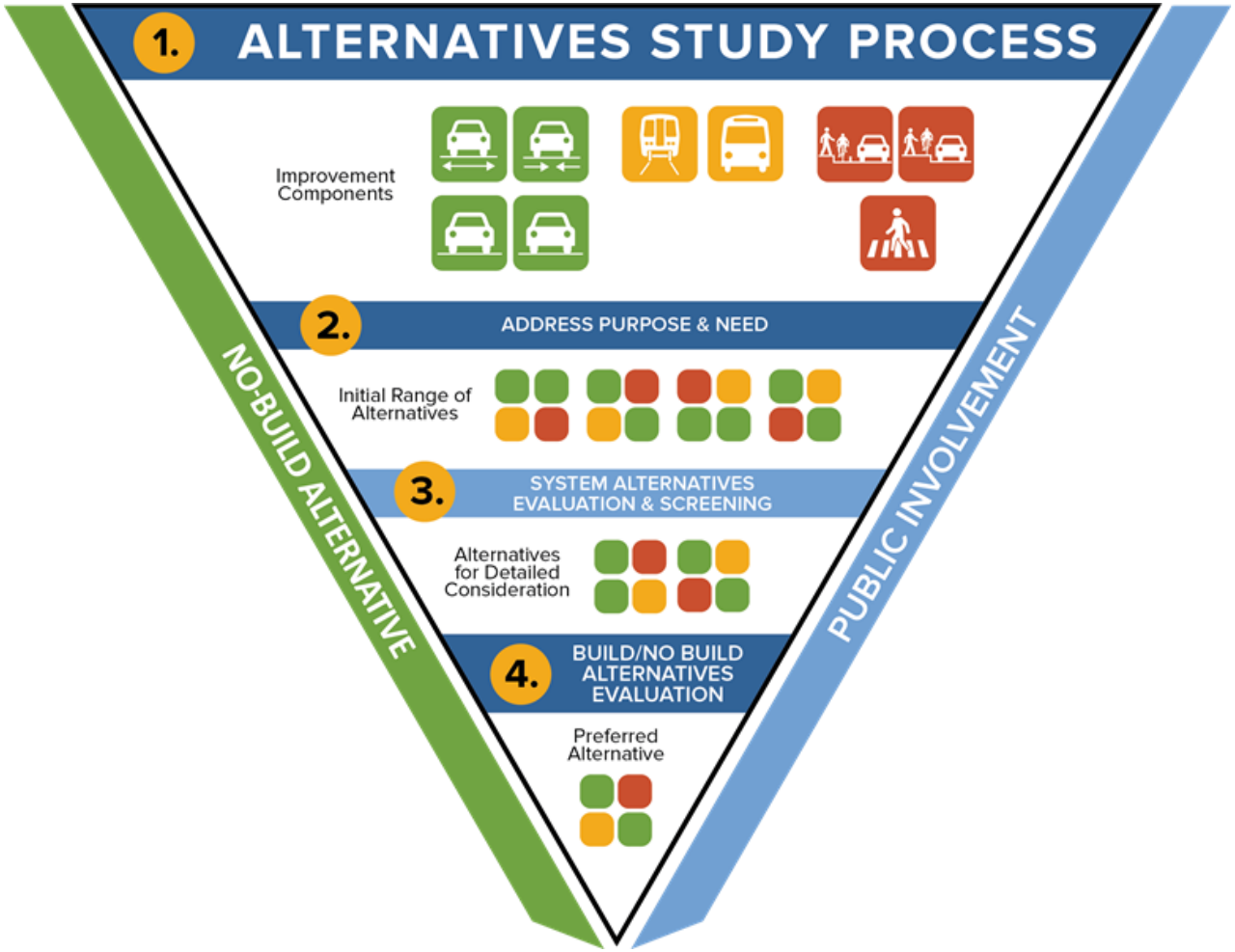


Draft Purpose & Need

- Tri-County Access Project Purpose Statement
  - *The purpose of the Tri-County Access Project is to provide efficient travel options that meet current and future transportation needs by reducing congestion, providing modal options, and improving access to homes and jobs. The Project will also seek opportunities to link transportation solutions with sustainable environmental approaches and opportunities for enhancement.*
- Project Needs define measures for meeting the Project Purpose
  - *Relieve congestion and improve reliability of travel*
  - *Improve travel options that connect major origin and destination centers*
  - *Improve local and regional travel efficiency*

Alternatives Study Process

- ✓ Identify Improvement Components
- ▶ **Initial Range of Alternatives to be Considered**
- □ Alternatives for Detailed Consideration
- □ Select Preferred Alternative



Community Input Informs Representative Treatments for Improvement Corridors

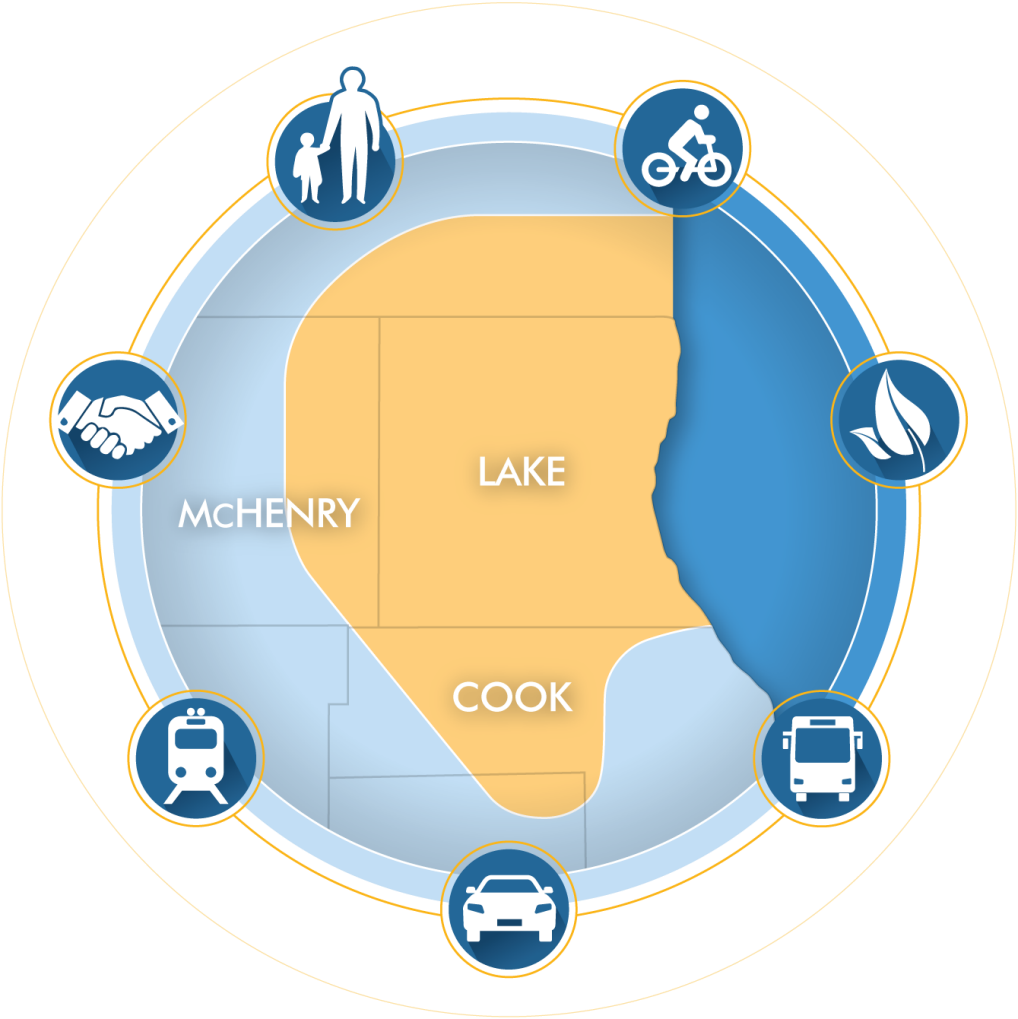
- Findings of prior studies?
- Existing corridor feature considerations?
- Corridor improvement considerations?
- Transportation system and demand management considerations?
- Requested input?
  - » *Complete questionnaires for corridors under consideration in your community*

Next Steps

- *Corridor Improvement Questionnaires*
- *Next Technical Coordination Meeting – Schedule and Topics*

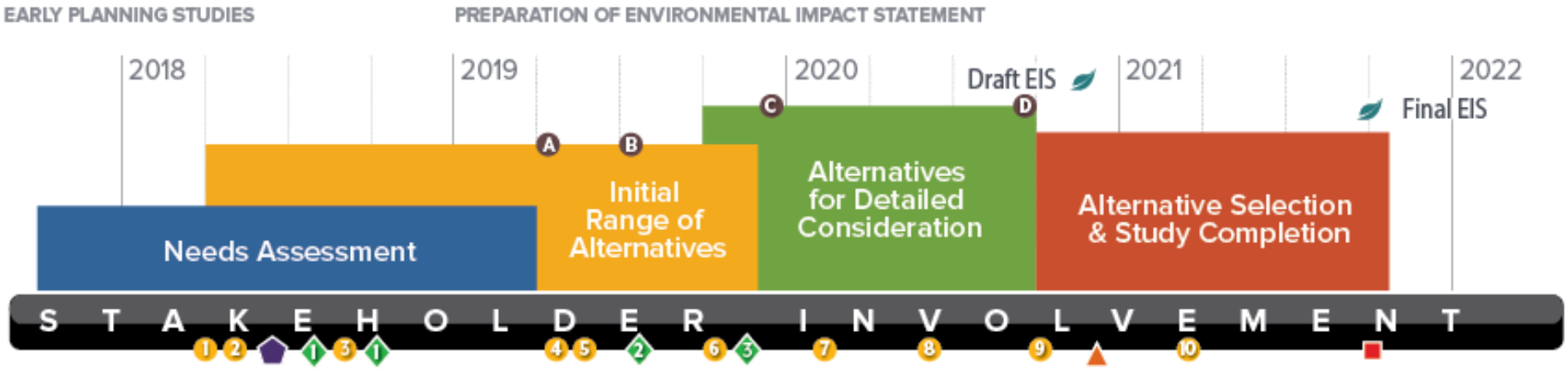
Local Agency Technical Meetings – Corridor Improvement Considerations

Winter 2018 – 2019



1. TCA Status and Schedule Overview
2. Summary of Draft Purpose & Need and the No-Build Alternative
3. Initial Range of Alternatives to be Considered – Introduction and Discussion
   - » *Improvement Corridors*
   - » *Corridor Improvement Considerations Questionnaire*
   - » *Planning Scenarios*
4. Next Steps

Tri-County Access Schedule



TCA Concurrence Points

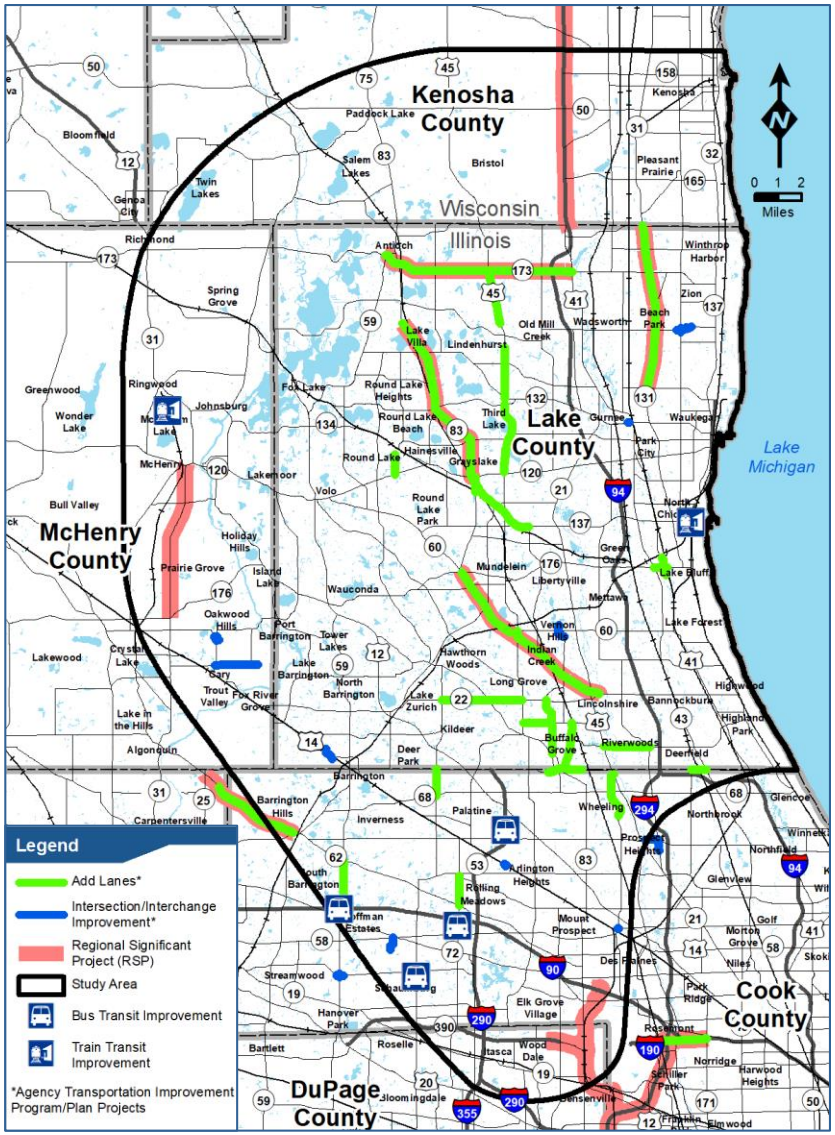
- (A) Purpose and Need
- (B) Initial Range of Alternatives to be Considered
- (C) Alternatives for Detailed Consideration
- (D) Preferred Alternative

- **SPG** = Stakeholder Participation Group Meetings
- **PM** = Public Open House Meeting Series
- **Public Hearings**
- **NOI** = Notice of Intent
- **ROD** = Record of Decision

****The process is being implemented according to the Memorandum of Understanding Implementing One Federal Decision Under Executive Order 13807*

The No-Build Alternative

- The benchmark for comparing performance and impacts of all other alternatives
- Considered as an alternative throughout EIS
  - » *Eligible to be selected as the Preferred Alternative*
- Basis for 2050 planning horizon
  - » *Includes committed projects in agency programs for which Phase I approvals have been secured*

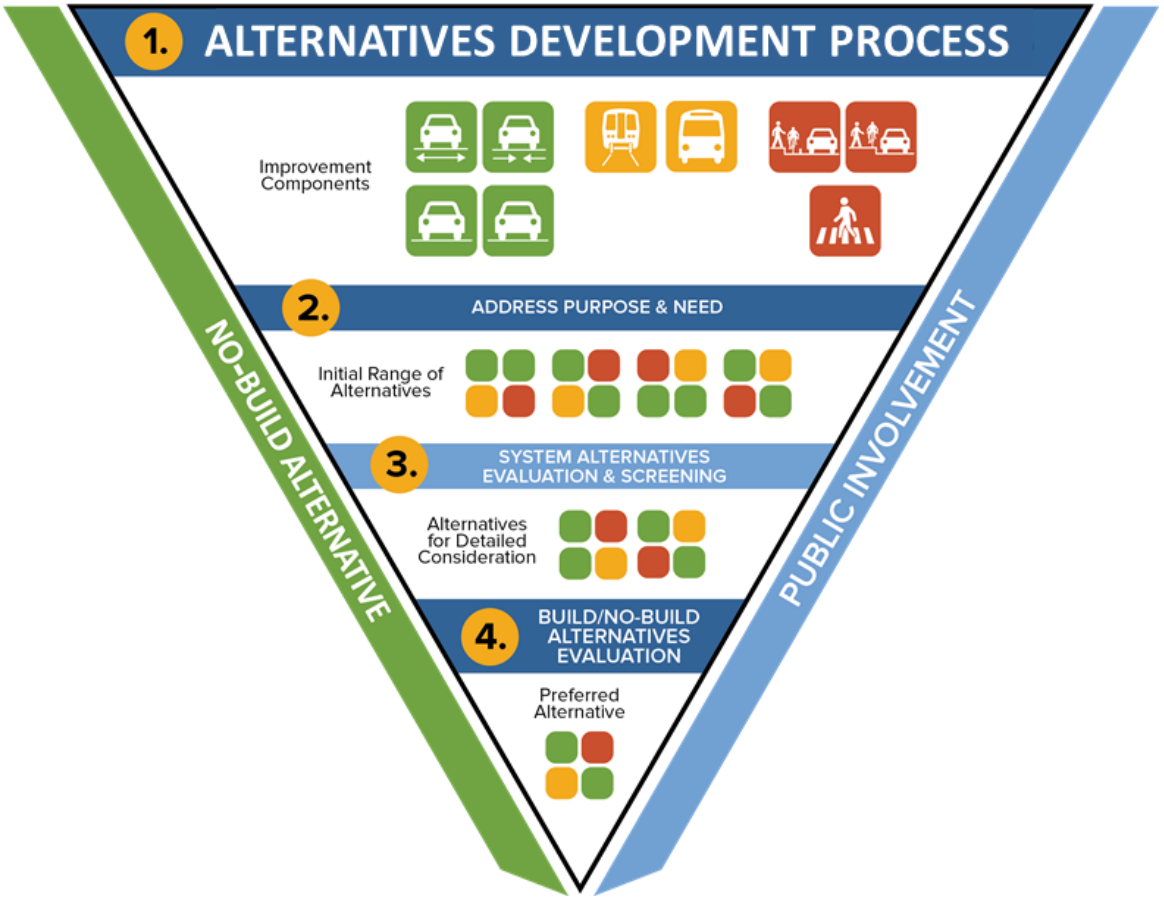


Tri-County Access Draft Purpose and Need

- Tri-County Access **Need** Statements
  - *Inadequate travel options connecting to major regional destinations*
  - *Widespread congestion and unreliable travel to major regional destinations*
  - *Inefficient regional travel alternatives*
- **Purpose** Statement
  - *The purpose of the TCA Study is to provide efficient travel options that meet current and future transportation needs by improving access to major regional destinations, reducing congestion, and providing travel options for regional trips.*
  - *The Study will also seek opportunities to link transportation solutions with sustainable environmental approaches and opportunities for enhancement.*

Alternatives Development Process

- ✓ Identify Improvement Components
- ❑ **Identify and Evaluate Initial Range of Alternatives**
- ❑ Identify and Evaluate Alternatives for Detailed Consideration
- ❑ Select Preferred Alternative/No-Build Alternative



Community Input Informs Representative Treatments for Improvement Corridors

- Findings of prior studies?
- Existing corridor feature considerations?
- Corridor improvement considerations?
- Transportation system and demand management considerations?
- Requested input?
  - » *Complete questionnaires for corridors under consideration in your community*

Next Steps

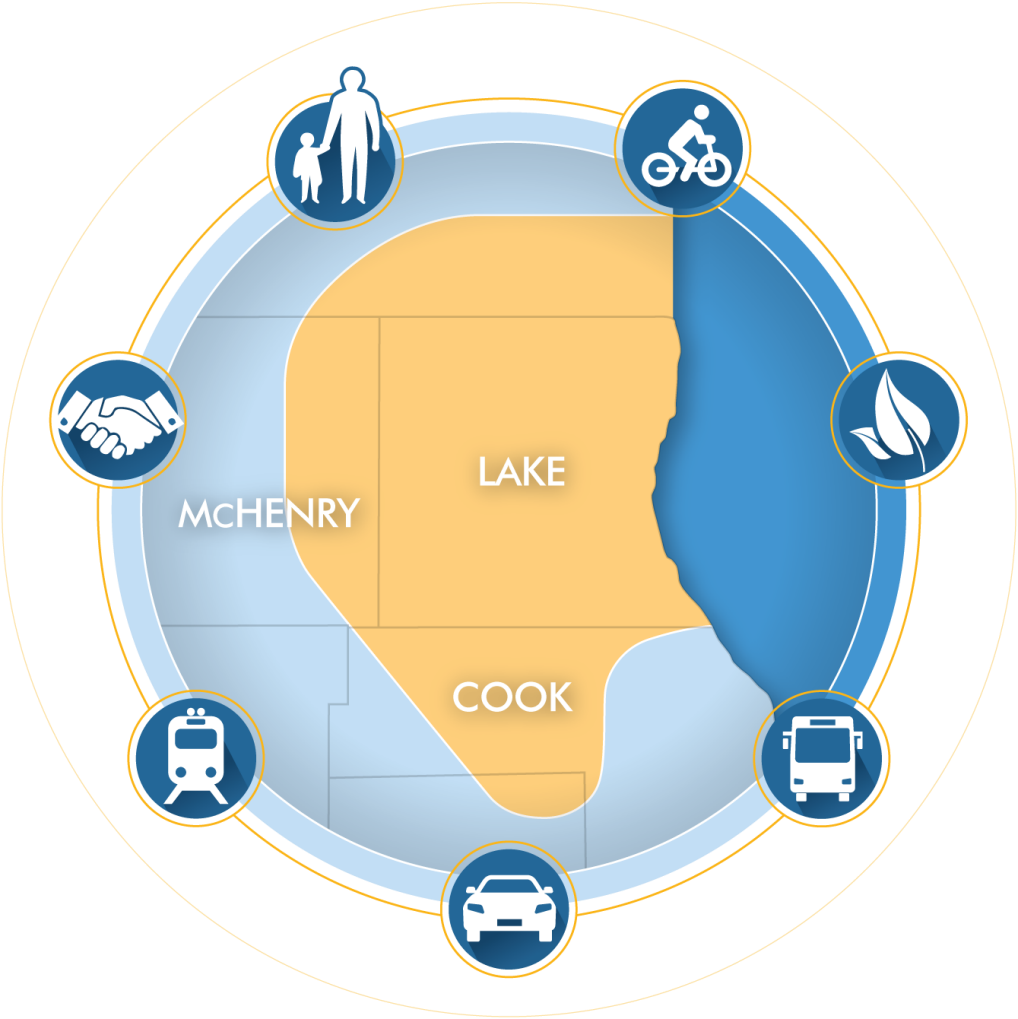
- Corridor Improvement Questionnaires
- Next Technical Coordination Meeting – Schedule and Topics

Attachment 8:

Speakers Bureau

Tri-County Access Speakers Bureau Meeting Deck

January 11, 2019



Agenda

1. Introduction to the Tri-County Access (TCA) Study
2. TCA Transportation Challenges
   - *Draft Purpose and Need*
3. Alternatives Development Process
   - *No-Build Alternative*
   - *Initial Range of Alternatives*
   - *Evaluation of Alternatives*
4. Next Steps

Introduction to the Tri-County Access Study

Tri-County Access Team

Lead Agency

U.S. Department of Transportation
Federal Highway Administration

Joint Sponsor Agencies

Illinois Tollway

Illinois Department of Transportation

Cooperating and Participating Agencies

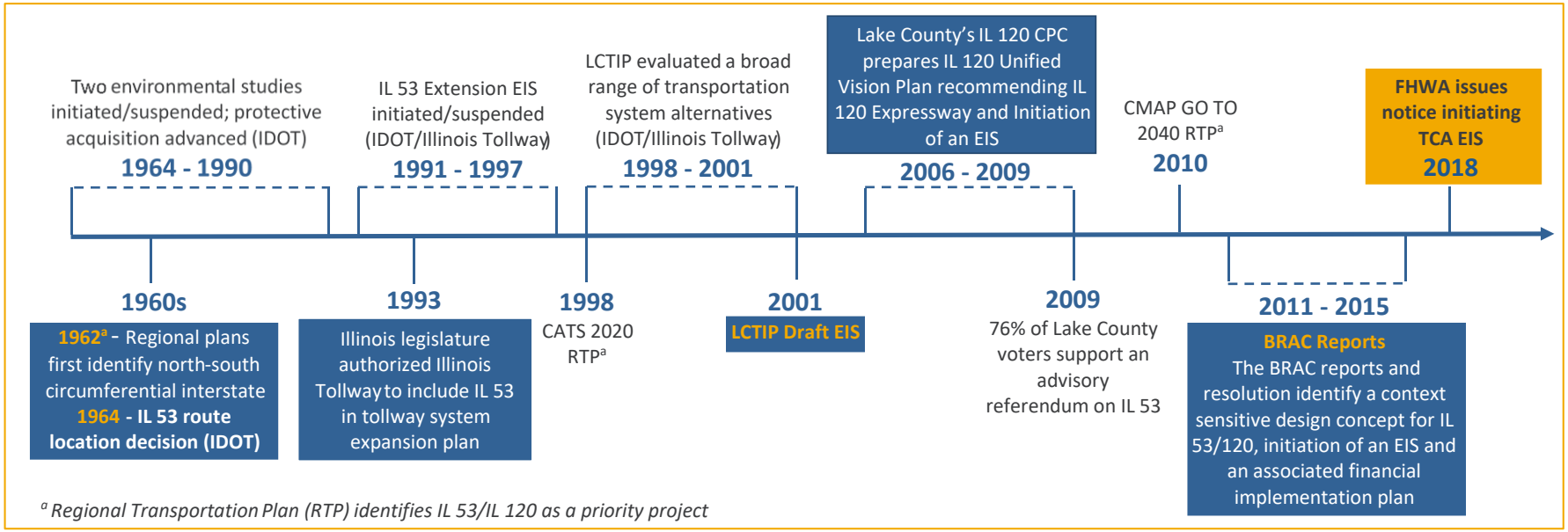
CMAP, Regulatory, Resource, County and Local Agencies

Technical Team

Jacobs Engineering Group and Knight E/A Inc.

Tri-County Access Historical Perspective

- Six decades of discussion provide a strong foundation for determining a course of action to solve regional transportation challenges



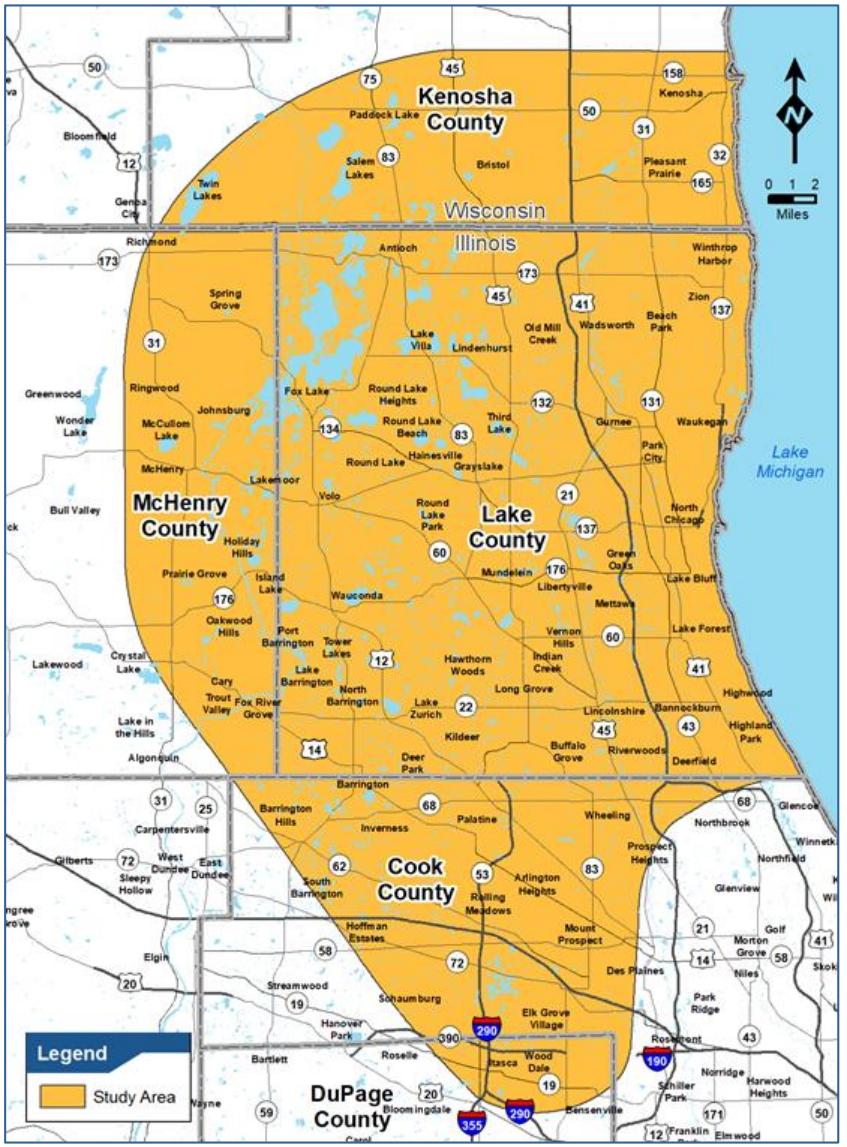
- TCA will deliver an Environmental Impact Statement that will **complete the conversation and reach a decision**

Why an Environmental Impact Statement (EIS)?

- An EIS is a federally required disclosure and decision process under the National Environmental Policy Act (NEPA) for major infrastructure projects that are federally funded or permitted.
- An EIS requires a comprehensive assessment of a range of reasonable alternatives.
- The LCTIP Draft EIS (2001), jointly prepared by FHWA, the Illinois Tollway and IDOT, was suspended without reaching a decision.
- Lake County's IL 120 Unified Vision Plan (2009) identified a locally preferred corridor plan and recommended initiation of an EIS.
- The BRAC Report and Resolution (2012) identified a context-sensitive design concept for IL 53/120 and recommended initiation of an EIS and an associated implementation/financial plan.
- The Illinois Tollway has allocated funding for an EIS and related planning studies – Move Illinois Plan allocated funding (2011), Board Resolution for funding an EIS (2015), Board award of a contract to Jacobs Engineering and Knight E/A to prepare an EIS (2017)

Comprehensive Approach to Regional Transportation Issues

- Study area is ~1000 square miles
- Includes three primary counties:
  - » *Lake County*
  - » *Eastern McHenry County*
  - » *Northern Cook County*
  - » *Considers travel interrelationship with portions of DuPage and Kenosha counties*
- Includes ~85 communities



Environmentally Responsible Approach Provides Opportunities for Enhancement

- Abide by National Environmental Policy Act (NEPA)
  - » *Requires disclosure of environmental effects of a proposed action*
- Experts will analyze potential effects to:
  - » ***Social and economic resources*** *(e.g., land use compatibility, community cohesion, etc.)*
  - » ***Natural and cultural resources*** *(e.g., air quality, wetlands, historic sites, etc.)*
- Where effects cannot be avoided and/or minimized as a first priority, mitigation requirements will be applied and coordinated
- Opportunities will be sought to link transportation solutions with sustainable environmental approaches and opportunities for enhancement

TCA Utilizes Advancements in Roadway Technologies to Deliver Transportation Solutions

- SmartRoad delivers real-time information for safer and more efficient travel
- Roadway technologies accommodate emerging innovations, such as autonomous/connected vehicles and electric vehicles

- Enhanced transportation planning tools demonstrate the relationship between infrastructure, land use and the environment
- Visualization technologies illustrate solutions in context and inform aesthetic treatments

TCA Implements a Fiscally Responsible and Achievable Plan

- Determine total costs for each alternative – from the No-Build Alternative to new or improved roadways and mass transit
- Identify, quantify and compare expected benefits and costs for each alternative
- Evaluate ALL potential funding sources and uses
- Foster partnerships to deliver fiscal accountability

Three Tracks for Reaching a Sound and Informed Decision

Technical

Comprehensive Transportation Solutions

- ✓ Leverage prior study efforts
- ✓ Proceed in an environmentally responsible way
- ✓ Integrate innovative technologies

Public Outreach

Secure Broad Support

- ✓ Engage all stakeholders in the conversation throughout the process

Financial

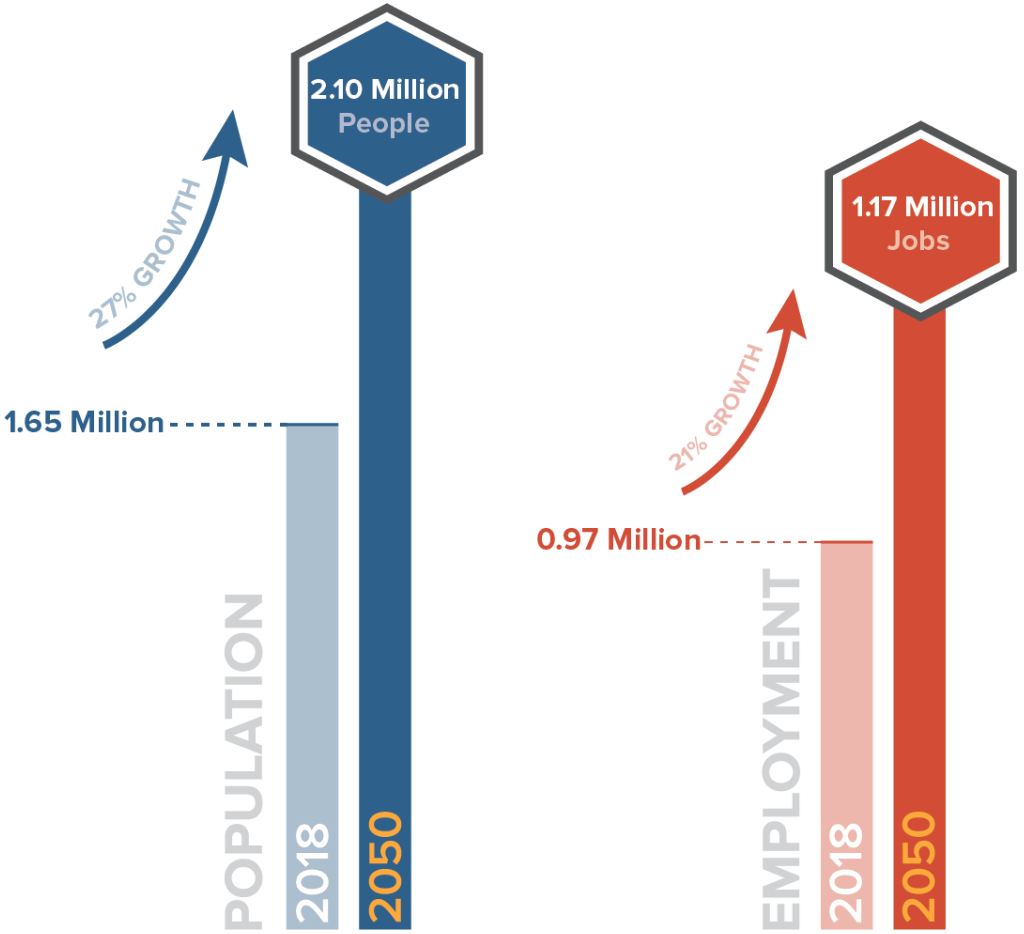
Clear and Achievable Implementation Plan

- ✓ Develop a fiscally responsible and implementable financial plan

Tri-County Access Transportation Challenges

Development in the TCA Study Area has Outpaced Transportation Improvements and Capabilities

- Steady growth in population and employment
  - » *Since 1970, population has increased by ~56% and employment has increased by ~66%*
- By 2050, population and employment are expected to increase by over 20% according to CMAP projections



Where Are People Going and How Are They Getting There?

Daily Roadway Trips Patterns

- Today, there are over **6.5 million** daily roadway trips

- By 2050, daily trips will grow by **25% to over 8.2 million**

How do people get around?

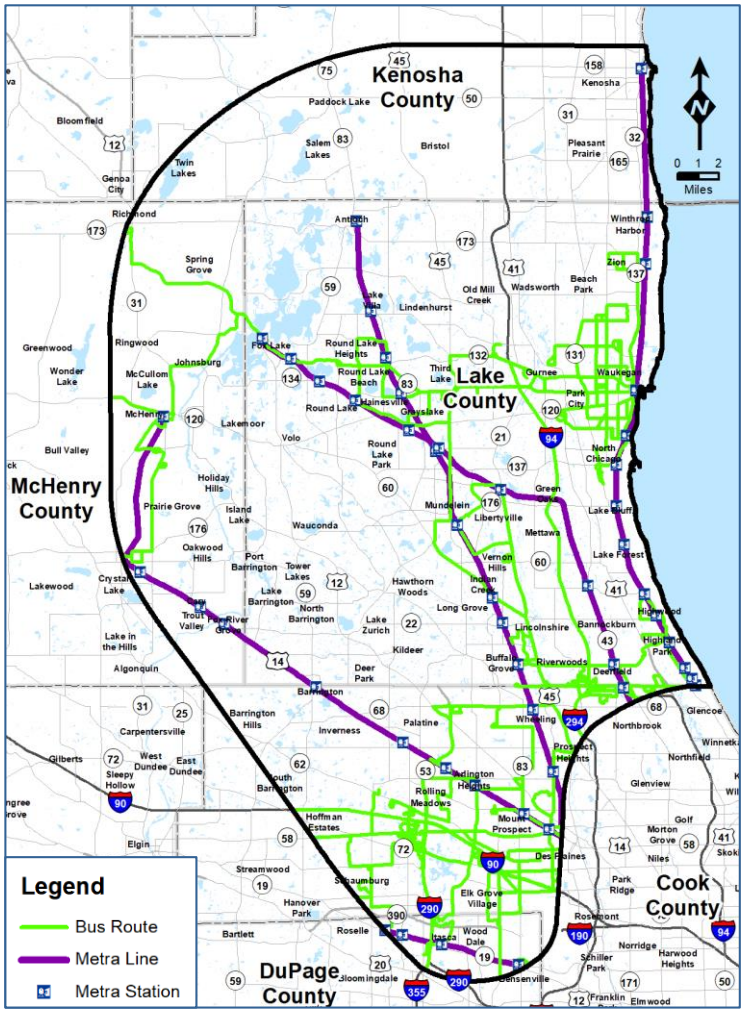
- **90%** of travel in the Study area is by car with **65%** of households owning **≥2** vehicles, which is **14%** higher than the CMAP regional average

TCA Characteristics Constrain Transit Service Opportunities

Metra and Pace have increased the frequency of their service but ridership has declined

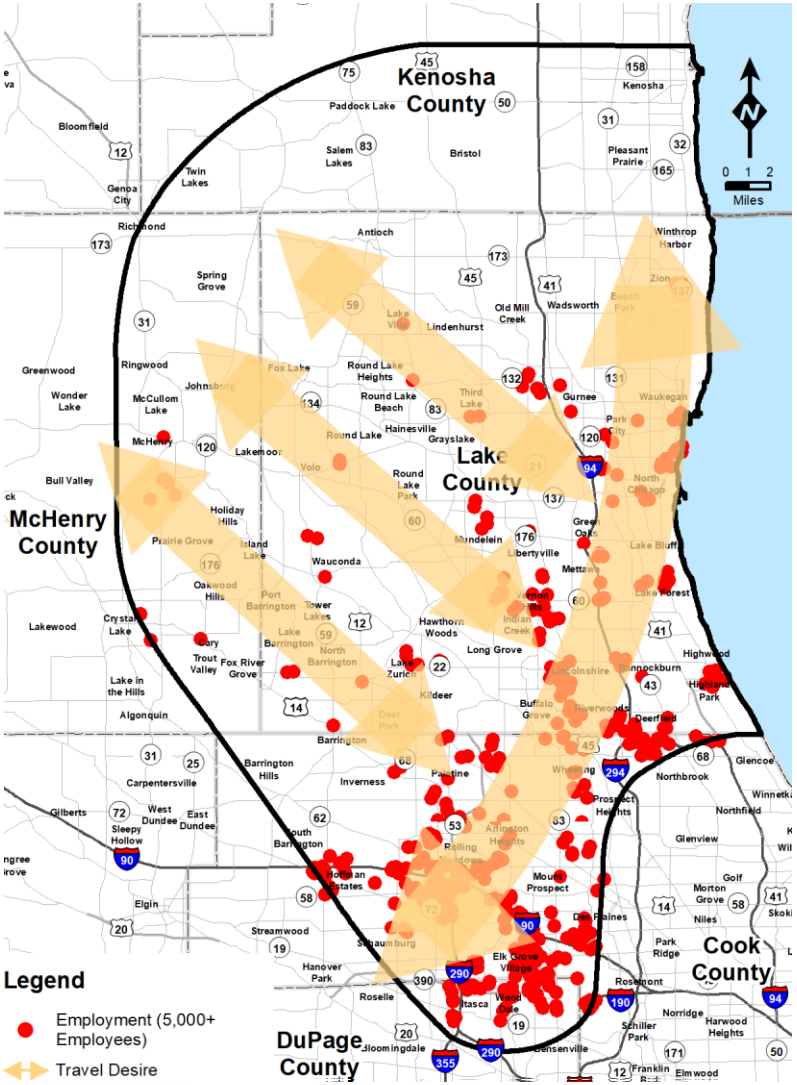
Contributing Factors:

- Land use characteristics in the Study area do not accommodate efficient transit use
- Transportation network companies (Uber and Lyft) provide reasonably priced alternatives to transit
- Consumer behavior - prefer driving over public transit



Regional Trips Attracted to Major Destination Centers

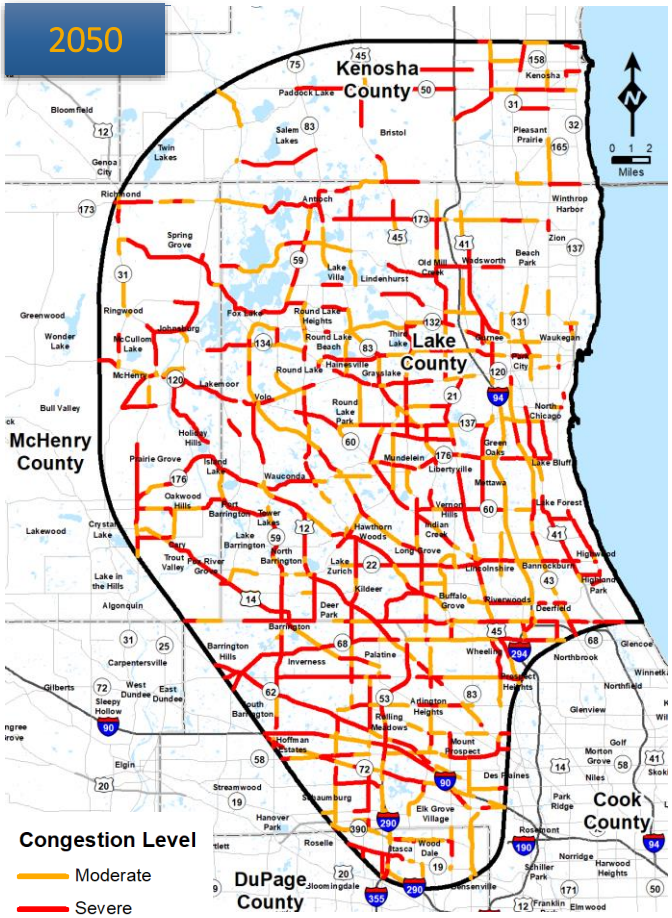
- Employment centers are concentrated in the southern part of the Study area and downtown Chicago
- Commuting trips are generally oriented in the north-south direction with diagonal components towards employment centers
- Less than half (35%) of the area's major roadways are oriented north-south
- By 2050, both population and employment are expected to expand further north and west
  - » *Increasing number of longer trips to reach employment centers*



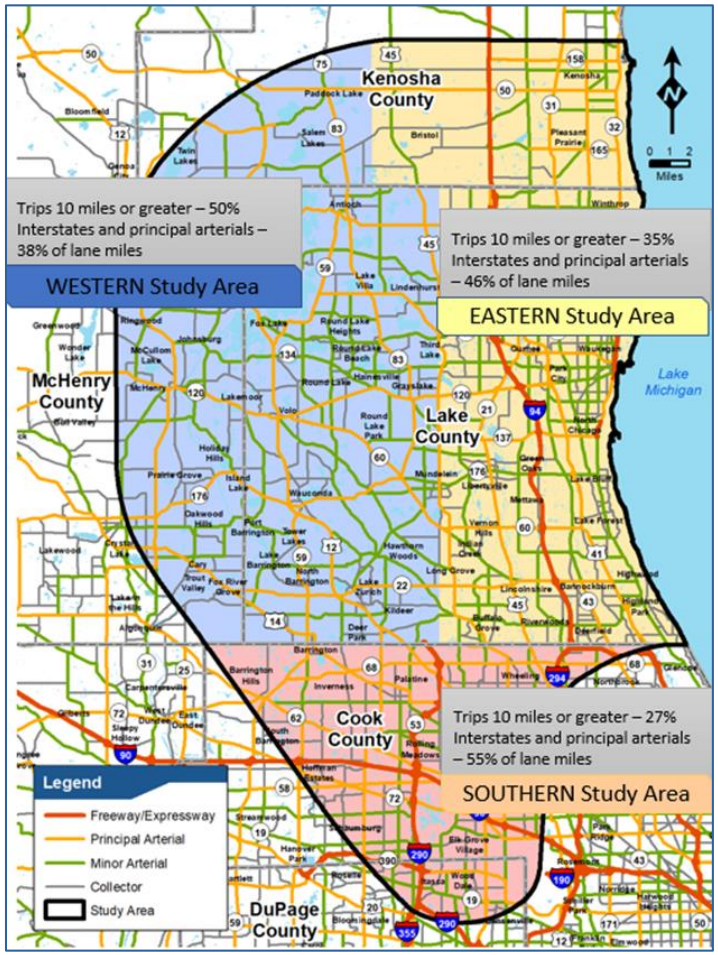
Growth has Resulted in Increased Demand and Congestion on TCA Roadways

By 2050…

- 33% of the roadway network will be congested during rush hours with **extended rush hours** in the AM and PM
  - » *Resulting in **321,700 vehicle hours of delay** (VHD) during daily extended rush hour periods*
  - » *Equating to **14 work days (112 hours)** spent in traffic congestion **per worker** annually*
  - » *Costing **~$1 billion annually** in lost productivity during daily extended rush hour periods*



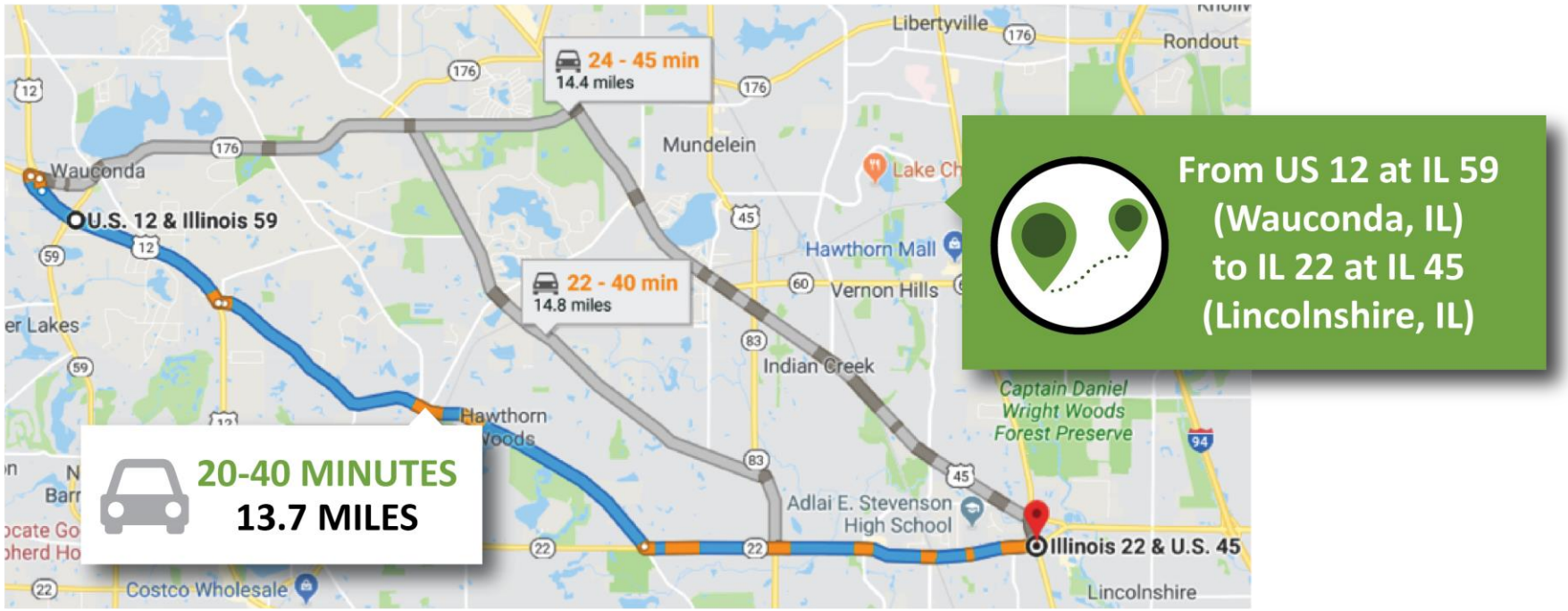
Inadequate Supply of Major Roadways to Serve Regional Travel Demand Results in Inefficient Travel



- 50% of all current trips are regional trips (over 10 miles)
- 38% of all available roadway lane miles are on major roadways (intended to carry regional trips)
- Drivers are using secondary roadways for regional trips, resulting in inefficient travel

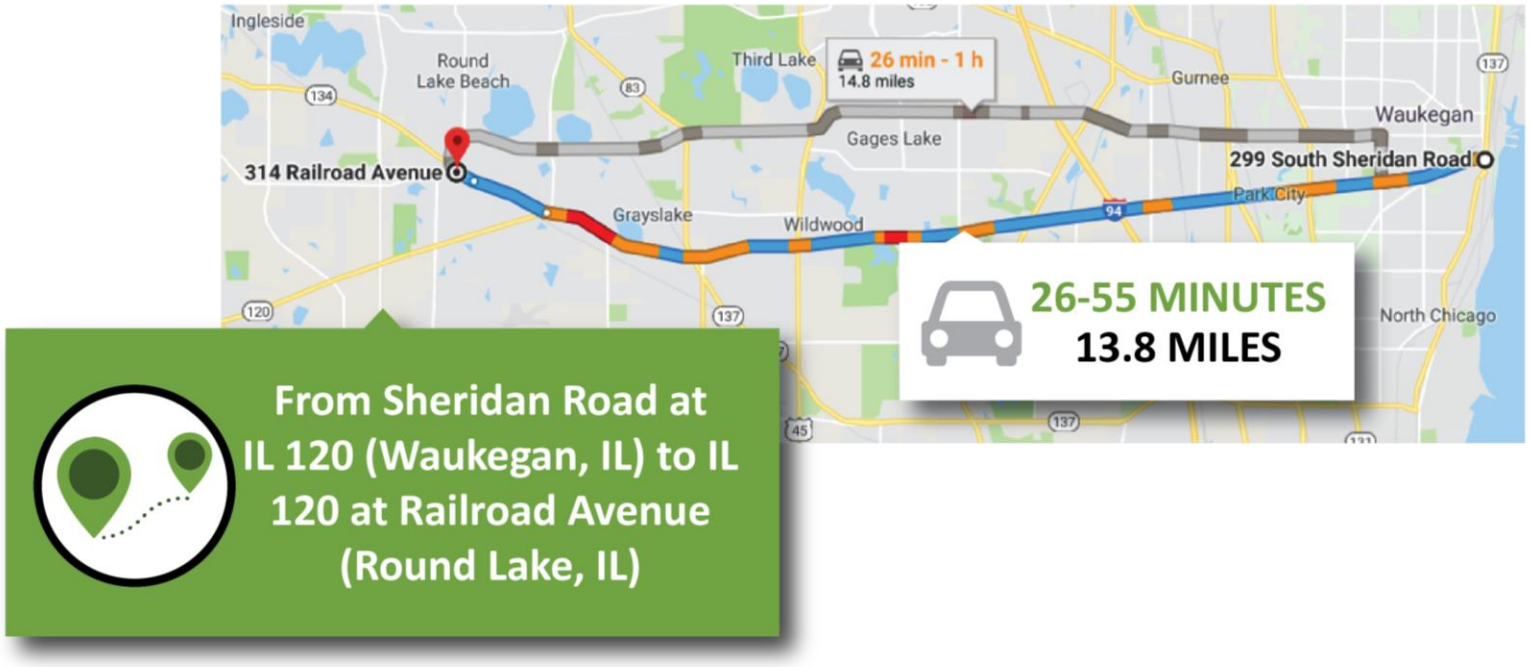
Current Roadway Conditions Result in Unreliable Travel Times

Travel from Western Study area to the Southeast



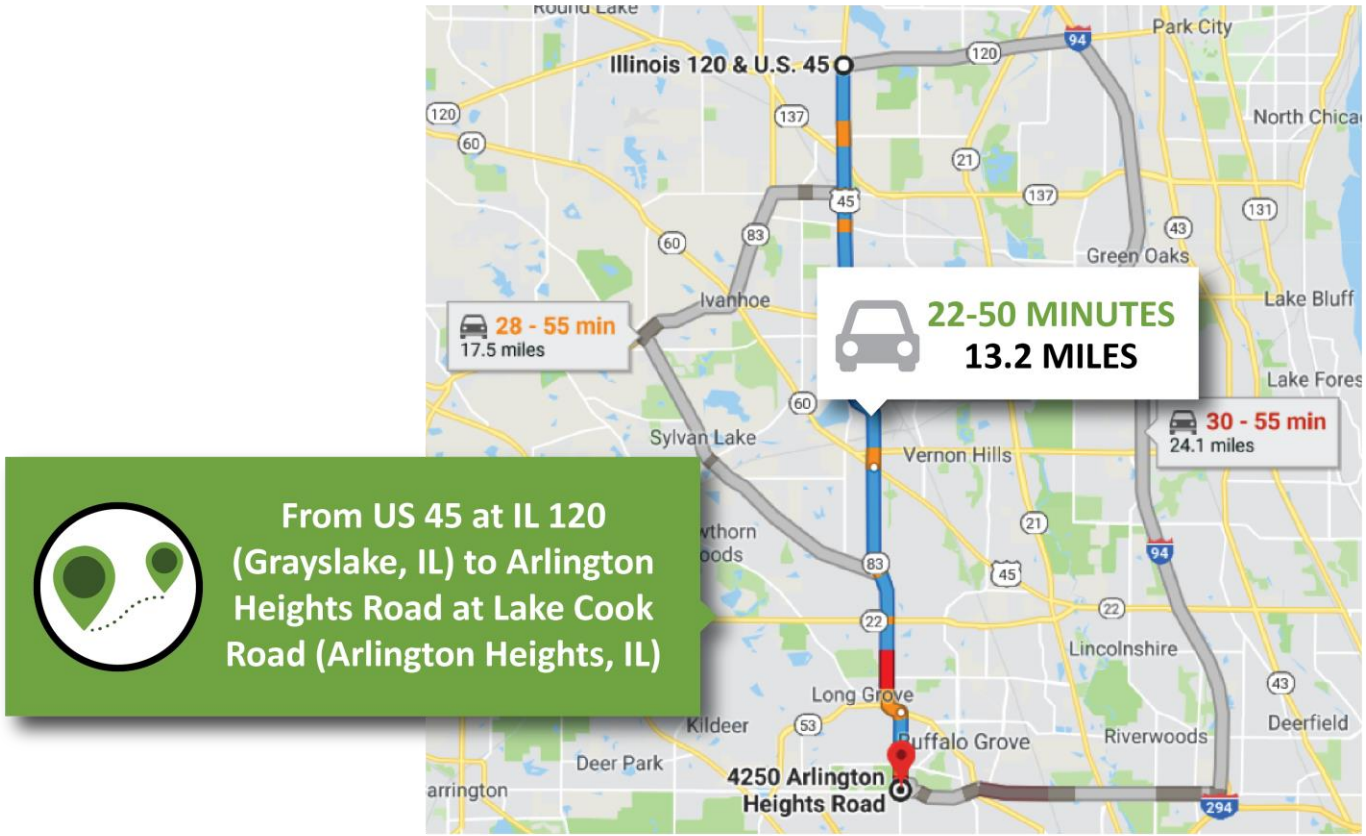
Current Roadway Conditions Result in Unreliable Travel Times

Travel from Eastern Study area to the West



Current Roadway Conditions Result in Unreliable Travel Times

Travel from Central Study area to the South



Current Roadway Conditions Result in Unreliable Travel Times

Travel from Southern Study area to the Northwest

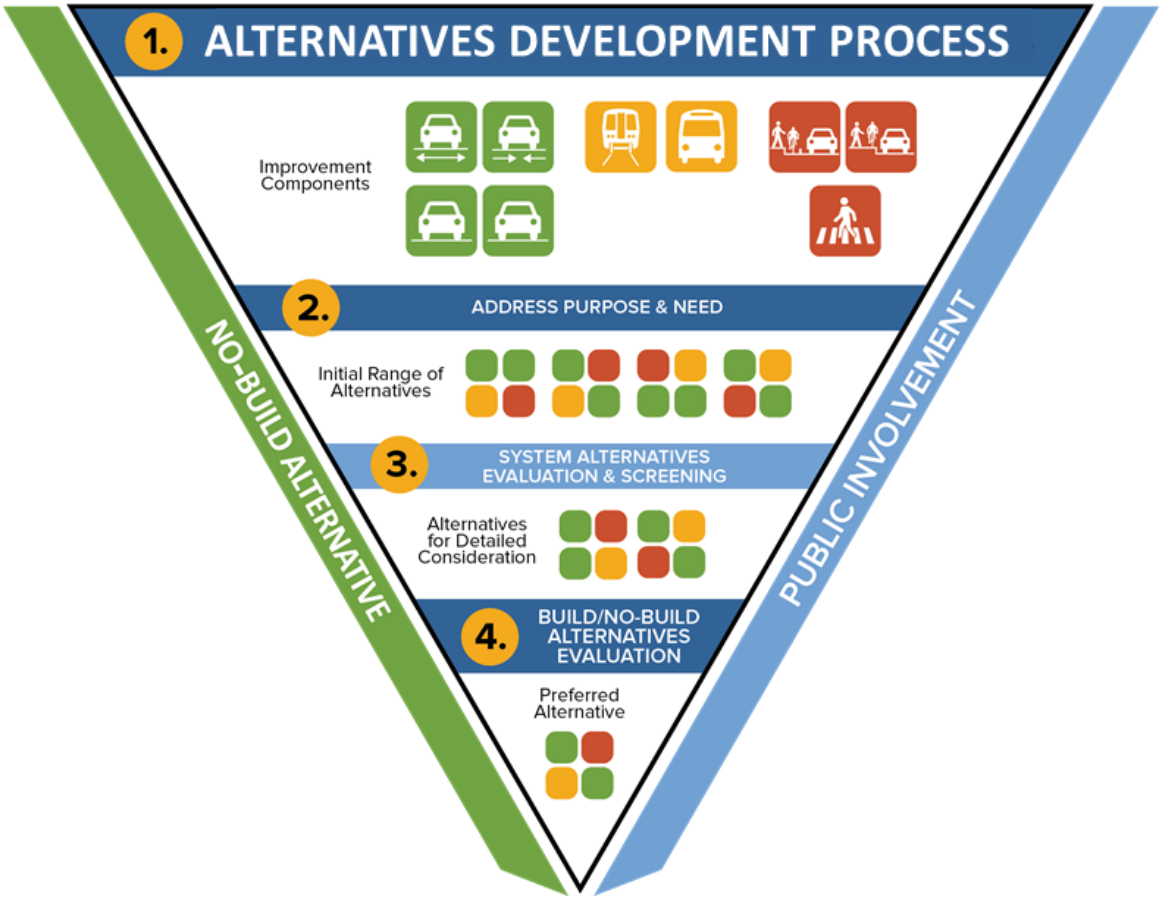
Tri-County Access Draft Purpose and Need

- Tri-County Access **Need** Statements
  - *Inadequate travel options connecting to major regional destinations*
  - *Widespread congestion and unreliable travel to major regional destinations*
  - *Inefficient regional travel alternatives*
- **Purpose** Statement
  - *The purpose of the TCA Study is to provide efficient travel options that meet current and future transportation needs by improving access to major regional destinations, reducing congestion, and providing travel options for regional trips.*
  - *The Study will also seek opportunities to link transportation solutions with sustainable environmental approaches and opportunities for enhancement.*

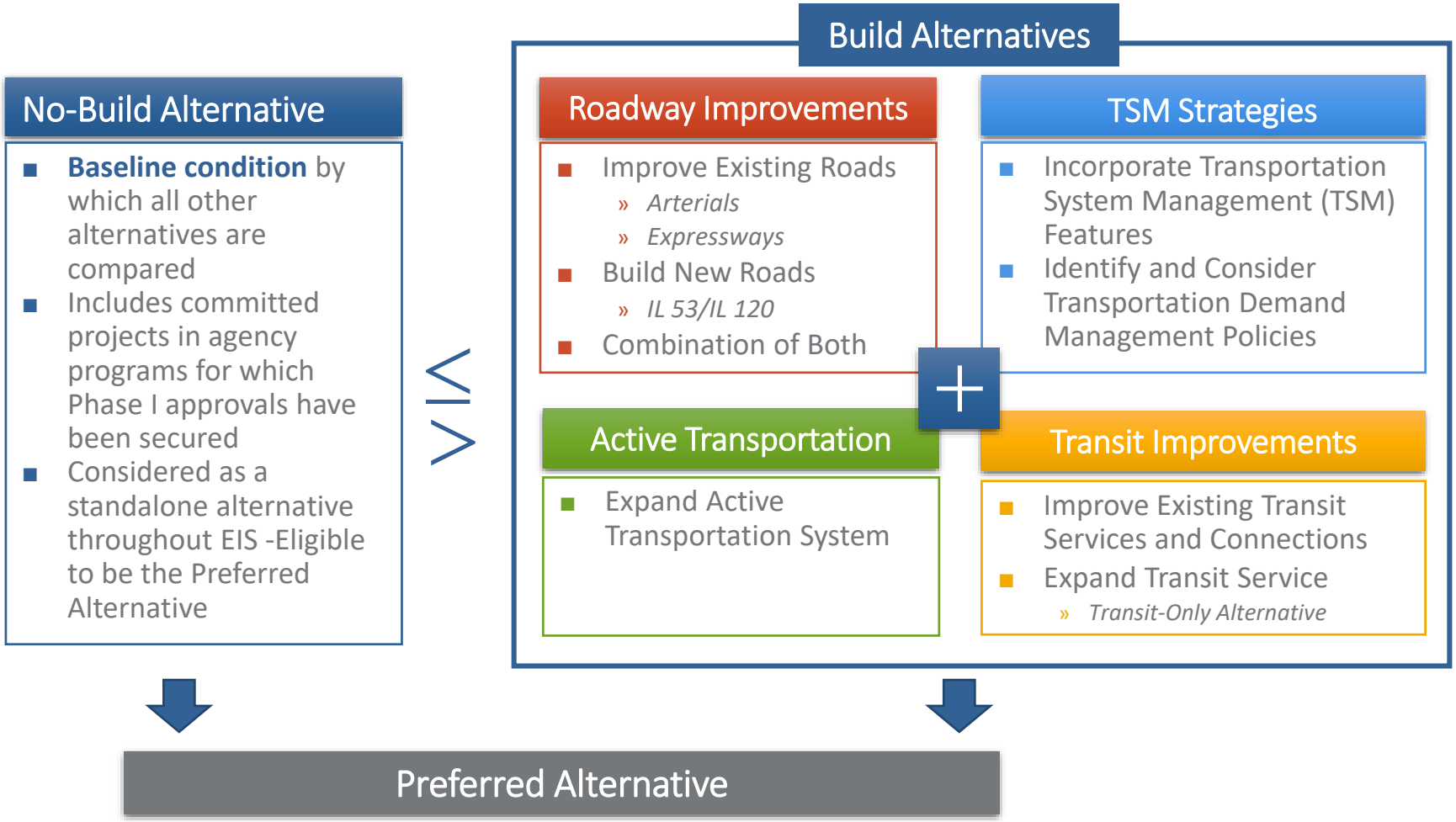
Alternatives Development Process

Alternatives Development Process

- ✓ Identify Improvement Components
- ❑ **Identify and Evaluate Initial Range of Alternatives**
- ❑ Identify and Evaluate Alternatives for Detailed Consideration
- ❑ Select Preferred Alternative/No-Build Alternative

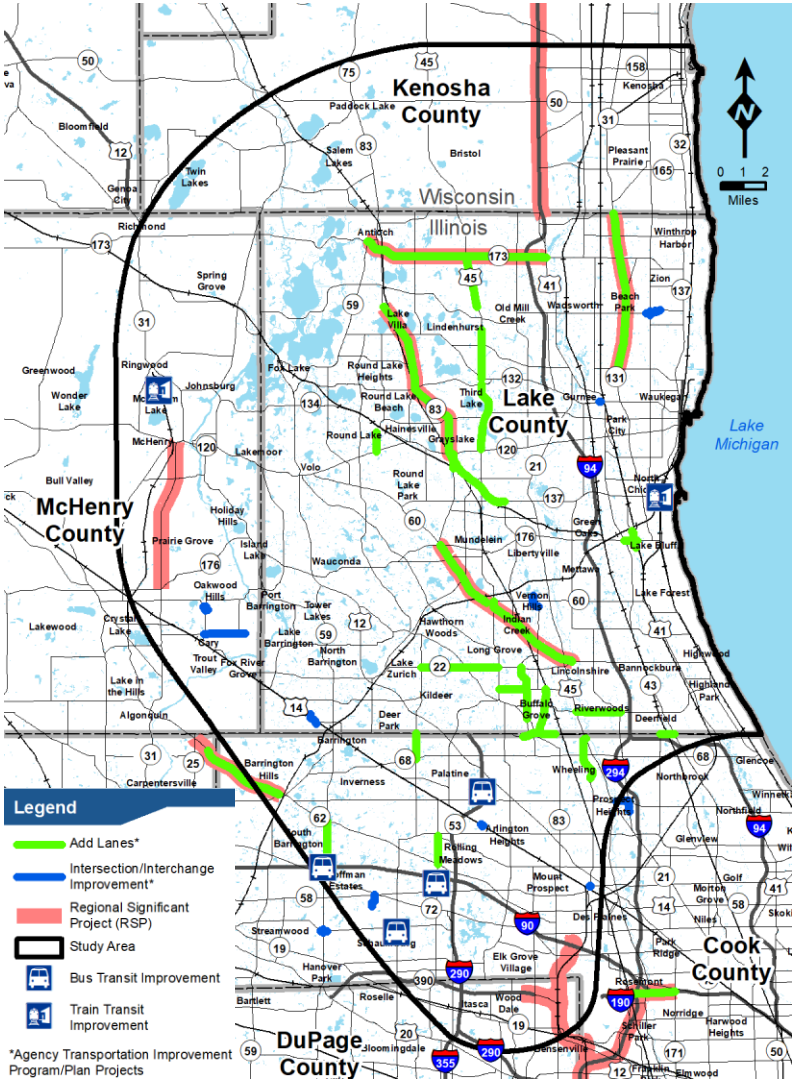


Alternative Types Considered to Address Needs



The No-Build Alternative

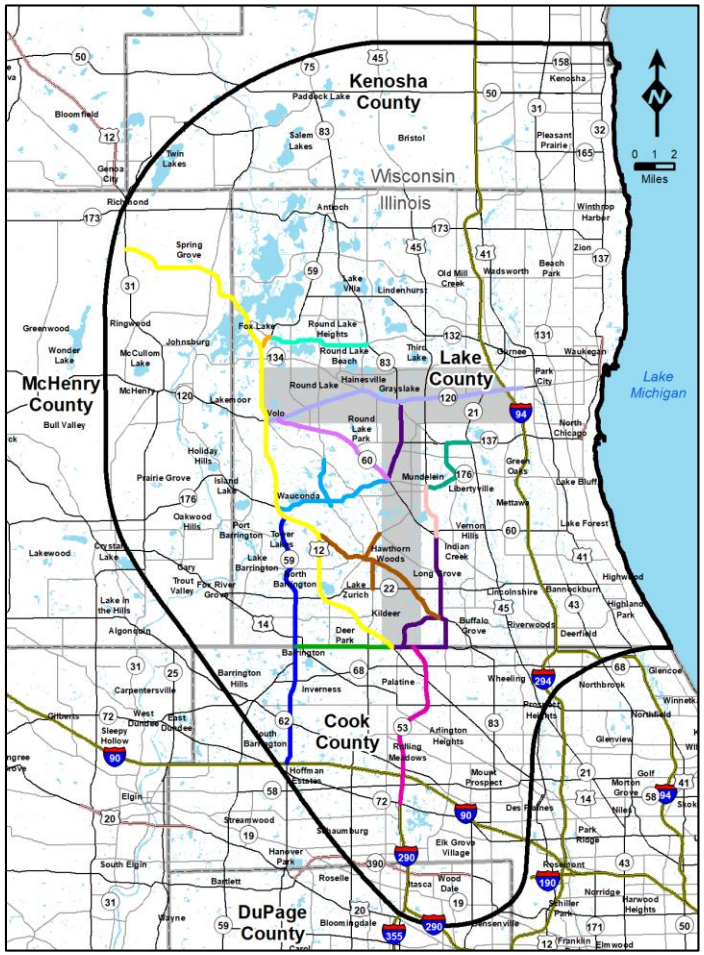
- Basis for 2050 planning horizon
  - » *Includes committed projects in agency programs for which Phase I approvals have been secured*
- Considered as an alternative throughout EIS alternative studies
- The benchmark for comparing performance and impacts of alternatives



Initial Range of Alternatives:
Improvement Corridors under Consideration

Roadway Initial Improvement Concepts

- **Representative Layout** - General Alignment and Access Locations
- Forecast Traffic (2050)
- Length of Roadway Improvements
- Number of Lanes (typical section)
- Grade Separation Locations
- Bypass Opportunities
- Active Transportation Features and Connections

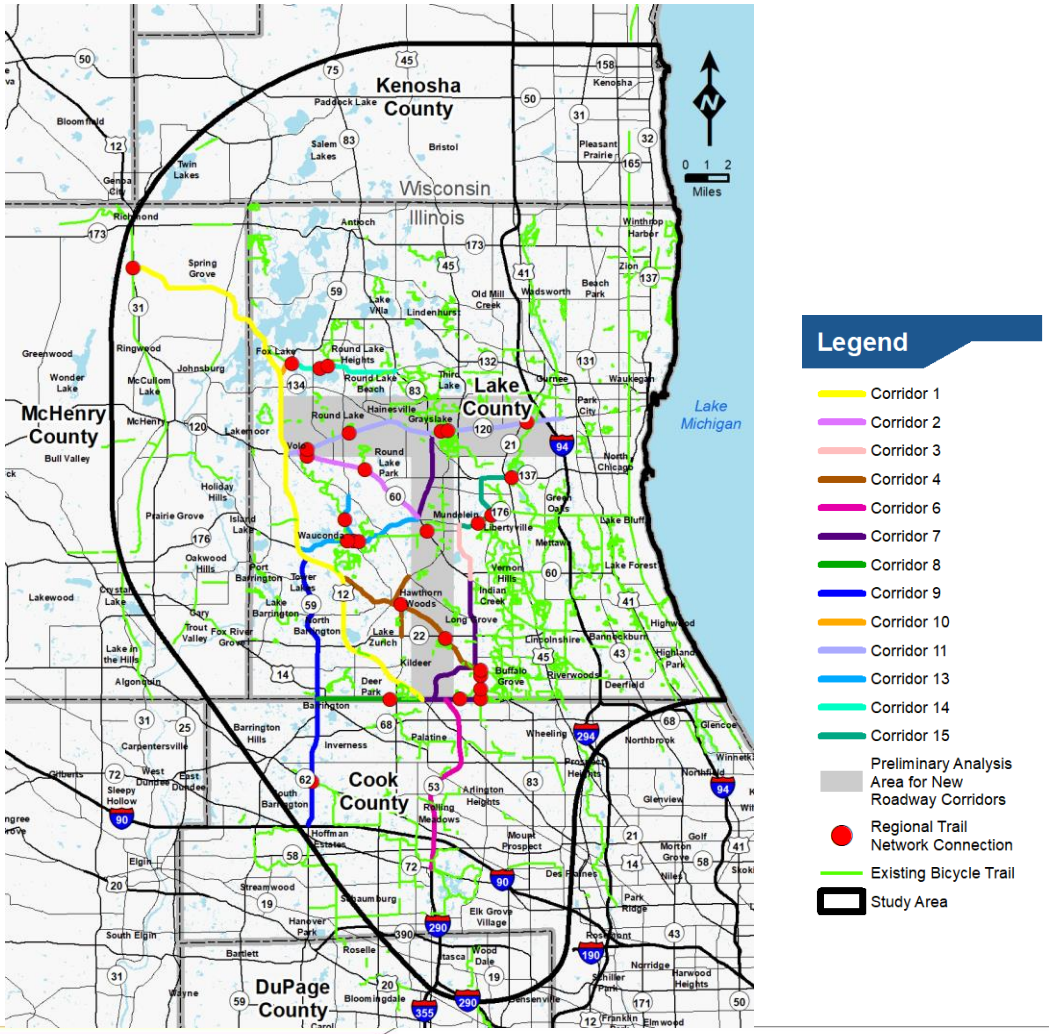


Initial Range of Alternatives: *Transit-Only Improvement Concepts*

- The transit alternative development will be guided by:
  - *Early Input from Regional Transit Authority and Transit Service Boards (Pace and Metra)*
  - *Development of a TCA Study Regional Transit Policy Framework*
  - *Identification of key travel characteristics*
  - *Supported by regional planning efforts such as the CMAP ON TO 2050 Plan, RTA 2018 – 2023 Strategic Plan, Pace Vision 2020*
  - *Review of best practices from comparable systems with similar land use and socioeconomic characteristics*
- The transit alternatives evaluation process will involve a two-step approach:
  - *An initial improvement concept that represents a stand-alone transit only modal alternative evaluated for achieving the Purpose and Need of the Study*
  - *A range of complimentary transit improvement opportunities along with roadway improvements to address the Purpose and Need of the Study*

Initial Range of Alternatives:
Active Transportation Improvements

- New and existing corridors will provide links to major trails to networks to enhance the regional active transportation network
- Bicycle and pedestrian accommodations will be considered along all existing roadway improvement corridors



Initial Range of Alternatives Evaluation Considerations

- Do they meet Purpose and Need?
- Transportation System Performance Analysis
- Environmental and Quality of Life Considerations
- Stakeholder Input
- Financial (Cost, Implementation Strategies)

Next Steps

Tri-County Access Schedule

****The process is being implemented according to the Memorandum of Understanding Implementing One Federal Decision Under Executive Order 13807*

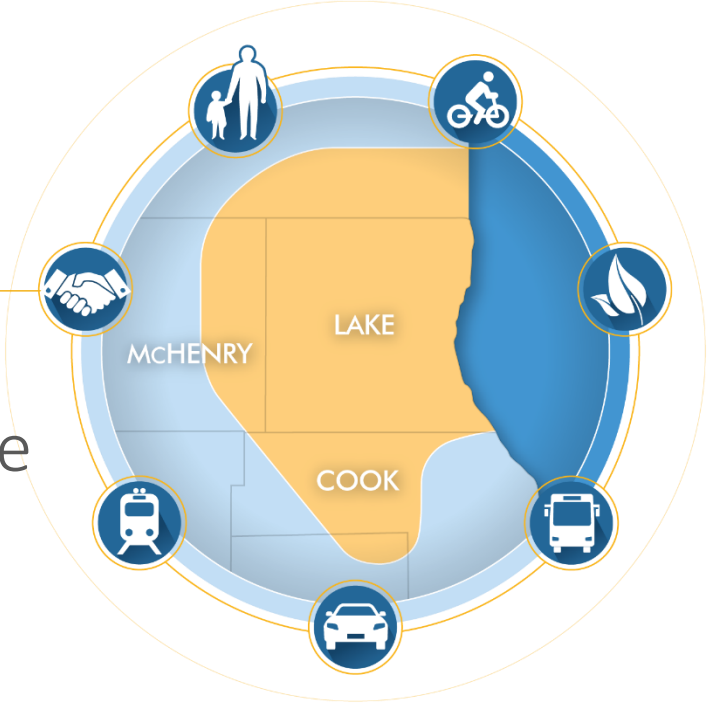
Ways to Stay Involved

- Project Website
- Submit a Comment
- Join Mailing List
- Attend Public Meetings
- Request a Small Group Meeting
- Stakeholder Participation Group
- Speakers Bureau

Thank you!

Appendix C

Transportation System Performance Report (TSPR)



TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Transportation System Performance Report

May 2019

Illinois Tollway

U.S. Department of Transportation
Federal Highway Administration

Illinois Department of Transportation

Executive Summary

The Transportation System Performance Report (TSPR) provides a comprehensive system evaluation of current and future transportation conditions and problems within the Tri-County Access (TCA) Study limits. It includes an identification and evaluation of travel patterns, trip characteristics, as well as the location and extent of the major travel-related problems. The TSPR also provides an understanding of why and where the problems exist. Technical analysis findings and consideration of travel-related problems identified by stakeholders, as summarized in this report, provide the foundation for the purpose and need, and a starting point for developing transportation system solutions in the TCA Study area.

As identified in the Draft Purpose and Need, the purpose of the TCA Study proposed improvement is to identify efficient travel options that meet current and future transportation needs by:

- Improving access to regional destinations, including large employment centers and specialized attractions that draw high volumes of trips within and to the TCA Study area.
- Reducing congestion on primary roads[1] intended to serve longer-distance trips.

While this document is specific to transportation systems and performance, it is recognized that the TCA Study area is home to many sensitive environmental and community resources, including state and federally listed species, wetlands, surface waters, historic and archaeological resources, and community resources. The residents and other stakeholders in the area value a strong environmental policy and care deeply about environmental preservation. As such, the TCA Study recognizes the area's rich environmental resources and is committed to developing transportation solutions that minimize environmental impacts. These features are discussed under separate cover.

Background

Covering approximately 1,000 square miles, the TCA Study area consists of three primary counties (all of Lake County, eastern McHenry County, and northwest Cook County), and considers travel interrelationships with portions of northeastern DuPage County and southern Kenosha County in Wisconsin. The Illinois counties are part of the Chicago Metropolitan area. The portion of Kenosha County in Wisconsin, at the northern end of the TCA Study area, is included because of anticipated growth in this area and intercounty traffic patterns. Represented are 36 townships and over 150 communities.

Transportation system improvements in the TCA Study area have been the focus of years of planning and study. Congestion and travel delays have been problematic in the TCA Study area and are expected to continue to worsen. The growing travel demand, resulting from steady population and employment growth, is outpacing the roadway capacity. The region's roadways and infrastructure have not undergone corresponding improvements to support the population and employment growth that has occurred. Today, one-fifth of the roadway network is congested during peak travel periods,[2] and by the forecast year (2050), traffic-congestion-related delays are expected to increase travel times by more than 50 percent compared to the base year (2015).

[1] The term "primary roads" is used throughout this document and is understood to encompass freeways/tollways/expressways and principal arterials.

[2] Congestion on the roadway network includes moderate, severe, and extreme conditions (described further in the section titled, Widespread Congestion and Unreliable Travel). Peak periods are when traffic is anticipated to be the greatest in the afternoon and evening and during the shoulder period (the time before and after the a.m. and p.m. peak periods). The Chicago Metropolitan Agency for Planning data upon which the study model is based considers the "peak periods" to be between 6 and 10 a.m. and between 2 and 8 p.m. Monday through Friday.

Performance Evaluation Process

Travel performance in the TCA Study area was conducted for the base year (2015) and the No-Build forecast year (2050). The performance analysis for 2015 assumed existing transportation system conditions, and the 2050 analysis presumes reasonably expected improvements to the transportation system, independent of any solutions identified by this TCA Study. This future condition is referred to as the No-Build Alternative, and includes the following:

- Regionally Significant Projects (RSPs), as identified by the Chicago Metropolitan Agency for Planning (CMAP) in the *ON TO 2050 Comprehensive Regional Plan* (CMAP 2018). Only the RSPs listed as "fiscally constrained" are included.
- Programmed roadway, transit, and aviation projects listed in the current Transportation Improvement Program (TIP). Also included are projects that are not part of the current TIP, but are expected to be funded and completed by 2050.

Defining the regional travel-related problems requires an examination of all surface transportation modes. The objective of the technical performance evaluation process was structured to answer the following questions:

- How does the roadway network perform in the base year, and how will it perform in 2050? Does the roadway network efficiently accommodate travel patterns and demands in the TCA Study area?
- Does the area's transit system provide reasonable access to jobs, community centers, shopping services, and housing in the TCA Study area? What service gaps should be addressed to increase transit use or make existing transit use more efficient?
- How does the area's rail system affect travel on area roadways and transit services? What opportunities are there to improve commuter transit trips to suburban employment destinations?
- Both industrial and commercial land use are heavily reliant on trucks to receive products. These areas are dispersed throughout the TCA Study area. How do these destinations affect truck travel times throughout the TCA Study area?
- Does the area's active transportation system provide effective transportation connections, both to community destinations and to transit services? What service gaps should be addressed to support improved linkages to transit services and to make walking and bicycling a more viable travel option?

The technical analysis of travel performance in the TCA Study area was complemented by stakeholder input on the topic of transportation problems. The opinion of travelers, residents, and area officials were invited early in the TCA Study. Their input helped validate that analytical findings are consistent with the viewpoint of system travelers.

Technical Analysis Findings and Stakeholder Perspectives

In the TCA Study area, a lack of efficient connections to regional destinations, high levels of congestion, and unreliable travel are problems negatively affecting people traveling in the area. Today's deficiencies in the transportation system affect the ability to move people and goods efficiently and are expected to worsen over time. The TCA Study area's land development patterns, transportation system characteristics, and travel behaviors are all influential factors.

The TCA Study area population and employment have steadily increased as the Chicago metropolitan region continued to expand from Chicago outward to suburban communities. Since 1970, the TCA Study area population has grown by over 60 percent (from just over 1 million to 1.65 million people), and employment has grown by approximately 65 percent (from 588,000 to 970,000 jobs). By 2050, the TCA Study area is expected to add approximately 450,000 more residents (a population increase of 27 percent)

and 200,000 more jobs (a 21 percent employment increase). The forecasted population increase aligns with the CMAP Region's projected growth of 27 percent by 2050, and the forecasted employment increase is just slightly less than the CMAP Region's projected growth of 22 percent by 2050.

For a roadway system to function most effectively, longer-distance trips are best accommodated on primary roads for more efficient travel with fewer interruptions and higher speeds. This is particularly relevant in the TCA Study area, where Home-Based Work (HBW) trips average a distance of 15.7 miles in the base year (2015), almost twice the average 8-mile distance across the CMAP Region. However, the spacing between Strategic Regional Arterials, designed to accommodate long-distance travel and connections to major transit and highway facilities, requires drivers to travel farther to connect to these higher-type facilities.

Several observations were made based on the technical findings for the base year (2015) and the No-Build forecast year (2050).[3]

- Since 90 percent of all trips in the TCA Study area are by automobile, travelers are reliant on a roadway network with prevalent delays. Inefficiencies and lack of capacity in the roadway network result in widespread congestion during peak travel periods. The primary roads account for the greatest amount of congested travel during peak travel periods, especially in southeastern and central Lake County and northern Cook County. A total of 180 miles of roadways in the TCA Study area are severely or extremely (Level of Service [LOS] E or F) congested during peak travel periods. By 2050, severe and extreme roadway congestion is projected to encompass much of the TCA Study area, increasing to 365 miles of roadways by 2050.
- Transit service (Metra) is oriented towards downtown Chicago, and bus service (Pace) is located where there is denser development in northern Cook County and eastern Lake County. Transit usage has been hindered by low-density residential development, gaps in the transit network such as absence of first- and last-mile service, poor connectivity between stations and destinations, the number of transfers required to reach the destination, and the availability of free and accessible parking in the TCA Study area. Walking/biking and transit usage are 5 and 2 percent, respectively.
- Generally, the destinations for peak-hour trips are concentrated in the southern portion of the TCA Study area in northern Cook and DuPage counties and southeastern Lake County or south of the TCA Study area, with demand on the roadway network increasing to the south.
- Average trip lengths in the TCA Study area are longer than throughout the remainder of the Chicago region. HBW trips during peak hours are 15.7 miles in the base year (2015), almost twice the average for the CMAP Region.
- Roads in the TCA Study area are congested. The congestion during peak periods is worse in the southern half. While congestion is projected to increase throughout the TCA Study area by 2050 due to spreading residential development, the southern portion is likely to continue to face the worst of the congestion due to the concentration of employment destinations. The congested roadways cause travelers to also experience unreliable travel times. Reliability of travel is important for commuters and for businesses to get people and goods to their destinations in a timely, predictable manner. Within the TCA Study area, travel during peak periods is unreliable and is expected to worsen in future years due to growth in travel demand. Travel plans are challenging when the travel time can vary up to 73 percent depending on the roadway conditions.
- Freight-truck traffic is also a factor in the efficiency of the roadway network in that truck traffic to industrial and commercial land uses spread throughout the TCA Study area requires longer trips on

[3] These findings may vary slightly from the TSPR and the Purpose and Need, as exact quantities are provided in this technical report, while the Purpose and Need document may be rounded to make it easier for readers to more readily understand findings.

the local roadway network (minor arterials and collectors), which are slower, have more points of conflict, and are therefore less efficient.

The top five most critical transportation issues identified by stakeholder involvement early in the process are as follows, listed in order of most to least critical:

1. Traffic congestion
2. Travel-time reliability
3. Lack of access to major roadways
4. Limited bus and transit services
5. Lack of sidewalks, trails, and bike lanes

The TCA Study team also received stakeholder input requesting that as we solve transportation-related problems, we are mindful of environmental and local community character issues. As an example, stakeholders cited convenient access to and from the TCA Study area as an issue of concern. The technical analysis validates this, showing a lack of convenient access to major regional roadways, especially in McHenry and western Lake County.

Widespread Congestion and Unreliable Travel

Inefficiencies in the roadway network and lack of capacity result in widespread congestion and unreliable travel conditions within the TCA Study area. The primary roads designed for longer trips account for the greatest amount of vehicle and congested travel during peak travel periods both today and into the future. Today's congestion-related delays result in unpredictable travel times for trips in the TCA Study area, which are expected to worsen with growing travel demand and congestion by the forecast year (2050).

The lack of travel-time reliability is caused by inconsistent route choices made by travelers to avoid congestion during peak periods where travel demand greatly exceeds roadway capacity. The lack of efficient and direct routes impedes travel on roadways, especially in the a.m. and p.m. peak periods when travel demand exceeds roadway capacity. The lack of capacity also affects the ability to implement transportation system management strategies, which can improve reliability, but cannot be effectively applied on the roadway system when travel demand greatly exceeds capacity.

The lack of travel reliability is more pronounced on minor arterials and collectors compared to principal arterials and interstates because of lack of throughput capacity and multiple access points such as driveways and intersections. Frequent access points impede uniform traffic flow and lower sustainable speeds, which are necessary to provide for reliable travel conditions.

With over half of the roadways in the TCA Study area composed of minor arterials and collectors, especially in the northern and western portions of the area, the anticipated growth in these areas is expected to adversely affect travel reliability since they do not have excess capacity. Interim strategies to improve reliability, such as intersection improvements and coordinated traffic signals, have been implemented at several locations over the past decades; however, these spot improvements have not been effective at keeping pace with the continued rising levels of regional congestion.

Within the TCA Study area, there are 210,000 vehicle hours of delay (VHD) in the peak periods of an average weekday in the base year (2015). This is expected to increase by 53 percent by the forecast year (2050). The greatest percentage increase of VHD is on freeways/tollways/expressways, which increases by 173 percent, but the largest absolute increase is on principal arterials, which increases by 44,000 VHD. This amount of peak-period delay equates to approximately 11 working days spent in traffic per worker annually in 2015, increasing to 14 working days per worker annually by 2050. Looking at it

another way, this translates to $707 million in lost productivity currently, increasing to over $1 billion by 2050.[4]

As shown in Tables ES-1 to ES-4, peak-period vehicle miles of travel (VMT) and vehicle hours of travel (VHT) are expected to increase considerably by year 2050. VHD are expected to increase over 50 percent on primary roads during the peak periods. Moderate to extreme congestion is forecasted to increase by 116 percent by 2050.

Table ES-1. Change in Vehicles Miles of Travel in TCA Study Area

TCA Study Area—VMT	Peak plus Shoulders				Daily			
Functional Class	**2015**	**2050**	**Growth**	**% Growth**	**2015**	**2050**	**Growth**	**% Growth**
Freeway/Tollway/ Expressway[a]	7,087,500	8,883,800	1,796,300	25%	11,850,100	14,751,900	2,901,800	24%
Principal arterial	9,221,400	11,431,800	2,210,400	24%	14,411,300	17,911,600	3,500,300	24%
Minor arterial	5,813,700	7,428,000	1,614,300	28%	8,911,100	11,427,600	2,516,500	28%
Collector	2,339,500	3,399,600	1,060,100	45%	3,562,800	5,163,800	1,601,000	45%
Total	24,462,100	31,143,200	6,681,100	27%	38,735,300	49,254,900	10,519,600	27%

[a] Excludes ramps

Table ES-2. Change in Vehicle Hours of Travel in TCA Study Area

TCA Study Area—VHT	Peak plus Shoulders				Daily			
Functional Class	**2015**	**2050**	**Growth**	**% Growth**	**2015**	**2050**	**Growth**	**% Growth**
Freeway/Tollway/ Expressway[a]	132,800	174,900	42,100	32%	213,300	272,900	59,600	28%
Principal arterial	302,600	395,100	92,500	31%	456,800	590,200	133,400	29%
Minor arterial	212,600	280,800	68,200	32%	316,600	415,900	99,300	31%
Collector	87,600	128,800	41,200	47%	130,500	189,000	58,500	45%
Total	735,600	979,600	244,000	33%	1,117,200	1,468,000	350,800	31%

[a] Excludes ramps

Table ES-3. Change in Vehicle Hours of Delay in TCA Study Area

TCA Study Area—VHD	Peak Travel Period				Daily			
Functional Class	**2015**	**2050**	**Growth**	**% Growth**	**2015**	**2050**	**Growth**	**% Growth**
Freeway/Tollway/ Expressway[a]	11,400	31,200	19,800	174%	13,000	36,800	23,800	183%
Principal arterial	100,300	144,700	44,400	44%	140,600	197,900	57,300	41%
Minor arterial	70,300	101,600	31,300	45%	98,100	139,900	41,800	43%
Collector	28,100	44,100	16,000	57%	40,000	61,000	21,000	53%
Total	210,100	321,600	111,500	53%	291,700	435,600	143,900	49%

[a]Excludes ramps

[4] Calculated as a function of peak-period delay (including shoulders), a value of time, a working day annualization factor, percent commuters using automobile, and a peak period HBW vehicle occupancy.

Table ES-4. Congested Vehicle Miles of Travel in TCA Study Area by Functional Class (a.m./p.m. Peak Travel Periods plus Shoulders)

Facility Type	Moderate to Extreme (2015) VMT	Moderate to Extreme (2050) VMT	Delta	%
Freeway/Tollway/ Expressway	1,795,600	3,816,900	2,021,300	113%
Principal Arterial	1,885,100	3,794,700	1,909,600	101%
Minor Arterial	924,000	2,054,200	1,130,200	122%
Collector	309,700	939,700	630,000	203%
Total	4,914,400	10,605,500	5,691,100	116%

Congestion is expected to result in over 111,000 more VHD during the peak travel periods by 2050, or an increase of 53 percent. Widespread congestion and delay along with the layout of the TCA Study area's primary road system is expected to result in increased demand on secondary roads, decreasing travel efficiency and mobility throughout the TCA Study area. By 2050, daily vehicle travel delay is expected to increase by 43 percent on minor arterials and by 52 percent on collectors. Growing travel demand and congestion levels on area roadways are expected to result in extended durations of congested conditions on area roadways, as peak traffic demand spills over into the pre- and post-peak periods.

Inadequate Travel Options to Reach Regional Destinations

The opportunity to travel efficiently within the TCA Study area is affected by the available roadway and transit options. The types of trips being made daily are reliant on automobiles and are longer than the regional average, yet the network of roadways requires drivers to travel farther to connect to higher-type facilities, such as freeways or expressways that provide for higher speeds and fewer interruptions. Transit service is oriented toward downtown Chicago and experiences low utilization due to in part to the low-density development and lack of service to move people within the TCA Study area.

There are a considerable number of regional destinations (large employers or specialized attractions) in the TCA Study area. Employment centers function as popular origins and destinations during peak hours. The commuting trips in the peak-period have two dominant patterns:

- From northwest in Lake, McHenry, and Kenosha counties to southeast Lake and Cook counties
- From east and northeast Lake and Kenosha counties to southeastern Lake and northwestern Cook counties

Commuters are primarily traveling by automobile along principal arterials in the TCA Study are ultimately connecting with freeways/tollways/expressways that are intended for these longer-distance trips. Similarly, trucks are traveling throughout the TCA Study area on these roadways and intermingling with the commuting trips (HBW) and local Home-Based Other (HBO) and Non-Home Based (NHB) trips. By the year 2050, both population and employment are expected to expand further to the north and west, but employment is not expected to grow in those areas at the same rate as population. As this expansion occurs, the number of regional trips for commuting purposes is expected to outpace funding and construction of infrastructure improvements associated with operational performance and capacity needs.

Trips are made for different reasons and using different modes of travel (e.g., car, bus, train, walking). Surveys of travelers in the TCA Study area identified that currently over 90 percent of trips in the TCA Study area are made using the automobile as the dominant mode of travel. Walking/biking was second, with 5 percent of trips, and transit was third with 2 percent.

While there are high-type transportation facilities (both transit and roadway) that connect the TCA Study area with the central business district in the City of Chicago, there are more limited connections for the other destinations. In addition, the low utilization of transit is influenced by land use and accessibility. Although the TCA Study area has multiple employers in proximity to transit, many trips destined for these locations originate from low-density residential areas not served by regional transit service. The effectiveness of the transit system is also affected by the fact that a significant number of trips cannot be made as effectively with transit as they can be by car, especially fixed route services which have service restrictions.

The gap between Metra stations and employment centers is a major issue contributing to the current levels of ridership. The “last mile” connection either does not exist or is of poor quality, circuitous, or non-direct. Although the TCA Study area has multiple employers in proximity to transit, the absence of reliable and fast connections by bus or shuttle services to employment and activity centers is a barrier to ridership. In addition, convenient access to parking at suburban employment centers makes auto usage a desirable option.

On average, most of Metra’s commuters in the TCA Study area drive to the station and park. In a few years, parking is expected to be largely unavailable to new users unless supply is increased. Other accessibility issues are safety and attractiveness of pedestrian paths and bikeways, and connectivity of the paths. There are substantial gaps in the system where bicycle routes are either completely interrupted or unavailable within 0.5 mile of stations. Improving accessibility is key to increasing the proportion of cyclists who can access Metra on bicycles. Safe connections linking pedestrian paths or sidewalks to transit facilities are important and directly affect the 21 percent of Metra riders who access the system by walking. The absence of lighting, signage, safe crossings at major roads, and dedicated paths compromise safety for transit riders that access stations by walking.

The 2050 No-Build network adds approximately 85 miles of improvement to the existing primary roads system, which amounts to an increase of less than 7 percent of lane-miles from existing conditions. The effectiveness of the transit system is also affected by the fact that a significant number of trips cannot be made as effectively with transit as they can be by car, especially fixed-route services, which have service restrictions. Newer transit options that provide more “on demand” services such as the MCRide Dial-A-Ride may be more suited to certain parts of the TCA Study area. For this service, riders schedule their trips in advance and the vehicle provides curb-to-curb service from the rider’s desired pick-up and drop-off destinations, which is more consistent with ride-sharing apps that have become more common in major cities. This form of transit could disrupt the traditional transit approach to fixed-route service, especially in areas where there are gaps in ridership. The gap in making the “last mile” connections, especially between rail stations and employment sites, is being addressed with Pace Shuttle Bug services that assist the city-to-suburban commuter train service.

Freight and regional commuter rail (Metra) service in the area is extensive. Fourteen state or U.S. routes have one or more at-grade crossings, with IL 120 and IL 173 each having four crossings. High-volume freight and commuter rail cause numerous roadway delays during which trains can keep traffic stopped for several minutes. Improving or separating existing at-grade crossings increases efficiencies in the transportation system by eliminating unplanned delays, but not without impact which can be very significant in business districts. Therefore, complete elimination of at-grade crossings is not a practical solution. However, there are likely some priority locations that could be identified with input from stakeholders and considered for grade separations.

Conclusions

The primary findings from the TSPR include the following:

- Roadways in the TCA Study area currently experience severe congestion in peak periods, imposing significant delays and impairing mobility for northeastern Illinois. The total number of daily vehicle trips in the TCA Study area is 5.7 million. Peak-period travel delay for the TCA Study area in the base year (2015) totaled 210,000 hours, which translates into to 11 workdays lost for every worker in the TCA Study area.
- The existing problems are expected to be exacerbated with the projected travel demand and anticipated socioeconomic growth, which results in a 28 percent increase in vehicle trips expected by the forecast year (2050). As a result, the congested vehicle miles of travel during the peak travel periods is expected to double by 2050, as compared to 2015 conditions.
- Reduced travel efficiency on the roadway system is affected by several factors, including out-of-direction travel caused by lack of connections to the interstate system, periodic delays caused by at-grade railroad crossings, and lack of options for major travel movements.
- Transit only serves 2 percent of the area's trips and is hindered by low-density development, gaps in the network such as last-mile service, required transfers between buses and trains, and the prevalence of free parking at places of employment within the TCA Study area.

Given the extent and magnitude of congestion on TCA Study area roadways, it is unlikely that one single transportation solution will address all problems. Transportation solutions must focus on strategic investments to support multiple modes of travel and reduce congestion, improve reliability of travel, improve travel options connecting regional destinations, and improve local and regional travel efficiency. Any solutions must also be fiscally responsible, due to the current fiscal climate within the State of Illinois.

Contents

Section Page

Executive Summary ES-1

Acronyms and Abbreviations ix

1.0 Introduction 1-1
- 1.1 Background 1-1
- 1.2 Report Purpose and Methodology 1-1
- 1.3 TCA Study Area 1-2
- 1.4 Prior Related Studies and Reports 1-4
- 1.5 Regional Planning Context 1-5

2.0 TCA Study Area Demographics 2-1
- 2.1 Land Use Characteristics 2-1
- 2.2 Population, Household, and Employment Characteristics 2-3
- 2.3 Other Socioeconomic Characteristics 2-8

3.0 Base Year (2015) Transportation System Performance 3-1
- 3.1 Roadway 3-1
  - 3.1.1 Network of Roads 3-1
  - 3.1.2 Strategic Regional Arterials 3-2
  - 3.1.3 Road Network Characteristics 3-2
  - 3.1.4 Travel Characteristics 3-5
  - 3.1.5 Safety 3-22
- 3.2 Public Transit 3-28
  - 3.2.1 Existing Metra Commuter Rail System 3-29
  - 3.2.2 Bus 3-33
  - 3.2.3 Transit Travel Characteristics 3-39
- 3.3 System of Freight Truck Routes 3-40
- 3.4 At-grade Railroad Crossings 3-44
- 3.5 Active Transportation 3-46
- 3.6 Transportation System and Demand Management 3-48

4.0 No-Build Forecast Year (2050) Transportation System Performance 4-1
- 4.1 Demographics 4-6
- 4.2 Roadway 4-6
  - 4.2.1 Network of Roads 4-6
  - 4.2.2 Travel Characteristics 4-7
  - 4.2.3 Safety 4-22
- 4.3 Public Transit 4-23
  - 4.3.1 Performance Considerations 4-23
  - 4.3.2 Performance Issues 4-23
- 4.4 Freight Truck Trips 4-30
- 4.5 Active Transportation 4-31
  - 4.5.1 Performance Considerations 4-31

5.0 Stakeholder Input and Collaboration Opportunities 5-1
- 5.1 Opportunities for Stakeholder Input 5-1
- 5.2 Stakeholder Participation Group 5-1

Section Page

5.2.1 Stakeholder and Public Meeting Summaries 5-1
5.2.2 Stakeholder Participation Group Context Audit 5-10
5.2.3 Ongoing and Planned Development Identified by Stakeholders 5-10
5.2.4 Stakeholder Input on Performance Measures 5-10
5.3 Stakeholder Transportation Problem Statements 5-11
5.3.1 Stakeholder Input on Critical Transportation Issues 5-11

6.0 Conclusions 6-1
6.1 Roadway System Conclusions 6-2
6.2 Transit and Freight System Conclusions 6-3
6.3 Active Transportation System Conclusions 6-5

7.0 References 7-1

Tables

Table ES-1. Change in Vehicles Miles of Travel in TCA Study Area ES-5

Table ES-2. Change in Vehicle Hours of Travel in TCA Study Area ES-5

Table ES-3. Change in Vehicle Hours of Delay in TCA Study Area ES-5

Table ES-4. Congested Vehicle Miles of Travel in TCA Study Area by Functional Class (a.m./p.m. Peak Travel Periods plus Shoulders) ES-6

Table 2-1. TCA Study Area Land Use 2-1

Table 2-2. Median Household Income 2-8

Table 3-1. Base Year (2015) Roadway Mileage in TCA Study Area 3-2

Table 3-2. Base Year (2015) VMT, VHT, and VHD in TCA Study Area 3-5

Table 3-3. Base Year (2015) Congested VMT in TCA Study Area - Peak Travel Periods 3-7

Table 3-4. Base Year (2015) LOS in TCA Study Area - Peak Travel Periods 3-9

Table 3-5. TCA Study Area Vehicle Trips by Trip Origin and Destination 3-10

Table 3-6. Base Year (2015) Reliability Measures in TCA Study Area - Peak Travel Periods 3-15

Table 3-7. Crash Severity Categories 3-22

Table 3-8. Crash Frequency by Severity (2011-2015) 3-22

Table 3-9. TCA Study Area Pedestrian and Pedal Cyclist Crashes by Severity (2011-2015) 3-24

Table 3-10. Base Year (2015) Observed and Predicted Annual Crash Frequencies in TCA Study Area 3-28

Table 3-11. Public Transit System Characteristics in TCA Study Area 3-29

Table 3-12. Metra Weekday Boardings 3-32

Table 3-13. Pace Bus Weekday Ridership 3-37

Table 4-1. No-Build Forecast Year (2050) Roadway Projects 4-2

Table 4-2. No-Build Forecast Year (2050) Transit Projects 4-3

Section Page

Table 4-3. Base Year (2015) and No-Build Forecast Year (2050) Population and Employment in TCA Study Area 4-6

Table 4-4. Base Year (2015) and No-Build Forecast Year (2050) Roadway Mileage in TCA Study Area 4-7

Table 4-5. Change in VMT in TCA Study Area 4-7

Table 4-6. Change in VHT in TCA Study Area 4-7

Table 4-7. Change in VHD in TCA Study Area 4-8

Table 4-8. Change in Congested VMT in TCA Study Area - Peak Travel Periods 4-8

Table 4-9. Change in Severe/Extreme Congested VMT in TCA Study Area - Peak Travel Periods 4-9

Table 4-10. Base Year (2015) and No-Build Forecast Year (2050) Origin and Destination Vehicle Trips in TCA Study Area 4-11

Table 4-11. Change in TCA Study Area Reliability Measures - Peak Travel Periods 4-15

Table 4-12. Change in 30-Minute Accessible Area - AM Peak Travel Period 4-22

Table 4-13. Base Year (2015) and Forecast Year (2050) Predicted Annual Crash Frequency in TCA Study Area **4-22**

Table 4-14. Population and Employment within 0.5 Mile of a Metra station **4-24**

Table 4-15. Base Year (2015) Mode of Access to Metra Stations in TCA Study Area 4-26

Table 4-16. Metra On-Time Performance 4-28

Table 4-17. Population and Employment within 0.25 Mile of a Pace Bus Stop 4-28

Table 4-18. Pace On-Time Performance, Selected Routes 4-30

Table 5-1 Stakeholder-identified Solutions to Transit Needs 5-12

Table 5-2 Stakeholder-identified Solutions to Bike/Pedestrian Needs 5-13

Figures

Figure 1-1. TCA Study Area 1-3

Figure 1-2. Historical Timeline of Regional Transportation Plans and Studies 1-4

Figure 2-1. TCA Study Area Land Use 2-2

Figure 2-2. Socioeconomic Profile in TCA Study Area 2-3

Figure 2-3. Base Year (2015) Population Density in TCA Study Area 2-4

Figure 2-4. Household Vehicle Ownership in TCA Study Area 2-5

Figure 2-5. Travel Mode Choice in TCA Study Area 2-5

Figure 2-6. Base Year (2015) Employment Density in TCA Study Area 2-6

Section Page

Figure 2-7. Locations of Major Employers in TCA Study Area 2-7
Figure 3-1. Roadway Functional Classification in TCA Study Area 3-3
Figure 3-2. Designated Truck Routes in TCA Study Area 3-4
Figure 3-3. Roadway Congestion Levels 3-6
Figure 3-4. Base Year (2015) Congestion Levels in TCA Study Area 3-8
Figure 3-5. Base Year (2015) Daily Vehicle Trip Ends in TCA Study Area 3-12
Figure 3-6. Base Year (2015) Travel Desire in TCA Study Area 3-13
Figure 3-7. Relationship Between Travel Time Performance Measures 3-14
Figure 3-8. Base Year (2015) AM Peak Period Travel Time Buffer at I-94 and IL 120 3-16
Figure 3-9. Base Year (2015) AM Peak Period Travel Time Buffer at IL 53 and Lake Cook Road 3-17
Figure 3-10. Base Year (2015) AM Peak Period Travel Time Buffer near Schaumburg 3-18
Figure 3-11. Base Year (2015) AM Peak Period Travel Time Buffer near Fox Lake 3-19
Figure 3-12. Base Year (2015) AM Peak Period Travel Time Buffer at US 45 and IL 120 3-20
Figure 3-13. Base Year (2015) AM Peak Period Travel Time Buffer near Waukegan 3-21
Figure 3-14. TCA Study Area Five Percent Locations in State and Local Systems 3-23
Figure 3-15. TCA Study Area Crash Frequency and Percentages by Time of Day 3-24
Figure 3-16. KAB Pedestrian Crashes Density Map (2011-2015) 3-26
Figure 3-17. KAB Pedal Cyclist Crashes Density Map (2011-2015) 3-27
Figure 3-18. Metra Service in TCA Study Area 3-31
Figure 3-19. Pace Bus and Metra Service in TCA Study Area 3-35
Figure 3-20. Truck Freight Land Use in TCA Study Area 3-42
Figure 3-21. Railroad Ownership and Truck Parking Locations 3-43
Figure 3-22. Freight Trains per Day (2011) 3-45
Figure 3-23. Northeastern Illinois Regional Greenways and Trails Plan (2016) 3-47
Figure 4-1. 2050 No-Build Roadway Projects 4-4
Figure 4-2. 2050 No-Build Transit Projects 4-5
Figure 4-3. 2050 Congestion Levels 4-10
Figure 4-4. Travel Desire in TCA Study Area for No-Build Alternative 4-13
Figure 4-5. 2050 Daily Vehicle Trip Ends in TCA Study Area 4-14
Figure 4-6. Forecast Year (2050) AM Peak Period Travel Time Buffer at I-94 and IL 120 4-16
Figure 4-7. Forecast Year (2050) AM Peak Period Travel Time Buffer at IL 53 and Lake Cook Road 4-17

Section Page

Figure 4-8. Forecast Year (2050) AM Peak Period Travel Time Buffer near Schaumburg 4-18
Figure 4-9. Forecast Year (2050) AM Peak Period Travel Time Buffer near Fox Lake 4-19
Figure 4-10. Forecast Year (2050) AM Peak Period Travel Time Buffer at US 45 and IL 120..... 4-20
Figure 4-11. Forecast Year (2050) AM Peak Period Travel Time Buffer near Waukegan 4-21
Figure 4-12. Access to Metra Stations (1/2 Mile) 4-25
Figure 4-13. Access to Pace Bus Stops (1/4 Mile) 4-29
Figure 5-1. SPG #1 Identified Transportation Problems 5-2
Figure 5-2. SPG #1 Identified Area Features 5-3
Figure 5-3. Roadway Improvements Identified at SPG #2 5-5
Figure 5-4. Transit and Active Transportation Improvements Identified at SPG #2..... 5-6
Figure 5-5. Roadway Improvements Identified at Public Meeting #1 5-8
Figure 5-6. Transit and Active Transportation Improvements Identified at Public Meeting #1..... 5-9

Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
BDE	Bureau of Design and Environment
BRAC	Blue Ribbon Advisory Council
BTI	Buffer time index
CLC	College of Lake County
CMAP	Chicago Metropolitan Agency for Planning
CN	Canadian National
CPC	Corridor Planning Council
CTA	Chicago Transit Authority
EIS	Environmental Impact Statement
FAP	Federal-Aid Primary
FHWA	Federal Highway Administration
GO TO 2040	*GO TO 2040 Comprehensive Regional Plan* (CMAP 2010)
HBO	Home-Based Other
HBW	Home-Based Work
HSM	Highway Safety Manual
I	Interstate
IDOT	Illinois Department of Transportation
IL	Illinois Route
KAB	K (fatal), A-Injury (incapacitating), and B-Injury (non-incapacitating)
LCDOT	Lake County Division of Transportation
LOS	Level of service
MD-N	Milwaukee District North Line
MD-W	Milwaukee District West Line
NCS	North Central Service
NEPA	National Environmental Policy Act
NHB	Non-Home-Based
PIM	Public Involvement Meeting
PTI	Planning Time Index
RSP	Regionally Significant Project
RTP	Regional Transportation Plan
SPG	Stakeholder Participation Group

SRA	Strategic Regional Arterial
TAZ	traffic analysis zones
TCA	Tri-County Access
TDM	Transportation Demand Management
TIP	Transportation Improvement Program
TSM	Transportation Systems Management
TSPR	Transportation System Performance Report
TTI	Travel Time Index
UP-N	Union Pacific North Line
UP-NW	Union Pacific Northwest Line
US	U.S. Route
VHD	Vehicle Hours of Delay
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles of Travel

1.0 Introduction

1.1 Background

According to US Census data, Lake, McHenry, and Northern Cook counties have experienced significant growth in population and employment over recent decades. Over the same period, the Tri-County area has also experienced rising congestion, with one-fifth of vehicle miles traveled experiencing congestion during peak travel periods in the base year (2015). In addition, the Tri-County area population and employment is expected to continue to expand north and west, further contributing to unreliability and inefficiencies in travel in the Tri-County region. By the forecast year (2050), traffic congestion-related delays are expected to increase travel times by more than 50 percent, which is expected to worsen unreliability and travel inefficiencies.

The TCA Study, led by the Illinois Tollway in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), shall evaluate the existing and future transportation needs of the Tri-County area, and explore potential solutions to alleviate and address these issues. The TCA Study is being developed under the National Environmental Policy Act of 1969 and Section 109(h) of Title 23 of the United States Code, which require transportation officials to consider social, economic, and natural environmental factors when making decisions about transportation projects and engineering requirements, as well as provide opportunities for public review and comment throughout the process.

Proposed transportation Alternatives for Detailed Consideration will consider base year (2015) travel demand and traffic operations, as well as forecasted conditions of the forecast year (2050).[5] Congestion and travel delays are widespread in the TCA Study area and are expected to worsen by 2050. There are approximately 5.7 million vehicle trips per day internal to, entering, leaving, and passing through the TCA Study area. This is expected to increase by 28 percent up to 7.3 million vehicle trips by 2050. These account for 27 percent of all vehicle trips made in the CMAP modeling region in the base year (2015).

1.2 Report Purpose and Methodology

This TSPR serves as an important early step in the TCA Study by identifying the characteristics and performance of the TCA Study area's transportation system. The TSPR identifies and evaluates the conditions of the TCA Study area during the base year (2015), as well as the anticipated conditions of the forecast year (2050). The findings published in this TSPR will be used to identify and prioritize problems, to support development of the TCA Study purpose and need, and to guide development of effective and innovative transportation solutions.

The TSPR describes the characteristics, demand levels, and performance of existing transportation facilities in the TCA Study area. The TSPR presents an inventory of highways, public transportation, freight movement, and non-motorized modes. The quality of service on each mode is defined to help identify constraints and performance issues. The appraisal of existing conditions is an important element in developing the TCA Study purpose and need statement. Findings in the TSPR support the development of the TCA Study Purpose and Need statement, and will also form the basis for comparing and evaluating the relative benefits of the alternatives that will be considered as part of the TCA Study.

[5] The 2050 design year is based on CMAP's *ON TO 2050 Comprehensive Regional Plan* (CMAP 2018), which was used to develop the travel demand and traffic operations model for the TCA Study, as well as the socioeconomic forecasts for population and employment.

As with any study of infrastructure performance and needs, it is important to understand the performance of the transportation system, both today and in the future. The approach for the TCA Study considers performance of the transportation system in the base year (2015), and considers a baseline No-Build Alternative with projected travel demand. The No-Build Alternative assumes that proposed infrastructure improvements in the CMAP *ON TO 2050 Comprehensive Regional Plan* (CMAP 2018) are implemented, except for any improvements proposed by the TCA Study.

Travel forecasts for the No-Build Alternative were developed using a travel demand model derived from the travel forecasting process used by CMAP. As part its forecasting process, CMAP incorporates state-of-the-practice modeling applications and adjusts assumptions related to changing travel behavior over time. These adjustments include, but are not limited to, tolling, capacity adjustments on the roadway network, and changing travel behavior related to time of day.

Travel performance findings for the No-Build Alternative will support development of the TCA Study Purpose and Need and serve as a benchmark for evaluating the relative transportation benefits of various alternatives.

1.3 TCA Study Area

The TCA Study area location is a critical link in the state of Illinois' interregional transportation system. Given its location between Wisconsin and the City of Chicago, the TCA Study area is in a strategic geographic position as a gateway to the state and the Chicago metropolitan area.

In particular, the TCA Study area is composed of three primary counties in Illinois—all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA Study area also includes a portion of northeastern DuPage County in Illinois and a portion of southern Kenosha County in Wisconsin. While transportation improvements in Kenosha and DuPage counties are not the primary focus of the TCA Study, portions of these counties are included to capture inter-county travel patterns in this portion of the Chicago metropolitan area. The TCA Study area boundary covers approximately 1,000 square miles.

For purposes of the TSPR, a TCA Travel Performance Analysis area was established. The Travel Performance Analysis area consists of traffic analysis zones (TAZ) contained within the CMAP model, which is the primary travel performance analysis tool for the TCA Study. The TCA Travel Performance Analysis area size is 1,192 square miles and includes portions of the TAZs that fall outside the TCA Study area boundary. Unless otherwise noted, this Travel Performance Analysis area is the area upon which the TSPR findings are based on.

Figure 1-1 shows both the TCA Study area and Travel Performance Analysis area boundaries.

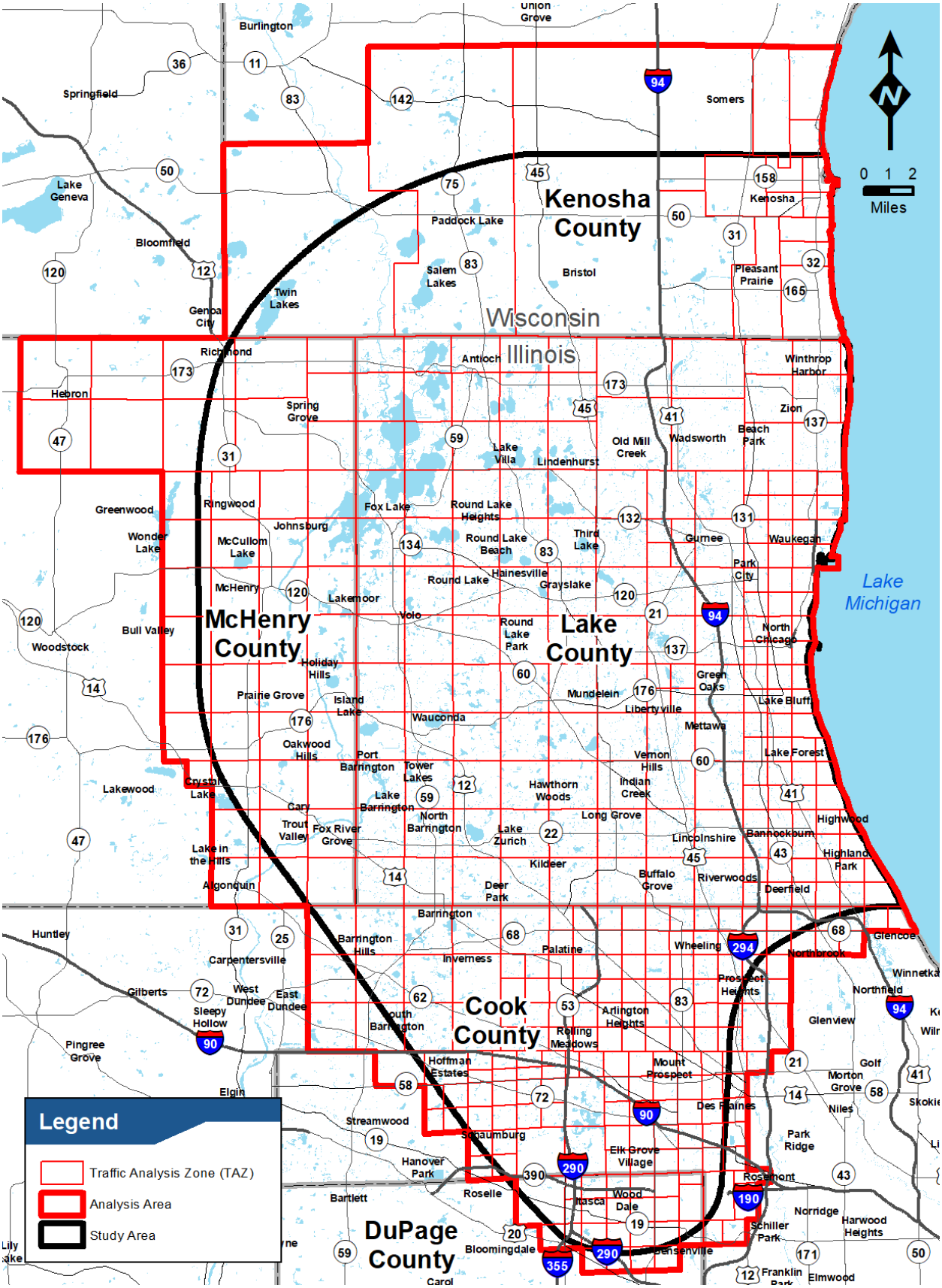


Figure 1-1. TCA Study Area

1.4 Prior Related Studies and Reports

The need for an improved transportation system in Lake County and its surrounding area has been the focus of years of planning and study. As early as the 1960s, regional plans identified the need for improved transportation linkages between Lake and McHenry counties and the rest of northeastern Illinois. Federal, state, and local agencies have been involved in various planning studies related to a potential extension of Illinois Route (IL) 53 to provide that linkage. Figure 1-2 shows a historical timeline of these transportation plans and studies.

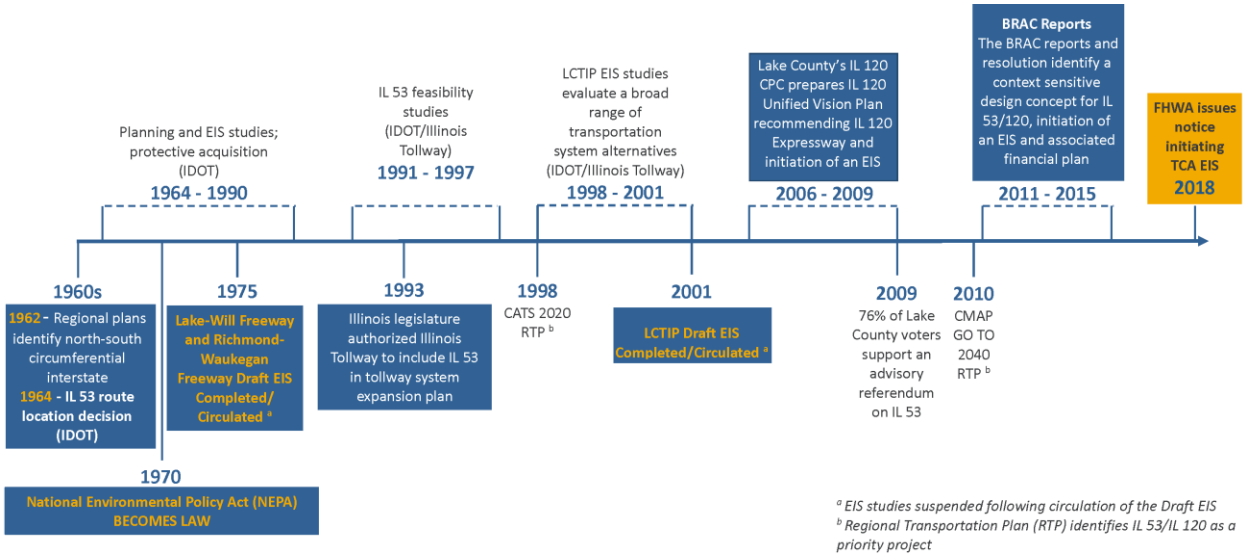


Figure 1-2. Historical Timeline of Regional Transportation Plans and Studies

As shown, there have been several major transportation improvement studies within the TCA Study area. The following list provides a detailed summary of these studies:

- In 1962, the plan for a north-south circumferential interstate route in the northeastern Illinois region was first identified (CATS 1962). The planned interstate, known as the Lake-Will Freeway, would extend the committed expressway system—what is now I-290 from I-294 to I-90 and IL 53 from I-90 to Dundee Road (IL 68)[6] – to the north and south. The northern extension would extend IL 53 from south of the Lake/Cook county border at IL 68 through the center of Lake County, and the southern extension would generally follow what is now I-355. Following completion of the plan, the Illinois Division of Highways (what is now IDOT) approved a "Route Location Decision" in 1964 for IL 53 to be a fully access-controlled route from Dundee Road (IL 68) in Cook County to Peterson Road in Lake County. IDOT began purchasing right-of-way for the roadway alignment to protect it from being developed for other purposes, commonly referred to as "protective acquisition."
- In 1970, the enactment of the National Environmental Policy Act (NEPA) resulted in further engineering and environmental study of the proposed IL 53 alignment. In 1975, FHWA released a Draft Environmental Impact Statement (EIS) evaluating the extension of IL 53 from IL 68 northward and east-west improvements along IL 120, but a Final EIS was never issued.[7]

[6] Existing IL 53 was constructed to IL 68 in the late 1960s, preceding the enactment of NEPA.

[7] The Lake-Will Freeway (Federal-Aid Primary [FAP] 432) from Illinois Route 68 (Dundee Road) to Richmond-Waukegan Freeway (FAP 420) and Richmond-Waukegan Freeway (FAP 420) from Alleghany Road to Almond Road Draft EIS analyzed two new corridors: (1) the IL 53 alignment, referred to as the Lake-Will Freeway (FAP 432), from IL 68 to an east-west improvement at IL 120, referred to as the Richmond-Waukegan

- In the late 1980s, IDOT constructed IL 53 from IL 68 to Lake Cook Road (BRAC 2015a) as part of a separate project.
- In 1993, the Illinois Tollway became involved when the Illinois General Assembly authorized the Illinois Tollway to expand the toll road system and extend IL 53 from Lake Cook Road to IL 120. The Illinois Tollway collaborated with IDOT on IL 53 feasibility studies, and then the agencies jointly initiated the Lake County Transportation Improvement Project EIS in 1998.
- In September 2001, IDOT and the Illinois Tollway, in collaboration with FHWA, completed the Lake County Transportation Improvement Project Draft EIS (IDOT and Illinois Tollway 2001). The Draft EIS evaluated a No-Build Alternative and two roadway Alternatives for Detailed Consideration—one with proposed IL 53 freeway/tollway extension and one with proposed arterial improvements to address the transportation issues in Lake County. The Draft EIS was presented at a public hearing in 2001, but a Final EIS was never completed. The "Notice of Intent" to prepare the EIS was withdrawn by FHWA on October 23, 2008.
- In 2005, the focus shifted to the IL 120 corridor, when improving IL 120 was identified as the number one transportation need in Lake County at the Lake County Transportation Summit held in September of that year (LCDOT 2018). The prioritization resulted in the formation of the Route 120 Corridor Planning Council (CPC), which included Lake County and 10 municipalities. The CPC focused on potential improvements to the IL 120 corridor. In 2009, the feasibility study concluded with the CPC releasing a visioning study that recommended improving IL 120 to a four-lane, limited-access arterial highway with a bypass along 7 miles of the roadway (LCDOT 2009).
- In 2011, the Illinois Tollway established the IL 53/120 Blue Ribbon Advisory Council (BRAC), consisting of representatives of transportation, planning, local governments, and local interest groups in Lake County dedicated to moving the IL 53/120 Project forward. While the BRAC was not a NEPA study, the final reports identified a context-sensitive design concept that consisted of a parkway design for IL 53/120 with a narrower footprint to minimize impacts and preserve the character of Lake County and recommended that the Illinois Tollway advance the project further (BRAC 2012, 2015a, 2015b).

Given that an EIS has not been completed for the IL 53/120 Project and building on the recommendations from the recent CPC and BRAC to advance the project to the next step, the Illinois Tollway initiated engineering and environmental EIS studies. The preparation of an EIS under NEPA will address federal environmental review requirements for FHWA and other federal agencies that may provide funding, approvals, or issue permits for the ultimately selected alternative. FHWA, in cooperation with the Illinois Tollway and IDOT, issued a Notice of Intent to prepare an EIS on July 16, 2018 (FHWA 2018). The EIS is focused on identifying and evaluating current and future transportation needs and potential solutions in the TCA Study area.

1.5 Regional Planning Context

Throughout the history of the various studies for a new or improved transportation corridor in Lake County, Regional Transportation Plans (RTPs) have recognized the regional benefits of this potential transportation improvement for the region, as well as for Lake County and the surrounding areas. Both the Chicago Area Transportation Study *2020 Regional Transportation Plan* (1998) and the CMAP *GO TO 2040 Comprehensive Regional Plan* (GO TO 2040) (CMAP 2010) identified the extension of IL 53 from Lake Cook

Freeway (FAP 420); and (2) a segment of the Richmond-Waukegan Freeway from Alleghany Road to Almond Road (FHWA 1975). Plans for the Richmond-Waukegan Freeway extended to the west from the terminus at Alleghany Road to US 12, as part of separate studies. (IDOT 1975, 1989, 1996)

Road to IL 120 as one of the region's priority projects. GO TO 2040 identified the project as "ranking highest among all projects in its effect on regionwide congestion" (CMAP 2010).

CMAP's adoption of the latest RTP—ON TO 2050—identifies the extension of IL 53 and expansion of IL 120 as a project that requires further study (CMAP 2018).[8] CMAP acknowledges that these improvements would have substantial mobility benefits for the region; however, consensus regarding the scope, design, and financing is still required. The TCA Study will focus on these efforts through the NEPA process and strive to meet the goals of ON TO 2050 by identifying fundable solutions that improve mobility, preserve community character, and preserve environmental quality.

The ON TO 2050 plan also serves as the basis for the TCA Study's transportation needs analysis, including population, employment, and travel forecasts developed by CMAP. As the agency charged with the development of the transportation planning forecasts, the analysis is based on CMAP's regional planning context from the base year (2015) into the forecast year (2050).[9] Input on trends from the Southeastern Wisconsin Regional Planning Commission (the metropolitan planning organization in Wisconsin that covers Kenosha County within the TCA Study area) is also included as part of CMAP's forecasting.

[8] CMAP defines the extension of IL 53 and expansion of IL 120 as an "unconstrained project" or a project that could not be included within the ON TO 2050 plan because it requires more study or cannot be completed within the limits of the region's forecast revenues (CMAP 2018).

[9] The base year, the year 2015, is used to understand the existing transportation and socioeconomic (population and employment) characteristics in the TCA Study area. The forecast year, the year 2050, is used to understand the anticipated transportation and socioeconomic characteristics, including planned regional improvements. The base and forecast years provide a long-range comparison as identified by CMAP and serve as the basis for the TCA Study team's travel-demand model and forecasting for the TCA Study area.

2.0 TCA Study Area Demographics

The TCA Study area is a diverse, economically vibrant, and interconnected portion of the greater Chicago metropolitan region. Covering approximately 1,000 square miles, the TCA Study area primarily includes three counties: all of Lake County, the eastern portion of McHenry County, and the northern portion Cook County. The TCA Study area also includes portions of northeast DuPage County and southern Kenosha County.

2.1 Land Use Characteristics

Historically, communities in the TCA Study area were established in many forms, including as farm towns, satellite cities, railroad suburbs, automobile-centric suburbs, and as lake resort towns. As population increased over the second half of the 20th century, communities in the TCA Study area transformed from small towns to metropolitan suburbs.

The sprawling TCA Study area covers approximately 1,000 square miles (1,192 square miles of Travel Performance Analysis area) and contains a mix of residential, agricultural, transportation, industrial, and commercial land uses. Table 2-1 summarizes the relative sizes and percentages of the different land uses.

Table 2-1. TCA Study Area Land Use

Land Use	Square Miles	Percent
Residential	325	27
Agriculture	301	25
Park/Open Space	163	14
Transportation, Communication, Utilities, and Waste*	150	13
Vacant	141	12
Commercial	40	3
Industrial	39	3
Institutional	33	3
Total	**1,192**	**100**

*Also includes right-of-way and unspecified land use

Sources: CMAP 2013 Land Use, Southeast Wisconsin Regional Planning Commission 2000 Land Use

Land-use patterns are not consistent within the TCA Study area and vary depending on location. For example, southeast Lake County has a greater concentration of commercial, industrial, and institutional land uses, whereas the western half of Lake County and eastern McHenry County have larger portions of agricultural and vacant/undeveloped lands. Kenosha County also has large areas devoted to agricultural and vacant/undeveloped use. The areas of Cook and DuPage counties within the TCA Study area are relatively built-out and have little remaining agriculture or vacant/undeveloped lands. Figure 2-1 shows the different TCA Study area land uses in relation to one another.

As population and employment increases, growth and development are expected to expand into areas where there is currently less density, particularly the northern and western portions of the TCA Study area, which are characterized by low-density residential uses. This future growth is expected to follow existing land-use patterns consisting of predominantly low-density, sprawling development.

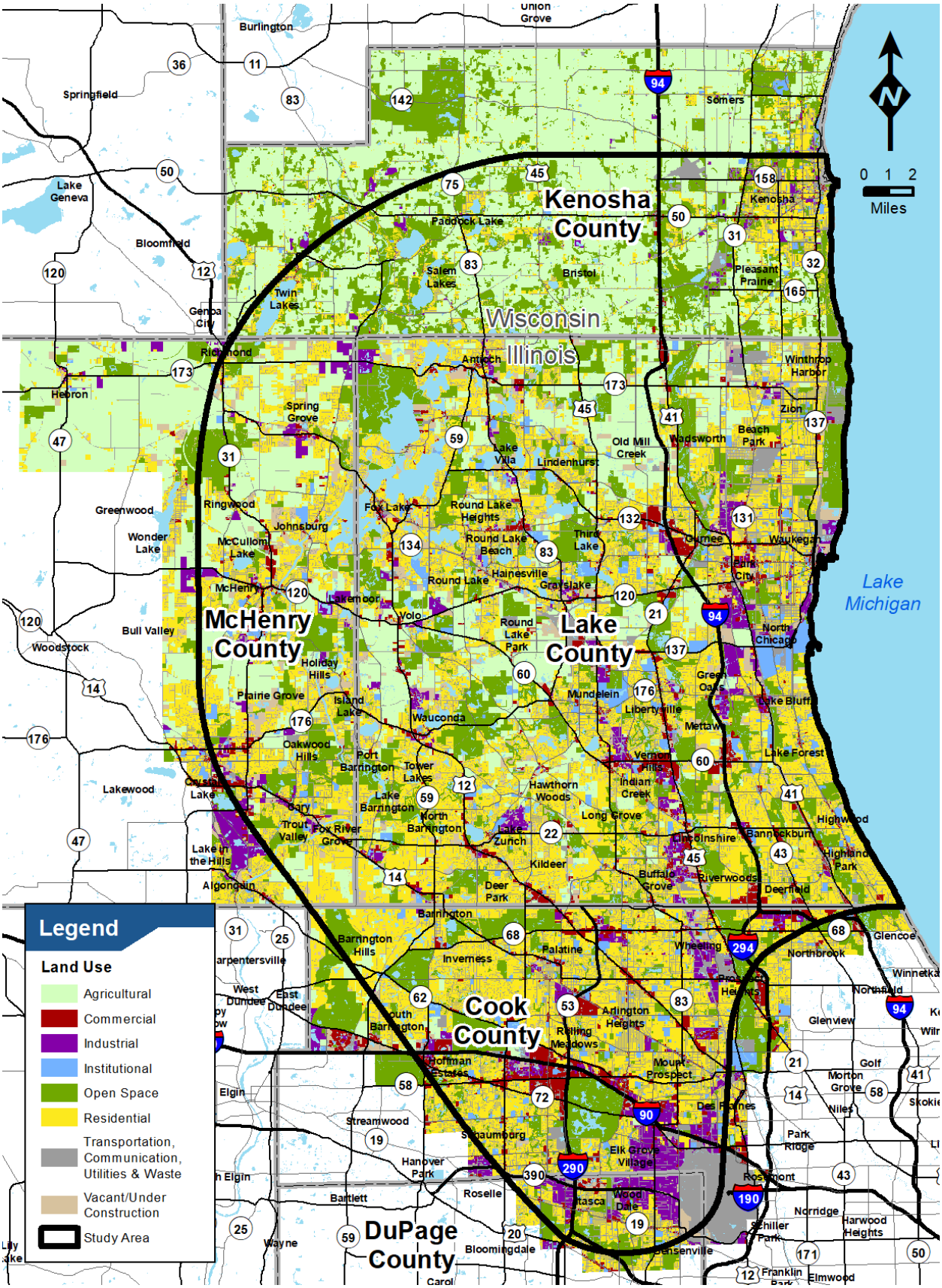


Figure 2-1. TCA Study Area Land Use

Sources: CMAP 2013 Land Use, Southeast Wisconsin Regional Planning Commission 2000 Land Use

2.2 Population, Household, and Employment Characteristics

The TCA Study area population has steadily increased over the last 50 years, as the Chicago metropolitan region's population has continued to migrate out from the urban core. Since 1970, population in the TCA Study area increased by 60 percent from just over 1 million to 1.65 million. Greater population densities are concentrated in Cook and DuPage counties and southeast Lake County, while in the northern and western portions of the TCA Study area, populations are more dispersed. In terms of distribution, 42 percent of the population is in Lake County, 39 percent in Cook and DuPage counties, 10 percent in Kenosha County, and 9 percent in McHenry County. As growth continues, population is expected to expand westward into central and northwest Lake County and eastern McHenry County, where population is less dense. Figure 2-2 shows how the population has changed, and is expected to change, in the TCA Study area. Figure 2-3 shows the current population density throughout the TCA Study area.

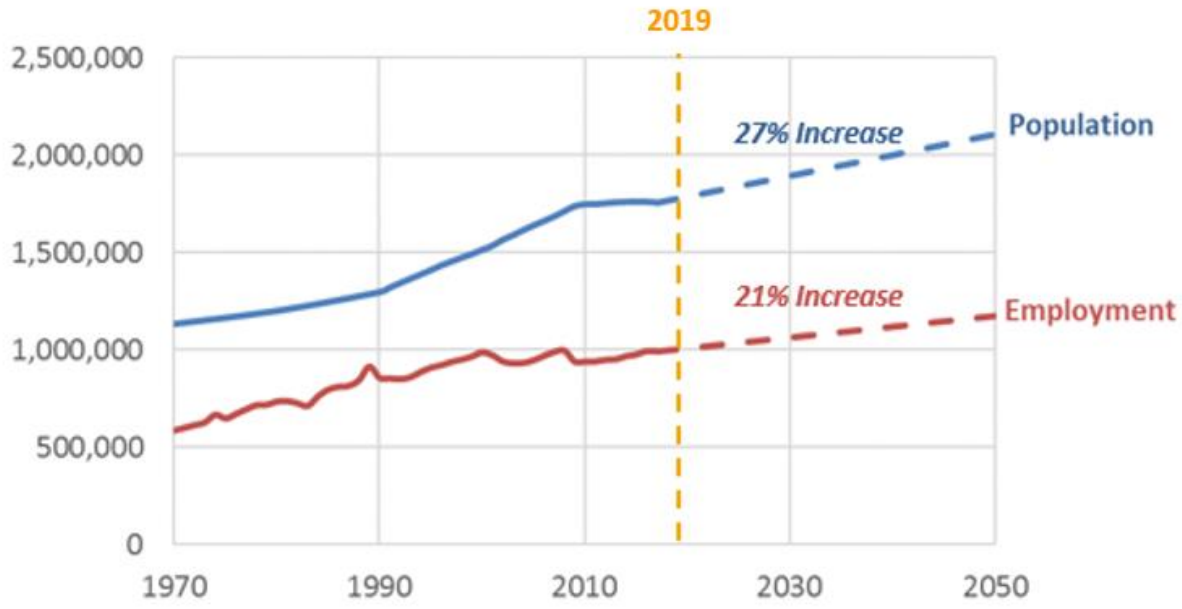


Figure 2-2. Socioeconomic Profile in TCA Study Area

Source: U.S. Census Historical County Database and Estimates. TCA Study 2050 No-Build, CMAP, October 2018

There are nearly 620,000 households within the TCA Study area, and the average household size is 2.66. Over 1 million residents in the TCA Study area (i.e., over 67 percent of the population) are of working age, which is defined as being between 15 and 64 years old. This sizeable workforce indicates that workers are expected to be commuting regularly for years to come.

Households in the TCA Study area generally have a higher income and more vehicles than the CMAP regional average. Median household income in the TCA Study area is $77,310 annually, which is 15 percent higher than the CMAP Region. FHWA's survey findings show that high-income households generate more vehicle trips per household (FHWA 2017).

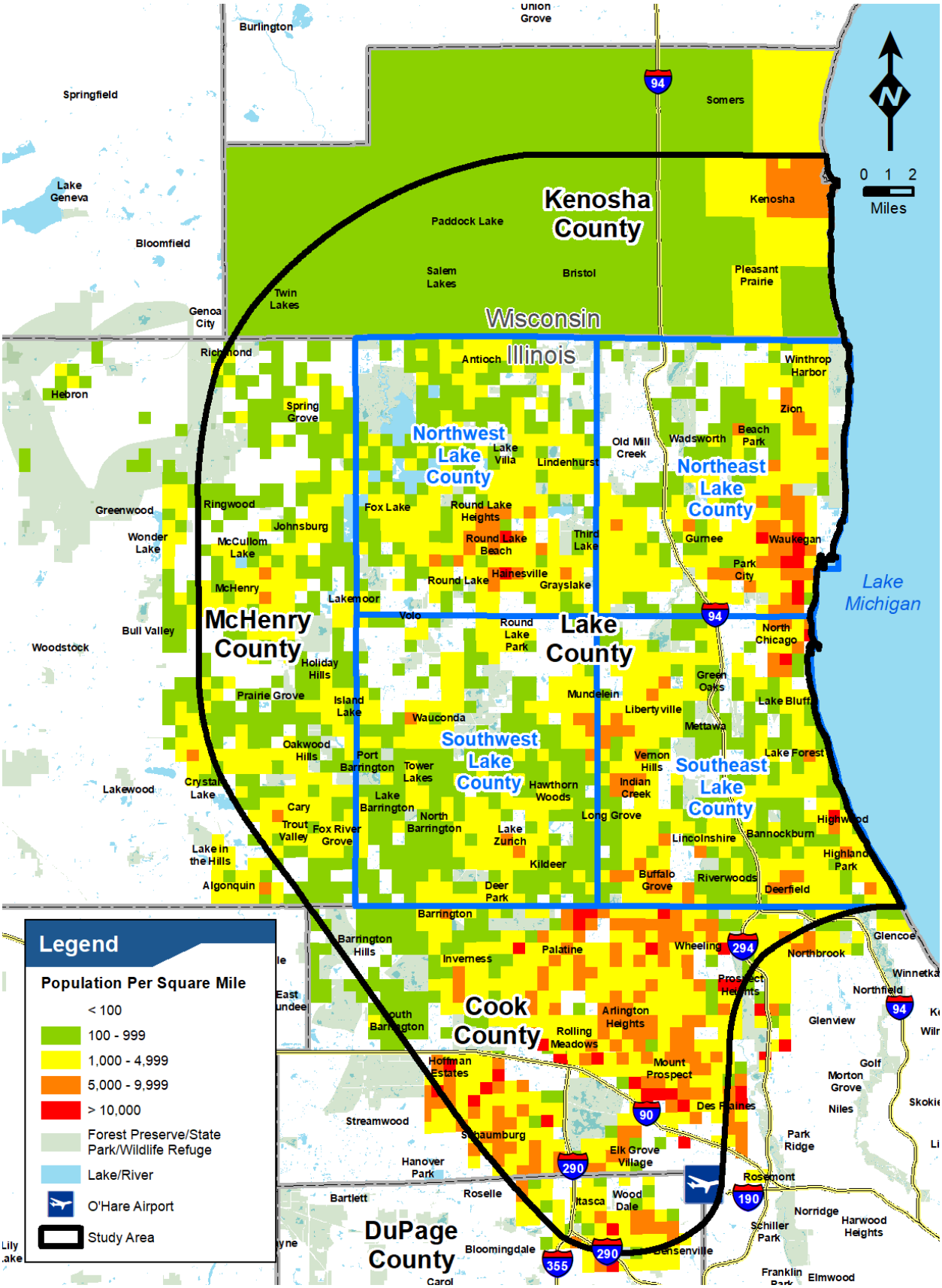


Figure 2-3. Base Year (2015) Population Density in TCA Study Area

This finding is reflected in the TCA Study area's household characteristics, which point to a reliance on automobiles. Approximately 65 percent of TCA Study area households own two or more vehicles, which is 14 percent higher than the CMAP regional average. Figure 2-4 shows the vehicles per household in the TCA Study area.

Personal vehicle use is prevalent, accounting for 90 percent of travel in the TCA Study area. Other travel options, including transit, bike/walk, and other (e.g., taxi and ride share, motorcycle, and school bus) account for the remaining 10 percent. Figure 2-5 shows the travel mode choice in the TCA Study area.

The TCA Study area is economically vibrant, containing numerous large employers and businesses. The TCA Study area has an employment base of nearly 1 million jobs, with most (72 percent) located in southeast Lake County and northern Cook and DuPage counties. The northeast and western portions of Lake County, eastern McHenry County, and southern Kenosha County account for the remaining 28 percent of employment in the TCA Study area. Employment is expected to grow and expand into central and northwest Lake and eastern McHenry counties. Figure 2-6 shows employment densities throughout the TCA Study area.

Major employment centers throughout the TCA Study area include businesses located in and around the I-90 and I-294 corridors (O'Hare Airport), the I-90 and I-290/IL 53 corridors (the area around Woodfield Mall in the Village of Schaumburg), and around I-94, Lake-Cook Road, and U.S. Route 45 (US 45) in Lake County. Employers such as Abbott Laboratories, Baxter Healthcare, Walgreens, Shire, and Zurich, to name a few, are concentrated along major roadway corridors in the southern and eastern portions of the TCA Study area and attract thousands of employees each day. Figure 2-7 shows the locations of major employers in the TCA Study area.

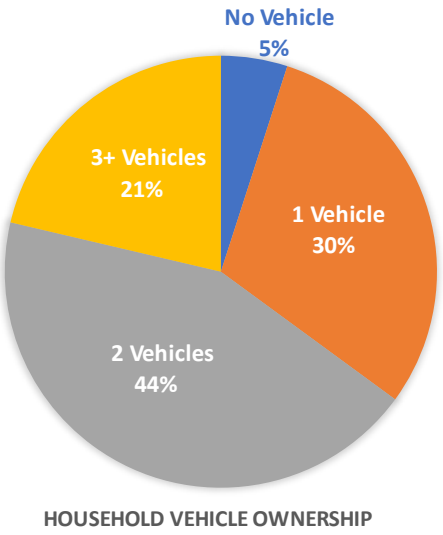


Figure 2-4. Household Vehicle Ownership in TCA Study Area

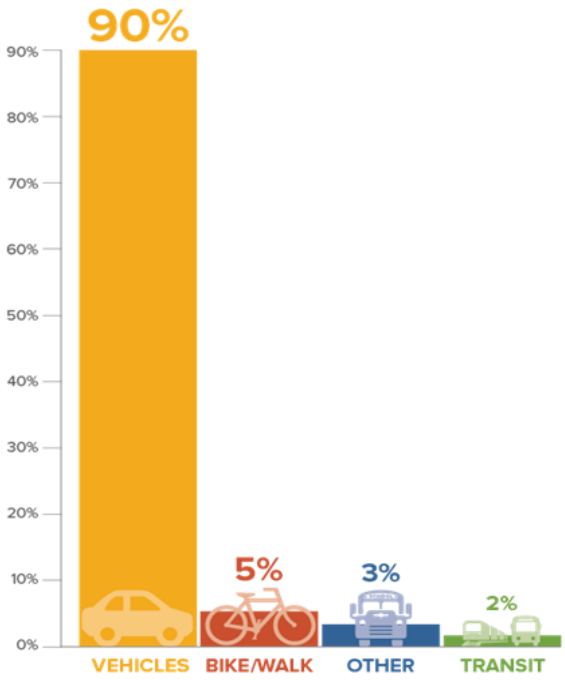


Figure 2-5. Travel Mode Choice in TCA Study Area

Source: CMAP 2016

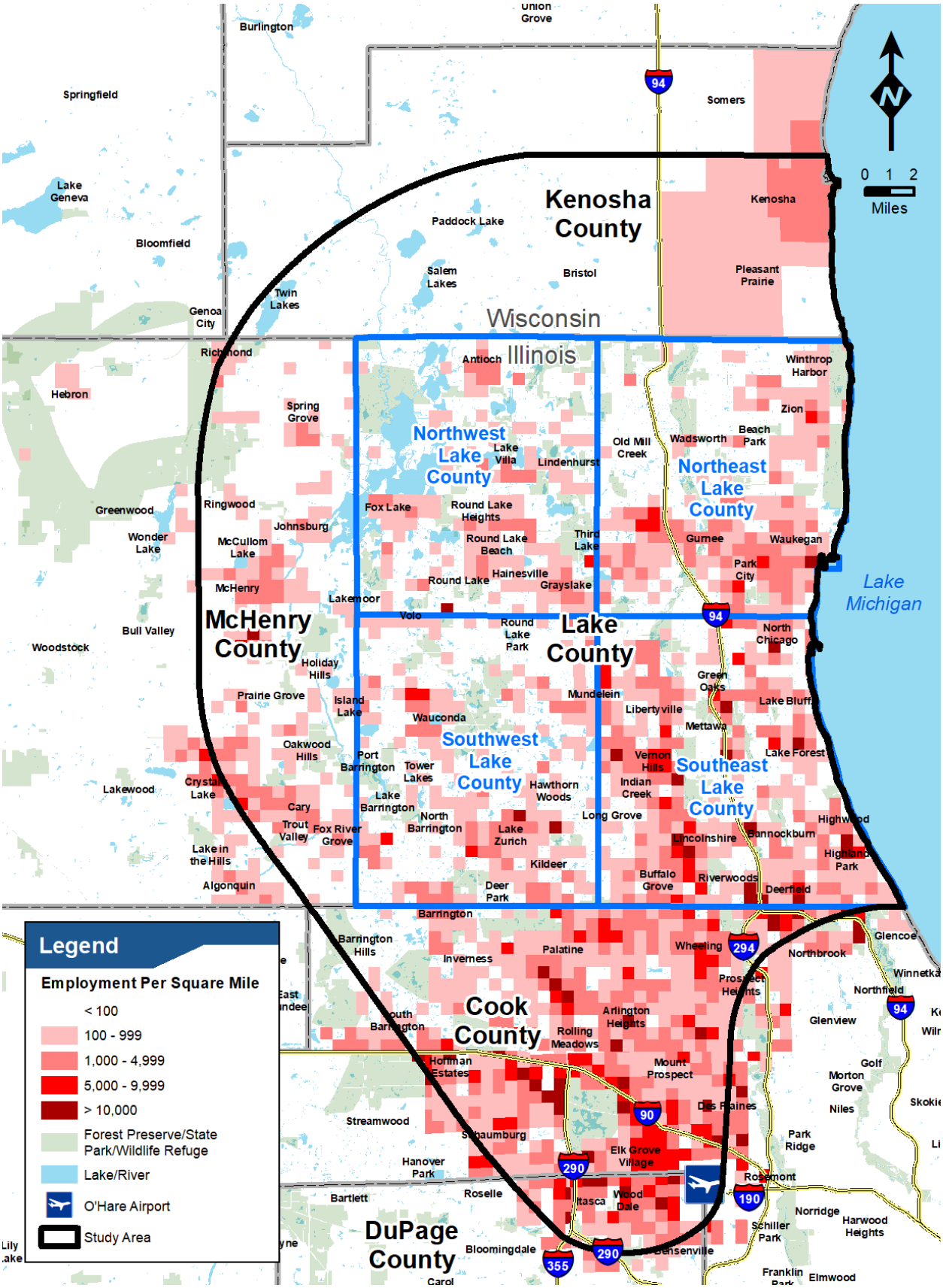


Figure 2-6. Base Year (2015) Employment Density in TCA Study Area

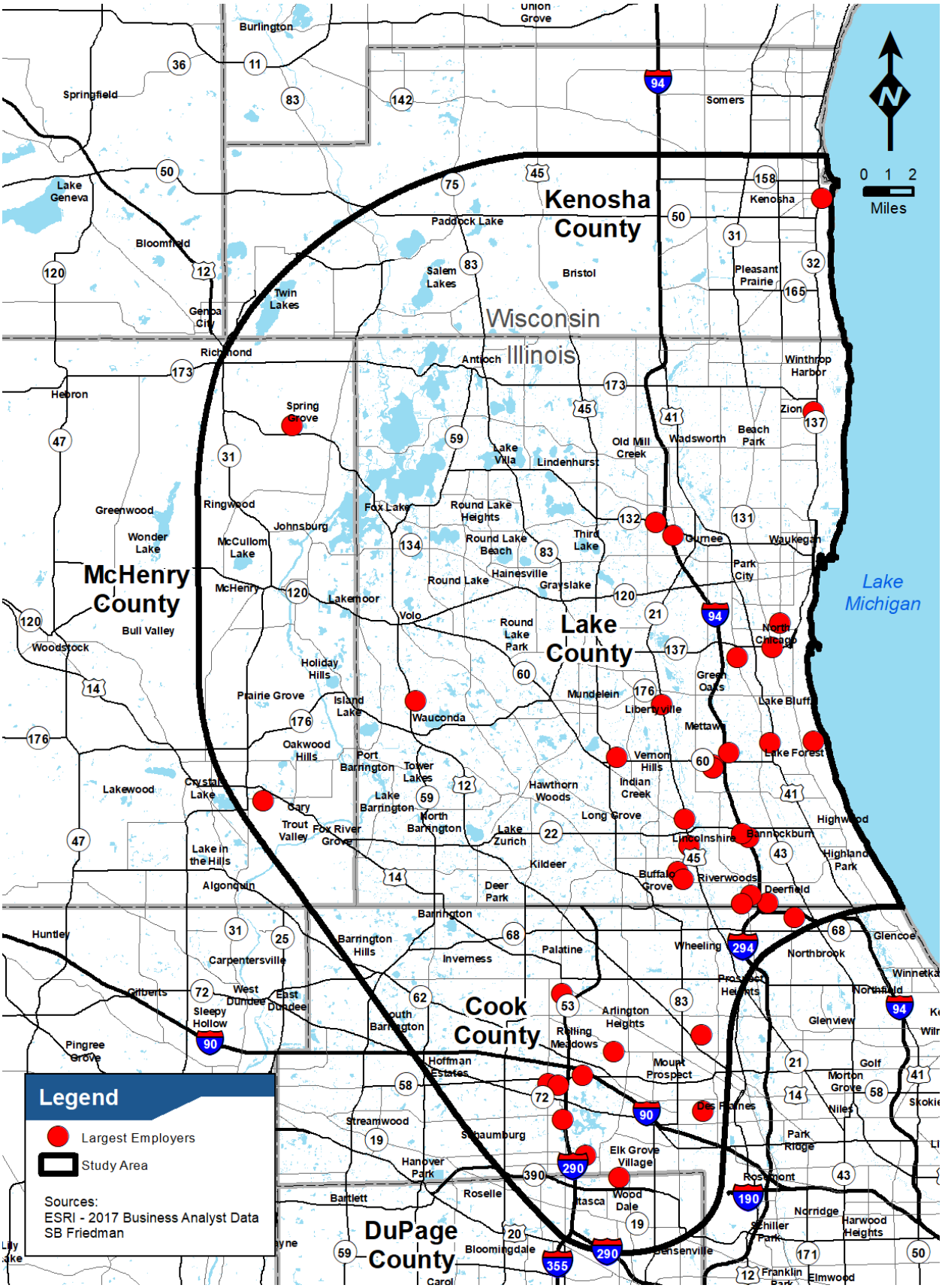


Figure 2-7. Locations of Major Employers in TCA Study Area

2.3 Other Socioeconomic Characteristics

The median household income in most of the TCA Study area is higher than the overall CMAP Region's median household income, except Kenosha County. Northern Cook County has the highest median household income of $80,795. Median household incomes in Lake and McHenry counties are also approximately $80,000, which is nearly $17,000 more than the CMAP Region median household income.

Table 2-2. Median Household Income

County	Median Household Income
Cook	$80,795
DuPage	$71,509
Lake	$79,886
McHenry	$79,189
Kenosha	$56,086
TCA Study Area	$77,310
CMAP Region	$67,329

3.0 Base Year (2015) Transportation System Performance

An important prerequisite to transportation planning is an understanding of the components and operations of the existing transportation system. Each of the following subsections is dedicated to a specific component of the transportation system in the TCA Study area and describes the network features and current performance characteristics. The components of the transportation systems are:

- Roadway
- Transit
- Freight
- Active Transportation
- Transportation System and Demand Management

Evaluation procedures were structured to provide insights into the quality of transportation system performance, including any gaps, for each of the aforementioned systems in the TCA Study area. Further analyses considered base year (2015) performance characteristics, as well as predicted performance in 2050 (see Section 4). These analyses will help provide an understanding of how continuing growth in travel demand is expected to affect travel mobility and efficiency in the TCA Study area.

3.1 Roadway

3.1.1 Network of Roads

Roadway networks are classified into a hierarchy of road types, each of which serve distinct purposes. This classification system includes design characteristics that allow each type of roadway to function for its intended purpose. The classification system used for the TCA Study area includes four different categories: Freeways/Tollways/Expressways, Principal Arterials, Minor Arterials, and Collectors. Local Roads are an additional classification designated for smaller roads used at the beginning and end of trips to connect to adjacent land uses. However, local roads were not included as part of the TSPR.

- **Freeways/Tollways/Expressways**: This classification includes interstates, freeways, tollways, highways, and expressways, and ranges from the highest type of limited access facility to expressways with a limited number of at-grade intersections. These facilities are intended to serve long-distance trips and emphasize mobility, with no direct access to adjacent land uses.

- **Principal Arterials**: This classification serves traffic between major population and employment centers in metropolitan and rural regions, focusing on mobility and intended to carry higher traffic volumes and longer trips. They are not fully access-controlled and may provide direct access to adjacent land uses. Arterials are major roads that carry heavy traffic volumes at higher speeds and complement and provide access to the freeways/tollways/expressways.

- **Minor Arterials**: This classification serves trips of moderate length and may provide intra-community connectivity. In rural areas, minor arterials may provider higher traffic speeds and more limited access to adjacent land uses. In urban areas, minor arterials generally have lower travel speeds and provide greater access.

- **Collectors**: This classification gathers traffic from local roads and directs it to the arterial network. They may provide direct access to adjacent land uses and aid in traffic circulation. Minor collectors

generally provide more access to adjacent land uses than do major collectors. Collectors generally carry a lighter volume of traffic than other roadway classifications.

3.1.2 Strategic Regional Arterials

As part of Operation Green Light in the early 1990s, the State of Illinois undertook the development of a network of IDOT designated highways, referred to as Strategic Regional Arterials (SRAs). The 1,340-mile network of existing roads in Northeastern Illinois includes 146 route segments in Cook, DuPage, Kane, Lake, McHenry, and Will counties. As part of the then 2010 Transportation Development Plan adopted by the Chicago Area Transportation Study and Northeastern Illinois Planning Commission, the SRA system is intended to supplement the existing and proposed expressway facilities by accommodating a significant portion of long-distance, high-volume automobile and commercial vehicle traffic in the region. Many of the roads identified in the SRA system were already a part of IDOT's highway network and were carrying high volumes of long-distance traffic. Creation of the SRA system was a major component of Operation Green Light, an eight-point plan to deal with urban congestion and improve regional mobility.

There are 350 miles of designated SRA routes in the TCA Study area. IDOT, in its Bureau of Design and Environment (BDE) manual Chapter 46 (IDOT 2019), provides design criteria for SRA routes including SRA route spacing, the need for and spacing of traffic signals, and the spacing of access points. The recommended spacing of routes on the SRA system ranges from 3 miles in the most densely populated areas to 9 miles between roads in rural areas.

3.1.3 Road Network Characteristics

Minor arterials and collectors compose 67 percent of the route miles (55 percent of lane-miles) in the TCA Study area. The primary roads[10] account for the remaining 33 percent of route miles (45 percent of lane-miles) of the TCA Study area. Only 5 percent of the route miles (11 percent of the lane-miles) are freeways/tollways/expressways. Despite their relatively small share of the roadway network, primary roads account for a significant portion of the daily miles traveled in the TCA Study area (see Section 3.1.4.1, Daily Travel).

Table 3-1 shows the number of route-miles and lane-miles of TCA Study area roadway classifications, as defined by the CMAP transportation planning model. Figure 3-1 shows the distribution of these different roadways throughout the TCA Study area, including the SRA.

Table 3-1. Base Year (2015) Roadway Mileage in TCA Study Area

Functional Class	Route Miles	Lane Miles	SRA Route Miles
Freeways/Tollways/Expressways	100	664	3
Principal Arterial	605	2,054	384
Minor Arterial	711	1,844	13
Collector	723	1,534	0
Total	2,139	6,096	400

IDOT has designated 644 miles of truck routes in the TCA Study area. These include 88 miles of Class I Truck routes along area freeways, tollways, and expressways, as well as 556 miles of Class II Truck routes along various arterials. Figure 3-2 shows the designated truck routes in the TCA Study area.

[10] The term "primary roads" is used throughout this document and is understood to encompass freeways/tollways/expressways and principal arterials.

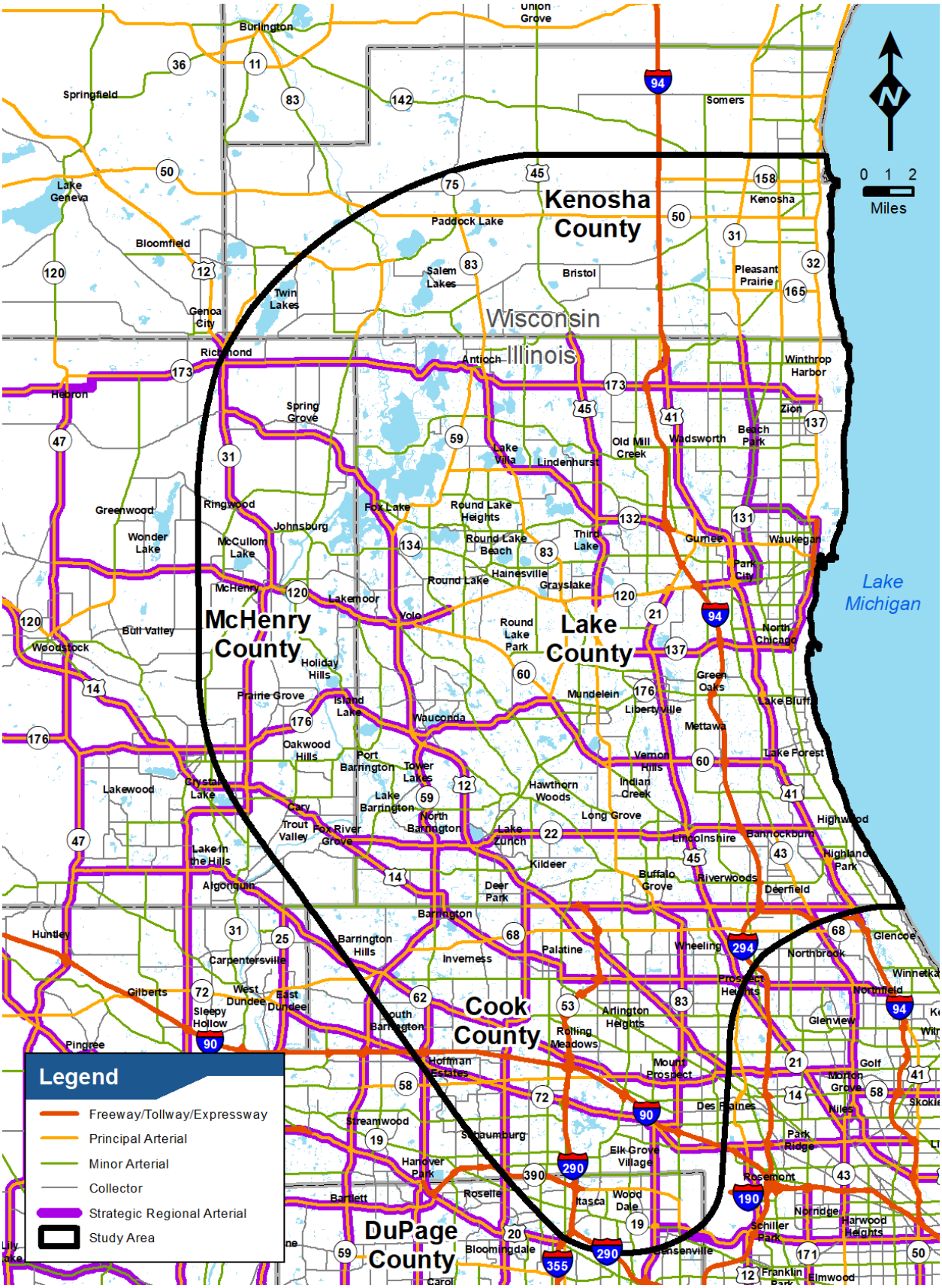


Figure 3-1. Roadway Functional Classification in TCA Study Area

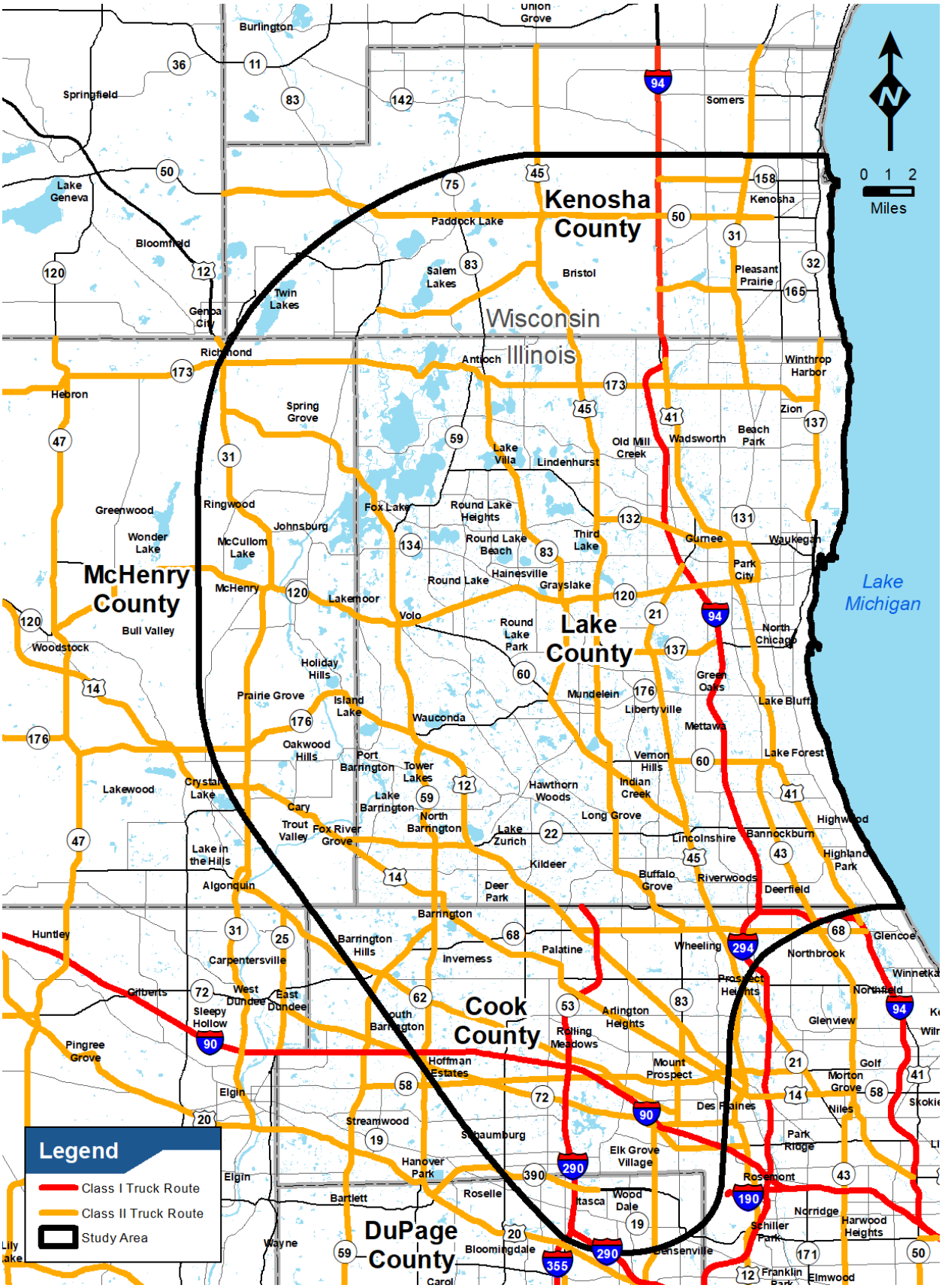


Figure 3-2. Designated Truck Routes in TCA Study Area

3.1.4 Travel Characteristics

An analysis of the existing roadway network was performed to understand travel demand in the base year (2015), evaluate the performance characteristics of the roadway network, and identify system performance issues. Various performance measures were used as part of this analysis, including:

- Daily Travel Demand
- Travel Time and Travel Options to Access Regional Destinations
- Travel Time Reliability
- System Accessibility

Most data related to these characteristics were obtained from IDOT, the Illinois Tollway, CMAP, the Wisconsin Department of Transportation, and the Wisconsin Traffic Operations and Safety Laboratory. In particular, CMAP provided the 2015 travel demand model from the ON TO 2050 Comprehensive Regional Plan (CMAP 2018), whose 1,944 TAZs were used to understand trip characteristics within the TCA Study area. CMAP's TAZ boundary definition provides a representation of the street network, connections, and traffic access/egress points.

3.1.4.1 Daily Travel

Congestion has increased significantly across the Chicago region in recent years, extending out past the usual peak period into the peak period shoulders. These extended peak travel periods, now recognized by CMAP within the regional travel demand model, occur in the morning between 6 a.m. and 10 a.m., and in the afternoon/evening between 2 p.m. and 8 p.m. The evaluation of daily travel focuses on conditions during these peak travel periods.

Vehicle miles traveled (VMT), vehicle hours traveled (VHT), and vehicle hours of delay (VHD) are common roadway performance measures. These three measures are defined as:

- **VMT**: A measure of roadway usage, VMT measures the total number of miles traveled by vehicles using the roadway network in an area, including single-occupancy vehicles, buses, and trucks.
- **VHT**: A measure of roadway usage, VHT measures the total hours in which vehicles are using the roadway network.
- **VHD**: Defined as the number of annual hours spent in congested (i.e., below free-flow speed) traffic, VHD is similar to VHT but focuses specifically on congested conditions.

Table 3-2 summarizes the VMT, VHT, and VHD totals for the TCA Study area by functional class.

Table 3-2. Base Year (2015) VMT, VHT, and VHD in TCA Study Area

Functional Class [a]	a.m. Peak Travel Period (6 a.m.–10 a.m.)			p.m. Peak Travel Period (2 p.m.–8 p.m.)			Daily		
	VMT	VHT	VHD	VMT	VHT	VHD	VMT	VHT	VHD
Freeway / Tollway / Expressway[b]	2,922,700	54,900	4,900	4,164,700	77,900	6,500	11,850,100	213,300	13,000
Principal Arterial	3,507,300	114,800	38,200	5,714,000	187,800	62,100	14,411,300	456,800	140,600
Minor Arterial	2,129,600	76,300	24,400	3,684,200	136,300	45,800	8,911,100	316,600	98,100
Collector	851,700	30,800	9,300	1,487,800	56,800	18,800	3,562,800	130,500	40,000
Total	9,411,300	276,800	76,800	15,050,700	458,800	133,200	38,735,300	1,117,200	291,700

[a] Includes Strategic Regional Arterials

[b] Excludes ramps

Primary roads account for 68 percent of total VMT, 60 percent of the total VHT, and 53 percent of the total VHD in the TCA Study area. The p.m. peak period carries slightly higher VHT and VHD than the a.m. peak period. Of the total VMT, 63 percent occurs in both peak travel periods combined. The percentage of VHT and VHD during the same timeframe is 66 and 72 percent of the daily total, respectively.

The VHD shown in Table 3-2 indicates that TCA Study area travel during peak periods is unreliable due to congestion. In particular, there are 210,000 VHD during the peak travel periods of an average weekday in the base year (2015). This peak travel period delay equates to approximately 11 working days spent in traffic per worker per year. This translates to $707 million in lost productivity.

There are four different levels of roadway congestion, measured using a volume-to-capacity ratio, where capacity represents the maximum rate at which vehicles pass through a given point in an hour under prevailing conditions. Volume-to-capacity ratio represents the sufficiency of a facility to accommodate vehicular demand. Figure 3-3 provides an overview of these four levels of roadway congestion.

Congestion Level	Level of Service	Conditions	Average Travel Speed	Traffic Demand Capacity
Minimum	LOS C	**Stable operation**, motorists do not experience much delay	60 percent of the free-flow speed	75 to 80 percent of available roadway capacity
Moderate	LOS D	**Borderline unstable**, motorist start experiencing notable delay	40 to 50 percent of the free-flow speed	80 to 90 percent of available roadway capacity
Severe	LOS E	**Extremely unstable**, motorists experience significant delay and travel time increase	33 percent of the free-flow speed	Approaching capacity
Extreme	LOS F	**Breakdown**, high delays and grid lock like conditions	Less than 33 percent of the free-flow speed	Beyond capacity

Figure 3-3. Roadway Congestion Levels

When the roadway network is reliable for commuting purposes, roadway users will accept some level of congestion during peak hours. Conditions where 85 to 95 percent of the capacity is being used during peak hours are better tolerated (i.e., have a higher reliability) than conditions where traffic volumes exceed capacity (i.e., extreme congestion) and breakdowns in traffic flow happen easily.

In the TSPR, congestion is measured as the percentage of VMT spent in congested conditions during the peak periods. Congested conditions, both in this section and elsewhere in the TSPR, are defined as conditions where traffic volume exceeds 80 percent of roadway capacity (i.e., all congestion levels except the minimum congestion level).

Table 3-3 provides VMT for different roadway types and congestion levels during peak travel periods in the TCA Study area. Approximately 4.9 million VMT (or 20 percent of total VMT) are spent in congested conditions during the peak travel periods. Figure 3-4 shows how these congestion levels are distributed throughout the TCA Study area.

Table 3-3. Base Year (2015) Congested VMT in TCA Study Area - Peak Travel Periods

Functional Class	**VMT by Congestion Level**				
	Minimum	**Moderate**	**Severe**	**Extreme**	**Total**
Freeway/Tollway/Expressway	5,291,900	1,600,400	195,200	0	7,087,500
Principal Arterial	7,336,200	897,400	576,100	411,600	9,221,300
Minor Arterial	4,889,800	400,100	283,500	240,400	5,813,800
Collector	2,029,800	145,400	69,400	94,900	2,339,500
Total	19,547,700	3,043,300	1,124,200	746,900	24,462,100

[a] Excludes ramps

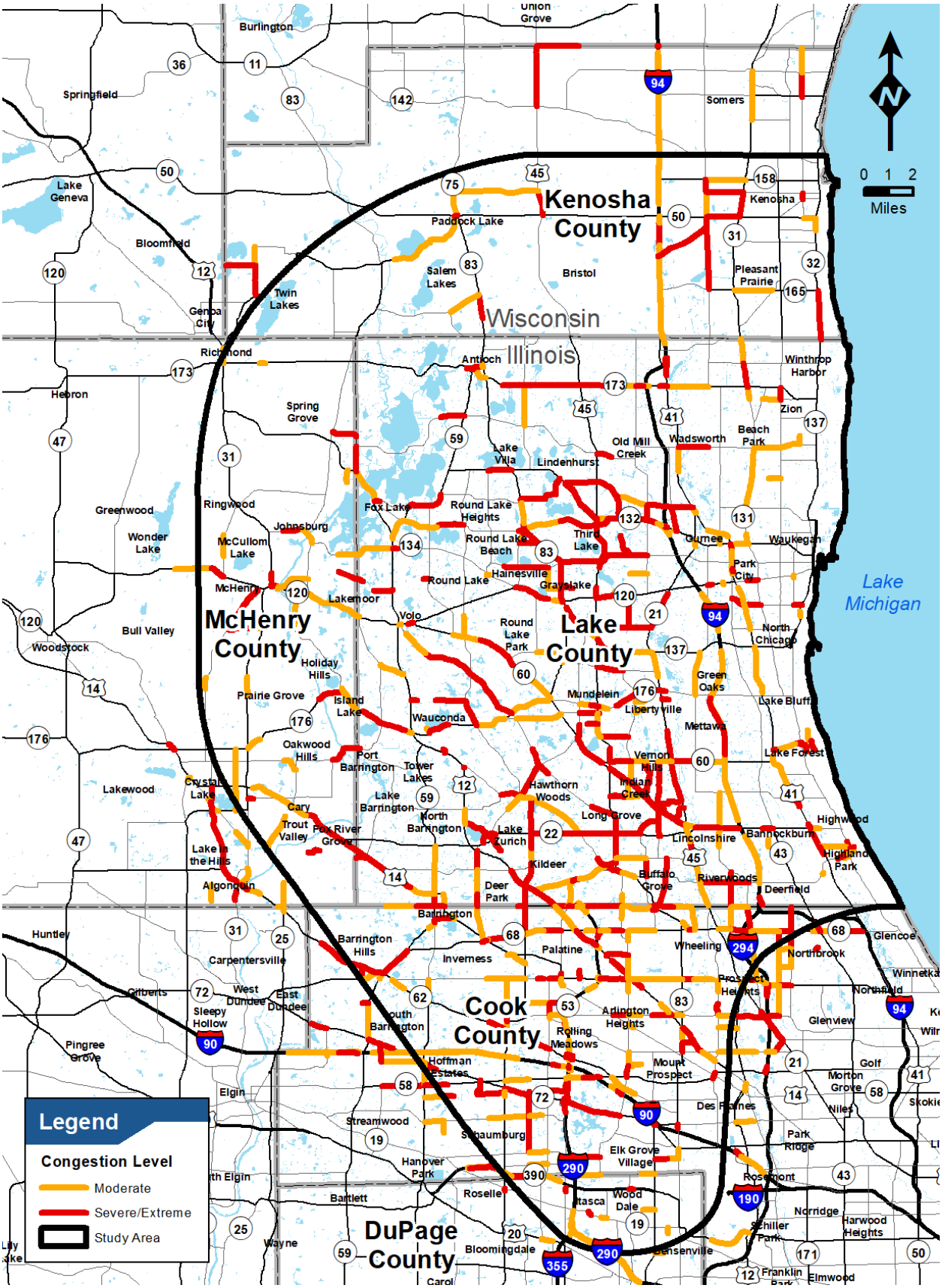


Figure 3-4. Base Year (2015) Congestion Levels in TCA Study Area

Level of service (LOS) is another common indicator of roadway traffic conditions and is determined by measuring the average speed of roadway users, in addition to available roadway capacity. LOS is represented on a scale ranging from LOS A (i.e., stable free-flow conditions) to LOS F (i.e., unstable flow breakdown).

Table 3-4 shows the base year (2015) LOS percentages during the peak periods. The LOS A-C category represents relatively free-flow conditions, LOS D represents declining flow, and LOS E-F represents the breakdown in traffic flow. As shown, 12 percent of the primary roads perform at high delays and gridlock conditions (LOS E-F). This Severe/Extreme condition is characterized by speeds that are a third or less of the free-flow speed and lead to long queuing at interchanges and intersections.

Table 3-4. Base Year (2015) LOS in TCA Study Area - Peak Travel Periods

Functional Class	LOS A-C	LOS D	LOS E-F	Total
Freeway/Tollway/Expressway and Principal Arterial	75%	14%	12%	100%
Minor Arterial and Collector	88%	5%	7%	100%
All Classes	83%	8%	8%	100%

Roadway networks are not designed to provide continuous free-flow conditions during peak periods of travel. To avoid overbuilding roadways (i.e., unused capacity during off-peak periods), some congestion and degraded LOS is to be expected during peak periods. The number of roads or lanes required to establish uncongested conditions during peak periods would far exceed what is needed throughout the remainder of the day. Thus, achieving moderate congestion (i.e., LOS D) during peak periods is a common goal in large metropolitan areas.

3.1.4.2 Trip Types

To understand where travelers are going and why, trips are categorized as part of travel analyses. For example:

- A work trip often begins at home and ends at a place of employment. This is known as a Home-Based Work (HBW) trip. A trip from work back to home is also categorized as HBW. These trips often occur during peak periods.
- A trip from home to a destination other than work (for example, a grocery store or other shop) is known as a Home-Based Other (HBO) trip. These trips are more likely to occur during the beginning or tail end of peak periods and non-peak hours.
- A trip that is not based on the home as an origin or destination is known as a Non-Home-Based (NHB) trip. For example, a trip from work to a pharmacy or lunch. These trips are dispersed between peak and non-peak periods.

HBW trips tend to be longer than HBO and NHB trips. People may choose to travel regionally for employment and attractions. For shopping, routine medical treatment, and government services, people tend to stay closer because they have more local options (Wegener and Fuerst 2004).

HBO and NHB trips are typically more local in nature and have a shorter average trip length. Within the CMAP Region, HBO and NHB both averaged 5 miles in the base year, and within the TCA Study area, HBO and NHB trips averaged 6.8 miles in the base year. This slightly longer distance is likely due to the lower density of population and development in the TCA Study area.

HBW trips are more likely to be longer, regional trips. Within the CMAP Region, HBW trips averaged 8 miles in the base year (2015). In the TCA Study area, however, HBW trips averaged 15.7 miles, almost twice the average for the CMAP Region.

The longer HBW trip as compared to the rest of the CMAP Region shows that people in the TCA Study area travel longer for work, which is attributable to the low density residential development in the north and west and the concentration of employers in the south and southeast.

3.1.4.3 Vehicle Trip Origins and Destinations

An understanding of regional and local travel patterns is vital to understanding current traffic routing choices, and to identifying the causes of system performance issues. Travel in the study area is a component of total travel in the metropolitan region, including trips having origins and destinations within the TCA Study area (i.e., internal trips), and those with one or both trip ends outside the TCA Study area (i.e., external trips). Travel is classified in terms of the following combinations:

- **Internal-Internal**: Vehicle trips with both origin and destination within the TCA Study area
- **Internal-External**: Vehicle trips originating in the TCA Study area, and a destination outside the TCA Study area
- **External-Internal**: Vehicle trips originating outside the TCA Study area, and a destination within the TCA Study area
- **External-External**: Vehicle through trips with neither origin nor destination within the TCA Study area

Table 3-5 summarizes the travel patterns within the TCA Study area in terms of the origin-destination combinations listed above, for both the peak travel periods and daily.

Table 3-5. TCA Study Area Vehicle Trips by Trip Origin and Destination

Trip Origin–Destination	Peak Travel Periods Auto and Truck Trips	Percent	Daily Auto and Truck Trips	Percent
Internal-Internal	1,951,200	52%	3,239,000	57%
Internal-External	573,700	15%	896,900	16%
External-Internal	569,400	15%	890,600	16%
External-External	664,500	18%	675,800	12%
Total	3,758,800	100%	5,702,300	100%

Note: Summary of vehicle trips by origin and destination obtained from time-of-day trip matrices – CMAP

Internal-internal vehicle trips account for approximately 57 percent of the daily vehicle trips in the TCA Study area, while internal-external and external-internal trips account for 32 percent of daily trips. The remaining 12 percent of daily trips are external-external travel (through trips).

To represent geographic trip variations, the entire TCA Study area was divided into 29 smaller analysis districts that, for the most part, follow township boundaries. Figure 3-5 shows the proportion of internal-internal vehicle trips compared to the combined internal-external and external-internal vehicle trips for each district. As shown, the Village of Schaumburg, O'Hare International Airport, and other southernmost districts in the TCA Study area have large concentrations of vehicle trips having either an origin or destination outside the TCA Study area. Further, the districts in Lake County, which are relatively residential, attract more vehicle trips from locations internal to the TCA Study area.

Figure 3-6 shows the desired direction of travel among zones in the TCA Study area. The travel desire lines shown do not reflect specific roadways, but rather the relative demand and direction of travel between one zone and another. The results of the analysis show travel desire to be predominantly in the

north-south direction, with some diagonal elements depending on whether the destination is in the southeastern or southwestern portion of the TCA Study area. Aligning with the density of the base year (2015) population and employment centers, the travel desires are concentrated between northwest Cook County on the south side of the TCA Study area and the eastern and central portions of Lake County. Travel in the northwest to/from the southeastern portions of the TCA Study area is also prevalent, moving people to/from southeastern Lake County to western Lake County and eastern McHenry County.

For the most part, destinations for peak travel-period vehicle trips are concentrated in the southern portion of the TCA Study area, which aligns with the relatively high concentration of employment centers and increased demand on the roadway network further south.

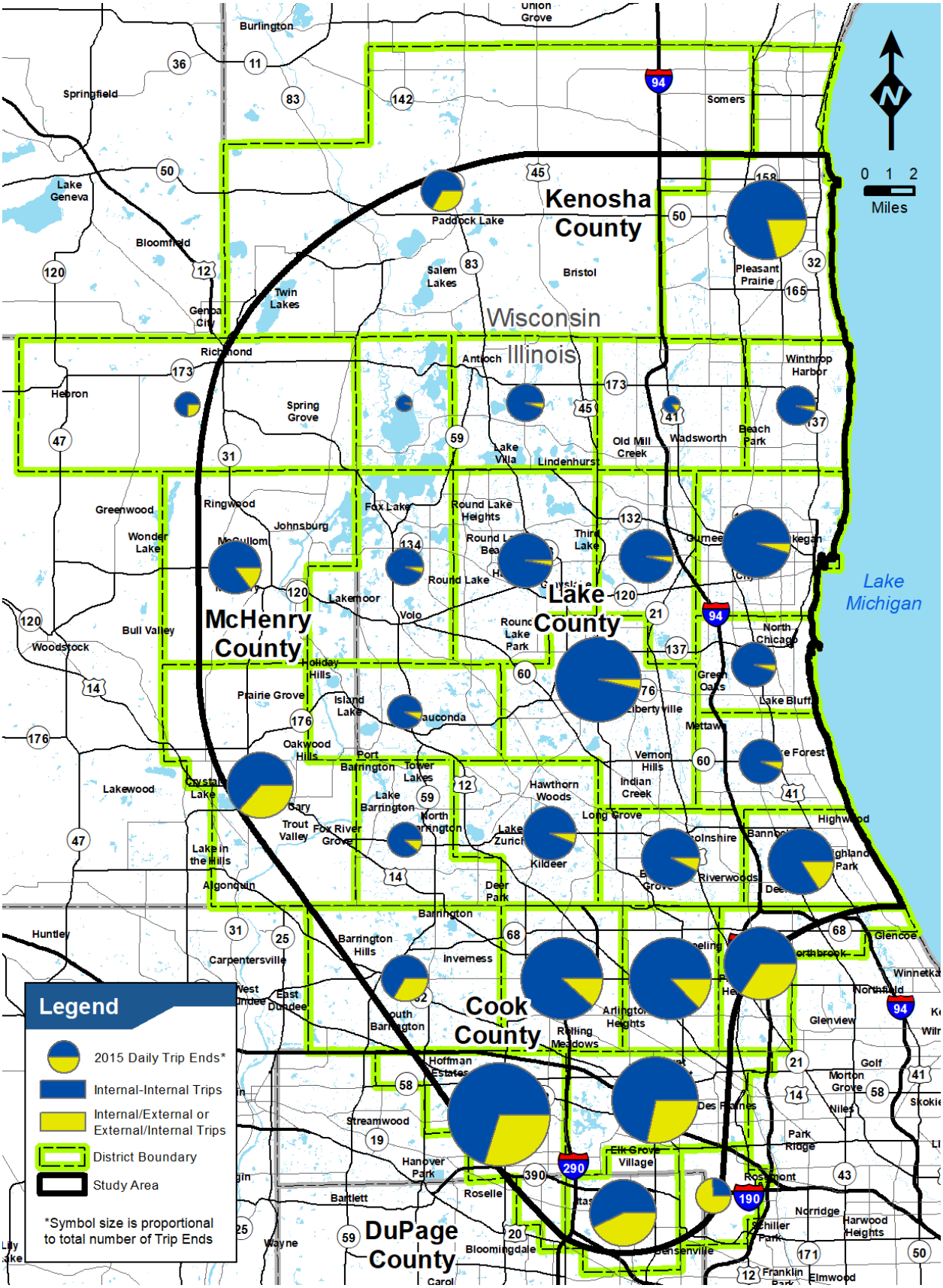


Figure 3-5. Base Year (2015) Daily Vehicle Trip Ends in TCA Study Area

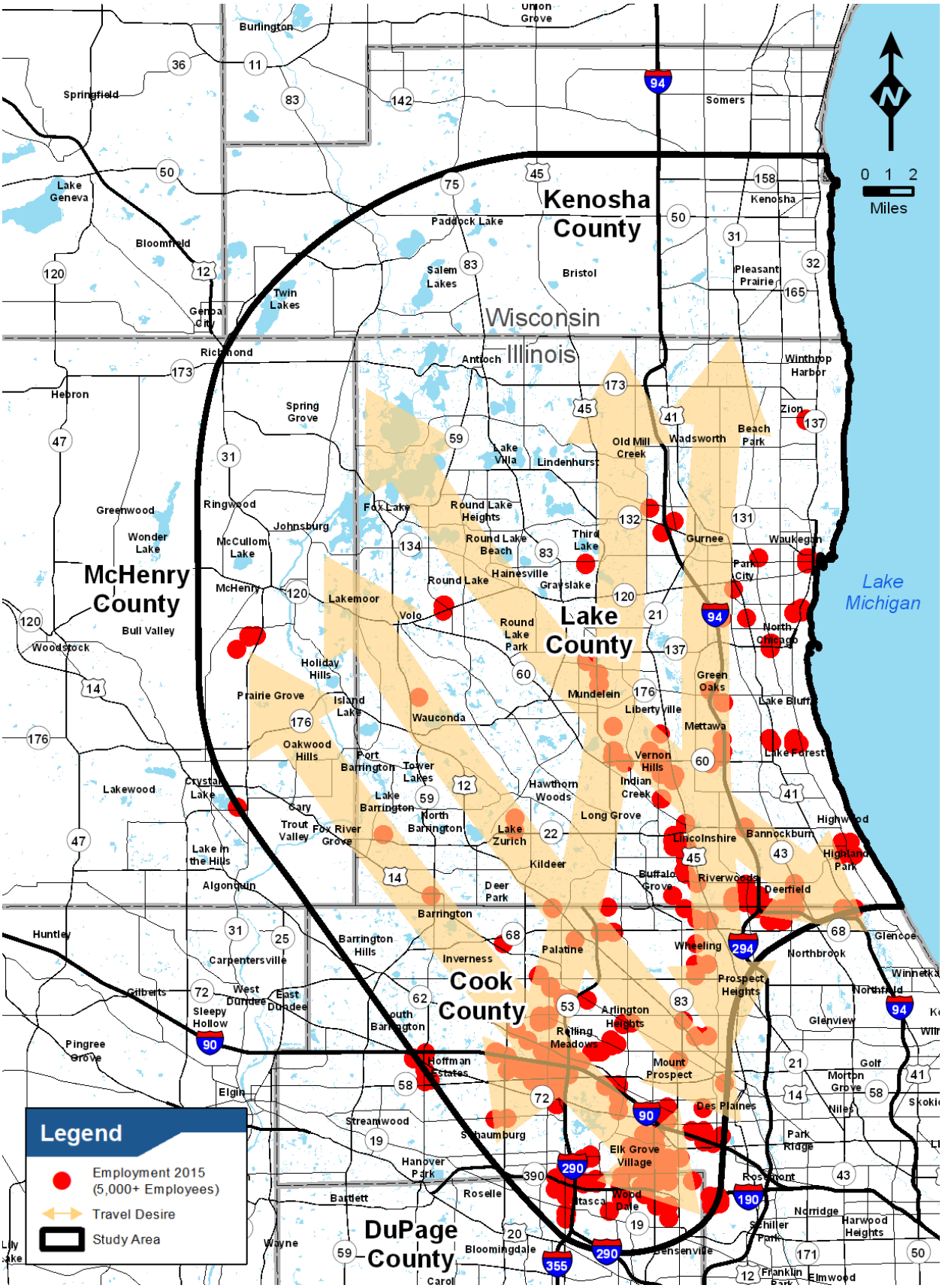


Figure 3-6. Base Year (2015) Travel Desire in TCA Study Area

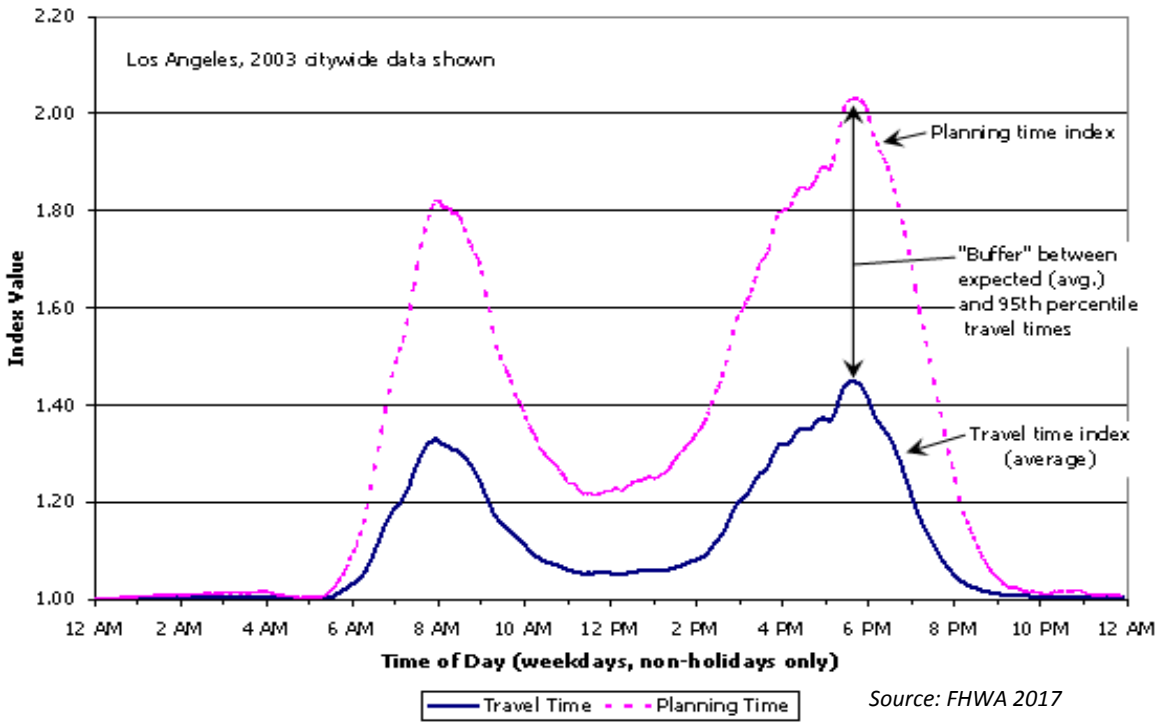
3.1.4.4 Travel-Time Reliability

Roadway users, particularly in dense urban traffic environments, come to expect some level of congestion during their trips, particularly during the peak periods. At times, however, the delay caused by congestion can be worse than expected. Travel-time reliability is thereby used to quantify the extent of this unexpected delay, which can be measured across multiple days or within parts of a single day. Defined as the consistency (i.e., dependability) of travel times, travel-time reliability is important because it allows travelers to plan and make better use of their time, and it provides freight carriers with predictable travel times needed to remain competitive.

Common performance measures used to quantify travel-time reliability include, but are not limited to:

- **Travel Time Index (TTI)**: Defined as the average travel time represented as the ratio of the congested travel time to the free-flow time. For example, a TTI of 1.25 indicates a congestion level that increases travel time by 25 percent compared to the free-flow travel time (e.g., a 40-minute trip would require an extra 10 minutes, for a total of 50 minutes).
- **Planning Time Index (PTI)**: Defined as the total travel time that should be accounted for to ensure on-time arrival. It is computed as the 95th percentile travel time divided by the free-flow travel time.
- **Buffer Time Index (BTI)**: Defined as the extra time travelers should add to their average travel time when planning a trip to ensure on-time arrival. It is computed as the difference between the 95th percentile travel time and average travel time, divided by the average travel time.

Figure 3-7 illustrates the relationship between the TTI, PTI, and BTI (FHWA 2017).



Source: FHWA 2017

Figure 3-7. Relationship Between Travel Time Performance Measures

A lack of travel-time reliability is caused by inconsistent route choices made by travelers to avoid congestion during peak periods. The lack of efficient and direct routes impedes travel on roadways, especially in the a.m. and p.m. peak periods when travel demand exceeds roadway capacity. The lack of travel reliability is more pronounced on arterials and collectors compared to interstates because of lack of throughput capacity and multiple access points such as driveways and intersections. Frequent access

points impede uniform traffic flow and lower sustainable speeds, which are necessary to provide for reliable travel conditions.

Table 3-6 summarizes the TCA Study area TTI, PTI, and BTI by functional class for the combined a.m. and p.m. peak periods. As shown, principal arterials and minor arterials are the most unreliable (i.e., the highest TTI, PTI, and BTI). On primary roads in the TCA Study area, travelers experience average travel times that are between 1.15 and 1.71 times higher than travel times during uncongested conditions.

Table 3-6. Base Year (2015) Reliability Measures in TCA Study Area - Peak Travel Periods

Functional Class [a]	TTI	PTI	BTI
Freeway/Tollway/Expressway	1.15	1.48	0.25
Principal Arterial	1.71	2.67	0.55
Minor Arterial	1.71	2.62	0.56
Collector	1.67	2.51	0.54

[a] Includes SRAs

3.1.4.5 System Accessibility

Accessibility can be defined as the ease with which roadway users are able to reach a destination. A common performance measure associated with accessibility is travel time, which considers both the availability of a convenient route and the travel speed along the available route.

To measure accessibility in the TCA Study area, isochronal travel time maps were developed. Isochronal maps are commonly used to depict areas of equal travel time using a constraint time buffer. Figures 3-8 to 3-13 illustrate travel time in 5-minute increments around selected locations consisting of key towns and intersections within the TCA Study area. The locations selected for analysis include areas where spacing between principal arterials is not compatible with SRA route-spacing guidelines (see Existing Network of Roads section).

As shown in the figures, travelers with access to freeways/tollways/expressways can travel further within the same period of time. For instance, the a.m. isochronal map for IL 53 and Lake Cook Road in Figure 3-9 shows that travelers can travel approximately 22 miles south within 30 minutes, whereas going north, a traveler can only reach approximately 11 miles within 30 minutes. These isochronal maps highlight areas with accessibility gaps that may require improvements of the roadway network.

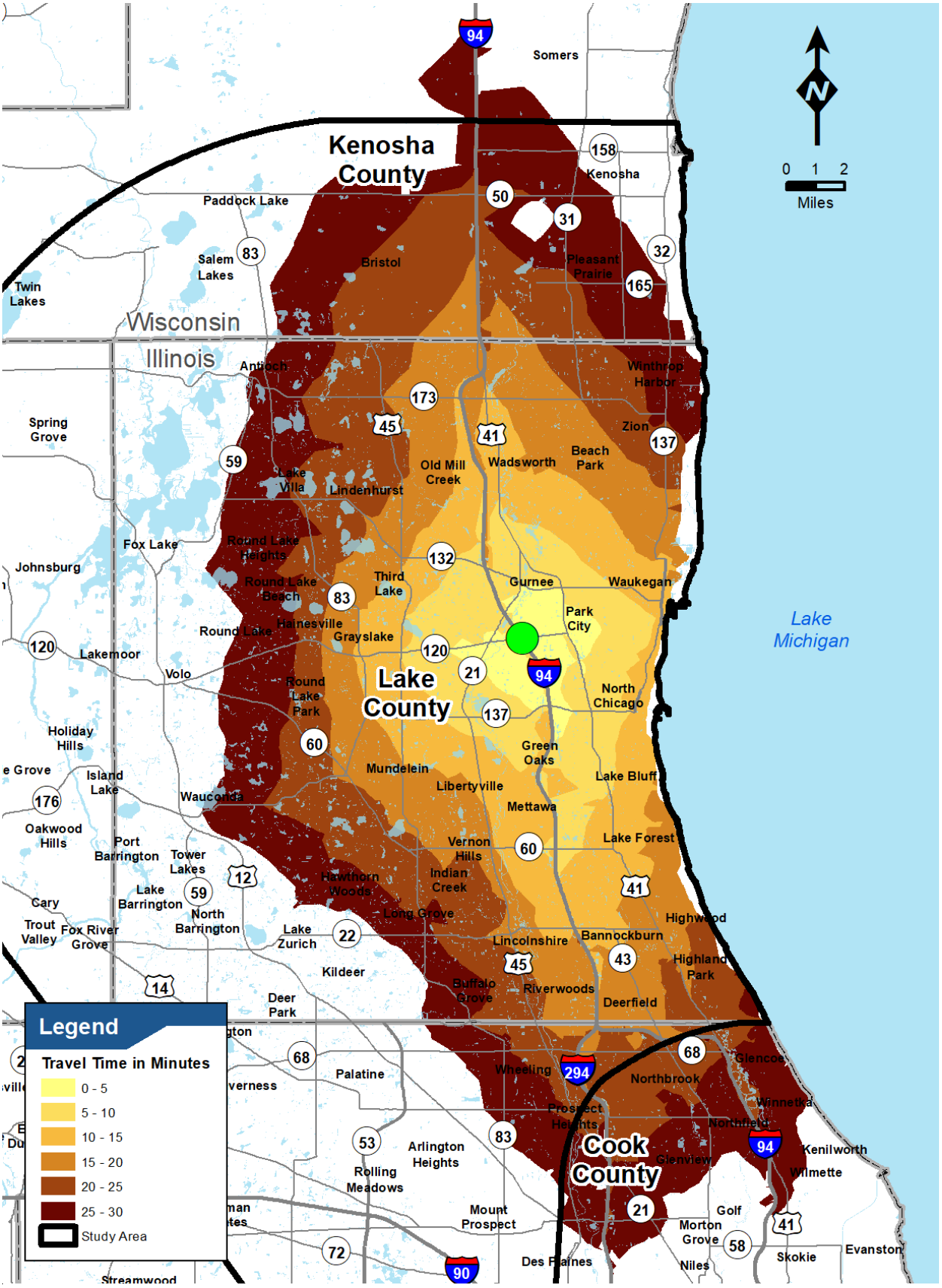


Figure 3-8. Base Year (2015) AM Peak Period Travel Time Buffer at I-94 and IL 120

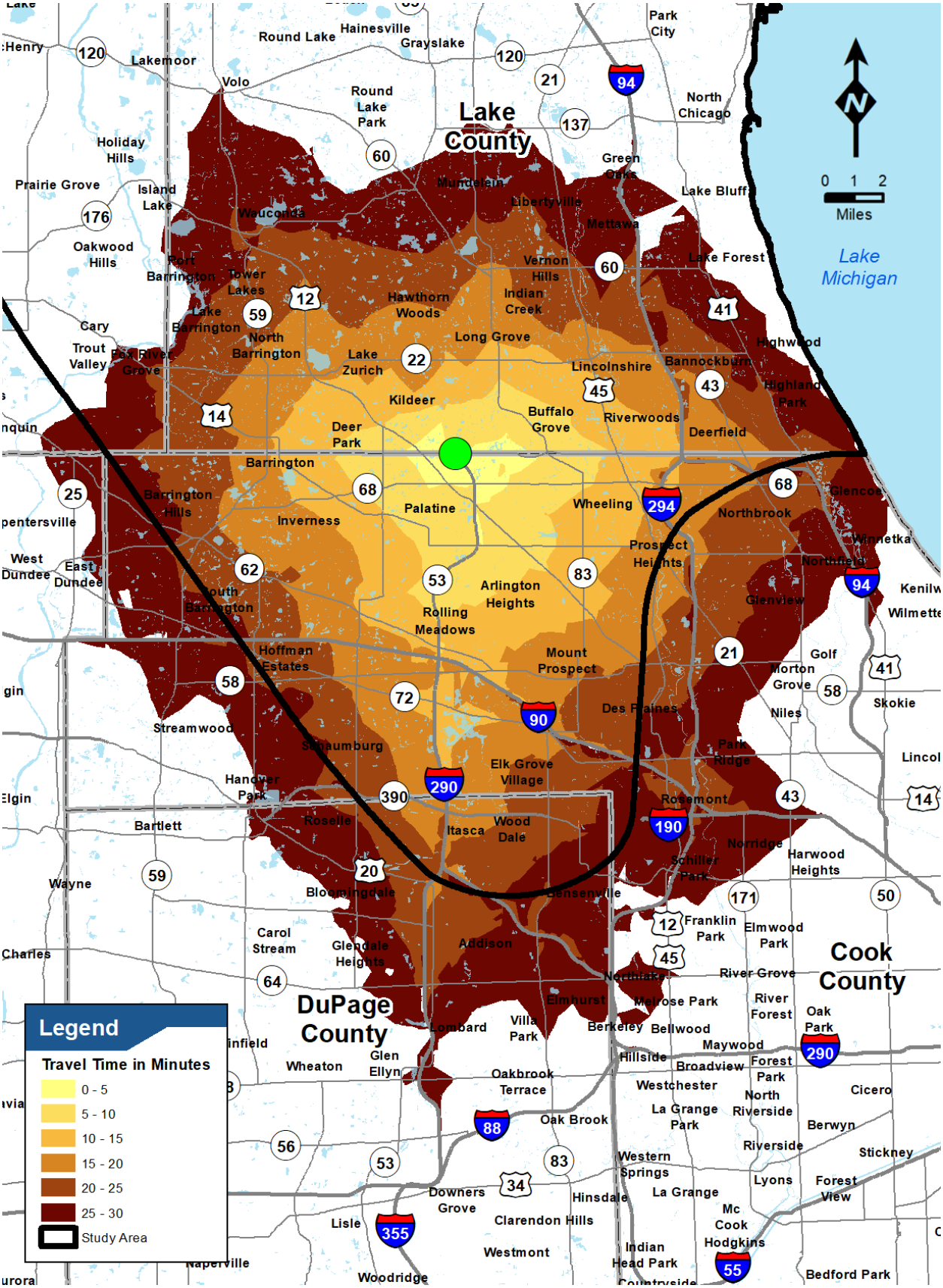


Figure 3-9. Base Year (2015) AM Peak Period Travel Time Buffer at IL 53 and Lake Cook Road

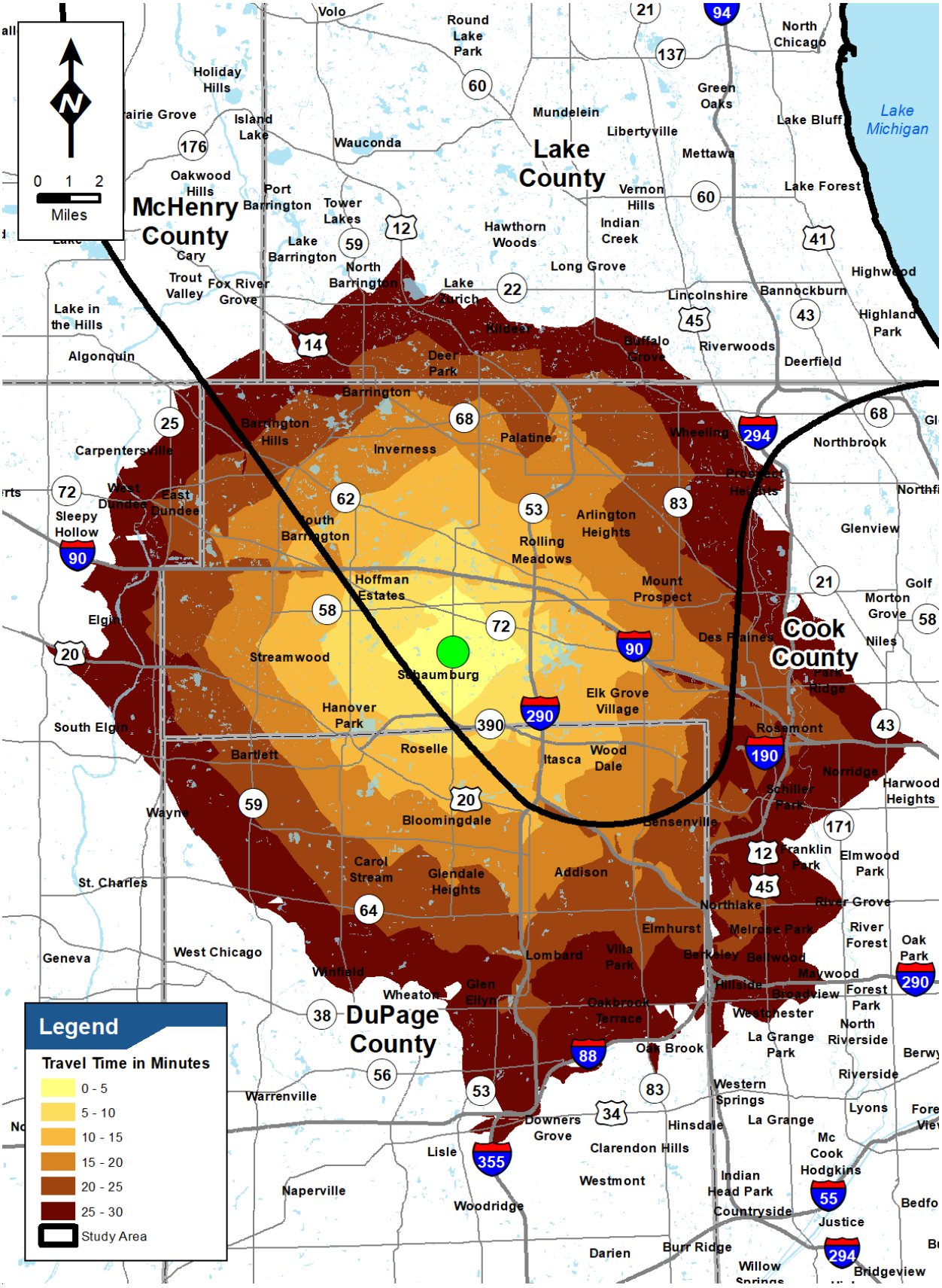


Figure 3-10. Base Year (2015) AM Peak Period Travel Time Buffer near Schaumburg

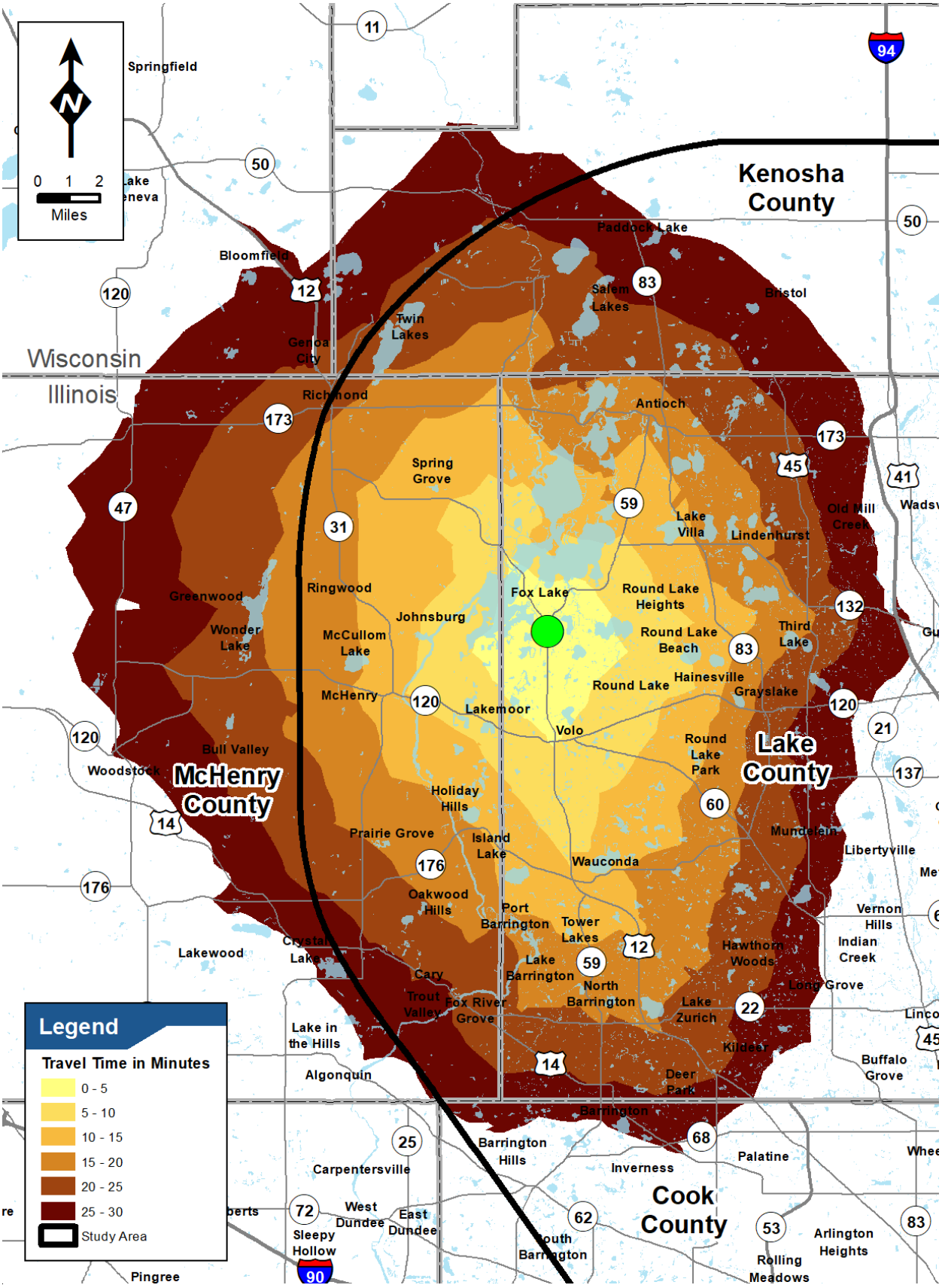


Figure 3-11. Base Year (2015) AM Peak Period Travel Time Buffer near Fox Lake

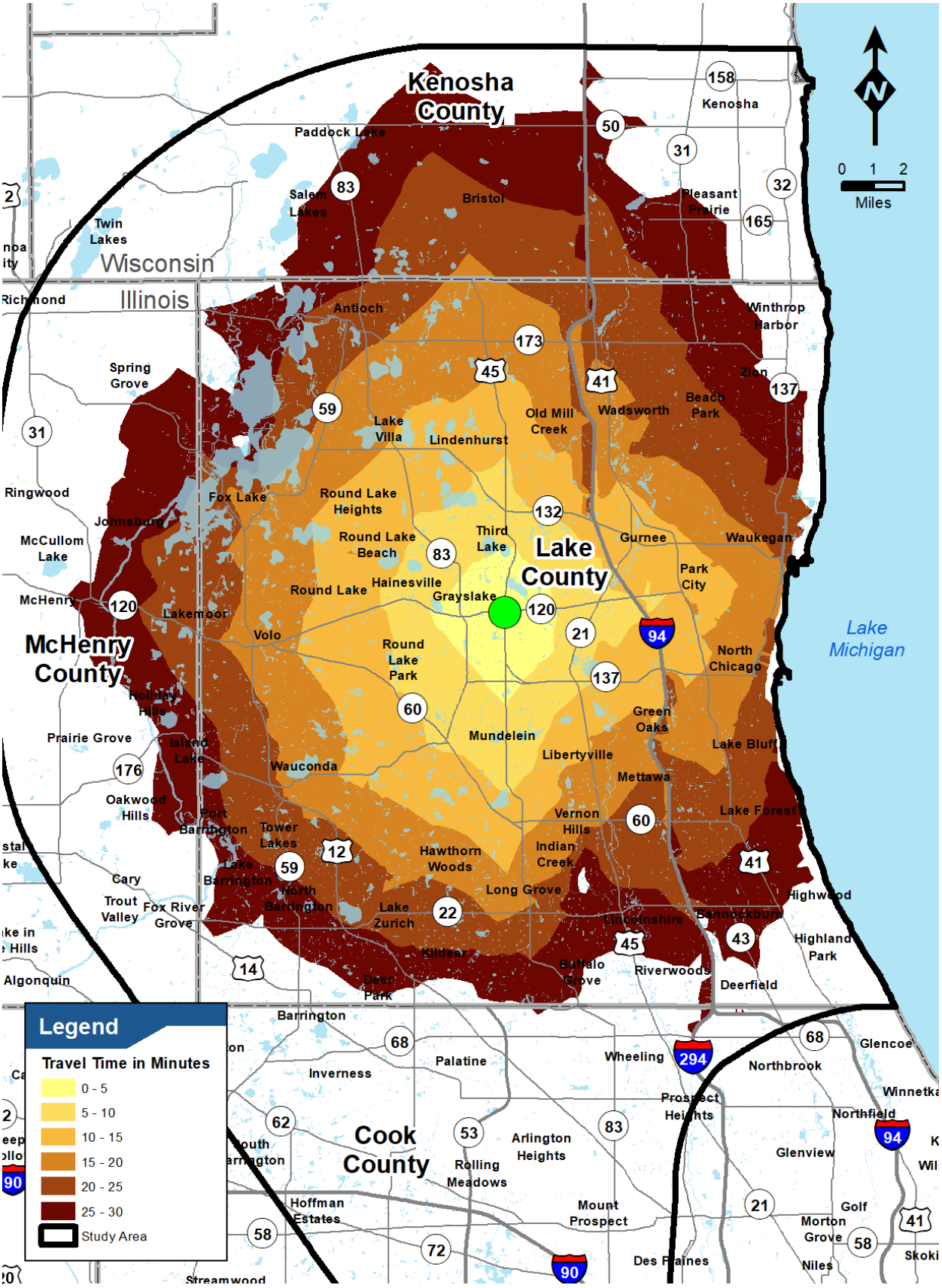


Figure 3-12. Base Year (2015) AM Peak Period Travel Time Buffer at US 45 and IL 120

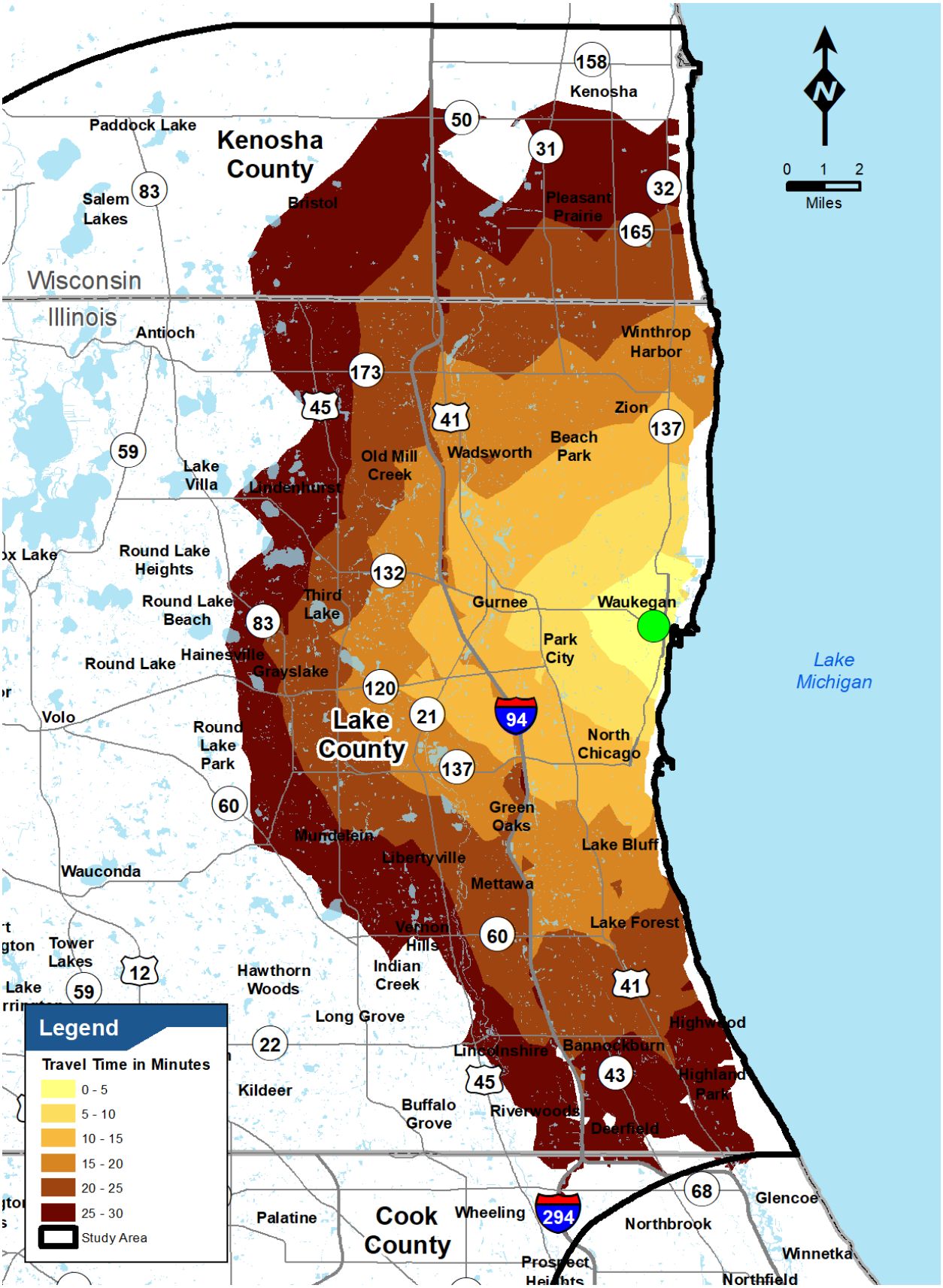


Figure 3-13. Base Year (2015) AM Peak Period Travel Time Buffer near Waukegan

3.1.5 Safety

Illinois Tollway and IDOT have a standing goal to improve safety on roadways under their jurisdictions and will examine opportunities to systematically improve safety as part of the TCA Study. To better understand crash patterns and contributing factors in the TCA Study area, a comprehensive review of safety data was conducted using principles from the American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual (HSM) (AASHTO 2018). Additionally, a safety performance evaluation was conducted using data (e.g., crashes, traffic volume/exposure) and predictive methods incorporated in the HSM.

The safety evaluation of the existing roadway system involved observation of the frequency and severity of crashes. Crash severity is a key indicator in evaluating the safety condition of a route. Understanding the severity of injuries allows the implementation of appropriate countermeasures to reduce the severity of crashes in the future. Table 3-7 lists and defines the different categories of crash severity.

Table 3-7. Crash Severity Categories

Severity	Description
K (Fatal)	A traffic crash in which at least one person dies within 30 days of the crash.
Type A Injury (A-Injury) (Incapacitating injury)	Any injury, other than fatal, that prevents the injured person from walking, driving, or normally continuing the activities they were capable of performing before the injury occurred. Includes: severe lacerations, broken/distorted limbs, skull injuries, chest injuries, and abdominal injuries.
Type B Injury (B-Injury) (Non-incapacitating injury)	Any injury, other than a fatal or incapacitating injury, that is evident to observers at the scene of the crash. Includes: lumps on the head, abrasions, bruises, and minor lacerations.
Type C Injury (C-Injury) (Reported, injury not evident)	Any injury reported or claimed that is not listed above. Includes: momentary unconsciousness, claims of injuries not evident, limping, complaints of pain, and nausea.
Property Damage Only	No injuries or fatalities, but damage is caused to either vehicle.

Locations with the most pressing safety needs typically have over-representation of K (fatal), A-injury (incapacitating), and B-injury (non-incapacitating) (KAB) crashes; hence, the analysis in the TSPR focuses on these three crash severity types.

3.1.5.1 Safety Statistics

The Illinois and Wisconsin Departments of Transportation collect crash data annually. Table 3-8 compares crash statistics for the TCA Study area to Illinois Statewide and Kenosha County crash statistics for the period from 2011 to 2015. In all cases, severe KAB crashes accounted for approximately 13 percent of all crashes.

Table 3-8. Crash Frequency by Severity (2011-2015)

Geographic Area	K (Fatal)	A-Injury	B-Injury	C-Injury	Property Damage Only	Total	%KAB
Illinois Statewide + Kenosha	4,421	47,458	143,330	118,679	1,129,076	1,442,964	13.5%
TCA Study area	337	4,184	15,090	18,051	108,404	146,066	13.4%

IDOT develops an annual Five Percent Report that provides information related to the top high-risk locations in the state and local roadway systems based on KAB crashes. The Five Percent Report examines recorded crashes in multiple dimensions, focusing on determining locations with an over-representation of crashes and a geographically based (county-by-county) evaluation of over-represented high-risk behaviors. Figure 3-14 shows that locations with safety issues are dispersed throughout the TCA Study area. During the alternative development process, sites identified as 5 percent locations along roadways to be considered for improvement will be reviewed in more detail to ensure safety issues are addressed properly.

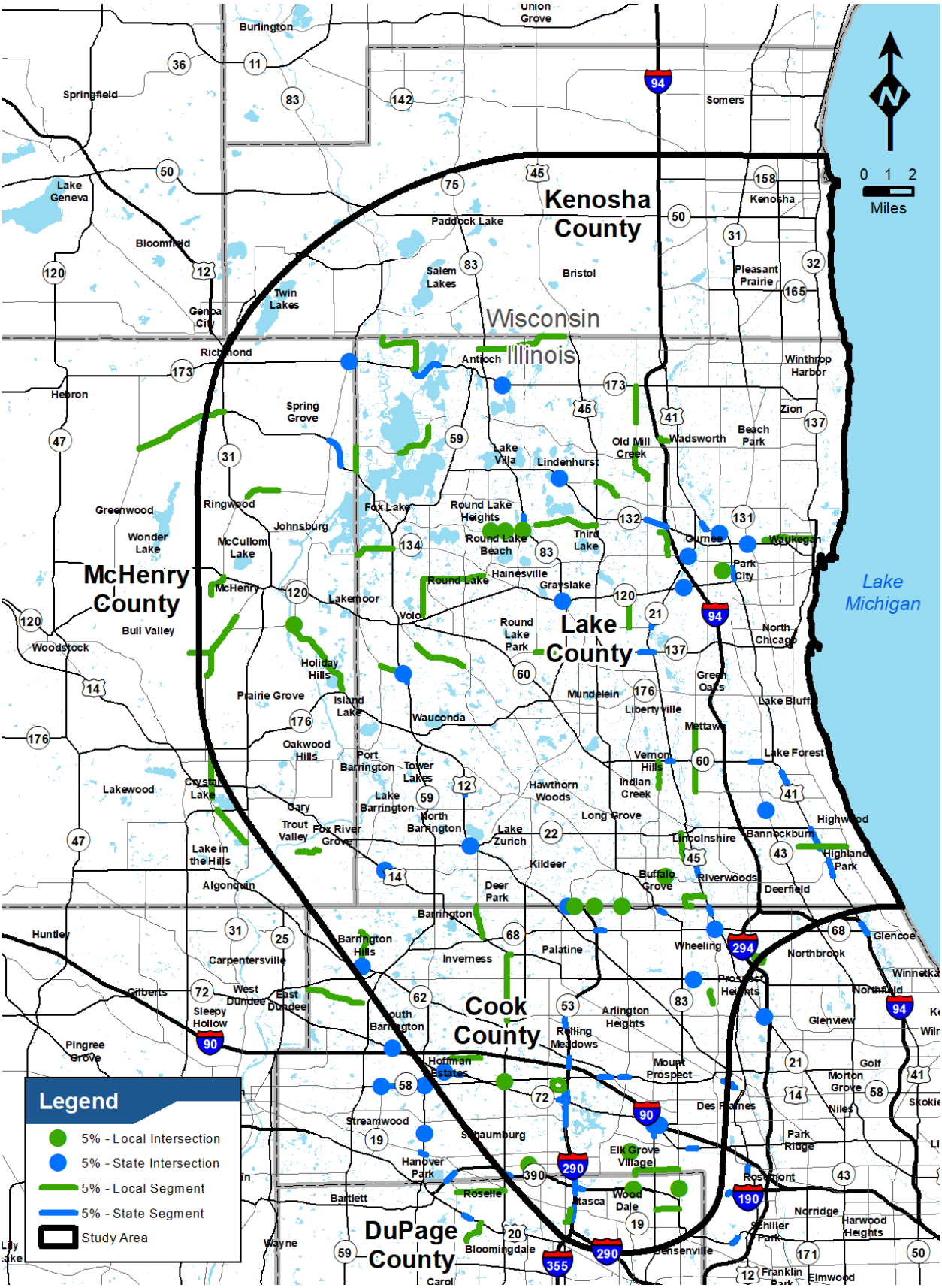


Figure 3-14. TCA Study Area Five Percent Locations in State and Local Systems

A more detailed look at traffic and safety data reveals that the TCA Study area is characterized by heavy congestion from commuter traffic during a.m. and p.m. peak periods. In particular, most crashes are concentrated around the p.m. peak period.

Figure 3-15 shows TCA Study area crash frequencies over different time periods. As shown, 43 percent of the KAB crashes in the TCA Study area occurred between 2:00 p.m. and 8:00 p.m.

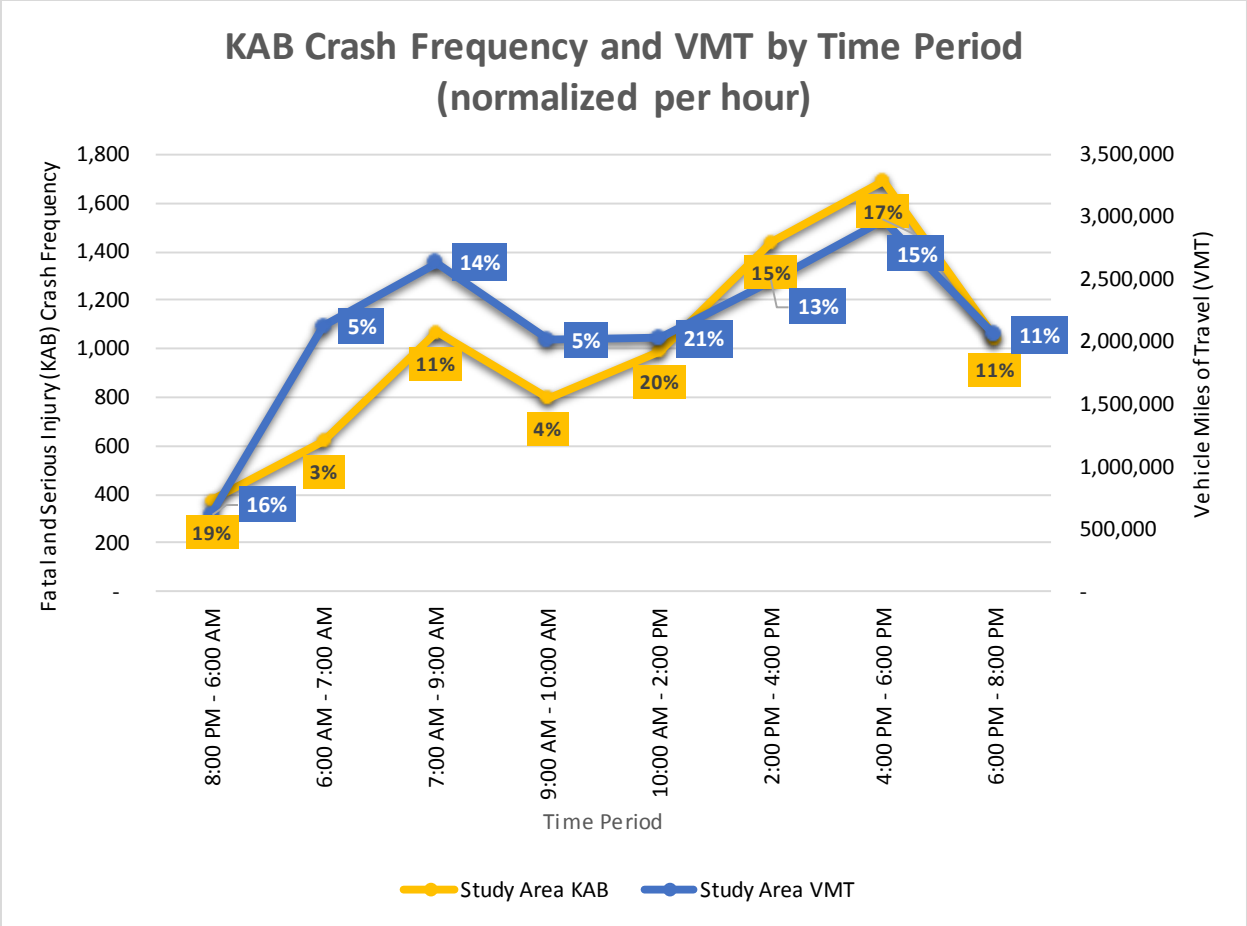


Figure 3-15. TCA Study Area Crash Frequency and Percentages by Time of Day

3.1.5.2 Vulnerable Users Crashes

Over the 5-year period from 2011 through 2015, a total of 1,068 KAB and C-injury pedestrian-vehicle and 1,142 KAB and C-injury pedal cyclist crashes were reported in the TCA Study area. Nearly 71 percent of the pedestrian crashes resulted in an evident injury (Type A or B), and 6 percent resulted in a fatality (K). Similarly, 74 percent of the pedal cyclist crashes resulted in an evident injury, and 1 percent resulted in a fatality (K). Table 3-9 summarizes these crash types and severities.

Table 3-9. TCA Study Area Pedestrian and Pedal Cyclist Crashes by Severity (2011-2015)

Crash Type	K	A	B	C	Total
Pedestrian	67	288	471	242	1,068
Pedal Cyclist	14	156	691	281	1,142
Total	81	444	1,162	523	2,210

Best practices for analysis of pedestrian and pedal cyclist crashes use geolocation and the relation of the crashes to the presence, frequency, and intensity of land uses attractive to pedestrians. Figure 3-16 and Figure 3-17 show concentrations of pedestrian and pedal cyclist KAB crashes within the TCA Study area.

Both pedestrian and pedal cyclist crashes occurred more often within the more developed, dense land-use area closer to city centers. In comparison, relatively few of these crashes occurred along the primary roads. This is typical because pedestrian and pedal cyclist crashes tend to be associated with operation of the arterial system. Poor design of paths, sidewalks, roadway crossings, and transit stops leads to safety issues to pedestrians and bicyclists traveling to transit.

A higher density of pedestrian crashes that resulted in fatal and serious injuries occurred in the TCA Study areas of Kenosha, Zion, Waukegan, Highland Park, Rosemont, Mount Prospect, and McHenry. Similarly, a higher density of fatal and serious-injury pedal cyclist crashes occurred in the TCA Study areas of Kenosha, Waukegan, Highland Park, Wheeling, Des Plaines, Mc Henry, and Crystal Lake.

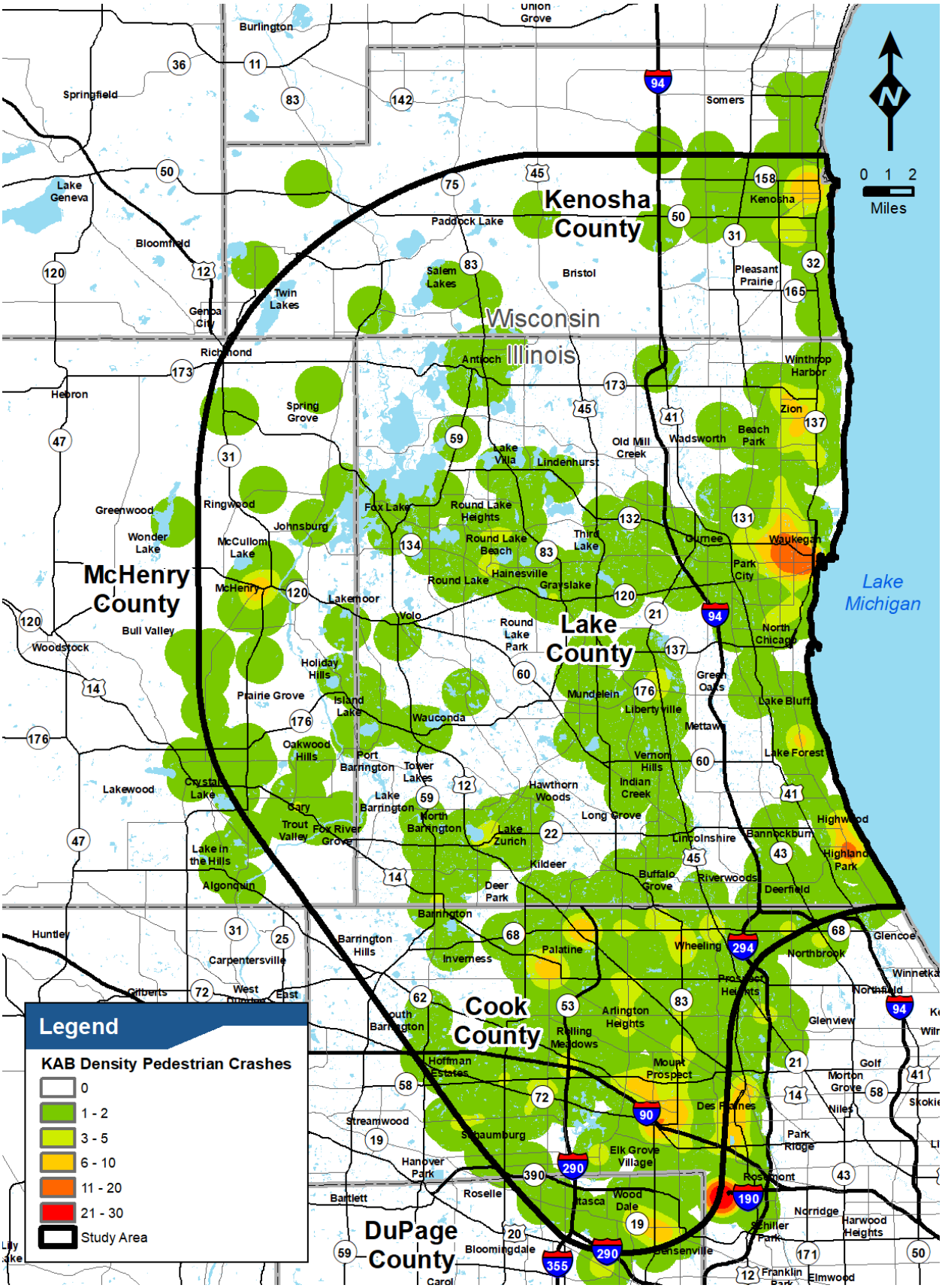


Figure 3-16. KAB Pedestrian Crashes Density Map (2011-2015)

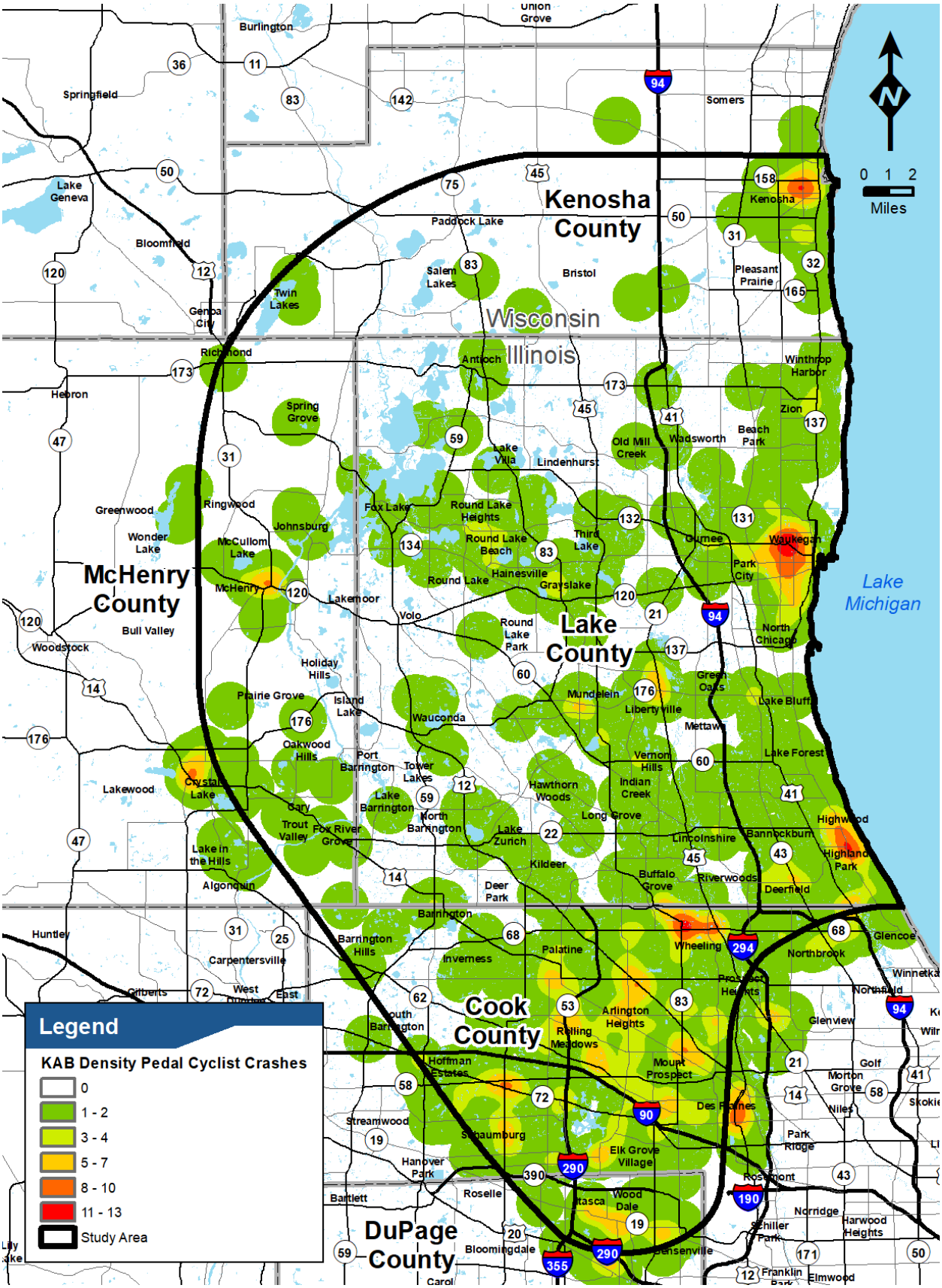


Figure 3-17. KAB Pedal Cyclist Crashes Density Map (2011-2015)

3.1.5.3 Base Year (2015) Safety Predictive Performance

The notion of predicting crashes is important in assessing future safety performance. This concept recognizes that any roadway that carries traffic would, over a long period, experience some level of crashes. Crash prediction involves both the frequency and severity or risk profile of crashes that may occur. IDOT developed network screening safety performance function that follows the AASHTO HSM Part B approaches. A safety performance function expresses the non-linear traffic volume and crash frequency relationship. The safety performance function is established through modeling of road segments and crashes that are recorded as occurring on the road segments. These models were used to perform the base year (2015) and No-Build Forecast Year (2050) safety performance evaluations. Table 3-10 summarizes the base year observed and predicted crash frequencies for the TCA Study area. The predicted crash frequencies will be used to estimate the expected increase in crashes by the No-Build forecast year (2050).

Table 3-10. Base Year (2015) Observed and Predicted Annual Crash Frequencies in TCA Study Area

	Observed Crash Frequency				**Predicted Crash Frequency**			
	K	**A**	**B**	**KAB**	**Pred K**	**Pred A**	**Pred B**	**Pred KAB**
Functional Class								
Freeway/Tollway/Expressway/ Major Arterial	142	1,353	4,958	6,453	108	1,607	4,066	5,781
Minor Arterial	82	733	2,578	3,393	31	211	714	956
Collector	31	298	990	1,319	56	93	394	543
Total	**255**	**2,384**	**8,526**	**11,165**	**195**	**1,911**	**5,174**	**7,280**
Intersection Type								
Minor Leg Stop Control	25	231	946	1,202	25	171	459	656
All-Way Stop	4	20	137	161	7	40	119	166
Signalized Intersection	45	1,429	5,170	6,644	63	1,622	5,691	7,376
Total	74	1,680	6,253	8,007	95	1,833	6,269	8,198

3.2 Public Transit

The public transit system within the TCA Study area includes services provided by two of the Regional Transportation Authority's operating agencies: Metra (the region's commuter rail operator) and Pace (the suburban bus operator). Although the southernmost portion of the TCA Study area overlaps with the Chicago Transit Authority (CTA) network, CTA services are not considered in detail since they do not directly serve the core of the TCA Study area. This section therefore describes only the existing Metra and Pace services within the TCA Study area.

Table 3-11 summarizes the TCA Study area's transit characteristics.

Table 3-11. Public Transit System Characteristics in TCA Study Area

Transit System Characteristic	Quantity
Number of Metra Lines	5
Metra Route-Miles	130
Number of Metra Stations	50
Number of Bus Routes	63
Bus Route-Miles	674

3.2.1 Existing Metra Commuter Rail System

Metra commuter rail provides the backbone for transit services in the TCA Study area. The Metra network consists of 5 lines totaling 142 miles within the TCA Study area, with a radial service centered around downtown Chicago that primarily serves work trips to and from the central business district. These five Metra lines are summarized below. LOSs are based on schedules published on Metra's website and retrieved November 2018.

- **Union Pacific Northwest Line (UP-NW):** This line provides daily service between Harvard and the Chicago Ogilvie Transportation Center. Within the TCA Study area, the line has 11 stations between Cumberland and McHenry. McHenry station has hourly, peak-period-only service via a 7.5-mile single-track line that branches from the line to Harvard at Crystal Lake station. The other 10 stations have hourly off-peak service on weekdays and more frequent peak period service. Stations within Cook County receive more peak-period trains than stations located further north on the line. While peak-period service is generally every 30 minutes or less at stations, Barrington station receives six southbound trains during the morning peak period.
- **Milwaukee District North Line (MD-N):** This line provides daily service between Fox Lake and Chicago Union Station. Within the TCA Study area, the line has 10 stations between Fox Lake (northern terminus) and Lake Cook Road. The TCA Study area stations have hourly off-peak service and more frequent service levels during peak periods. Deerfield and Lake Cook Road stations have the greatest service levels with trains approximately every 15 minutes during peak periods in the peak direction. During the morning peak period, most southbound trains originate at Fox Lake with some trips operating express between Fox Lake and Libertyville. During the afternoon peak period, nearly half the northbound trains end their trip at Deerfield.
- **North Central Service (NCS):** This line provides weekday service between Antioch and Chicago Union Station. Within the TCA Study area, the line has 14 stations between Antioch and Schiller Park. Off-peak service is offered at 2-hour headways. Four southbound trips are provided during the morning peak period, and three northbound trips are provided during the afternoon peak period. Nine out of the 10 weekday trips on the line serve all stations, with the last southbound train operating express between Washington Street/Grayslake and Chicago Union Station.
- **Union Pacific North Line (UP-N):** This line provides daily service between Kenosha, Wisconsin, and the Chicago Ogilvie Transportation Center. Within the TCA Study area, the line has 13 stations between Kenosha and Braeside with service offered every hour during the off-peak periods. During the peaks, service is less frequent to the stations north of Waukegan. From Kenosha to Zion, three southbound trains are offered during the morning peak period, while higher levels of service are offered from Waukegan to the south. Similar LOSs are offered northbound in the afternoon peak period.
- **Milwaukee District West Line (MD-W):** This line provides service along the southern border of the TCA Study area between Elgin and Chicago Union Station. Within the TCA Study area, the line has five stations between Roselle and Bensenville, which receive trains every 30 minutes or less during

weekday peak periods. Off-peak service is offered once an hour on weekdays. Both the Milwaukee District West Line (MD-W) and the NCS share the Western Avenue station in Chicago and Metra's three main tracks for the 5 miles north of downtown Chicago.

Historically, Metra services have been targeted toward bringing large amounts of commuters from the suburbs in the morning peak period to downtown Chicago and returning them to the suburbs in the p.m. rush period. Metra also serves commuters with employment in the suburbs including Highland Park, Lake Forest, and Lake Bluff stations on the UP-N line and Lake Cook Road station on the MD-N line (all of which were associated with more than 400 weekday morning alightings in Metra's 2016 Origin-Destination Survey). Along the UP-NW line, the five stations between Barrington and Mount Prospect each had between 250 and 400 weekday morning alightings in Metra's 2016 Origin-Destination Survey.

Compared to inbound Chicago service, service out to suburban employment locations is not prioritized. For example, during the morning peak period, service is less frequent in the outbound (reverse commute) direction compared to the inbound direction towards downtown Chicago. Some trips connecting outlying stations and downtown Chicago may even not stop at intermediate employment locations in order to provide faster service to downtown Chicago.

Because Metra lines are oriented radially out from downtown Chicago, they do not provide east-west connections between lines that are important for commuters who live and work in the suburbs. For example, a commuter traveling by Metra from Evanston to Schaumburg would have to take the UP-N line to Ogilvie Transportation Center in downtown Chicago, and then catch the MD-W line back out from Union Station to Schaumburg.

Figure 3-18 shows the Metra lines within the TCA Study area, including their daily boardings and parking use.

Table 3-12 depicts weekday boardings on the five Metra lines within the TCA Study area. The most recent weekday boarding data available was for 2016. Between 2006 and 2016, the UP-NW and NCS stations within the TCA Study area experienced an increase in ridership of 6 and 3 percent, respectively. The MD-N and UP-N lines experienced a decrease in ridership of 25 percent and 5 percent, respectively. Ridership on the MD-W line remained relatively stable. Overall, ridership for the TCA Study area stations along the five lines did not change substantially between 2006 and 2016.

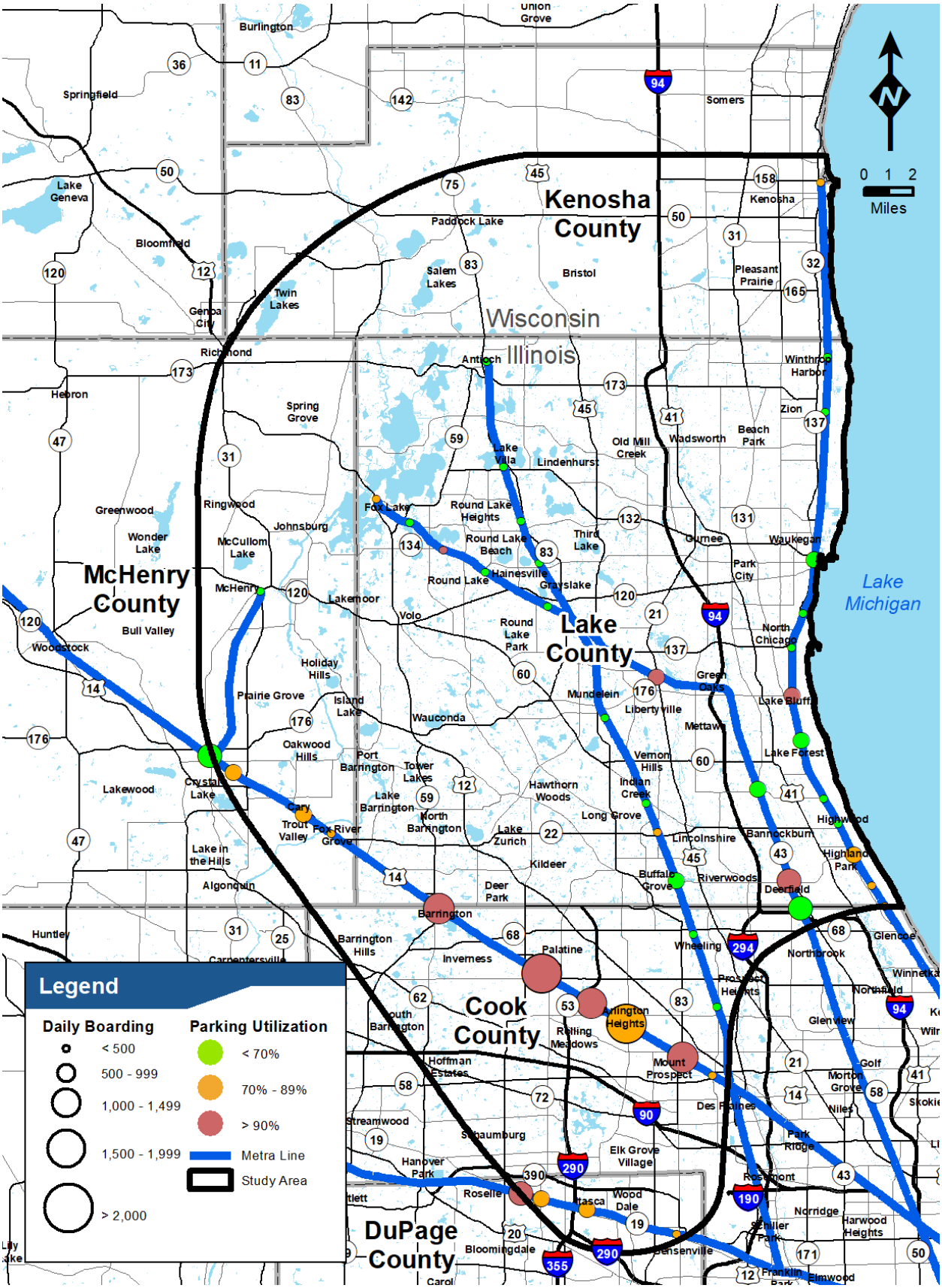


Figure 3-18. Metra Service in TCA Study Area

Table 3-12. Metra Weekday Boardings

Line	Station	Weekday Boarding			Change in Weekday Boarding (2006-2016)	
		2016	2014	2006	Total	%
UP-NW	McHenry	96	114	101	-5	-5.0
	Crystal Lake	1,119	1,238	1,370	-251	-18.3
	Pingree Road	751	744	581	170	29.3
	Cary	941	873	988	-47	-4.8
	Fox River Grove	451	410	422	29	6.9
	Barrington	1,738	1,717	1,724	14	0.8
	Palatine	2,378	2,334	2,105	273	13.0
	Arlington Park	1,697	1,672	1,614	83	5.1
	Arlington Heights	2,578	2,349	2,317	261	11.3
	Mount Prospect	1,816	1,774	1,590	226	14.2
	Cumberland	455	431	393	62	15.8
	Subtotal	14,020	13,656	13,205	815	6.2
MD-N	Fox Lake	356	442	632	-276	-43.7
	Ingleside	74	89	150	-76	-50.7
	Long Lake	96	105	133	-37	-27.8
	Round Lake	417	513	710	-293	-41.3
	Grayslake	494	509	772	-278	-36.0
	Prairie Crossing/ Libertyville	422	451	344	78	22.7
	Libertyville	825	826	1,169	-344	-29.4
	Lake Forest	548	570	578	-30	-5.2
	Deerfield	1,282	1,247	1,315	-33	-2.5
	Lake Cook Road	1,271	1,263	1,406	-135	-9.6
	Subtotal	5,785	6,015	7,209	-1424	-19.8
NCS	Antioch	184	227	262	-78	-29.8
	Lake Villa	148	176	150	-2	-1.3
	Round Lake Beach	115	157	154	-39	-25.3
	Washington St./ Grayslake	110	122	109	1	0.9
	Prairie Crossing/Libertyville	102	125	117	-15	-12.8
	Mundelein	277	304	283	-6	-2.1
	Vernon Hills	370	435	353	17	4.8

Table 3-12. Metra Weekday Boardings

Line	Station	Weekday Boarding			Change in Weekday Boarding (2006-2016)	
		2016	2014	2006	Total	%
	Prairie View	388	345	299	89	29.8
	Buffalo Grove	590	621	545	45	8.3
	Wheeling	353	333	306	47	15.4
	Prospect Heights	266	277	245	21	8.6
	Subtotal	2,903	3,122	2,823	80	2.8
UP-N	Kenosha	276	358	431	-155	-36.0
	Winthrop Harbor	61	70	79	-18	-22.8
	Zion	124	155	152	-28	-18.4
	Waukegan	911	910	1,030	-119	-11.6
	North Chicago	170	232	191	-21	-11.0
	Great Lakes	293	264	306	-13	-4.2
	Lake Bluff	681	626	519	162	31.2
	Lake Forest	717	727	725	-8	-1.1
	Fort Sheridan	274	266	279	-5	-1.8
	Highwood	293	314	279	14	5.0
	Highland Park	978	875	1,118	-140	-12.5
	Ravinia	295	238	332	-37	-11.1
	Braeside	442	373	341	101	29.6
	Subtotal	5,515	5,408	5,782	-267	-4.6
MD-W	Roselle	1,455	1,277	1,500	-45	-3.0
	Medinah	573	520	501	72	14.4
	Itasca	601	564	546	55	10.1
	Wood Dale	624	608	639	-15	-2.3
	Bensenville	357	433	450	-93	-20.7
	Subtotal	3,610	3,402	3,636	-26	-0.7
Total: All Stations		31,833	31,603	32,655	-822	-2.5

Source: Regional Transportation Authority Mapping and Statistics 2018

3.2.2 Bus

3.2.2.1 Pace Bus

Pace Bus is the primary local and regional bus service in the TCA Study area. Based on June 2017 published schedules by Pace, there are a total of 63 Pace Bus routes across 674 route-miles in the TCA Study area. Within the TCA Study area, Pace Bus service is concentrated in Eastern Lake County and south of the Lake Cook border.

The Pace Bus service within the TCA Study area primarily serves as a connection to major population and employment centers located in southeastern Lake County and northwestern Cook County. Within Lake

County, there are 27 Pace Bus routes that connect to Metra stations. Two of these Pace Bus routes connect Metra stations within Lake County to CTA Rail Lines: the #213 Green Bay Road and the #626 Skokie Valley Limited buses connect to the CTA Purple and Yellow Lines, respectively. Pace Bus services within the core of the TCA Study area are concentrated along I-90 in Cook County and around Deerfield in southeastern Lake County, with Routes 234 and 696 connecting these two areas of relatively high population and employment density. These include Pace's new service along I-90 and along IL 53 from Lake-Cook Road to the Northwest Transportation Center.

Figure 3-19 shows the Pace Bus network within the TCA Study area, including its location relative to other transit services in the TCA Study area.

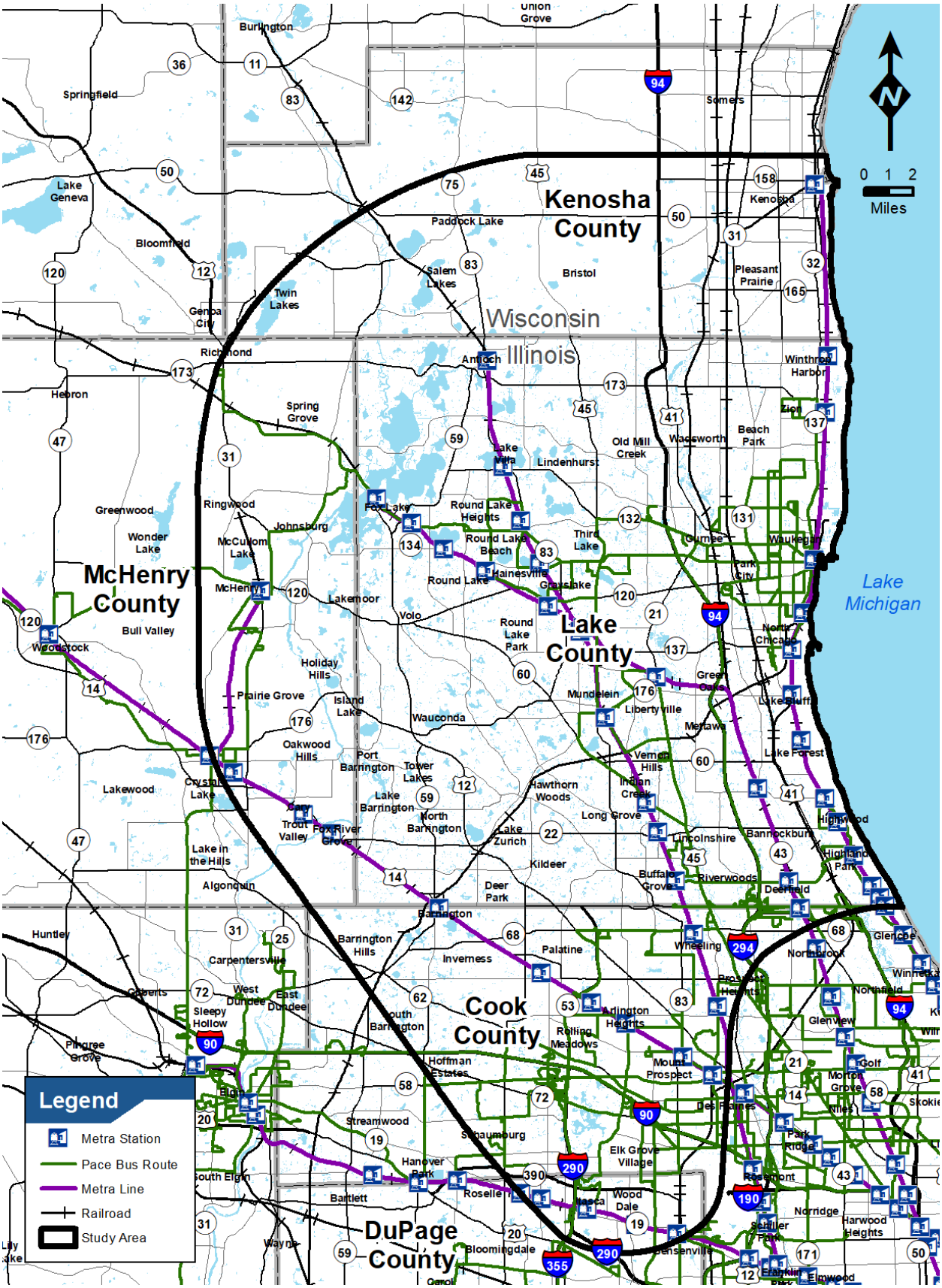


Figure 3-19. Pace Bus and Metra Service in TCA Study Area

Table 3-13 summarizes ridership for Pace Bus routes serving the TCA Study area (seasonal and special event routes were not included). The Change in Weekday Ridership was calculated for each route that had ridership data available in 2007. Pace Bus routes serving the TCA Study area experienced differences in ridership ranging from -63 to 21 percent between 2007 and 2017. Overall, ridership on all TCA Study area routes with data available in 2007 and 2017 decreased by approximately 8 percent.

Potential factors that may have contributed to the observed decrease in ridership within the TCA Study area include increased congestion on the roadway network and shifts in employment from downtown areas to locations that are more difficult to access via transit (e.g., suburban areas).

Three routes experienced ridership growth of more than double their 2007 levels by 2017:

- 554 Elgin – Woodfield (317 percent)
- 600 Rosemont-Schaumburg Express (160 percent)
- 574 College of Lake County (CLC) – Hawthorn Mall (164 percent)

Six routes experienced decreases in ridership of more than 150 boardings compared to 2007:

- 572 Washington (-17 percent)
- 208 Golf Road (-23 percent)
- 213 Green Bay Road (-18 percent)
- 472 Highland Park – Highwood (-58 percent)
- 563 Great Lakes Naval Station (-63 percent)
- 569 Lewis (-32 percent)

There were also 10 fixed-route services that experienced an increase in ridership between 2015 and 2017 that was 5 percent or greater:

- 696 Randhurst/Woodfield/ Harper College
- 223 Elk Grove – Rosemont CTA Station
- 600 Rosemont – Schaumburg Express
- 570 Fox Lake – CLC
- 905 Schaumburg Trolley
- 627 Discover – Takeda Shuttle Bug
- 633 Shuttle Bus 3
- 640 Braeside Station – Commercial Avenue Shuttle Bug
- 332 River Road – York Road
- 566 McAree – Keller
- 571 Zion

Table 3-13. Pace Bus Weekday Ridership

Route	Service Group	Weekday Ridership			Change in Weekday Ridership (2007-2017)	
		2017	2015	2007	Total	%
611 North Schaumburg	Commuter Links	27			NA	NA
634 Shuttle Bug 4	Commuter Links	55	68	79	-24	-30
638 Arlington Park Station - HSBC Shuttle	Commuter Links	23			NA	NA
694 Central Road-Mt. Prospect Station	Commuter Links	83	100	52	31	60
234 Wheeling - Des Plaines	Suburban Links	251	296	391	-140	-36
272 Milwaukee Avenue North	Suburban Links	533	598	663	-130	-20
554 Elgin - Woodfield	Suburban Links	496	545	119	377	317
572 Washington	Suburban Links	784	823	939	-155	-17
604 Wheeling-Schaumburg	Suburban Links	107			NA	NA
607 I-90/Randall Road Park-n-Ride - Schaumburg Express	Suburban Links	49			NA	NA
608 Roselle-Schaumburg	Suburban Links	67			NA	NA
696 Randhurst/Woodfield/ Harper College	Suburban Links	338	323	249	89	36
806 Crystal Lake-Fox Lake	Suburban Links	28	29		NA	NA
809 Richmond-Fox Lake	Suburban Links	1	1		NA	NA
895 95th St. - Rosemont - Schaumburg Express	Suburban Links	189	219		NA	NA
208 Golf Road	CTA Connector	1,863	1,956	2,417	-554	-23
223 Elk Grove - Rosemont CTA Station	CTA Connector	1,772	1,610	1,747	25	1
600 Rosemont - Schaumburg Express	CTA Connector	600	377	231	369	160
603 Elgin Transportation Center - Rosemont Express	CTA Connector	96			NA	NA
605 I-90/Randall Road Park-n-Ride - Rosemont Express	CTA Connector	115			NA	NA
610 Rosemont - Schaumburg Limited	CTA Connector	1,581	1,975	1,528	53	3
610 Rosemont-Prairie Stone Express	CTA Connector	340	456	237	103	43
616 Rosemont - Itasca Limited	CTA Connector	147	218	251	-104	-41
626 Skokie Valley Limited	CTA Connector	342	408	427	-85	-20
757 Northwest Connection	CTA Connector	186	202	223	-37	-17
562 Gurnee via Sunset	Intra-community	446	458	373	73	20
564 Jackson / 14th	Intra-community	187	220	277	-90	-32
565 Grand Avenue	Intra-community	910	1,000	875	35	4
568 Belvidere	Intra-community	927	988	1,034	-107	-10
570 Fox Lake - CLC	Intra-community	236	208	163	73	45
574 CLC - Hawthorn Mall	Intra-community	264	315	100	164	164
905 Schaumburg Trolley	Intra-community	68	14	118	-50	-42

Table 3-13. Pace Bus Weekday Ridership

Route	Service Group	Weekday Ridership			Change in Weekday Ridership (2007-2017)	
		2017	2015	2007	Total	%
590 Round Lake Area Call-n-Ride	On Demand	32	34		NA	NA
593 Vernon Hills - Mundelein Call-n-Ride	On Demand	37	26		NA	NA
594 Arlington Heights - Rolling Meadows Call-n-Ride	On Demand	39	35		NA	NA
627 Discover - Takeda Shuttle Bug	Commuter Links	178	164	147	31	21%
628 Shuttle Bug 8	Commuter Links	67	73	90	-23	-26%
629 Shuttle Bug 9	Commuter Links	41	59	55	-14	-25%
631 Shuttle Bug 1	Commuter Links	90	86	137	-47	-34%
632 Shuttle Bug 2	Commuter Links	94	125	157	-63	-40%
633 Shuttle Bug 3	Commuter Links	85	73	153	-68	-44%
635 Lake Cook Shuttle Bug 4	Commuter Links	129	139	159	-30	-19%
640 Braeside Station-Commercial Avenue Shuttle Bug	Commuter Links	55	31		NA	NA
471 Highland Park-Northbrook Court	Suburban Links	149	155	205	-56	-27%
472 Highland Park - Highwood	Suburban Links	116	134	273	-157	-58%
807 Woodstock-McHenry	Suburban Links	21	38		NA	NA
213 Green Bay Road	CTA Connector	1,047	1,081	1,275	-228	-18%
221 Wolf Road	CTA Connector	728	765	876	-148	-17%
226 Oakton Street	CTA Connector	735	708	756	-21	-3%
230 South Des Plaines	CTA Connector	357	394	502	-145	-29%
319 Grand Avenue	CTA Connector	531	602	654	-123	-19%
332 River Road - York Road	CTA Connector	555	441	594	-39	-7%
422 Linden CTA/Glenview/Northbrook Court	CTA Connector	573	615	694	-121	-17%
561 Castlecrest via McAree	Intra-community	329	374	369	-40	-11%
563 Great Lakes Naval Station	Intra-community	105	201	281	-176	-63%
566 McAree-Keller	Intra-community	261	243	251	10	4%
569 Lewis	Intra-community	616	660	910	-294	-32%
571 Zion	Intra-community	629	559	597	32	5%
573 Green Bay Road	Intra-community	18	25	25	-7	-28%
602 Higgins - Salem - Cedarcrest	On Demand	10	12		NA	NA
Total for All Routes		20,738	21,259	22,173	-1,182	-8.2

Source: Regional Transportation Authority Mapping and Statistics 2018

3.2.2.2 Paratransit

Pace offers three different types of paratransit options throughout the suburbs:

- On Demand
- Dial-A-Ride
- ADA Paratransit

Pace On Demand, formerly known as Pace Call-n-Ride, offers reservation-based, shared-ride service throughout the suburbs. As an "on demand" service, buses do not travel along a fixed route. Instead, riders schedule their trips in advance, after which Pace vehicles provide curb-to-curb service between the rider's desired pick-up and drop-off destinations. There are two Pace On Demand services within the TCA Study area, including the Round Lake Area On Demand and the Vernon Hills-Mundelein On Demand.

There are also numerous dial-a-ride programs, each of which have their own rules, such as geographic boundaries. MCRide is one such dial-a-ride program that operates within McHenry County in the TCA Study area and provides an affordable and flexible multi-purpose transportation service. When MCRide was first implemented, multiple local dial-a-ride services were combined to form one coordinated program. This has made it easier for suburban commuters, seniors, and persons with disabilities to schedule and use dial-a-ride services in McHenry County. MCRide has improved access to jobs and schools and has provided increased mobility to more individuals. This service receives a portion of its funding from the Federal Transit Administration of the U.S. Department of Transportation through grants administered by the Regional Transportation Authority.

Required by the federal Americans with Disabilities Act (ADA), Pace also provides an ADA Paratransit service for customers whose disability or health condition prevents them from using Pace fixed-route services for some or all of their travel. This is different from the On Demand service, where there are no eligibility requirements. Trips on this service are only provided at the same times and within the same geographic areas as existing fixed route services.

3.2.3 Transit Travel Characteristics

Population and employment in the TCA Study area have been steadily increasing over the past 30 years, during which time Metra and Pace have enhanced the frequency of their service. Despite these enhancements, ridership on Metra and Pace have not increased over the same time period.

Increases in population and employment do not imply increased transit use, especially if regional transit lacks certain features. The stagnation of transit use can likely be attributed to a mix of several factors, including but not limited to geography (e.g., land use patterns in the TCA Study area) and other transit features (e.g., the lack of suburb-to-suburb connectivity). The following list describes some of these factors in more detail:

- The low-density land use patterns in the TCA Study area (e.g., residential, agricultural, and park/open space) have not been conducive to building a suburban transit system. Despite increases in population and employment, transit options remain limited in the TCA Study area, partly due to this expansive and challenging geography.
- Automobiles are prevalent in the TCA Study area, where greater than 90 percent of travel is made by automobile, and 65 percent of households own two or more vehicles. This type of historical bias can be challenging to overcome, despite improvements to transit.
- The Pace Bus service operates in mixed traffic along the roadway network, and is therefore affected by congestion much the same way that automobiles are affected. As it relates to travel times, having no advantage over automobiles may further contribute to a continued, low reliance on transit.

- While there are some high-frequency services connecting portions of the TCA Study area with the City of Chicago central business district, there are limited transit options connecting intra-suburban destinations (e.g., employment destinations). For these locations where transit connections do not exist, potential transit riders must resort to automobile use to reach their destination.
- Potential transit riders may be discouraged by poor first- and last-mile connections to Metra and Pace routes. Despite overall increases in population and employment, increases in transit service frequency do not fill the gap that first- and last-mile connections leave.
- Other transportation options, such as ride-share and carpool services, continue to compete in the transportation space, potentially offsetting any would-be increases in transit use.

3.3 System of Freight Truck Routes

The Chicago region is the nation's critical freight hub. It is a major center for freight and manufacturing, with industrial development concentrated along major roadways, freight rail corridors, and the two major airports (CMAP 2015). The region is a major origin, destination, and distribution point for raw materials, intermediary products, and final goods. More than $564 billion in goods weighing approximately 269 million tons move into and out of metropolitan Chicago each year by truck, rail, water, and air freight. Within this vast distribution chain, trucks account for about one in seven vehicles on interstate facilities in the Chicago region. Freight mobility and travel time reliability is a key to the economic vitality of not only the region, but also the national supply chain.

The Fixing America's Surface Transportation Act (FAST Act) directed the FHWA Administrator to establish a National Highway Freight Network (NHFN) to strategically direct Federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system. Within the TCA Study area, I-90, I-294, and I-290/IL 53 south of I-90 are part of the National Freight Network. The I-90 east-west to I-294 north-south connection passes within the TCA Study area. These two interstates connect near the O'Hare International Airport at a system interchange which is heavily trafficked and frequently experiences congested conditions with reduced travel speeds and ramp queues. In addition to the interstate congestion near the vicinity of airport, this route also requires some out of direction travel.

Truckers wishing to bypass the congestion near the airport opt to circumvent this area by using state and locally designated truck routes within the TCA Study area to avoid delays and maintain their schedule. These non-interstate truck routes are designed for transporting freight with a more regionalized trip purpose, and not long-haul trips.

Stakeholders have cited that there is a significant amount of truck traffic on state and locally designated truck routes. The system of non-interstate truck routes that have been classified by the state as Designated Truck Routes are a combination of state and locally maintained facilities. See Figure 3-20. The truck routes are classified based on length and weight restrictions as follows.

- **Class I** truck routes include interstate highways and expressways. These are the least restrictive routes with regards to vehicle type and length. All of the facilities noted to be on the National Freight Network are Class I Truck Routes. In addition, IL 53 north of I-90 is a Class I truck route.
- **Class II** truck routes include major arterials with minimum 11-foot lanes. The maximum length of vehicle from front to back axle is 65 ft. Examples of Class II truck routes in the TCA Study area are US 41, IL 21 (Milwaukee Avenue), US 45, US 12 (Rand Road), IL 59, IL 68 (Dundee Road), and segments of US 60, IL 137 (Peterson Road), and IL 160 (Belvidere Road), IL 132 (Grand Avenue) and IL 173 (Rosecrans Road).
- **Class III** are State or City highways with lanes under 11 feet. The maximum length of vehicle is 60 ft. IDOT does not show any Class III truck routes within the TCA Study area.

IL 53 north of I-90, is a Class I truck route that is not a part of the national freight network. It is an access-controlled facility that lacks continuity with other interstates or Class I truck routes at the northern terminus. The exit before IL 53 ends on the north, trucks transfer from the IL 53 access-controlled facility onto other Class II truck routes such as IL 68 (Dundee Road) and US 12 (Rand Rd).

While there is a system of Class II trucks routes spread throughout the TCA Study area, there are limited east-west connections with I-294 and north-south connections with I-90. As a result, trucks need to exit the tollway either exit in advance or after their intended interchange location and use Class II routes to reach their destination. Along I-294 north of I-90, there are only 5 interchanges that connect to Class II truck routes (IL 173, IL 132, IL 21, IL 120, IL 137, and IL 60).

The Class II routes have inherent delays as compared to the access-controlled Class I routes since they operate at slower speeds and have traffic-controlled intersections along them resulting in less efficient freight travel. Extended over-use of Class II roadways by freight can degrade roadways that are state and locally maintained. This over use has a direct impact on the life-cycle of the pavement, resulting in more frequent overlays and increased maintenance costs.

Most of the TCA Study area's daily truck trips (56 percent) start and end within the TCA Study area. Travel times can vary significantly throughout the day along the state and locally designated truck routes resulting in poor travel time reliability for truckers who have a set amount of time they can drive per day. Of the total truck trips, 16 percent travel through the TCA Study area without stopping. These are likely either long-haul truckers or trucks passing through the TCA Study area on their way to an intermodal facility within the Chicagoland area. Approximately 14 percent of the truck trips are I/E and another 14 percent are E/I.

Figure 3-19 shows major freight land use clusters, as defined by CMAP (CMAP 2015). Three major freight clusters located in the TCA Study area—the Fox River Valley located along US 14 in southeastern McHenry County, the North Chicagoland located along I-94 in eastern Lake County, and the Greater O'Hare located in the area surrounding O'Hare Airport (northern Cook/northeastern DuPage counties). These areas serve as origin, destination, and distribution points for raw materials, intermediary products, and final goods, and rely on truck transport on the area's roadways. In addition, recent developments within central and northern portions of Lake County have seen industrial and commercial land use that are heavily reliant on trucks on the roadway network.

In addition to the identified freight land use, Figure 1-12 shows the base year industrial and commercial land use. Both industrial and commercial land use are heavily reliant on trucks to receive products. These areas are dispersed throughout the TCA Study area and can only be reached by Class II truck routes and local roads. The transfer of goods by truck to these facilities must be made on lower volume roads with often unreliable travel times. In addition, destinations in McHenry County for trucks coming from I-90 or I-294 must spend an extended amount of time on Class II truck routes, some of which require significant out of direction travel.

Figure 3-20 shows truck freight land use clusters within the TCA Study area. Several of these clusters are located away from the access-controlled interstate facilities and require freight to be transported by truck along Class II truck routes which as previously mentioned are inherently slower due to lower speeds and traffic-controlled intersections. Figure 3-21, depicts location of railroads which carry freight as well as truck parking locations along interstate corridors. The existing rail-to-truck connections are concentrated at intermodal facilities is in northwest Cook County near O'Hare International Airport. Truckers will stage themselves at truck parking facilities in order to be at an intermodal facility at a specified time during the day. Therefore, the locations of these are trucks parking locations are interrelated with the intermodal yards. In addition, truck drivers have limitations on their drive time which can also affect their travel behavior. Based on current law, truck drives have a 11-hour daily driving limit within a 14-hour work day. Unplanned travel delays can have serious consequences. Having travel time reliability and adequately spaced truck parking are critical needs for drivers.

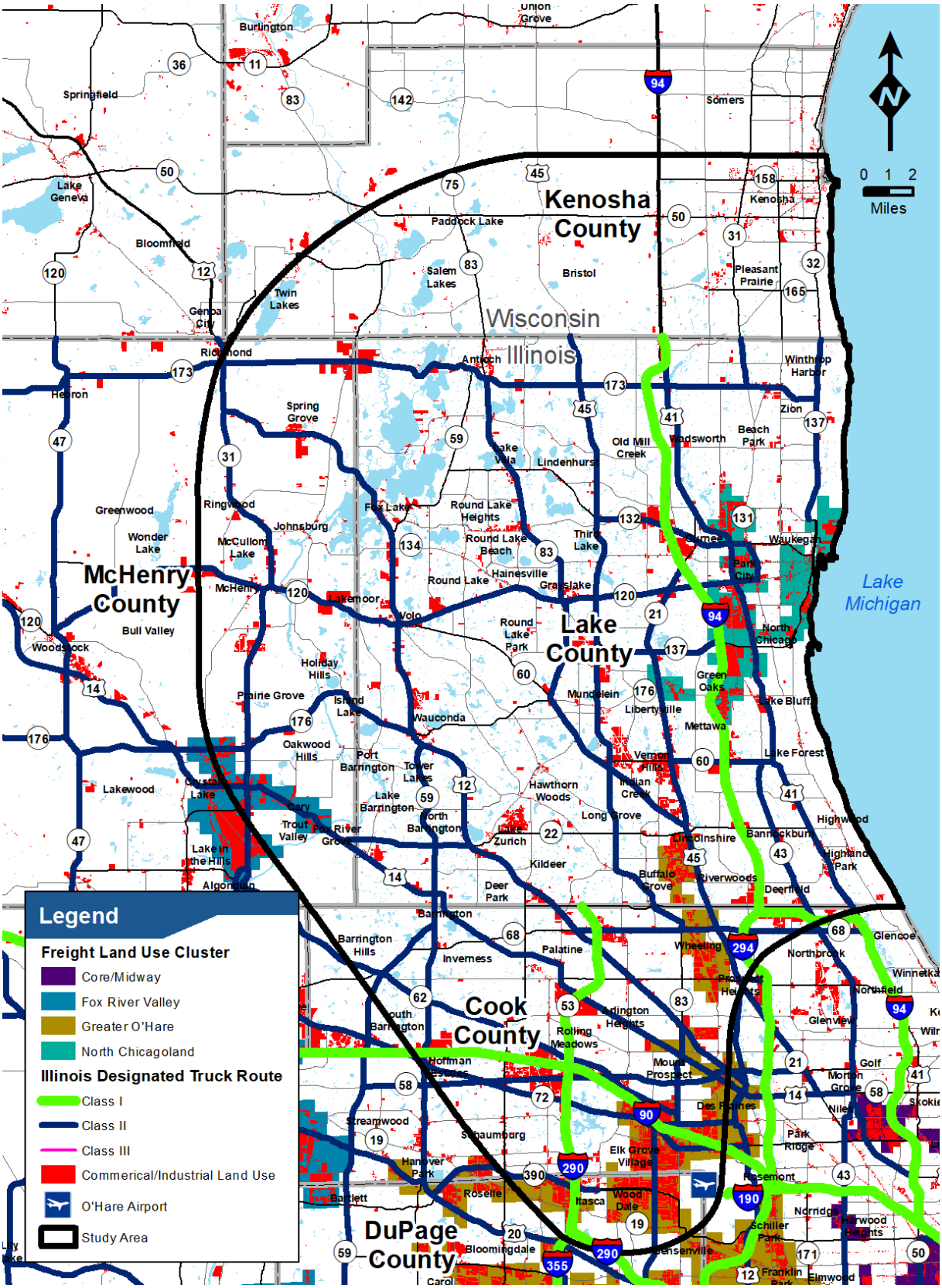


Figure 3-20. Truck Freight Land Use in TCA Study Area

Source: CMAP 2015; Southeast Regional Planning Commission 2000

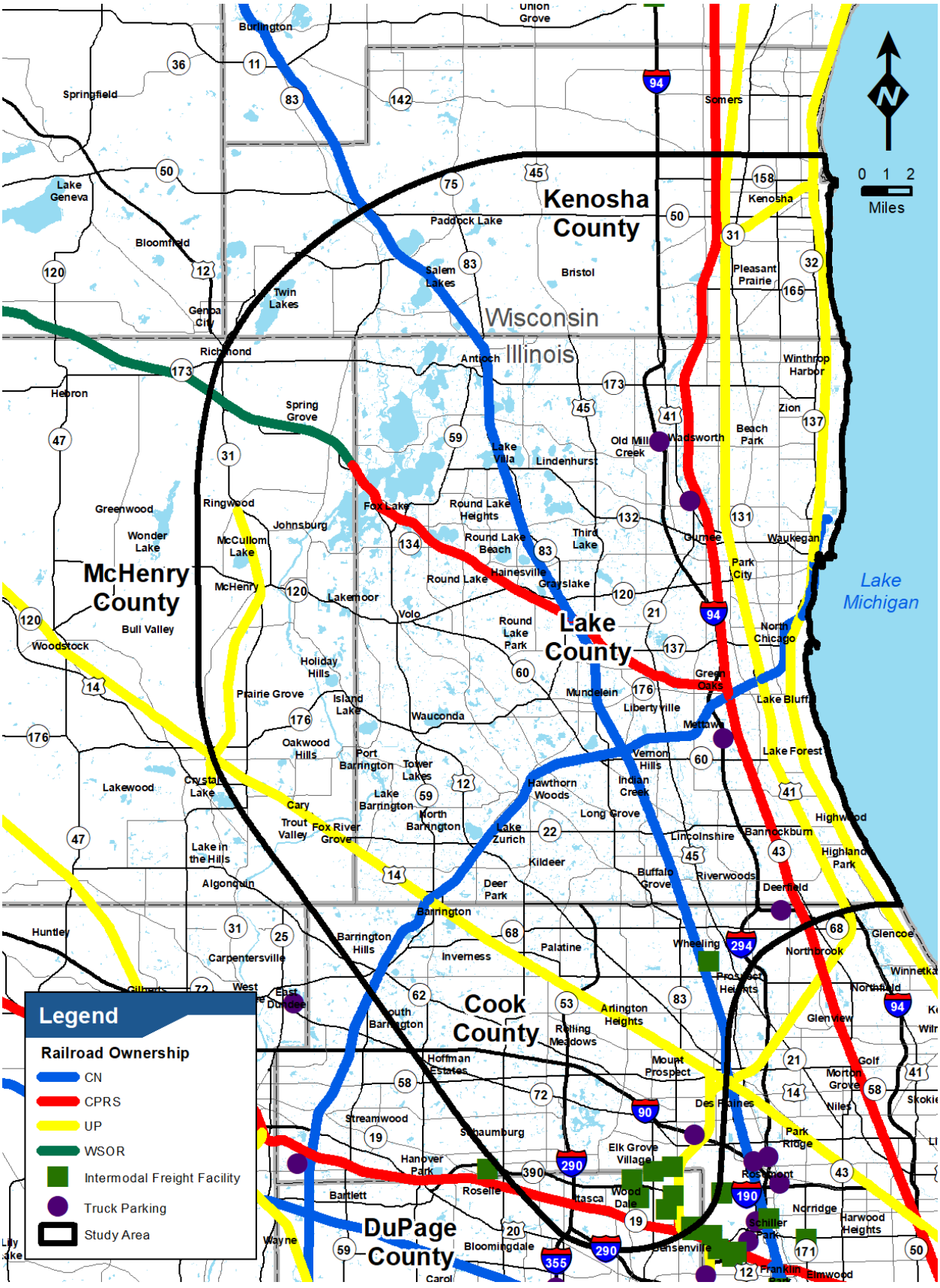


Figure 3-21. Railroad Ownership and Truck Parking Locations

3.4 At-grade Railroad Crossings

Four railroads (Canadian National Railway, Canadian Pacific Railway, Union Pacific Railroad, Wisconsin & Southern Railroad) own rail corridors and operate freight rail services within the TCA Study area. Several of these corridors also accommodate Metra commuter rail services, as described in Section 3.2.1. Freight trains per day are most frequent in the eastern half of the TCA Study area, including Cook, Lake, and Kenosha counties. McHenry County experiences relatively few freight trains per day. Figure 3-2 shows the regional volumes, both within and outside of the TCA Study area.

High frequencies of freight trains can cause vehicle congestion near at-grade crossings. Within the TCA Study area, there are 514 at-grade rail crossings. Figure 3-2 shows these locations within the TCA Study area. Many are along state routes that are designated truck routes and carry a significant amount of traffic during peak periods. At-grade crossings are abundant throughout the TCA Study area. For example, in Lake County, there are 25 at-grade crossings across 14 U.S. marked and state routes (US 14, US 45, IL 120, IL 132, IL 134, IL 137, IL 173, IL 176, IL 21, IL 22, IL 43, IL 59, IL 60, and IL 83) all of which have at least some segment of them designated as truck route.

The Rollins Road Gateway project, undertaken by the Lake County Division of Transportation (LCDOT) and completed in 2015, was a major effort to improve safety and mobility at the intersection of Rollins Road and IL 83. The intersection was within 50 feet of an at-grade rail crossing, producing traffic delays of up to several miles during peak travel hours. The project constructed a new, grade-separated rail crossing, which transformed a major traffic bottleneck into a safer, streamlined intersection that dramatically improved traffic capacity.

Improving or separating existing at-grade crossings increases efficiencies in the transportation system by eliminating unplanned delays, but not without impact. Creating a bridge over or under a railroad requires significant modification to the roadway profile and requires a minimum of 800-1,000 ft of reconstruction either side of the railroad crossing. In some locations, especially downtown areas, the impact to the connecting streets, driveways, and adjacent businesses is too significant. Therefore, complete elimination of at-grade crossings is not a practical solution. However, there are likely some priority locations that could be identified with input from stakeholders and considered for grade separations. It is recommended that the priority locations also be along Class II truck routes so that there is a benefit to all users.

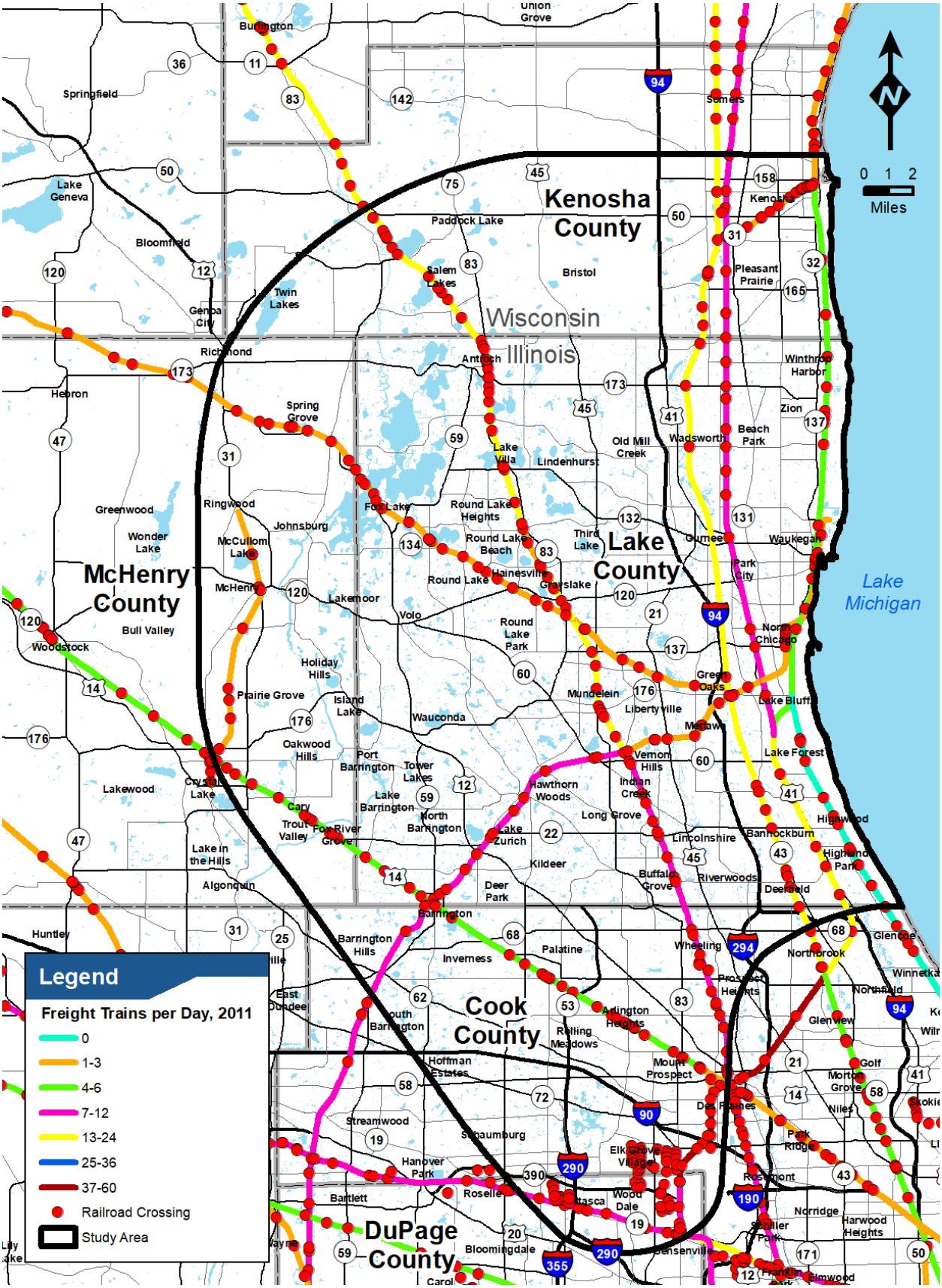


Figure 3-22. Freight Trains per Day (2011)
Source: CMAP 2012

3.5 Active Transportation

Active transportation is an important element in both urban and suburban transportation systems. Trails, sidewalks, and shared-use facilities can provide connections between residential areas, community centers, local transit stations, and other popular destinations.

Within the TCA Study area, there are approximately 748 miles of bike trails, the majority of which (564 miles) is located in Lake County. The following are major bike trails and paths in the TCA Study area:

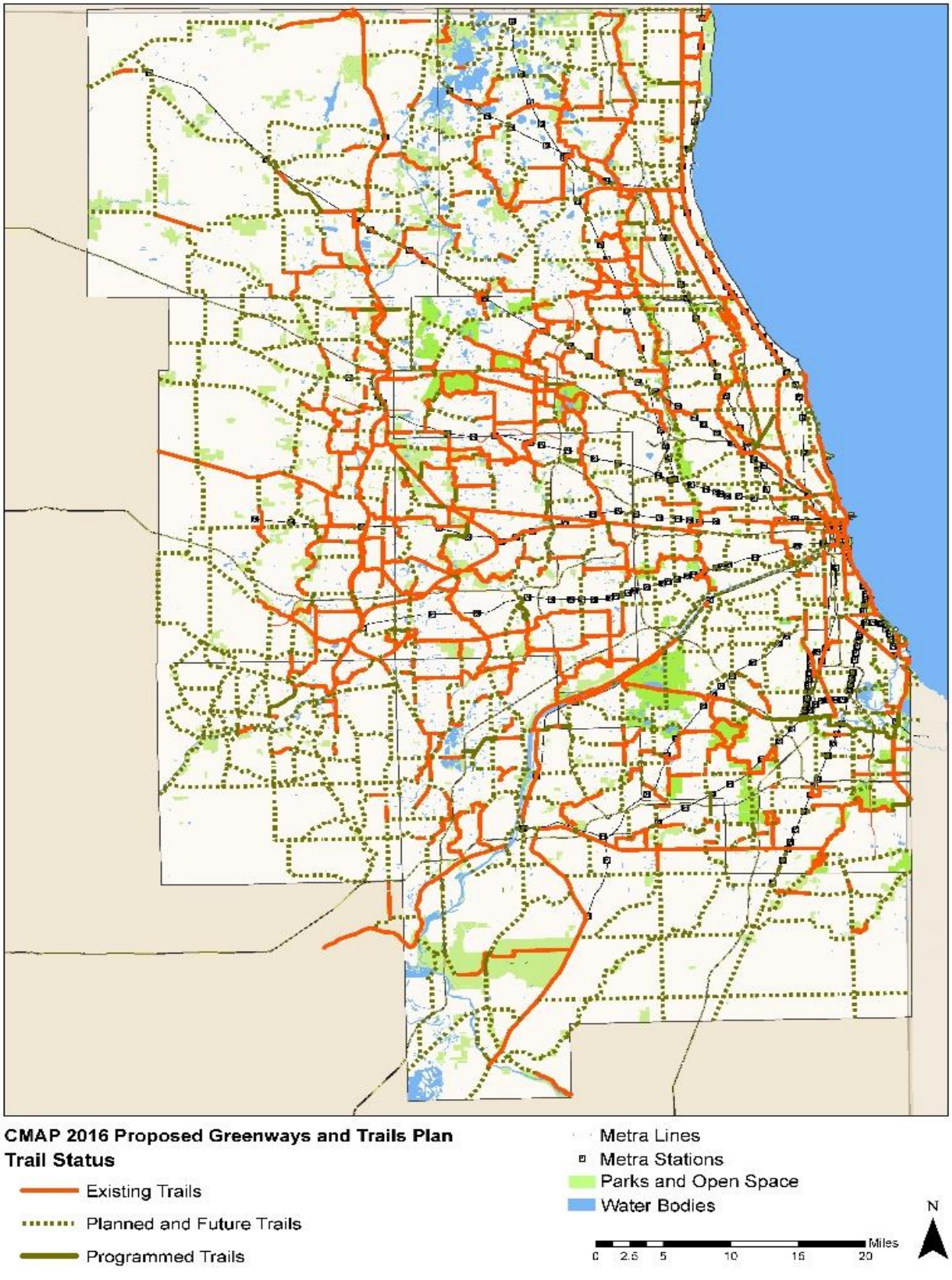
- **Des Plaines River Trail**: a 31.4-mile trail that begins at Russell Road near the Wisconsin border and continues south to Lake Cook Road and into Cook County.
- **North Shore Bike Path**: an east-west trail that connects the Des Plaines River Trail to the Robert McClory Bike Path.

Other trails include the Millennium Trail, the Prairie Crossing Bike Path, and the Skokie Valley Bike Path. Figure 3-23 shows the full network of regional trails.

Bicycle paths/trails within the TCA Study area are, for the most part, intended for recreational purpose and are not intended or designed to connect residents to employment centers. Along major arterials, there are few bike lanes to accommodate bicyclists. As it relates to transit connectivity, approximately 2 percent of Metra commuters use a bicycle in the TCA Study area, which may be due in part to the restriction on bicycles during peak periods in the peak directions. Each Pace Bus is, however, equipped with a bicycle rack that can accommodate two bicycles.

This lack of functional connectivity extends to pedestrian facilities, which include sidewalks, signalized and marked crossings, and designated trails or paths. As mentioned in Section 2.1, the TCA Study area is dominated by low-density development, most of which lacks a complete sidewalk network. This further discourages transit riders who would prefer walking to a local Metra station or Pace Bus stop.

One approach to addressing these issues is adoption of a Complete Streets policy, which can be defined as a transportation and policy approach that encourages streets to be planned, designed, and operated to enable safe access and travel for users of many ages and abilities. Complete Streets policies are intended to formalize a community's intent to plan, design, and maintain streets so they are safe for pedestrians, bicyclists, transit users, motorists, and freight vehicles alike. The Complete Streets design treatments may include, but are not limited to, sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, and roundabouts. A Complete Streets approach would improve the overall transportation system in the Study area and will be considered in developing the various alternatives.



Source: CMAP 2016

Figure 3-203. Northeastern Illinois Regional Greenways and Trails Plan (2016)

3.6 Transportation System and Demand Management

Transportation System Management (TSM) and Transportation Demand Management (TDM) strategies are used to optimize capacity, operations, and efficiency of transportation infrastructure. The area's transportation providers, such as IDOT, Illinois Tollway, county departments of transportation, and Pace have implemented various TSM/TDM projects, including IDOT's Expressway Bus shoulder riding, and Tollway/Pace I-90 SmartRoad corridor.

LCDOT created a story map to discuss programs currently in place and being promoted within its jurisdiction. These strategies include signal-timing coordination, public transit, carpool networks, car-sharing programs, active transportation efforts such as biking and walking, and encouraging telecommuting.

To improve the signal-timing coordination throughout the county, LCDOT evaluates signal coordination and timing annually and coordinates retrofits to existing traffic signals to install light-emitting diode lamps. In 2016, LCDOT studied the effect of signal timing coordination on segments along four corridors: St. Mary's Road, Butterfield Road, Deerfield Parkway, and Fairfield Road. The study showed 477.8 hours in reduced vehicle delays, a cost savings of $3.1 million a year, and a reduction in carbon dioxide emissions by 566 metric tons per year (LCDOT 2016).

LCDOT is also promoting non-motorized travel by including bicycle and pedestrian accommodations, where appropriate, on construction projects, including widenings and resurfacings, and investing resources to provide the connections needed to form a complete bicycle path network (LCDOT 2018c).

TSM and TDM strategies identified in Cook County's *2040 Long Range Transportation Plan* (Cook County 2016) include prioritizing transit and active transportation, implementing express Pace Bus service on existing infrastructure, and promoting ride-sharing and car-sharing options to private companies. Cook County made a major TSM improvement by redesigning the Rosemont Transit Center to accommodate non-motorized transit options. According to the *Cook County Sustainability Report 2017* (Cook County 2017), the transit center serves 6,000 weekday boardings and 2,000 reverse commuters, with an expected increase in demand because of a new express Pace Bus service on I-90.

The McHenry County Board developed a strategic plan in 2009 for the McHenry County Division of Transportation that included an increased focus on bicycle, pedestrian, and transit modes, and low-cost projects to best use the county's budget. The McHenry County Division of Transportation implemented TSM and TDM strategies, such as building a park-and-ride lot, building separate multi-use paths, and creating a dial-a-ride service called MCRide (see Section 3.2.2.2). The County Board implemented another Strategic Plan in 2014 that expanded the MCRide service and developed volunteer driver, transit enhancement, and community bicycle and pedestrian programs to fund related projects.

4.0 No-Build Forecast Year (2050) Transportation System Performance

This section describes the forecast year (2050) No-Build Alternative, and compares its performance to that of the base year (2015) transportation system. The No-Build Alternative will be considered as its own standalone alternative, and will serve as the baseline for comparing the full range of transportation alternatives considered during the TCA EIS process. Any projects or improvements proposed as part of this TCA Study are not included in the No-Build Alternative.

The No-Build Alternative was established with input from local and regional transportation agencies, including consideration of ongoing project development. In addition to the base year (2015) transportation system, the No-Build Alternative includes the following projects in the TCA Study area:

- Regionally Significant Projects (RSPs), as identified by CMAP in the *ON TO 2050 Comprehensive Regional Plan* (2018). Only the RSPs listed as "fiscally constrained" are included.
- Programmed roadway, transit, and aviation projects listed in the current TIP. Also included are projects that are not part of the current TIP, but are expected to be funded and completed by 2050.

In addition to roadway projects, there are several fiscally constrained transit RSPs, including improvements to the Metra UP-N and UP-NW lines. Metra UP-N improvements will address the capacity and reliability of the line through installation of crossovers and track improvements, and a new outlying coach yard will allow for more efficient servicing of equipment and accommodate expansion of service. Reconstruction of the bridges along the line is a major cost item in the project and will provide significant state-of-good-repair improvements. In addition to planned upgrades to existing stations, a new station at Peterson and Ridge avenues is funded.

Metra UP-NW improvements will extend the line from McHenry to Johnsburg and allow space for new yards. Other infrastructure upgrades include improvements to the signal system, crossovers, and track improvements to increase capacity and reliability. Two additional stations will be added to the line at Prairie Grove and Ridgefield. Planning for transit-supportive development at new stations and for feeder bus service will increase access along the line.

There are no bus service improvements included in the list of fiscally constrained RSPs. There are, however, three Pace Bus local routes (604, 608, 611) expected to implement service and routing improvements by 2050.

Tables 4-1 and 4-2 list the programmed and expected roadway and transit projects of the 2050 No-Build Alternative. Figures 4-1 and 4-2 show the type, location, and extent of these projects.

Table 4-1. No-Build Forecast Year (2050) Roadway Projects

Name	Project Type	From	To	Implementing Agency
Aptakisic Rd	Add Lanes	Buffalo Grove Rd	IL 83	LCDOT
Barrington Rd	Add Lanes	Central Rd	IL 62	IDOT
Buffalo Grove Rd	Add Lanes	IL 83 McHenry Road	IL 22 Half Day Road	LCDOT
Cedar Lake Road	Add Lanes	Townline Road	Hart Road	LCDOT
Deerfield Road	Add Lanes	Saunders Road	IL 21/US 45	LCDOT
IL 120		US 41	Wilson Road	IDOT
IL 131 Green Bay Road - RSP 14	Add Lanes	Sunset Avenue	Russell Road	IDOT
IL 137 Buckley Rd	Add Lanes	Petersen Rd	IL 83	IDOT
IL 173 Rosecrans Rd - RSP 15	Add Lanes	US 41 (Skokie Hwy)	IL 59	IDOT
IL 22/Lake Zurich Rd	Add Lanes	W of IL 83	Quentin Rd	IDOT
IL 31 Front St - RSP 6	Add Lanes	N of IL 176 (Terra Cotta Ave)	S of IL 120 Belvidere Rd	IDOT
IL 60/IL 83 - RSP 10	Add Lanes	Townline Road (IL 60)	IL 176	IDOT
IL 62 (Algonquin Rd) - RSP 11	Add Lanes	IL 68 (Dundee Rd)	IL 25 (JF Kennedy Memorial Dr)	IDOT
IL 83 (Barron Blvd)	Add Lanes	IL 137 & At Atkinson Rd	IL 120 (Belvidere Rd)	IDOT
IL 83 Milwaukee Ave - RSP 13	Add Lanes	IL 120	Petite Lake Rd	IDOT
Lake Cook Road	Add Lanes	Hastings Lane	Raupp Boulevard	Cook Co DoTH
Meacham Rd	Add Lanes	IL 62 Algonquin Rd	Kirchoff Rd	TBD
Quentin Road	Add Lanes	IL 68 Dundee Road	Lake Cook Road	Cook Co DoTH
US 41 Skokie Hwy	Add Lanes	0.5 miles S of IL 176	Quassey Avenue	IDOT
US 45 Lake Ave	Add Lanes	N of IL 120	Rollins Rd	IDOT
US 45 McHenry Rd	Add Lanes	N of IL 132 & At Milburn Creek	S of Milburn Bypass	IDOT
US 45/IL 83 (Old Half Day Rd) - RSP 114	Add Lanes	IL 22 (Half Day Rd)	IL 60/Townline Rd	IDOT
Weiland Rd	Add Lanes	CH A50 Lake Cook Road	IL 22 Half Day Road	TBD
Crystal Lake Rd	Intersection/Interchange	Silver Lake Trail	Silver Lake Rd	TBD
Dowell Rd/Fisher Rd	Intersection/Interchange		Darrell Road	LCDOT
Hart Road	Intersection/Interchange		US 14 Northwest Highway	TBD
Lakeview Parkway	Intersection/Interchange	Fairway Drive	Hawthorn Pkwy	TBD
Three Oaks Rd	Intersection/Interchange	Village of Cary's municipal limits	Silver Lake Rd	TBD
Wadsworth Road	Intersection/Interchange		Lewis Avenue	LCDOT

Table 4-1. No-Build Forecast Year (2050) Roadway Projects

Name	Project Type	From	To	Implementing Agency
Willow Rd	Intersection/Interchange	Waterview Dr	E of DesPlaines River	IDOT
I-190 O'Hare Access Rds - RSP 32	Road Modernization	Cumberland Ave	US 12/US 45	CDOT
IL 62 Algonquin Rd	Road Modernization	IL 53	Plum Grove Rd	TBD
Wolf Rd	Road Modernization	N of Hintz Rd	IL 21/Milwaukee Ave	IDOT

Table 4-2. No-Build Forecast Year (2050) Transit Projects

Owner	Location	Project Type	Description
Metra	UP-N Line	Capacity/Reliability	Installation of crossovers and track, new outlying coach yard, reconstruction of bridges, upgrades to existing stations, new station at Peterson and Ridge avenues
Metra	UP-NW Line	Line Extension, Capacity/Reliability	Extend line from McHenry to Johnsburg, allow space for new yards, signal system improvements, crossovers, track improvements, two additional stations at Prairie Grove and Ridgefield, planning for transit-supportive development at new stations and for feeder bus service
Pace Bus	Route 604	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing
Pace Bus	Route 608	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing
Pace Bus	Route 611	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing

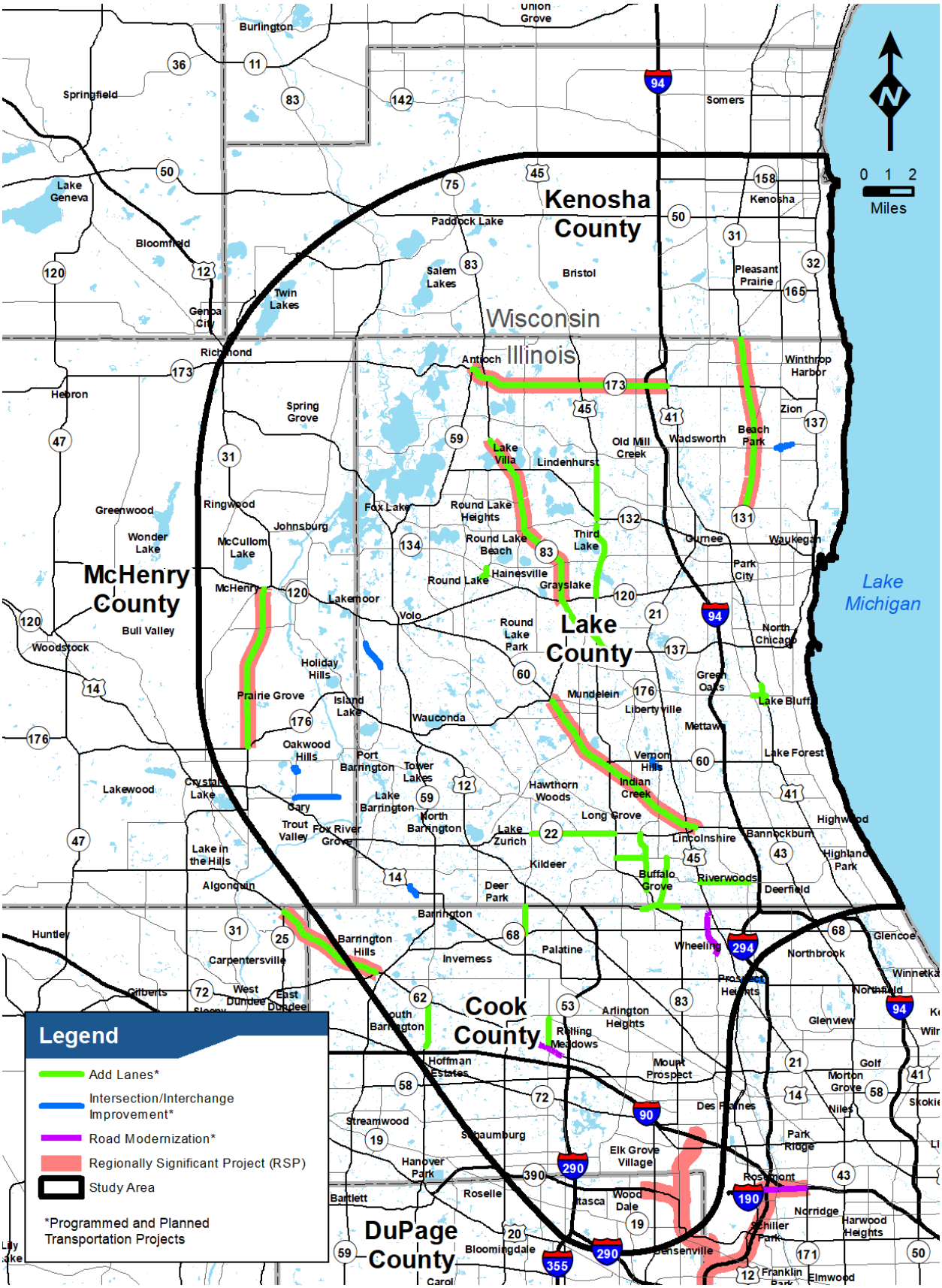


Figure 4-1. No-Build Forecast Year (2050) Roadway Projects

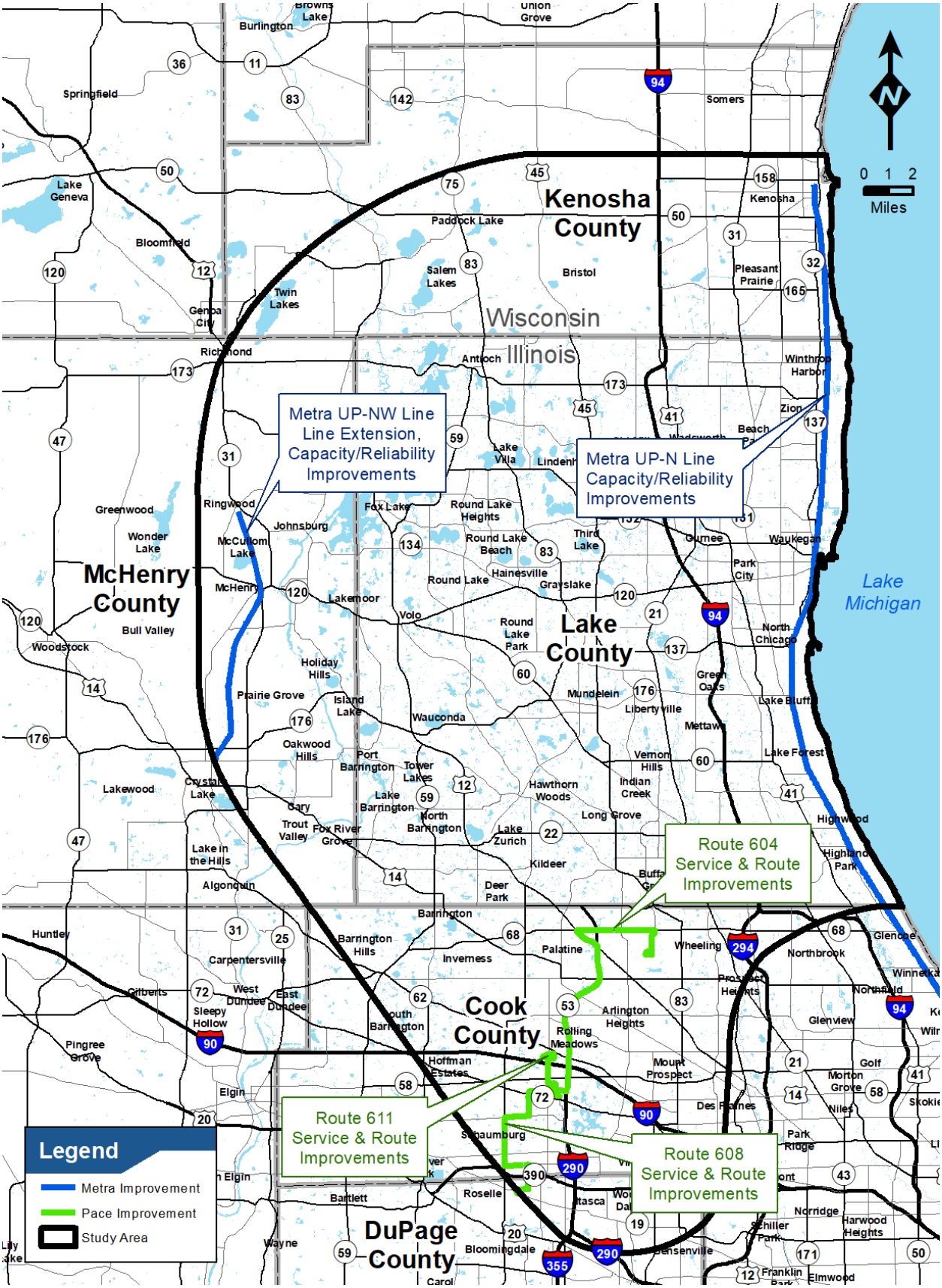


Figure 4-2. No-Build Forecast Year (2050) Transit Projects

4.1 Demographics

CMAP's regional population and employment forecasts predict continued growth throughout the Chicago region and in the TCA Study area. CMAP's methodology uses an economic-demographic method that links regional population to projected employment growth. The regional population forecast considers birth, death, and migration trends with data from county health departments and the U.S. Census Bureau. Employment forecasts used an averaging process that combines forecasts from Moody's Analytics (an economic research firm), the U.S. Bureau of Labor Statistics, and policy inputs from GO TO 2040 (CMAP 2010). CMAP incorporates the data into a model that calculates future population and employment statistics for the region.

Population in the TCA Study area is expected to grow by 27 percent to 2.1 million by the forecast year (2050). Areas with the highest density are expected to experience the largest net amount of growth. These high-density areas include the southern portion of the TCA Study area consisting of Cook and DuPage counties, as well as the eastern portion of the TCA Study area consisting of the eastern half of Lake County. Despite having a lower overall population, the highest proportion of growth is expected to occur in the less dense portions of the TCA Study area, including western Lake County (30 percent increase), eastern McHenry County (52 percent increase), and southeast Kenosha County (36 percent increase).

Following a similar trend, employment in the TCA Study area is expected to grow by 21 percent to 1.2 million by 2050. Within the TCA Study area, it is expected that the largest portion of employment (50 percent) will still be concentrated in northwestern Cook and northeastern DuPage counties in 2050. Employment in Lake County is expected to increase by 23 percent. While McHenry and Kenosha counties have less employment centers relative to the other counties, both counties are expected to experience considerable growth proportionate to employment in the base year (2015). The overall employment growth in the TCA Study area is expected to result in more person trips.

Table 4-3 summarizes the population and employment trends throughout the TCA Study area.

Table 4-3. Base Year (2015) and No-Build Forecast Year (2050) Population and Employment in TCA Study Area

	Population			Employment		
County	**2015**	**2050**	**% Growth**	**2015**	**2050**	**% Growth**
Lake	700,000	909,200	30%	338,100	416,700	23%
McHenry	152,700	231,700	52%	56,700	82,500	46%
Cook	574,400	663,700	16%	455,300	517,500	14%
DuPage	58,100	72,700	25%	63,700	75,200	18%
Kenosha	166,600	226,800	36%	59,200	82,900	40%
TCA Study area	1,651,800	2,104,100	27%	973,000	1,174,800	21%

4.2 Roadway

4.2.1 Network of Roads

The 2050 No-Build roadway network incorporates planned capacity improvements to the existing roadway system within the TCA Study area. In particular, the No-Build adds 365 lane miles to the existing freeway/tollway/expressway, and arterial system, an increase of less than 8 percent. Table 4-4 summarizes the No-Build route (centerline) and lane miles.

Table 4-4. Base Year (2015) and No-Build Forecast Year (2050) Roadway Mileage in TCA Study Area

Functional Class	2015		2050	
	Route Miles	Lane Miles	Route Miles	Lane Miles
Freeway/Tollway/Expressway	100	664	107	780
Principal Arterial	605	2,054	606	2,186
Minor Arterial	711	1,844	718	1,960
Collector	723	1,534	723	1,543
Total	2,139	6,096	2,155	6,470

4.2.2 Travel Characteristics

4.2.2.1 Daily Travel

The expected VMT, VHT, and VHD was forecast for the No-Build timeline. Tables 4-5 to 4-7 summarize these anticipated travel totals for the TCA Study area by functional class.

As shown, the No-Build forecast year (2050) daily VMT in the TCA Study area is estimated at 49.2 million miles, which is an increase of 10 million miles (27 percent) from the base year. Similarly, the 2050 total daily VHT in the TCA Study area is 1.5 million hours, which represents an increase of 31 percent from the base year (2015). During the Peak Travel Periods, the TCA Study area experiences 210,000 VHD, which is anticipated to increase to 321,000 by year 2050. This equates to approximately 14 working days spent in traffic per worker per year by 2050, compared to 11 working days in 2015.

Table 4-5. Change in VMT in TCA Study Area

Functional Class [a]	Peak Travel Periods				Daily			
	2015	2050	Growth	% Growth	2015	2050	Growth	% Growth
Freeway / Tollway / Expressway[b]	7,087,500	8,883,800	1,796,300	25%	11,850,100	14,751,900	2,901,800	24%
Principal Arterial	9,221,400	11,431,800	2,210,400	24%	14,411,300	17,911,600	3,500,300	24%
Minor Arterial	5,813,700	7,428,000	1,614,300	28%	8,911,100	11,427,600	2,516,500	28%
Collector	2,339,500	3,399,600	1,060,100	45%	3,562,800	5,163,800	1,601,000	45%
Total	24,462,100	31,143,200	6,681,100	27%	38,735,300	49,254,900	10,519,600	27%

[a] Includes Strategic Regional Arterials

[b] Excludes ramps

Table 4-6. Change in VHT in TCA Study Area

Functional Class [a]	Peak Travel Periods				Daily			
	2015	2050	Growth	% Growth	2015	2050	Growth	% Growth
Freeway / Tollway / Expressway[b]	132,800	174,900	42,200	32%	213,300	272,900	59,600	28%
Principal Arterial	302,600	395,100	92,500	31%	456,800	590,200	133,400	29%
Minor Arterial	212,600	280,800	68,200	32%	316,600	415,900	99,300	31%

Table 4-6. Change in VHT in TCA Study Area

	Peak Travel Periods				Daily			
Functional Class [a]	2015	2050	Growth	% Growth	2015	2050	Growth	% Growth
Collector	87,600	128,800	41,200	47%	130,500	189,000	58,500	45%
Total	735,600	979,600	244,000	33%	1,117,200	1,468,000	350,800	31%

[a] Includes Strategic Regional Arterials

[b] Excludes ramps

Table 4-7. Change in VHD in TCA Study Area

	Peak Travel Periods				Daily			
Functional Class [a]	2015	2050	Growth	% Growth	2015	2050	Growth	% Growth
Freeway / Tollway / Expressway[b]	11,400	31,200	19,800	174%	13,000	36,800	23,800	183%
Principal Arterial	100,300	144,700	44,400	44%	140,600	197,900	57,300	41%
Minor Arterial	70,300	101,600	31,300	45%	98,100	139,900	41,800	43%
Collector	28,100	44,100	16,000	57%	40,000	60,900	21,000	53%
Total	210,100	321,600	111,500	53%	291,700	435,600	143,900	49%

[a] Includes Strategic Regional Arterials

[b] Excludes ramps

In the base year (2015), 17 percent of the TCA study area roadway network is congested (i.e., LOS D or worse) during peak travel periods. The percentage of congested roadways is expected to increase to 29 percent by 2050.

Table 4-8 compares the peak travel period congested VMT between the base year (2015) and the No-Build forecast year (2050). As shown, during the peak travel period within the TCA Study area, one-quarter of the VMT on freeways/tollways/expressways is congested in the base condition, and this proportion is expected to increase to nearly half by 2050. Within the TCA Study area, 36 percent of the growth in congested VMT is expected to be along freeways/tollways/expressways, while 34 percent is expected to be along principal arterials.

Table 4-9 compares the peak travel period severe/extreme congested VMT between the base year (2015) and the No-Build forecast year (2050). This is different from Table 4-8, in that the moderate congestion level is excluded. As shown, severe/extreme congested VMT in 2050 is expected to nearly double as compared to the base year. For primary roads in particular, the severe/extreme congested VMT is expected to increase from approximately 1.2 million in the base year to 3.6 million by 2050.

Figure 4-3 shows the expected 2050 levels of congestion in the TCA Study area.

Table 4-8. Change in Congested VMT in TCA Study Area - Peak Travel Periods

	2015			2050				
Functional Class [a]	Total	Congested	% Congested	Total	Congested	% Congested	Congested Growth	Congested % Growth
Freeway / Tollway / Expressway[b]	7,087,500	1,795,600	25%	8,883,800	3,816,900	43%	2,021,300	113%
Principal Arterial	9,221,400	1,885,100	20%	11,431,800	3,794,700	33%	1,909,600	101%

Table 4-8. Change in Congested VMT in TCA Study Area - Peak Travel Periods

Functional Class [a]	2015			2050			Congested Growth	Congested % Growth
	Total	Congested	% Congested	Total	Congested	% Congested		
Minor Arterial	5,813,700	924,000	16%	7,428,000	2,054,200	28%	1,130,200	122%
Collector	2,339,500	309,700	13%	3,399,600	939,700	28%	630,000	203%
Total	24,462,100	4,914,400	20%	31,143,200	10,605,500	34%	5,691,100	116%

[a] Includes Strategic Regional Arterials

[b] Excludes ramps

Table 4-9. Change in Severe/Extreme Congested VMT in TCA Study Area - Peak Travel Periods

Functional Class [a]	2015			2050			Congested Growth	Congested % Growth
	Total	Congested	% Congested	Total	Congested	% Congested		
Freeway / Tollway / Expressway[b]	7,087,500	195,200	3%	8,883,800	1,484,700	17%	1,289,500	661%
Principal arterial	9,221,400	987,700	11%	11,431,800	2,087,800	18%	1,100,100	111%
Minor arterial	5,813,700	523,900	9%	7,428,000	1,272,700	17%	748,800	143%
Collector	2,339,500	164,300	7%	3,399,600	643,900	19%	479,600	292%
Total	24,462,100	1,871,100	8%	31,143,200	5,489,100	18%	3,618,000	193%

[a] Includes Strategic Regional Arterials

[b] Excludes ramps

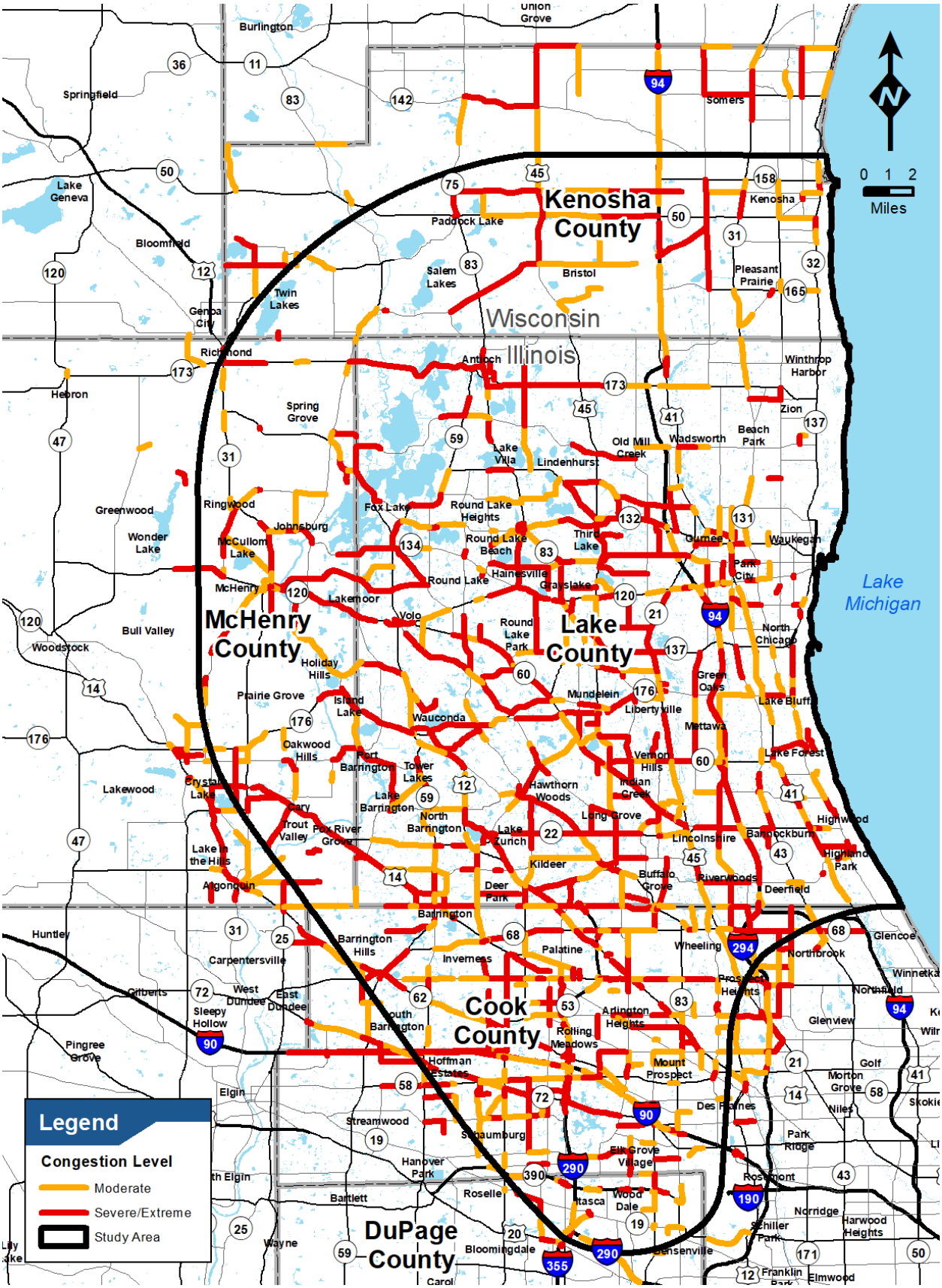


Figure 4-3. 2050 Congestion Levels

4.2.2.2 Trip Types

As discussed previously, trips are categorized as part of travel analyses. For example:

- A work trip often begins at home and ends at a place of employment. This is known as an HBW trip. A trip from work back to home is also categorized as HBW. These trips often occur during peak hours.
- A trip from home to a destination other than work (for example, a grocery store or other shop) is known as an HBO trip. These trips are more likely to occur during non-peak hours.
- A trip that is not based on the home as an origin or destination is known as an NHB trip. For example, a trip from work to a pharmacy. These trips are dispersed between peak and non-peak hours.

In 2050, HBW trips continue to be longer than HBO and NHB trips. People may choose to travel regionally for employment in order to get the best opportunity or the best pay. For shopping, routine medical treatment, and government services, people tend to stay closer because they have more local options (Wegener and Fuerst 2004).

The longer HBW trip as compared to the rest of the CMAP Region shows that people in the TCA Study area travel longer for work, which is attributable to the low-density residential development in the north and west and the concentration of employers in the south and southeast. By 2050, both population and employment are expected to expand to the north and west within the TCA Study area. As this expansion occurs, the average length of HBW trips is predicted to remain longer than 15 miles.

4.2.2.3 Vehicle Trip Origins and Destinations

The total number of daily vehicle trips is anticipated to increase from 5.7 million per day in the base condition, to approximately 7.3 million per day by 2050 (28 percent increase). Internal vehicle trips (i.e., trips having an origin, destination, or both within the TCA Study area) are expected to increase the most with about 1.4 million additional daily trips by 2050. Based on CMAP trip distribution output trip tables, it is expected that the daily percentage of commute trips made by automobiles (98 percent) and transit (2 percent) is expected to remain the same in 2050 (CMAP 2019).

Table 4-10 summarizes the daily and peak travel period vehicle trips for the No-Build Alternative.

Table 4-10. Base Year (2015) and No-Build Forecast Year (2050) Origin and Destination Vehicle Trips in TCA Study Area

	2015				2050			
Trip Origin-Destination	**Peak Trips**	**%**	**Daily Trips**	**%**	**Peak Trips**	**%**	**Daily Trips**	**%**
Internal-Internal	1,951,200	52%	3,239,000	57%	2,666,400	58%	4,235,100	58%
Internal-External	573,700	15%	896,900	16%	721,700	16%	1,123,200	15%
External-Internal	569,400	15%	890,600	16%	722,200	16%	1,115,900	15%
External-External	664,500	18%	675,800	12%	518,300	11%	818,000	11%
Total Trips	3,758,800	100%	5,702,300	100%	4,628,600	100%	7,292,200	100%

Note: Summary of vehicle trips by origin and destination obtained from time of day trip matrices – CMAP

Figure 4-4 shows the No-Build Forecast Year (2050) travel desires in the TCA Study area. Currently, most vehicle trips start and end between Cook County and the central and eastern portions of Lake County. Most of these current trips are oriented in the north-south direction. While travel between these two dense areas is expected to increase, the anticipated population growth (see Section 4.1) is also expected to increase travel between the lower-density areas of eastern McHenry County and the central and

northwestern portions of Lake County. This increase is particularly noticeable for commuters driving from between the denser areas in eastern Lake County and northwestern Cook County to the lower-density portions of central Lake County and eastern McHenry County.

Figure 4-5 shows the proportion of internal-internal vehicle trips compared to the combined Internal-external and external-internal vehicle trips for each district in the TCA Study area.

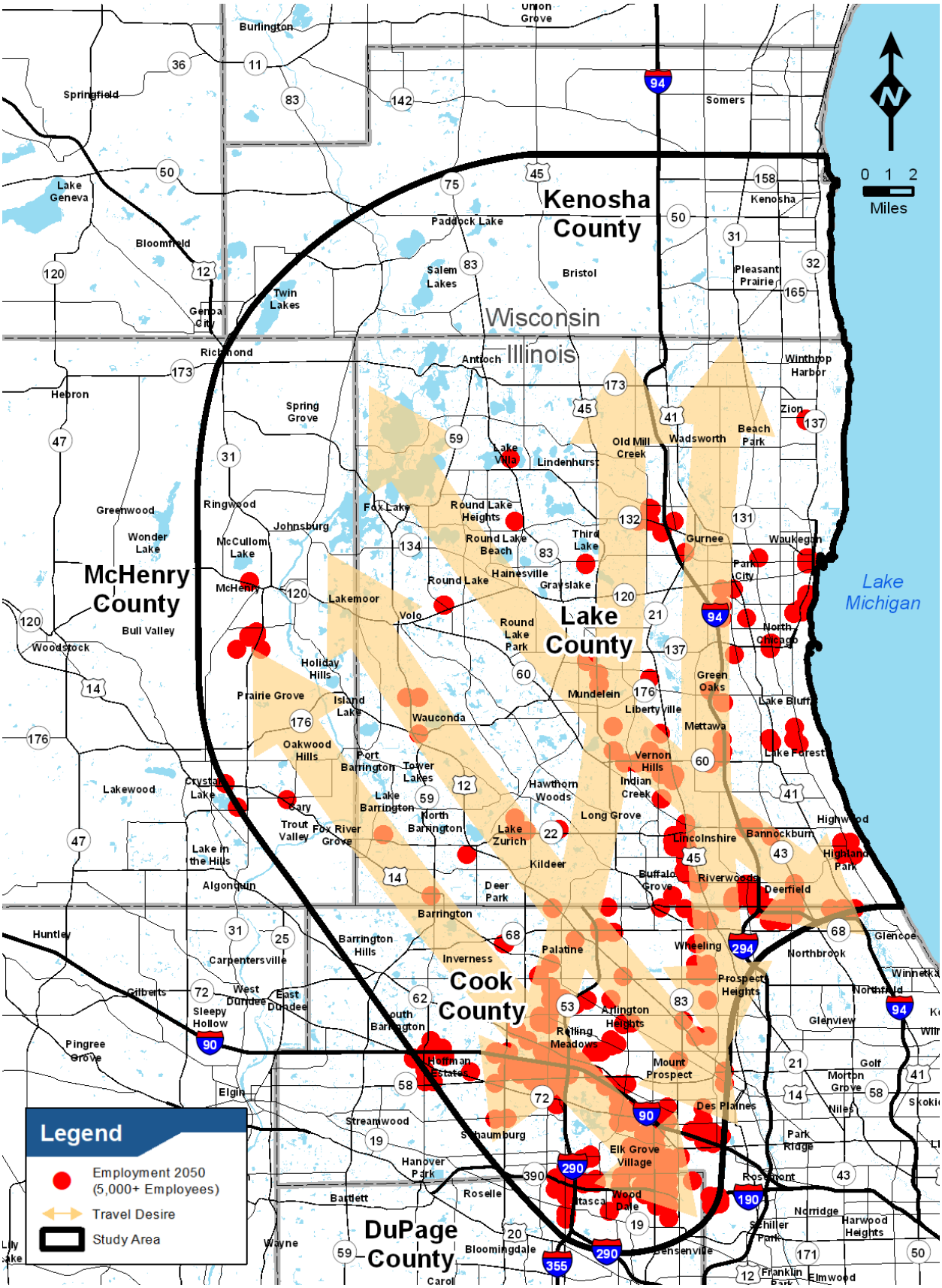


Figure 4-4. Travel Desire in TCA Study Area for No-Build Alternative

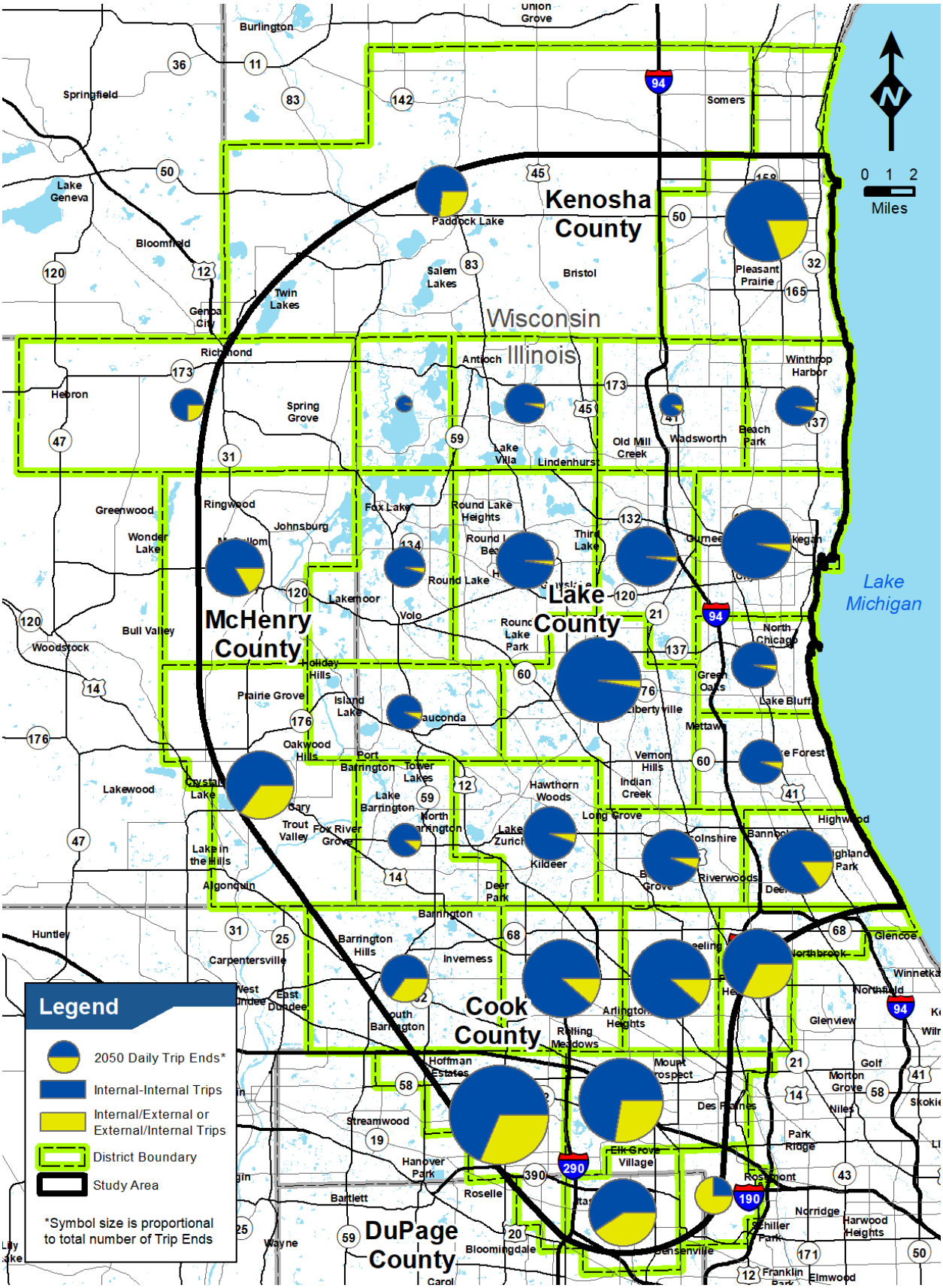


Figure 4-5. 2050 Daily Vehicle Trip Ends in TCA Study Area

4.2.2.4 Travel-Time Reliability

Interim strategies to improve travel-time reliability, such as intersection improvements and coordinated traffic signals, have been implemented at various locations in recent decades. However, these spot treatments have not been effective at addressing at growing systemwide congestion resulting in deteriorating travel time reliability. These congestion levels are expected to have a continual, deteriorating effect on travel-time reliability in the TCA Study area.

Table 4-11 summarizes reliability measures for the base year (2015) and No-Build forecast year (2050).

Table 4-11. Change in TCA Study Area Reliability Measures - Peak Travel Periods

Functional Class [a]	2015			2050			Percent Change		
	TTI	PTI	BTI	TTI	PTI	BTI	TTI	PTI	BTI
Freeway/Tollway/Expressway	1.15	1.48	0.25	1.33	1.88	0.37	15%	27%	47%
Principal Arterial	1.71	2.67	0.55	1.82	2.85	0.56	7%	7%	2%
Minor Arterial	1.71	2.62	0.56	1.83	2.81	0.56	7%	7%	1%
Collector	1.67	2.51	0.54	1.73	2.60	0.54	3%	4%	1%

[a] Includes SRAs

As shown, travel-time reliability is expected to decrease across all functional classes by the year 2050. Arterials and collectors are expected to experience an increase in both TTI and PTI between 3 and 7 percent. The functional class of freeways/tollways/expressways is expected to experience the largest overall increase, with its TTI increasing by 15 percent and its PTI increasing by 27 percent. Based on CMAP PTI calculations for the region, congestion is considered moderately unreliable when PTI is greater than 1.81 and extremely unreliable when PTI is greater than 3.35 times the free-flow travel time. Thus, travel is considered moderately unreliable in 2015 across all functional classes, and is expected to become even more unreliable by 2050.

4.2.2.5 System Accessibility

Isochronal travel time maps for the morning peak travel period were developed for the 2050 No-Build Alternative. The maps, like those for the existing condition (see Section 3.1.4.5) show the distance one may travel from an origin point in 5-minute increments.

Figures 4-6 to 4-11 show the 2050 isochronal travel time for key towns and intersections within the TCA Study area.

As shown, the distance one can travel is expected to be reduced between approximately 12 and 23 percent by the year 2050. These expected travel times may, however, double for some destinations depending on roadway and traffic conditions. This variability is expected to increase as demand on the roadways also increases by the year 2050. The lack of efficient and direct routes impedes travel on roadways, especially in the a.m. and p.m. peak travel periods when travel demand exceeds roadway capacity. The lack of capacity also affects the ability to implement transportation system management strategies (see Section 3.6) that can improve accessibility and reliability but cannot be effectively applied on a roadway system where travel demand greatly exceeds capacity.

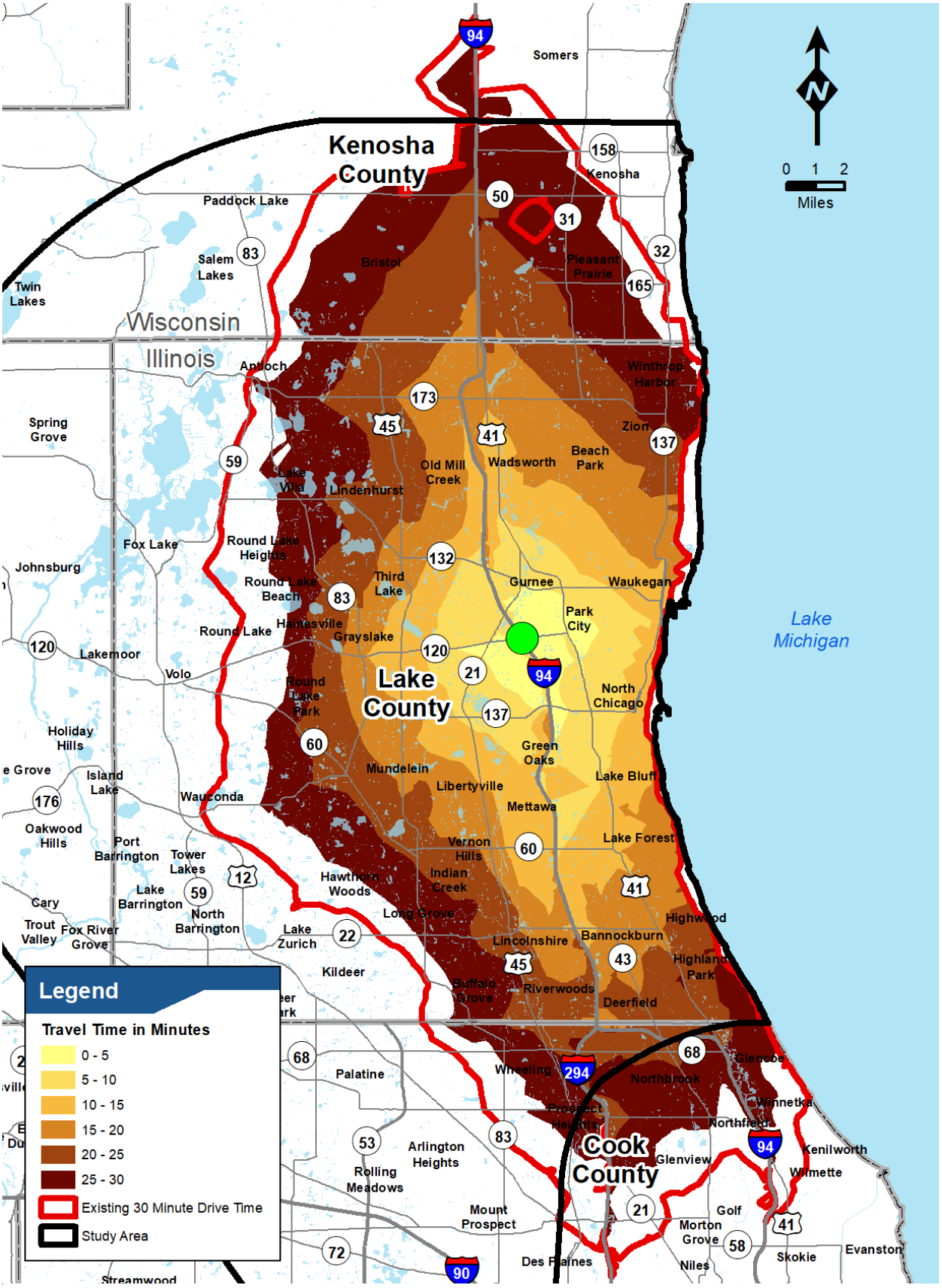


Figure 4-6. Forecast Year (2050) AM Peak Period Travel Time Buffer at I-94 and IL 120

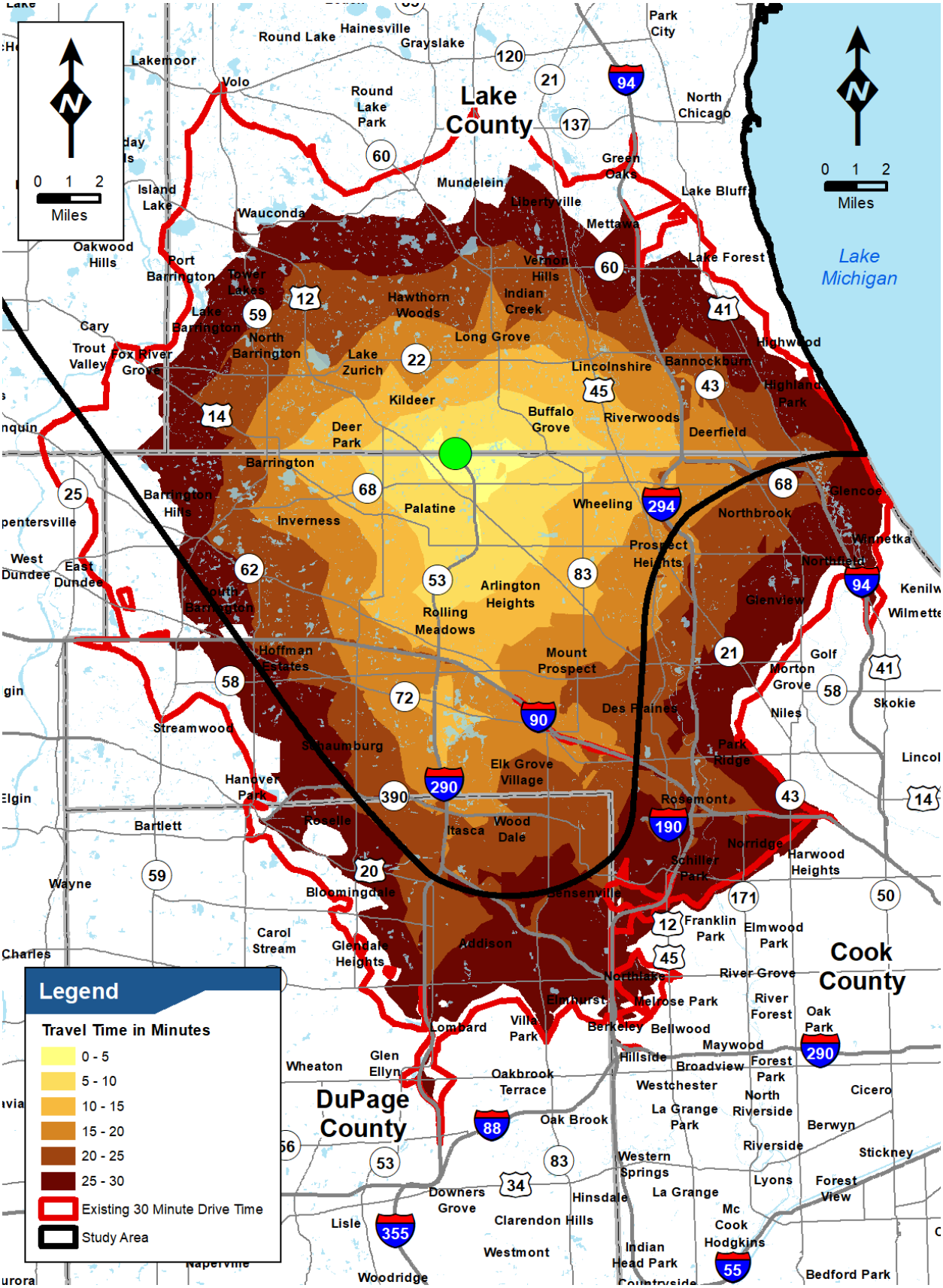


Figure 4-7. Forecast Year (2050) AM Peak Period Travel Time Buffer at IL 53 and Lake Cook Road

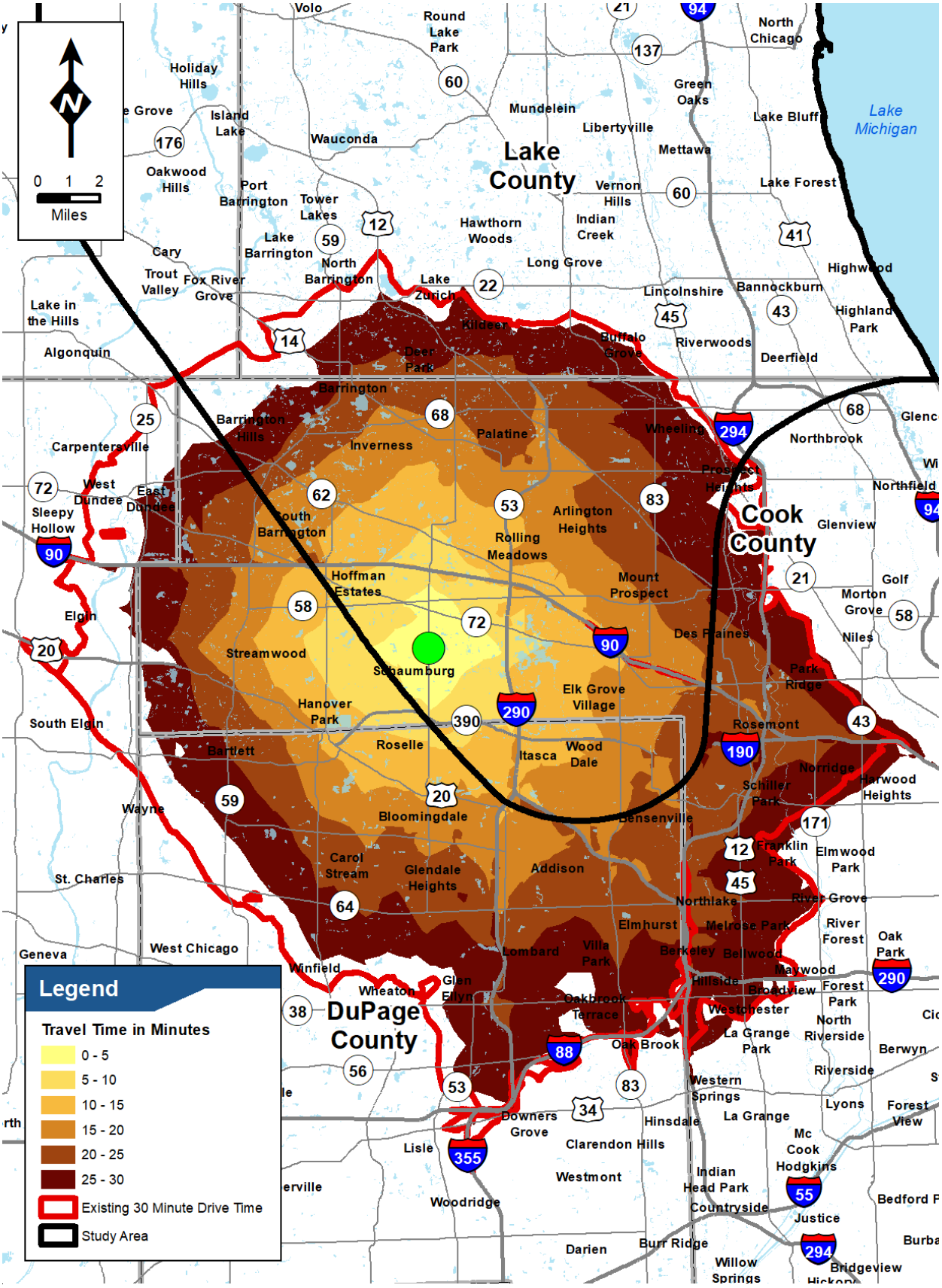


Figure 4-8. Forecast Year (2050) AM Peak Period Travel Time Buffer near Schaumburg

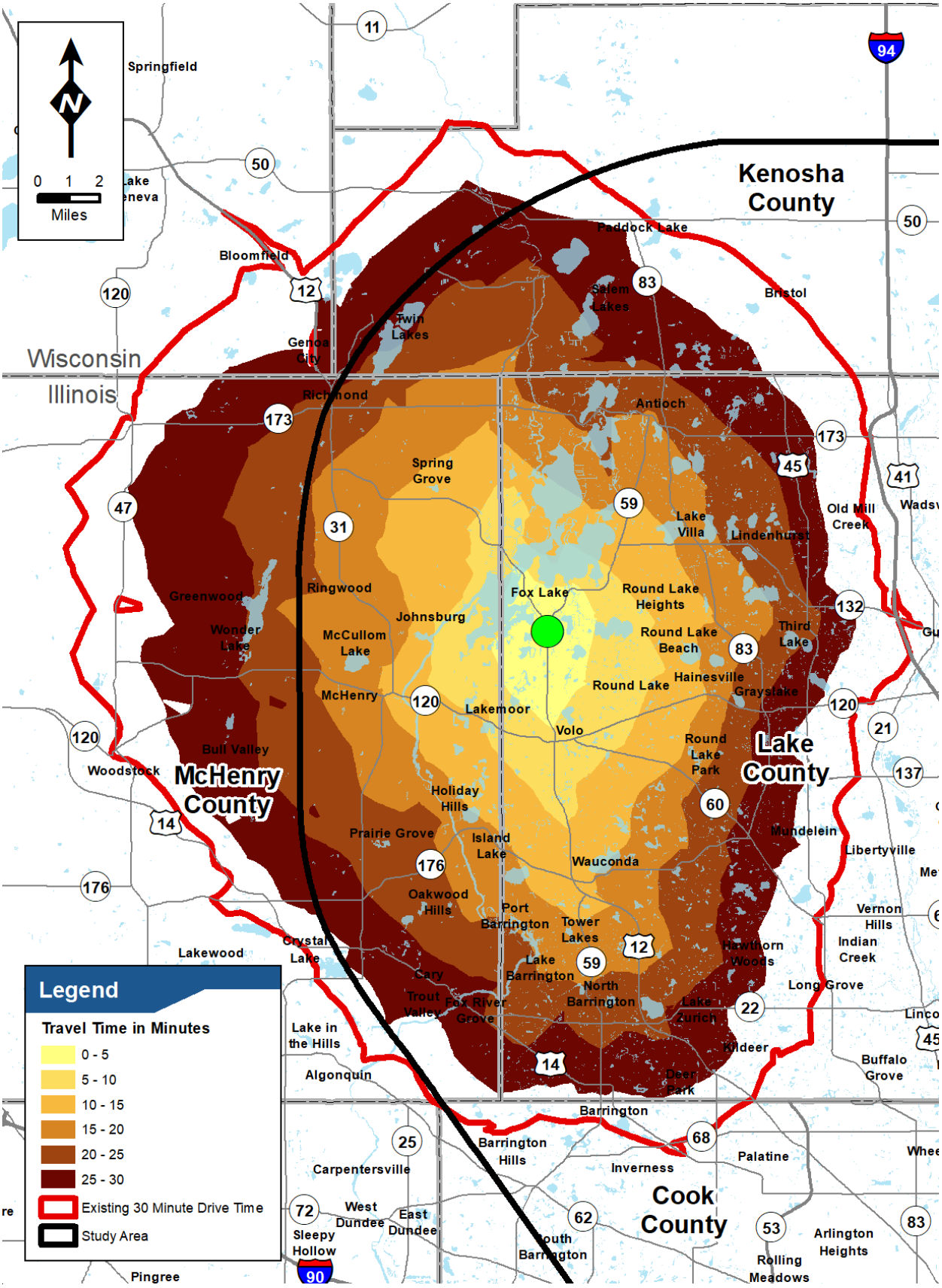


Figure 4-9. Forecast Year (2050) AM Peak Period Travel Time Buffer near Fox Lake

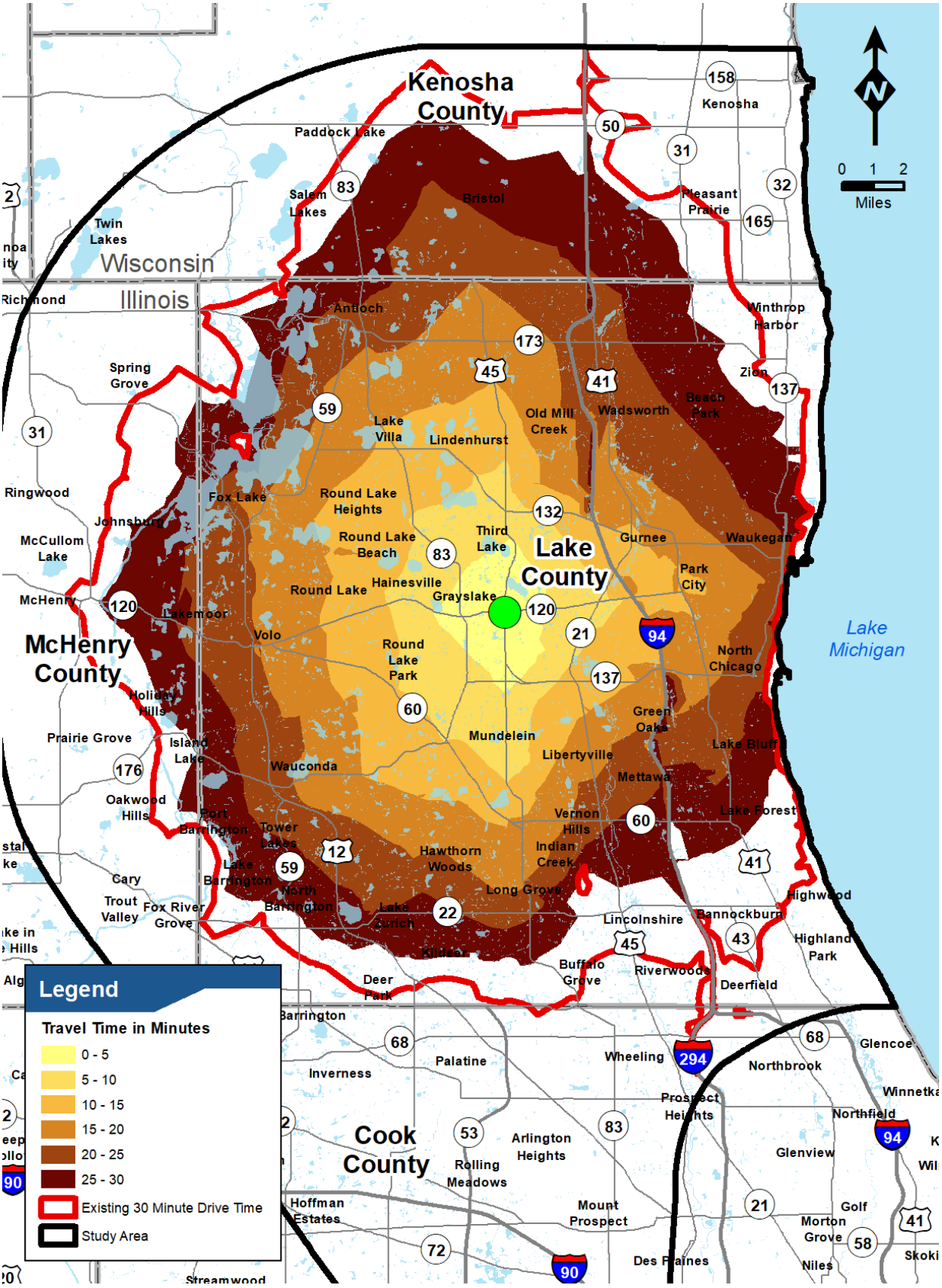


Figure 4-10. Forecast Year (2050) AM Peak Period Travel Time Buffer at US 45 and IL 120

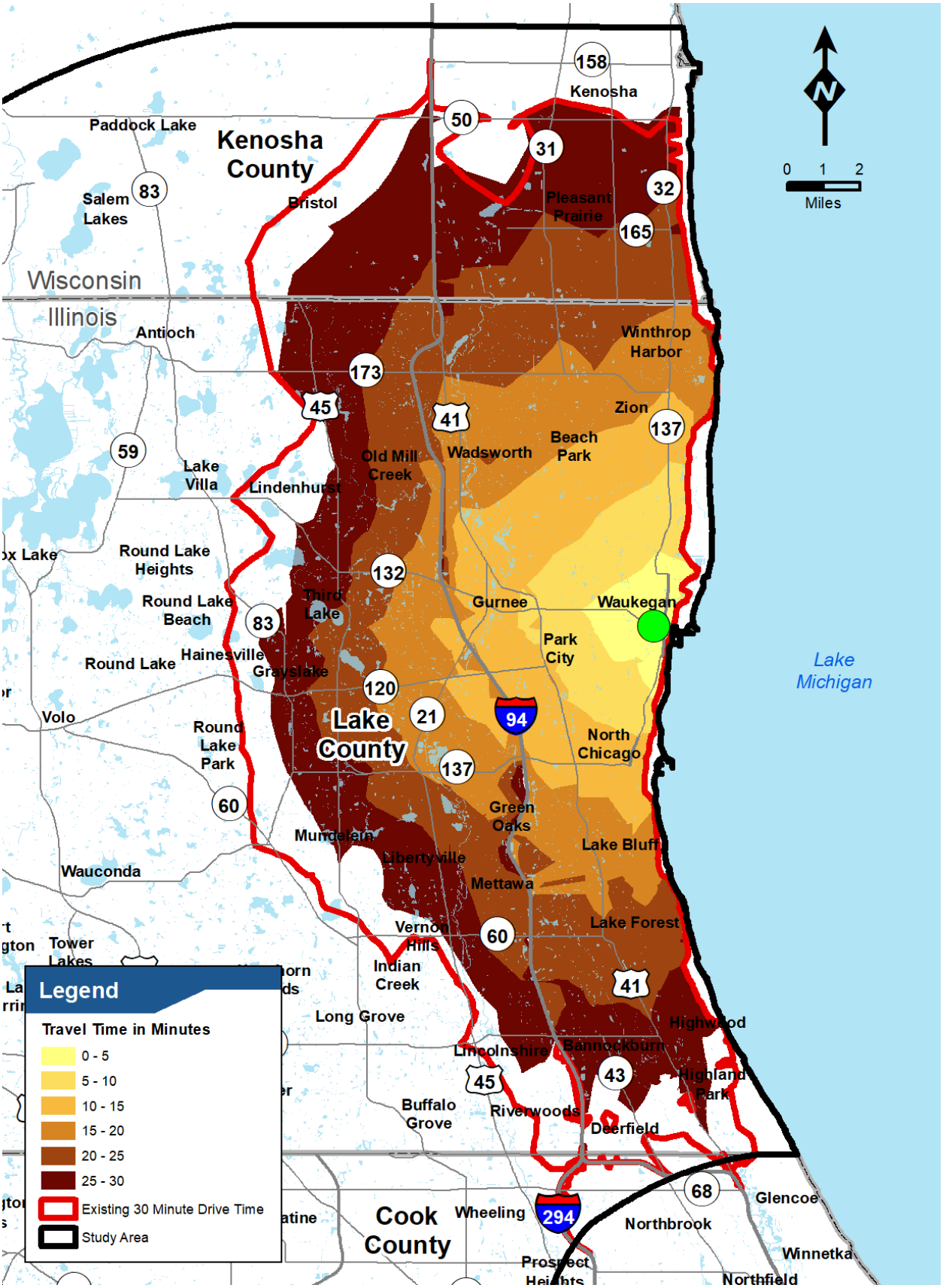


Figure 4-11. Forecast Year (2050) AM Peak Period Travel Time Buffer near Waukegan

Table 4-12 shows a detailed comparison of the 30-minute accessible area for the six origin points between the base year (2015) and the No-Build forecast year (2050). As shown, the accessible area decreases for all six locations with a percent reduction ranging from 12 to 23 percent depending on the location.

Table 4-12. Change in 30-Minute Accessible Area - AM Peak Travel Period

Select Location	Accessible Area (Square Miles)		
	2015	2050	% Change
IL 53 at Lake Cook Road	522	438	-16%
IL 45 at IL 120	521	429	-18%
I-94 at IL 120	489	406	-17%
US 12 at IL 59	623	482	-23%
City of Waukegan	289	245	-15%
City of Schaumburg	467	413	-12%

4.2.3 Safety

The safety performance of the 2050 No-Build condition was forecast using the 2050 No-Build travel demand model and average annual daily traffic obtained from the ON TO 2050 travel demand model. Table 4-13 summaries the average annual predicted crash frequencies for the base year (2015) and the 2050 No-Build. The crash severity categories were defined previously (see Section 3.1.5).

Table 4-13. Base Year (2015) and Forecast Year (2050) Predicted Annual Crash Frequency in TCA Study Area

	2015				2050				% Change KAB
	K	A	B	KAB	K	A	B	KAB	
Functional Class									
Freeway/Tollway/Expressway/Major Arterial	108	1,607	4,066	5,781	114	1,563	4,330	6,007	4%
Minor Arterial	31	211	714	956	34	254	905	1,193	25%
Collector	56	93	394	543	43	112	564	719	32%
Total	195	1,911	5,174	7,280	191	1,928	5,800	7,919	9%
Intersection Type									
Minor Leg Stop Control	25	171	459	656	28	202	564	794	21%
All Way Stop	7	40	119	166	10	51	139	200	21%
Signalized Intersection	63	1,622	5,691	7,376	69	1,847	6,542	8,458	15%
Total	95	1,833	6,269	8,198	107	2,100	7,245	9,452	15%

Within the TCA Study area, KAB roadway segment crashes are expected to increase by 9 percent by 2050, while intersection crash frequencies are expected to increase by 15 percent. In particular, KAB crashes on primary roads account for more than half of all KAB crashes among all functional classes. On secondary roadways (i.e., minor arterials and collectors), crash frequencies are expected to increase by 25 percent or more by 2050. This proportion of crashes among functional classes is consistent with

the forecasted 2050 VMT (see Section 4.2.2.1). Among all roadway functional classes and intersection types, signalized intersections experience the most KAB crashes in the TCA Study area, and the frequency is expected to increase by 15 percent.

4.3 Public Transit

While transit trips within the TCA Study area are expected to increase by 38 percent by the forecast year (2050), total trips (auto + transit) within the TCA Study area are expected to increase by 24 percent. Overall, the proportion of total trips taken by transit within the TCA Study area is expected to remain at 2 percent by 2050. The TCA Study area's continuing low-density development patterns and transit system characteristics are expected to act as a barrier to increased transit trips.

4.3.1 Performance Considerations

A variety of factors and measures are commonly used to evaluate the effectiveness and the deficiencies of an existing transit system. Identifying measurable deficiencies permits the development of strategies and plans to improve the system's performance.

Measures commonly used to assess transit performance include ridership, accessibility, and travel time, which affect the overall transportation system in the TCA Study area and are elaborated below for the Metra and Pace systems.

4.3.2 Performance Issues

This section includes an overview of the performance characteristics and discusses potential service or ridership expansion strategies for the Metra and Pace transit systems in the TCA Study area based on identified performance gaps.

4.3.2.1 Metra System Network Characteristics

Five Metra lines serve the TCA Study area. Metra service expansion and improvements contained in the 2050 baseline transit network are expected to address operational problems, improve schedule reliability, increase train frequency and speeds, and increase ridership. These improvements consist of capacity upgrades and extension of the UP-NW line and capacity upgrades along the UP-N line. Metra service improvements and expansion are discussed in detail in Section 4.4. These improvements predominantly benefit travelers accessing jobs in downtown Chicago. However, these improvements are unlikely to increase the use of transit to access jobs within the TCA Study area without improvements to first- and last-mile connections corresponding to suburb-to-suburb journeys.

4.3.2.2 Metra Rider Trends

Recent ridership trends and projections are discussed in Sections 3.4 and 4.4. Between 2006 and 2016, Metra ridership has remained relatively stable in the TCA Study area, decreasing by 2.5 percent. In 2050, planned improvements to the Metra UP-NW and Metra UP-N lines will be focused on the commute between the northwest suburbs and Chicago, with specific emphasis on the a.m. rush period to downtown Chicago and p.m. rush period back to the suburbs. Since the improvements are focused on I/E trips in the morning and E/I trips in the evening, it is unlikely to substantially change (+/-) the transit mode share within the TCA Study area.

4.3.2.3 Metra Accessibility

The immediate service area is considered to be within 0.5 mile of a Metra station. The 0.5-mile measure for Metra stations relates to the fact that the preponderance of people who access the stations on foot walk 0.5 mile or less; thus, these individuals are not accessing by a mode that is influenced by traffic volumes on the roadway system.

Figure 4-12 shows that in 2015, 8.3 percent of the area's population lives within 0.5 mile of a Metra station, a proportion projected to remain the same at 8.2 percent in 2050. Table 4-14 also displays similar information for employment served by Metra, with 10.3 percent of jobs within 0.5 mile, or walkable distance of a Metra station in 2015, decreasing to 9.7 percent in 2050. These forecasts indicate that the existing land-use patterns, that do not support effective and efficient transit networks, are expected to remain in the TCA Study area in the future.

Table 4-14. Population and Employment within 0.5 Mile of a Metra station

Year	Population within 0.5 Mile	Total Population	Population Percentage	Employment within 0.5 mile	Total Jobs	Employment Percentage
2015	119,668	1,445,530	8.28%	84,869	825,232	10.28%
2050	150,362	1,825,181	8.24%	97,528	1,010,649	9.65%

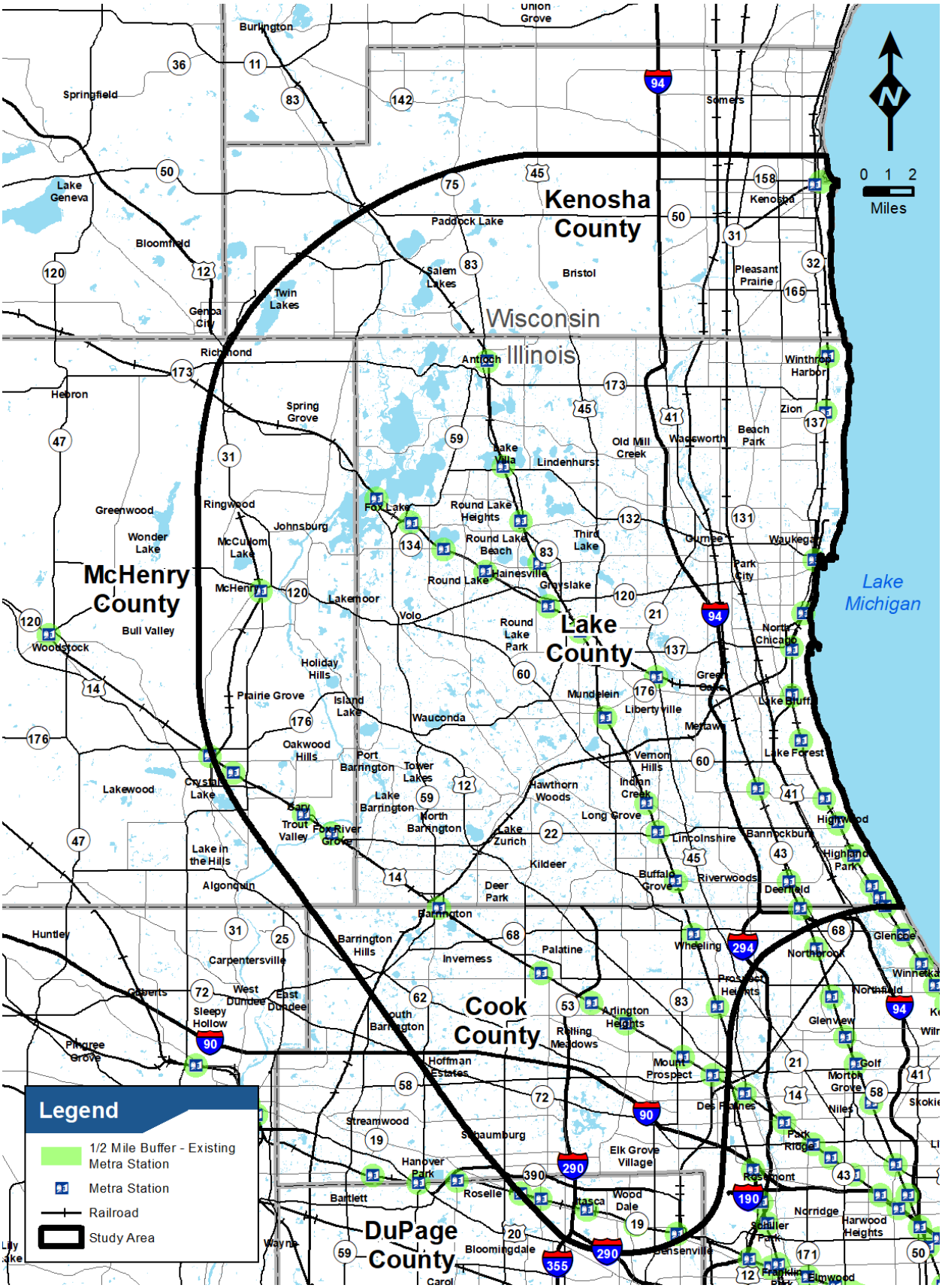


Figure 4-12. Access to Metra Stations (1/2 Mile)

Table 4-14 shows mode of access to Metra stations within the TCA Study area based on RTA statistics (RTAMS, 2015). For the UP-NW, MD-N, NCS, and MD-W lines, over 60 percent of passengers drive alone. Higher walk access on the UP-N line reflects the relatively dense development around UP-N stations that have been in the same general locations for more than a century, with commercial centers that grew around them. For all stations except Waukegan (UP-N), between 0 and 2 percent of passengers take a bus to the station. Carpooling is the second most common mode of access to driving alone, and walking is the third most common. Land use planning has the most significant impact on how people get to the train. Supporting transportation facilities such as pedestrian and bicycle accommodations also play an important role in the transit users decision process. Convenient parking that accommodates the demand of existing and future transit riders needs to also be considered. As an example, if you consistently drive to the Metra Station and there is no parking you may either decide to drive to another station where there is more adequate parking or use an alternative method to get there (bus, ride-share, bike, or walk). Poorly maintained or disconnected sidewalks within the vicinity of the station also play a role in the determination how someone will choose to access the Metra Station or the path they will walk from a parking facility.

Table 4-15. Base Year (2015) Mode of Access to Metra Stations in TCA Study Area

Line	Station	Walk (%)	Bike (%)	Drive Alone (%)	Carpool (%)	CTA (%)	Bus (%)	Other (%)
UP-NW	McHenry	2	1	74	21	0	1	0
	Crystal Lake	10	2	59	27	0	0	1
	Pingree Road	4	1	80	16	0	0	1
	Cary	7	2	67	23	0	0	0
	Fox River Grove	14	1	57	28	0	0	0
	Barrington	10	2	65	23	0	0	0
	Palatine	13	2	66	20	0	0	0
	Arlington Park	7	1	72	19	0	0	0
	Arlington Heights	24	5	50	20	0	0	1
	Mount Prospect	24	3	50	20	0	2	0
	Cumberland	20	2	51	27	0	0	0
	Average	**12**	**2**	**63**	**22**	**0**	**0**	**0**
MD-N	Fox Lake	6	1	65	26	0	0	3
	Ingleside	17	0	59	24	0	0	0
	Long Lake	15	0	61	25	0	0	0
	Round Lake	7	1	61	30	0	1	0
	Grayslake	13	0	64	21	0	1	1
	Prairie Crossing/Libertyville	4	3	75	17	0	0	0
	Libertyville	14	2	52	31	0	1	0
	Lake Forest	5	0	73	21	0	0	0
	Deerfield	18	2	59	20	0	0	1
	Lake Cook Road	2	1	84	13	0	0	1
	Average	10	1	65	23	0	0	1
NCS	Antioch	9	1	54	34	0	0	2
	Lake Villa	5	0	71	25	0	0	0
	Round Lake Beach	5	1	69	25	0	0	0

Table 4-15. Base Year (2015) Mode of Access to Metra Stations in TCA Study Area

Line	Station	Walk (%)	Bike (%)	Drive Alone (%)	Carpool (%)	CTA (%)	Bus (%)	Other (%)
	Washington St./Grayslake	9	4	53	34	0	0	0
	Prairie Crossing/Libertyville	0	0	70	22	0	0	8
	Mundelein	9	2	60	29	0	0	0
	Vernon Hills	14	5	57	23	0	0	0
	Prairie View	18	1	53	28	0	0	1
	Buffalo Grove	9	3	72	16	0	0	0
	Wheeling	8	3	64	23	0	1	0
	Prospect Heights	12	4	54	30	0	0	0
	Average	**9**	**2**	**62**	**26**	**0**	**0**	**1**
UP-N	Kenosha	9	3	46	38	0	1	2
	Winthrop Harbor	21	2	45	31	0	0	0
	Zion	12	0	55	30	0	0	2
	Waukegan	7	1	45	35	0	8	5
	North Chicago	23	2	39	31	0	2	4
	Great Lakes	24	0	24	45	0	0	8
	Lake Bluff	26	5	43	24	0	0	2
	Lake Forest	22	4	47	27	0	0	1
	Fort Sheridan	17	2	56	26	0	0	0
	Highwood	60	0	15	22	0	1	1
	Highland Park	26	2	55	16	0	1	0
	Ravinia	60	3	24	12	1	1	0
	Braeside	35	2	52	11	0	0	0
	Average	**26**	**2**	**42**	**27**	**0**	**1**	**2**
MD-W	Roselle	8	2	68	21	0	0	1
	Medinah	5	0	72	19	0	0	1
	Itasca	23	1	50	22	0	0	3
	Wood Dale	8	1	72	18	0	0	1
	Bensenville	26	2	54	16	0	0	1
	Average	**14**	**1**	**63**	**19**	**0**	**0**	**1**

Source: Metra 2015

4.3.2.4 Metra Travel Time and Reliability

There are several important factors that appear to attract transit riders, such as more predictable travel time and the ability to read/work while commuting. Getting to one's destination on time is consistently important for passengers. In evaluating travel time and reliability by rail, as compared to travel time by auto, it is important to note that total travel time by rail involves travel from trip origin to the station and from the station to final destination, at least three links. A trip made wholly by auto on the other hand may be directly from door to door. Time spent walking to a transit station or waiting at a station for a vehicle's arrival is typically considered more onerous than the in-vehicle travel time. Further, including a transfer to or from another transit mode (e.g., bus or heavy rail) introduces additional opportunities for delays, effectively increasing travel times and decreasing reliability for those trips.

Table 4-16 illustrates the recent performance record for TCA Study area lines. Only the UP-N line performs consistently better than the system average and is expected to experience even higher on-time performance as a result of planned improvements to the line. In addition, on-time performance on the UP-NW line is expected to improve as a result of planned upgrades.

Table 4-16. Metra On-Time Performance

Line	2015	2016	2017	January to June 2018
UP-NW	96.2%	96.3%	95.1%	94.5%
MD-N	94.9%	94.6%	93.8%	92.3%
NCS	93.8%	94.5%	94.0%	92.3%
UP-N	97.5%	97.8%	97.2%	96.9%
MD-W	96.4%	94.9%	95.5%	95.4%
System[a]	96.2%	96.1%	95.8%	94.6%

Source: Metra 2018

[a]Excludes South Shore Line

4.3.2.5 Pace Bus Service Network Characteristics

Pace operates 67 bus routes in the TCA Study area. The forecast year (2050) transit network includes several major capital initiatives for the suburban bus system (Section 3.4).

4.3.2.6 Pace Bus Rider Trends

Recent ridership trends and projections are discussed in Sections 3.4 and 4.4. Between 2007 and 2017, Pace ridership in the TCA Study area decreased by 8 percent. No Pace investments are included in the 2050 No-Action transit network. The proportion of total trips taken by transit within the TCA Study area is expected to remain at 2 percent by 2050, as existing and future development patterns do not promote travel by bus.

4.3.2.7 Pace Bus Accessibility

The immediate service area is considered to be within 0.25 mile of a Pace route. The 0.25-mile measure for bus service conforms to the measure Pace uses to evaluating customer satisfaction.

Figure 4-13 shows that 29.4 percent of the area's population is within 0.25 mile of Pace service in 2015, a proportion that decreases to 28.8 percent in 2050. Table 4-17 also displays similar information for employment, with 43.7 percent of the TCA Study area's jobs within 0.25 mile of a Pace route, projected to decrease to 41.7 percent in 2050. Access to Pace service is a particular concern in the west-central section where there is little to no fixed-route service.

Table 4-17. Population and Employment within 0.25 Mile of a Pace Bus Stop

Year	Population	Employment	Total Population	Total Jobs	Population Percentage	Employment Percentage
2015	424,666	360,224	1,445,530	825,232	29.38%	43.65%
2050	525,743	421,854	1,825,181	1,010,649	28.80%	41.74%

4.3.2.8 Pace Bus Travel Time Reliability

Table 4-18 shows the latest weekday on-time performance data from Pace. Of the 13 routes with available data, the average on-time performance is 67.78 percent. Eight routes have on-time percentages of less than 75 percent, and one route has an on-time percentage of less than 50 percent.

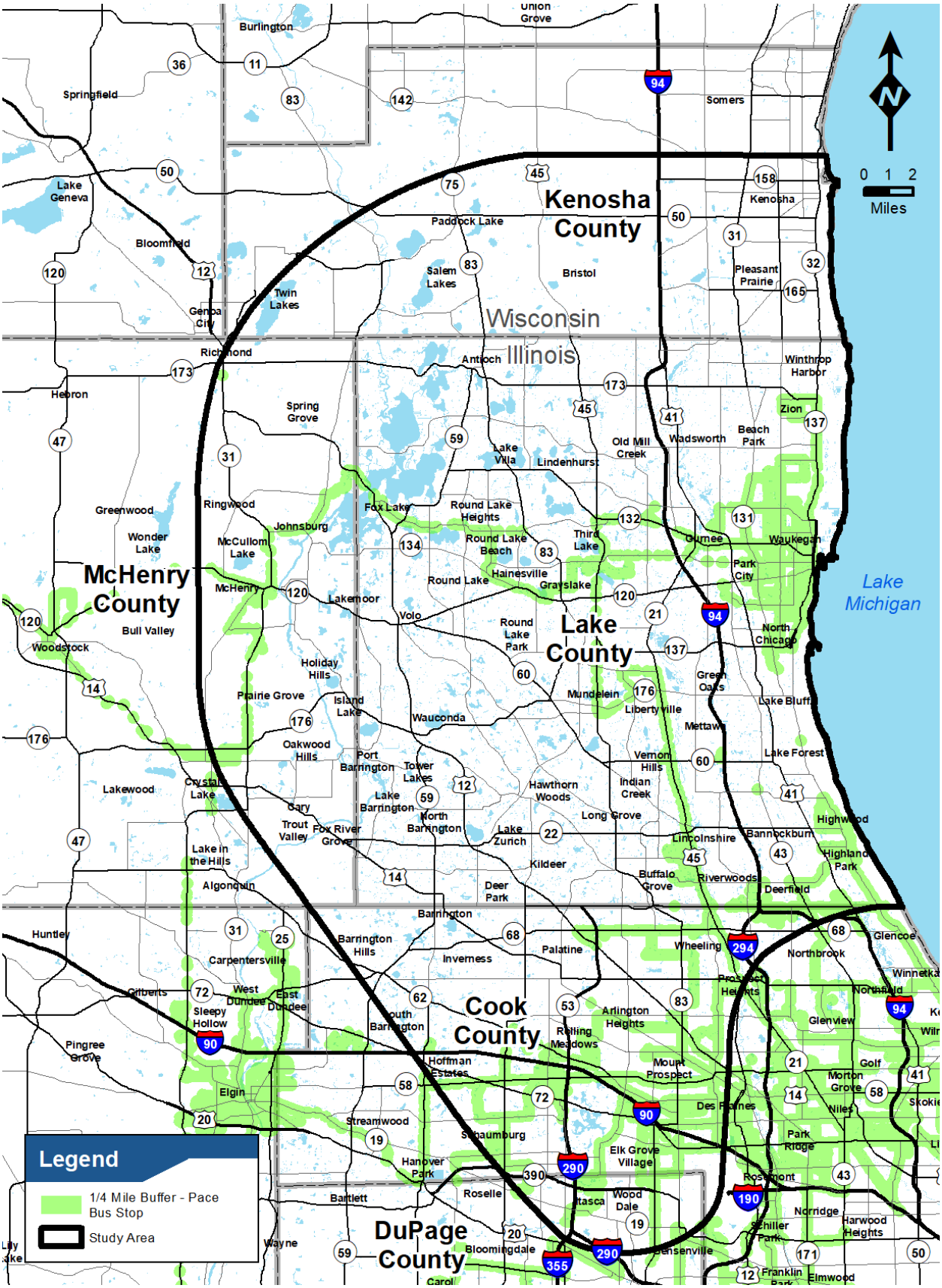


Figure 4-13. Access to Pace Bus Stops (1/4 Mile/0.25 miles)

Table 4-18. Pace On-Time Performance, Selected Routes

Route	On-Time %
213 Green Bay Road	81.5
272 Milwaukee Avenue North	73.8
422 Linden CTA/Glenview/Northbrook Court	76.9
472 Highland Park – Highwood	86.3
561 Castlecrest via McAree	78.4
562 Gurnee via Sunset	42.4
563 Great Lakes Naval Station	63.3
564 Jackson/14th	62.0
565 Grand Avenue	75.6
568 Belvidere	55.9
569 Lewis	66.4
571 Zion	58.3
626 Skokie Valley Limited	60.3
Average for All Routes	**67.8**

Source: Pace 2011

4.4 Freight Truck Trips

Freight truck trips in the TCA Study area are expected to grow by 31 percent by 2050 with the percentage of trip types (I/I, E/E, I/E, and E/I) within the TCA Study area remaining relatively the same. The growth in truck traffic in combination with the previously described in the designated truck route system results in some routes becoming overburdened and forcing out of direction truck travel.

For example, there are multiple interchanges both along I-90 and I-294 that do not connect directly to a Class II designated truck route. In these situations, trucks are forced to exit in advance or after their intended destination and use alternate truck routes to get to a location. These specific cross streets will be considered to determine if additional designated truck routes should be implemented.

Out of direction travel requires trucks to plan trips along connecting parallel routes to reach their destinations within the TCA Study area. These facilities become overburdened with trucks and have shorter pavement life cycles.

Numerous freight rail corridors traverse the TCA Study area crossing roadways at-grade. Some of these corridors share tracks with the Metra commuter rail system. These conditions impede traffic on roadways adjacent to at-grade crossings and also constrain the movement of rail traffic along shared corridors. Performance issues of concern to stakeholders are the at-grade crossings conflicts. Of particular concern are at-grade crossings along Class II truck routes where traffic flow is impeded for auto and freight movements.

Performance of truck freight travel is most commonly evaluated based on travel time and reliability. Traffic signal progression along truck routes is an important component in determining the efficiency of a corridor, as well as capacity. Spot locations for elimination of at-grade crossings and improvements to traffic signal performance and interconnection system along Class II truck routes should be considered.

Also, several Class II truck routes pass through downtown areas. Potential locations to bypass the downtown area or add capacity in bottleneck areas should be considered.

4.5 Active Transportation

This section describes the performance of the active transportation system (e.g., trails), focusing on whether the system provides effective transportation connections where service gaps are present. Active transportation is included in the No-Build Alternative. However, the travel demand model is not sensitive enough to be able to forecast pedestrian trips or evaluate origin and destination data. Planned Improvements

There are several planned or programmed trails in the TCA Study area, such as CMAP's Regional Greenways and Trails Plan. This is a long-range, multi-jurisdictional plan that envisions a network of continuous greenway and trail corridors providing scenic beauty, natural habitat, and recreational and transportation opportunities.

4.5.1 Performance Considerations

The existing active transportation systems and facilities in the TCA Study area consist of marked and unmarked bicycle routes along roadways, non-motorized bicycle and pedestrian shared-use trails, sidewalks, pedestrian crossings and signalized intersections, and bicycle parking facilities. Because bicyclists and pedestrians often use a common system, they are both addressed in this section.

Performance of the area bicycle and pedestrian system is most commonly evaluated based on the following measures:

- Safety
- Accessibility
- Bicycle and pedestrian access to transit stations

4.5.1.1 Safety

The safety of a route depends on many factors, such as average vehicle speed, lane width, the roadway shoulder (e.g., availability, size, and surface), and existence of segregated bicycle lanes.

Almost all traffic-related bicycle and pedestrian fatalities are caused by automobiles. With more vehicles on the road, the incidence of bicycle and pedestrian injuries and fatalities increases. In this sense, improving conditions for bicycle and pedestrian travel is a matter of public safety. Section describes KAB pedestrian and pedal cyclist crashes in the TCA Study area.

4.5.1.2 Accessibility

Bike trails and paths are concentrated in northwest Cook County and southeast Lake County; however, in several cases, connections between trails are missing. The most sizable gaps in access are in the west-central section of the TCA Study area, where trail access points are far apart. As a result, in order to access a trail, bicyclists must ride on roads unfit for bicycle travel. CMAP's Greenways and Trails Plan addresses these gaps in the TCA Study area, which is expected to improve the continuity of the trails network by the forecast year (2050). In addition, an incomplete sidewalk network, particularly in less dense areas, hinders safe pedestrian travel within the TCA Study area.

4.5.1.3 Access to Transit

Assuring adequate connections to transit for pedestrians and bicyclists is essential. Metra and Pace have made efforts to increase the connectivity for bicyclists to transit through bicycle storage at stations, bicycle racks on vehicles, and aggressive education campaigns to encourage the integration of bicycle and transit travel. However, barriers remain that limit the ease and safety with which bicycles and

transit interact. The most frequently encountered factor in the TCA Study area concerns the availability of safe routes to and from rail stations. For example, very few roadway connections to Metra and Pace service have dedicated bicycle lanes.

Land-use patterns, municipal codes regarding the integration of pedestrian and bicycle facilities in new construction, and historical development patterns surrounding the station sites affect pedestrian or bicycle accessibility.

5.0 Stakeholder Input and Collaboration Opportunities

5.1 Opportunities for Stakeholder Input

The Stakeholder Involvement Plan provides the framework for achieving a general understanding of the TCA Study and communicating the decision-making process between stakeholders to enhance awareness and understanding of the TCA Study. The Stakeholder Involvement Plan provides a schedule of project development activities and includes opportunities for stakeholder and public engagement. One component of the Stakeholder Involvement Plan is the Stakeholder Participation Group (SPG), which was initiated in spring 2018.

5.2 Stakeholder Participation Group

The SPG consists of representatives invited from more than 150 communities, interest groups, and partnering agencies who are asked to represent the interests of and provide insight into the unique issues and concerns that affect their constituents. Through the SPG process, there have been several opportunities for stakeholder input to help identify travel-related problems and provide an input on future needs. To date, three SPG meetings have been held, as well as one public information meeting. In addition, the public has the opportunity to provide input into the process and ask questions through the TCA Study website, and through the public information meetings.

Although some SPG members may have been involved in similar previous studies, the TCA Study offers a fresh look and new approach, one that offers a diverse group of stakeholders across the spectrum of preferences to voice their issues and to encourage community and stakeholder input to reach a reasonable decision.

5.2.1 Stakeholder and Public Meeting Summaries

This section summarizes the SPG and public open house meetings held through December 2018. For more specific information related to these meetings, refer to the stakeholder documentation located on the TCA Study website or in the TCA Study documents.

5.2.1.1 First SPG Meeting Summary

As part of the first SPG meeting, held on March 21, 2018, SPG members participated in a mapping exercise to provide input on travel-related problems they encounter in the TCA Study area and to identify environmental or community resources of concern. Six colors of post-it notes were provided, each representing a different type of concern.

The SPG was asked to identify roadways and transit routes with travel performance concerns, locations with multimodal access concerns, and environmental areas of concern. SPG participants recorded their input on the assigned colored post-it and placed the note at the location of concern on the map. Figures 5-1 and 5-2 show numbered and color-coded comments provided by SPG members during the exercise.

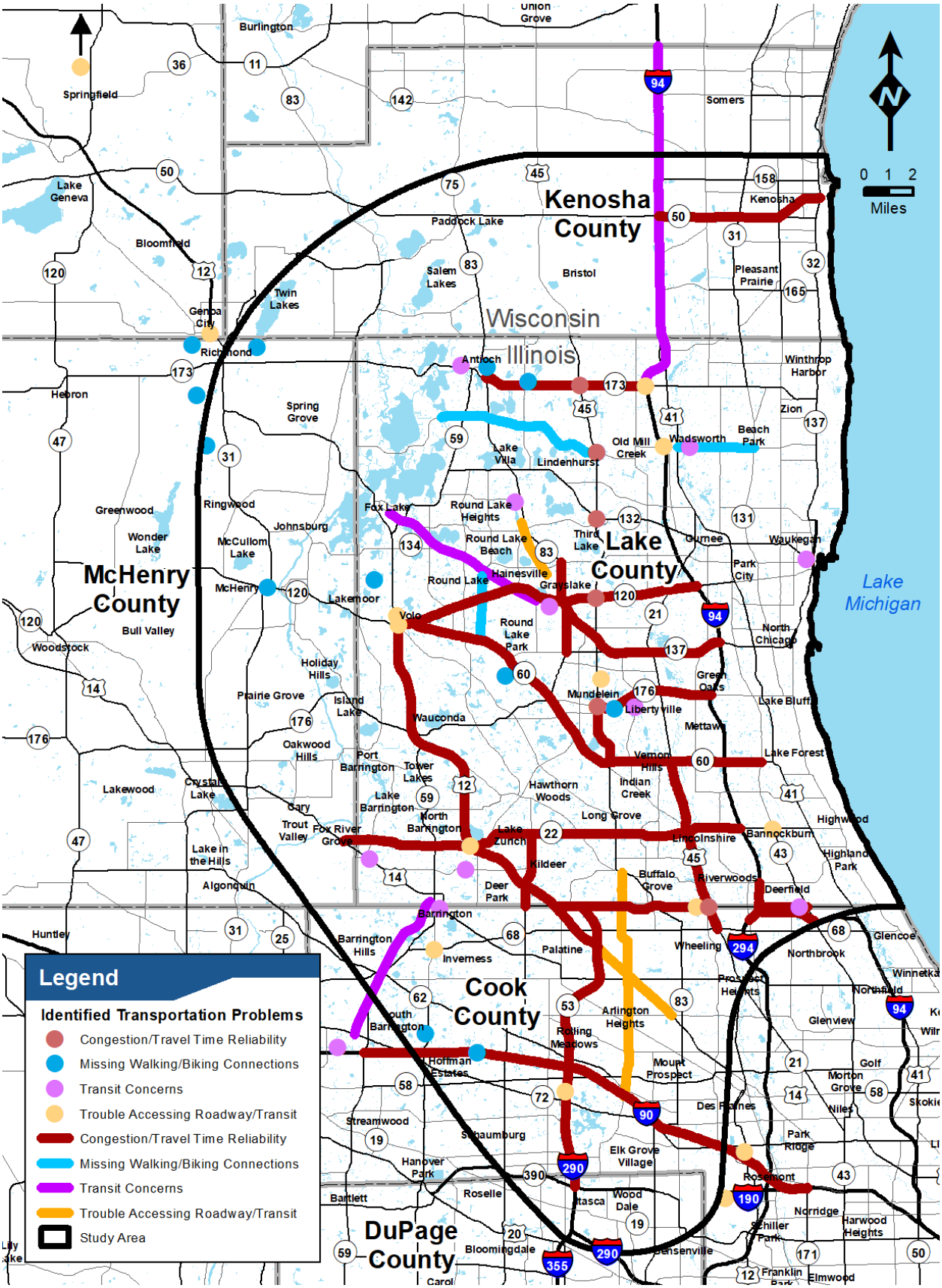


Figure 5-1. SPG #1 Identified Transportation Problems

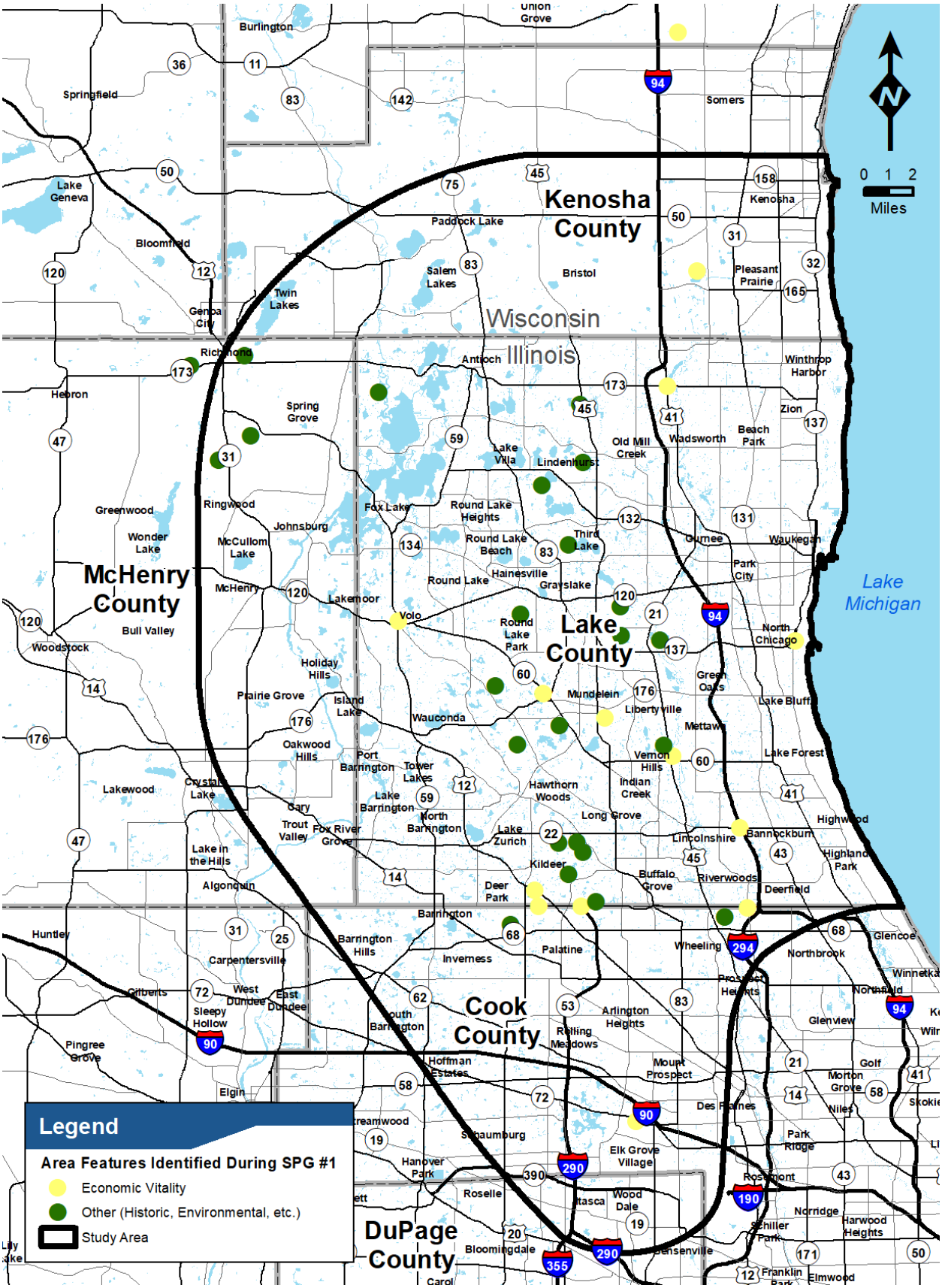


Figure 5-2. SPG #1 Identified Area Features

5.2.1.2 Second SPG Meeting Summary

A second SPG meeting was held on April 24, 2018. A group mapping exercise focused on identifying the locations and types of improvements to address the travel-related problems identified during the previous SPG meeting. Reference maps containing information on natural and socioeconomical environmental features, anticipated roadway congestion for the year 2050, and potential roadway improvement locations considered with prior studies were provided to the SPG members during this exercise.

The input provided by the SPG members was drawn onto two large exhibits and will be used to develop system alternatives. Information regarding roadway corridors was drawn on one map and information regarding transit and active transportation was drawn on the other map. Figures 5-3 and 5-4 summarize each input map.

The tools used to identify improvement components were as follows:

- **Locations for Improvements**: Existing, New, and Shared Corridors
- **Types of Improvements**: Existing Roads, New Roads, Bypasses and Major Realignments, Rail Transit, Bus Transit, and Pedestrian/Bicycle
- **Roadway Facility Types**: Freeway or Tollway, Expressway, and Arterial
- **Multiple Transportation Modes**: Automobile, Transit (e.g., Rail, Bus Service, or Shuttle), and Active Transportation (e.g., Bicycles and Pedestrians)

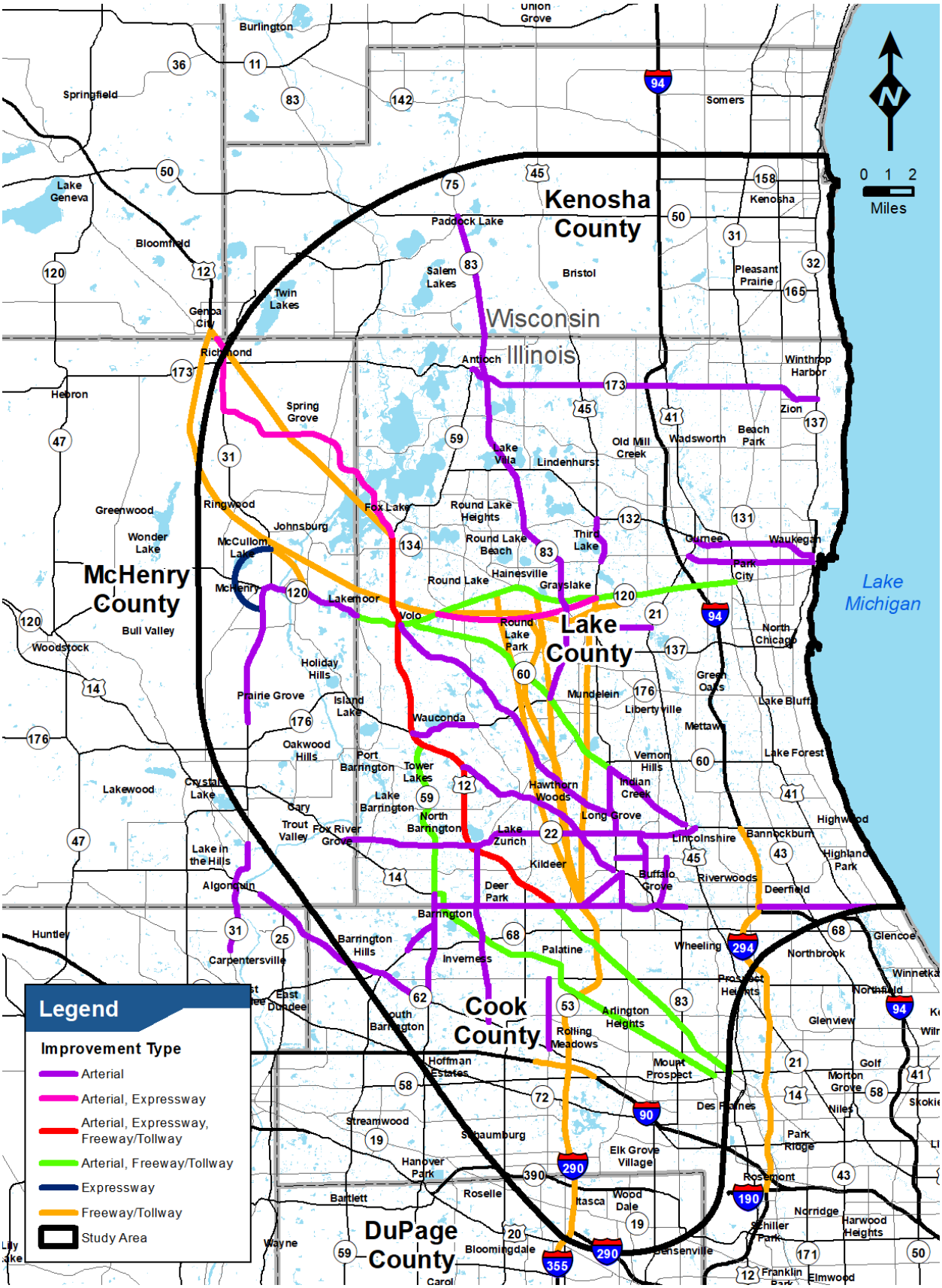


Figure 5-3. Roadway Improvements Identified at SPG #2

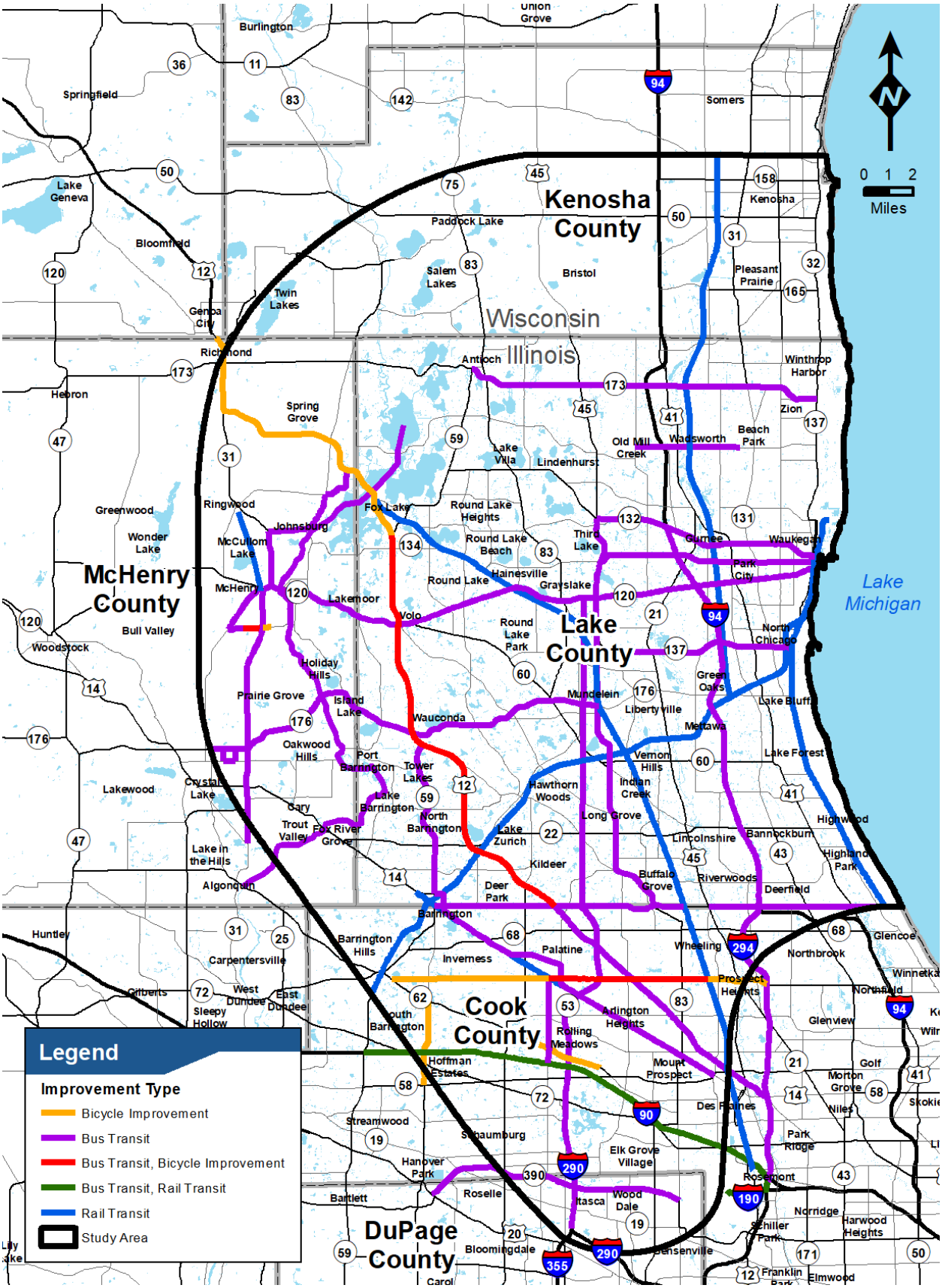


Figure 5-4. Transit and Active Transportation Improvements Identified at SPG #2

5.2.1.3 Third SPG Meeting Summary

A third SPG meeting was held on August 30, 2018. The purpose of the meeting was as follows:

- Present the Draft Purpose and Need, which is based on travel-related problems discussed at the first SPG meeting on March 21, 2018 (SPG Meeting #1).
- Introduce the Initial Range of Alternatives to be Considered, based on input provided at SPG #2 on April 24, 2018, where members were asked to identify improvement components they suggest be considered to address the identified travel-related problems.
- Ask SPG members to confirm the issues to be included as part of TCA Study Scoping and a reminder that comments are being accepted through October 1 for inclusion in the formal Public Information Meeting record.
- Based on questions asked by SPG members at previous meetings, the TCA Study's environmental technical team was asked to discuss the environmental resource studies that will be performed as part of the EIS.

5.2.1.4 First Public Involvement Meeting Summary

The first public involvement meeting (PIM) was held on July 25, 2018. A second identical meeting was held September 6, 2018. The meetings were in an open-house format and open to members of the public.

The purpose of the open-house meeting was to provide an overview of the TCA Study and to receive input from residents, businesses, and communities that will assist in the TCA Study's EIS process, which formally began on July 16, 2018, with FHWA's publication of the Notice of Intent in the Federal Register. Information was available regarding the TCA Study limits, schedule, draft Purpose and Need, potential alternatives, and issues to be addressed as part of the TCA Study. Attendees viewed a short introductory video that explain the TCA Study. Members of the public could walk through large exhibits boards explaining the following topics: TCA Study introduction, transportation performance characteristics, environmental, Purpose and Need, and the alternatives analysis process.

During the first PIM, the public was given the opportunity to participate in the mapping exercise from the second SPG meeting. Meeting attendees were able to identify improvement components to address travel-related problems in the TCA Study area. The summary maps from the second SPG meeting were provided for comparison. Figures 5-5 and 5-6 show numbered, and color-coded comments provided by the public during the exercise.

Before leaving, meeting attendees were directed towards a comment area where people could submit comments about the TCA Study online or write them down on comment cards. Following the meeting, the public may submit input regarding the PIM for 30 days. Responses to submitted comments can be found in the meeting summary for the first PIM.

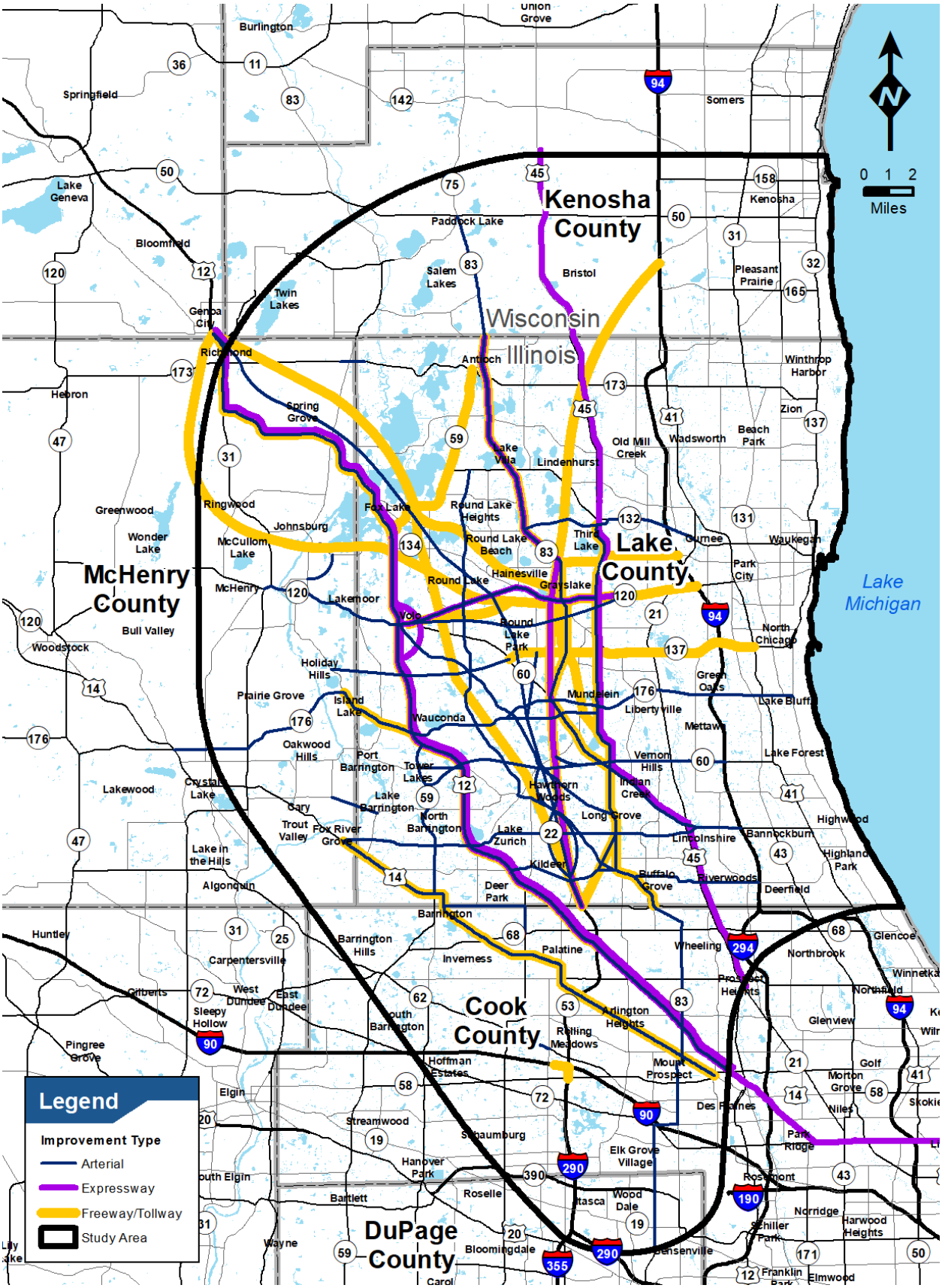


Figure 5-5. Roadway Improvements Identified at Public Meeting #1

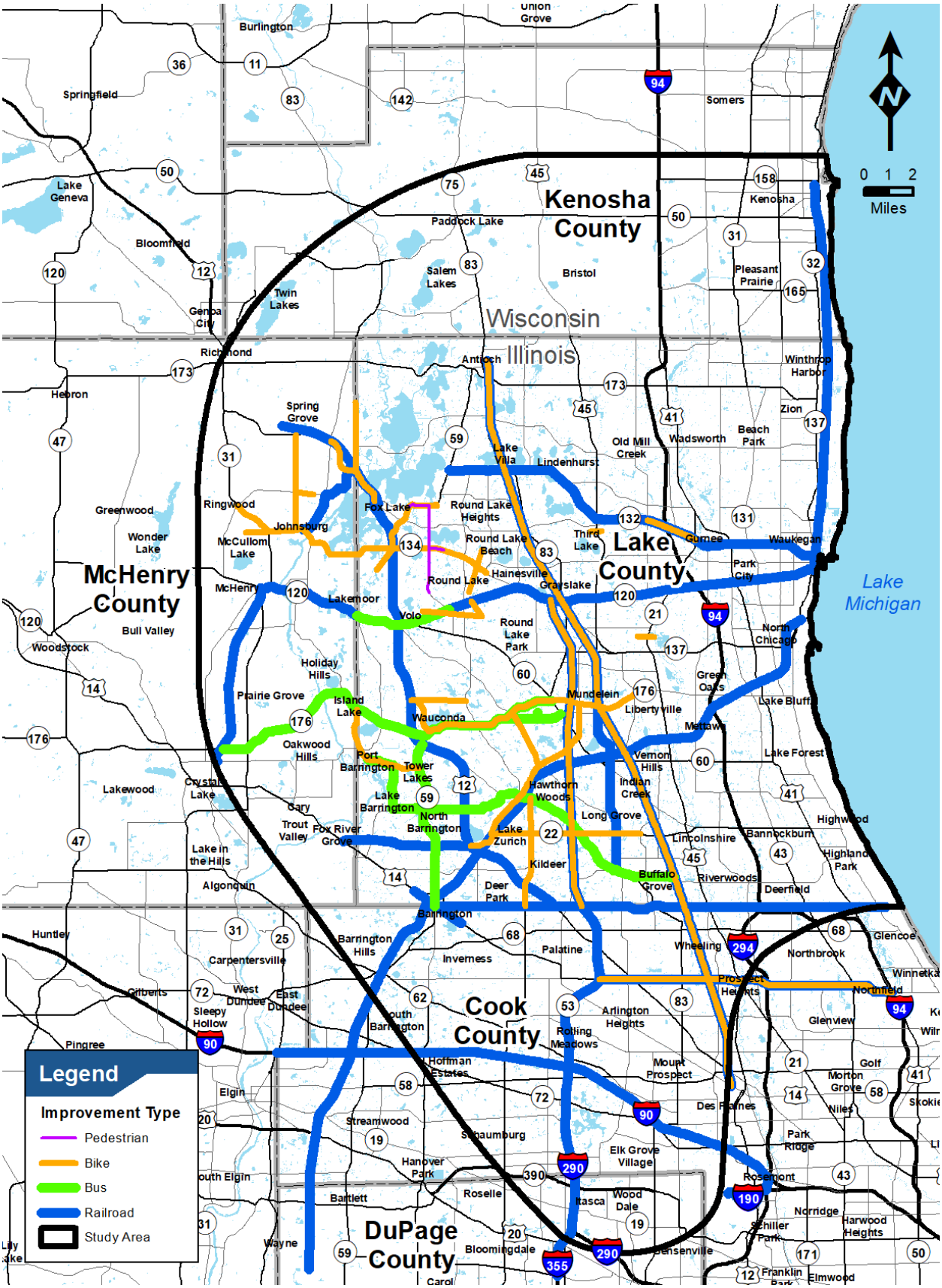


Figure 5-6. Transit and Active Transportation Improvements Identified at Public Meeting #1

5.2.2 Stakeholder Participation Group Context Audit

Throughout the SPG meetings, electronic polling was used to ask questions and document responses about conditions within the TCA Study area. Questions were asked electronically so that SPG member input could be easily captured and documented. The intent was to provide the following:

- An opportunity to hear directly from SPG members about their experiences and views of the travel-related problems and priorities in the TCA Study area
- An opportunity for SPG members to share details about the communities and constituents they represent
- Information to help define the purpose and need for the TCA Study and to understand local and regional community goals and plans for future development

The polling questions and how the SPG members responded were documented in the SPG meeting summaries. Questions submitted by SPG members throughout the meeting and their respective responses were also documented in each SPG meeting summary.

5.2.3 Ongoing and Planned Development Identified by Stakeholders

Members of the SPG identified areas of existing and future economic vitality within the TCA Study area. Major developments were identified throughout the region, including areas in Wadsworth, Volo, Mundelein, Kildeer, Lake Zurich, and Deer Park. Polling results during the first SPG meeting showed residential and commercial developments being planned in two-thirds of the communities represented by the SPG. In terms of major employment destinations, many stakeholders noted the planned FoxConn development just north of the TCA Study area.

FoxConn Technology Group has proposed to build a liquid crystal display (LCD) panel glass fabrication plant near I-94 in Mount Pleasant, Wisconsin. The manufacturing plant will employ thousands of workers and add billions of dollars to Racine County. With this increase in job opportunities, Mount Pleasant will become a popular commuting destination for residents in the surrounding area, including northeastern Illinois and therefore could result in a change of travel patterns.

5.2.4 Stakeholder Input on Performance Measures

The technical analysis of travel performance in the TCA Study area was complemented by stakeholder input on the topic of travel-related problems. The opinions of travelers, residents, and area officials regarding system performance issues were invited throughout the early stage of this study. Their input helped validate that analytical findings are consistent with the viewpoint of system users.

The findings of the technical analysis and stakeholder input indicate that the existing transportation system in the TCA Study area is clearly stressed and does not serve regional or local mobility needs. The existing levels of congestion and mobility are further degraded by 2050 in the TCA Study area. Problems generally fall under four topics: congestion/travel time reliability, transit concerns, trouble accessing roadway/transit, and missing walking and biking connections.

5.3 Stakeholder Transportation Problem Statements

5.3.1 Stakeholder Input on Critical Transportation Issues

The top five most critical transportation issues identified by stakeholder involvement during the first SPG meeting are listed in order of most to least critical. The TCA Study team also received stakeholder input requesting that as we solve transportation related problems, we be mindful of environmental and local community character issues.

1. Traffic congestion
2. Travel-time reliability
3. Lack of access to major roadways
4. Limited bus/transit services
5. Lack of sidewalks, trails, and bike lanes

During the mapping exercise done at the first SPG meeting, approximately 19 routes were labeled as having congestion or travel-time reliability problems in the TCA Study area. Identified routes included IL 173, IL 120, US 12, IL 60, IL 22, and IL 53. Trouble accessing roadways and transit was labeled in 15 locations including Volo, Arlington Heights, Lake Zurich, and Mundelein.

Of the SPG members polled, 72 percent said they drive out of their way to avoid congestion either sometimes or often when traveling in the TCA Study area. The arterial roadway system in the TCA Study area is heavily congested during peak hours. Delays caused by this congestion lead to approximately 45 percent of SPG members having a peak-period commute over 30 minutes. High-volume at-grade intersections get backed up during heavy travel times and add to the congestion in the area.

Because of an inadequate arterial system and congestion in the TCA Study area, travelers vary route choices based on travel times. Congestion often or sometimes affects the time of day people travel for approximately 83 percent of SPG members. Choosing to travel during peak hours can drastically increase the travel time for a trip compared to off-peak hours. About 85 percent of stakeholders' base route choices on the least amount of time it will take to arrive at their destination. This leads to shortcuts on local roads and changes in travel patterns.

Stakeholders at the second SPG meeting and the first PIMs were asked to identify improvements that could solve transportation needs in the TCA Study area categorized by roadway functional classification. Stakeholders identified approximately 8 new roadways and 26 arterial routes to be evaluated for improvement. Significant findings from the stakeholders are described in this section.

Stakeholder input reiterated that there is no one solution to fix the transportation issues associated with the existing transportation system. Combinations of many improvement components are required to improve travel in the TCA Study area. Multiple arterial routes, such as US 12, IL 120, and US 45, were identified for both capacity and transit improvements. SPG members recommended that transit and active transportation be accommodated on any potential new roadway corridors. It was also noted during the second SPG meeting that implementing a new roadway will require arterial and intersection improvements to account for changes in travel patterns.

Several arterials, including US 12, IL 120, IL 59, IL 60, IL 83, IL 176, US 45, and US 14, were identified for capacity improvements that ranged from arterial to freeway/tollway/expressway conversion. Sections of US 12, IL 120, IL 83, IL 60, IL 59, and US 14 were flagged to be upgraded to a freeway/tollway/expressway classification.

Along with capacity improvements, grade separations were recommended to eliminate bottle necks at major at-grade intersections. These intersections include IL 60 at Diamond Lake Road, IL 83 and Butterfield Road, US 41 at Wadsworth Road, and IL 120 at IL 83.

Freight crossings were cited as a major source of delay throughout the region. Stakeholders recommend grade separating at-grade railroad crossings and limiting freight-train lengths during peak periods to reduce travel delays.

A range of fully access controlled alternatives was identified by stakeholders during the second SPG meeting and the PIMs to extend IL 53 to IL 120. Stakeholders cited a lack of access to O'Hare Airport as a major concern in the central and western parts of the TCA Study area. Weekend travel patterns and transit options make the route to O'Hare unreliable. There are few north-south routes in the TCA Study area and access to those routes is poor. The proposed new facility would create more options for travelers from the TCA Study area to O'Hare Airport.

A new alignment was identified along IL 120 during both mapping exercises as well. The new access-controlled facility would bypass existing IL 120 to the south between US 12 and I-94. The alignment is proposed to then extend northwest around Ringwood and up to Richmond.

While new alignment options were identified along IL 53 and IL 120, stakeholders stated that each roadway improvement should be evaluated separately. Either improvement may change travel patterns enough to address the TCA Study's purpose and need.

The members of the SPG noted that transit is almost never a viable option for traveling within the TCA Study area. Currently, only 18 percent of the members polled use transit or paratransit within the TCA Study area twice a week or more. Almost 50 percent of SPG members choose to drive and noted that if they desired taking transit, there are limited transit services available for their trip destinations.

Over 45 percent of members polled have used Metra services, while other modes have been used by less than 20 percent of the group. Metra and Pace schedules do not provide all the options necessary for some potential users to commute from home to work daily. Rail improvements, including express service options, increased service frequency, increased reverse direction service, and peak-period service, were cited as needs throughout the region.

Pace offers a Dial-a-Ride program where residents can request to be picked up in a Pace vehicle from home and taken to a specific destination within the service area. However, the existing service does not support rides across county lines. Therefore, a resident of McHenry County cannot request a destination in Lake County. SPG members commented that many trips in the western half of the TCA Study area cross county lines so using the Dial-a-Ride program becomes impossible.

Based on feedback from some of the SPG members, developing premium transit, such as bus rapid transit and streetcars, is an important need within the TCA Study area. Enhancing existing bus routes was also cited as a major need. Unreliable service, unsafe bus stop facilities, and poor access to those facilities was noted as potentially leading to the area's underutilization of bus transit options. Table 51 shows stakeholder-identified transit solutions based on travel needs.

Table 5-1 Stakeholder-identified Solutions to Transit Needs

Transit Need	Potential Solutions
Poor transit options to major destinations	• Implement bus rapid transit at several arterials, including Lake Cook Road, Palatine Road, US 12, IL 120, and US 45. • Provide better transit options and service to CLC and O'Hare Airport.
Poor transit service in the TCA Study area	• Provide additional trains on NCS line during the p.m. peak period. • Provide express service options throughout the TCA Study area. • Increase reverse train frequency. • Update Metra switching lines.

Table 5-1 Stakeholder-identified Solutions to Transit Needs

Transit Need	Potential Solutions
Poor access to transit in the TCA Study area	• Extend UP-NW to Johnsburg and MD-N to Richmond. • Provide more transit options for communities along US 12. • Add additional parking at Northwest Transportation Center.
Poor coordination between freight and commuter railroad lines	• Grade separate freight and commuter railroad lines. • Provide commuter service on the CN line. • Split freight and Metra tracks to avoid delays.

Stakeholders cited a desire for more convenient access to roadway, transit, bicycle, and pedestrian facilities, as well as gaps in the existing network. While there is access to downtown Chicago via Metra service, some of the other destinations such as those in Barrington, Deerfield, Mundelein, Schaumburg, and Volo either do not have transit facilities, or it takes significantly longer than driving.

The TCA Study area offers off-road multiuse paths for biking and walking recreationally, but the existing facilities are not adequate for travelers looking to make daily trips. More than 65 percent of stakeholders polled stated that they rarely or never choose to bike or walk to work, school, or to run errands. Table 5-2 shows suggestions from the stakeholders regarding the lack of active transportation connectivity.

Table 5-2 Stakeholder-identified Solutions to Bike/Pedestrian Needs

Bike/Pedestrian Need	Potential Solutions
Lack of bicycle and pedestrian accommodations	• Improve active transportation facilities on existing roadways, especially arterial routes. • Reserve space on new roadways for active transportation facilities. • Improve sidewalk connectivity near major destinations.
Poor bicycle and pedestrian access to transit stations	• Improve safety features for bicyclists/pedestrians. • Improve connectivity between station and employment centers.

6.0 Conclusions

The TCA Study area's reliance on automobiles and the inefficiencies on the roadway network result in widespread roadway congestion during peak travel periods. Congested roadways, particularly on the freeways/tollways/expressway and principal arterials, cause delay and unreliable travel times. Growth and development pattern forecasts suggest that this will only worsen by 2050. Given the extent and magnitude of congestion on the area roadways, it is apparent that congestion cannot be eliminated, and that no single transportation solution will address all of the problems in the TCA Study area.

The TCA Study area is a critical link in the state of Illinois' interregional transportation system. Being located generally between Wisconsin and the City of Chicago, the TCA Study area is in a strategic geographic position as a gateway to the state and the Chicago metropolitan area. Transportation solutions must focus on strategic investments to support multiple modes of travel and reduce congestion, improve reliability of travel, improve travel options to major regional destinations, and improve local and regional travel efficiency. In addition, solutions must be fiscally responsible.

The following were the primary findings from the TSPR:

- Travel in the TCA Study area is heavily reliant on automobiles. Approximately 65 percent of TCA Study area households own two or more vehicles, which is 14 percent higher than the CMAP Region (ACS 2012-2016). A comprehensive household travel and activity survey performed by CMAP for people 16 years and older found that currently over 90 percent of trips in the TCA Study area are made using the automobile as the dominant mode of travel (CMAP 2016). Walking/biking was second with 5 percent of trips, and transit was third with 2 percent.
- Generally, the destinations for peak-hour trips are concentrated in the southern portion of the TCA Study area or south of the TCA Study area. Dominant travel patterns are from northwest to southeast and south, and from east and northeast to southeast and south across the TCA Study area.
- Average trip lengths in the TCA Study area are longer than throughout the remainder of the Chicago region. In particular, trips from home to work during peak hours in the base year (2015) are 15.7 miles, almost twice the average for the CMAP Region.
- Reduced travel efficiency on the roadway system is affected by several factors, including out-of-direction travel caused by lack of connections to primary roads (freeways/tollways/expressways and principal arterials), periodic delays caused by at-grade railroad crossings, and lack of options for major travel movements.
- Inefficiencies in the roadway network and lack of capacity result in widespread congestion and unreliable travel conditions within the TCA Study area. The total number of daily vehicle trips in the TCA Study area is 5.7 million. Peak-period travel delay for the TCA Study area in 2017 totaled 210,000 hours, which translates into to 11 work days lost for every worker in the TCA Study area. These problems are expected to be exacerbated with the projected travel demand and socioeconomic growth. As a result, the congested vehicles miles of travel during the peak travel periods is predicted to grow to 10.6 million by 2050, which is more than double base year (2015) conditions.
- Primary roads (freeways/tollways/expressways and principal arterials) designed for longer trips account for the greatest amount of vehicle and congested travel during peak travel periods both today and into the future. A total of 180 miles of roadways in the TCA Study area is severely or extremely (LOS E or F) congested during peak travel periods, growing to 365 miles by 2050.

These congestion-related delays result in unpredictable travel times for trips in the TCA Study area, which is expected to worsen with the growing travel demand and congestion into 2050.

- The low utilization of transit (2 percent) is influenced by land use and accessibility. Specific transit problems are attributable to several gaps in the system such as last-mile service, limited station parking, and poor connectivity between stations and destinations. While travel by transit for trips within the TCA Study area is possible, it is often not reasonable for most trips. For travel to downtown, there are multiple Metra transit options; however, they are aligned to peak-hour commuting periods. During off-peak and weekend hours, there is infrequent service, which makes transit a less desirable mode of travel.
- There are three major freight clusters in the TCA Study area: the Fox River Valley located along US 14 in southeastern McHenry County; the North Chicagoland located along I-94 in eastern Lake County; and the Greater O'Hare located in the area surrounding O'Hare Airport (northern Cook/northeastern DuPage counties). These areas serve as origin, destination, and distribution points for raw materials, intermediary products, and final goods, and rely on truck transport on the area's roadways. Industrial and commercial land use are heavily reliant on trucks to receive products. These areas are dispersed throughout the TCA Study area, such as along US 12, US 45, and IL 83. These destinations result in trucks making longer trips throughout the TCA Study area, increasing the wear and tear on local roadways and intermingling with local trips.

The TCA Study area contains a variety of surface transportation facilities, including regional and local roadways, rail transit, bus transit, freight rail, and bicycle/pedestrian facilities. Each element of the transportation system presents unique performance issues. These are being considered collectively to develop a comprehensive and effective transportation system solution that address the inadequate travel options to reach regional destinations, widespread congestion, and unreliable travel times.

6.1 Roadway System Conclusions

The inefficiencies in the roadway network and lack of capacity result in widespread congestion and unreliable travel conditions within the TCA Study area. The primary roads designed for longer trips account for the greatest amount of vehicle and congested travel during peak travel periods both today and into the future. A total of 180 miles of roadways in the TCA Study area are severely or extremely (LOS E or F) congested during peak travel periods, growing to an extensive 365 miles by 2050.

Travel conditions within the TCA Study area are expected to worsen across all roadway types by year 2050, causing more delays, constrained operations, and increasing safety concerns. Key findings and conclusions of the TCA Study area transportation system performance analyses are as follows:

- Congested VMT is expected to increase significantly, and even greater for the heavy/severe/extreme congested VMT. For primary roads in particular, the heavy/severe/extreme congested VMT is expected to approximately double by 2050 within the TCA Study area.
- While both VHT and VMT are increasing in the TCA Study area, VHT is increasing at a higher rate than VMT, which means that travelers are spending more time to go the same distance as under base year (2015) conditions.
- In the year 2050, collector roads are expected to have the highest percentage increase in both VMT and VHT. This increase reflects several changing conditions. As the population increases and expands to new areas with fewer principal arterials, that population will need to use collector roadways for the entirety of their trip or for longer distances to reach a principal arterial. It may also reflect travelers choosing to use collector roadways rather than principal arterials because the higher capacity roads are already congested.

- By 2050, roadway congestion is expected to encompass most of the TCA Study area. Even with implementation of committed and reasonably expected improvements (hundreds of miles of roadway capacity improvements and transit expansion and upgrades included in the CMAP ON TO 2050 Plan), congested roadway miles are expected to increase to 29 percent by 2050.
- Increasing congestion levels effect safety performance. Most crashes are concentrated around the p.m. peak period. Forty-three percent of the KAB crashes in the TCA Study area occurred between 2:00 p.m. and 8:00 p.m. With the projected growth in demand by year 2050, segment and intersection crashes are expected to increase by 9 and 15 percent, respectively. The primary roads are expected to experience an approximately 4 percent increase in crashes. Low functional class roads (minor arterials) are expected to increase by 25 percent or more. Most of the intersection-related crashes occur at signalized intersections, which are expected to increase 15 percent by 2050.
- The lack of travel reliability is more pronounced on arterials and collectors compared to interstates because of lack of throughput capacity and multiple access points such as driveways and intersections. With over half of the roadways in the TCA Study area composed of arterials and collectors, especially in the northern and western portions of the TCA Study area, the anticipated growth in these areas is expected to adversely affect travel reliability to a much larger extent than in the base year (2015).
- The lack of convenient access to regional freeways/tollways/expressways also contributes to poor traffic service. Within the TCA Study area, travel during peak hours is currently unreliable and is expected to worsen in future years because of growth in travel demand. By 2050, the accessible areas within a 30-minute drive from multiple locations is expected to decrease between 12 and 23 percent.

Given the extent and level of performance issues on the roadway system, the identified issues cannot practically be addressed within the context of the TCA Study alone. The focus should be on strategies to improve travel efficiency and to reduce travel delays on major regional roadway corridors as a means of improving systemwide travel performance to the maximum extent practical, such as the following:

- Provide new capacity to improve travel reliability and connections to regional destinations to the maximum practical extent.
- Enhance access to major regional roadways to accommodate long distance trips outside the TCA Study area. Strategies to consider include providing full-access interchanges along existing freeways/tollways/expressways and new major freeways/tollways/expressways to serve regional trip patterns.
- Implement strategies for reducing freight delays within the study area.
- Execute plans for promoting use of other travel modes (e.g., rail transit, bus transit, and bicycle/pedestrian) to lessen the traffic demand and congestion levels on area roadways.
- Instigate operational improvements such as intelligent transportation systems or adaptive traffic signals to optimize the performance of the transportation system.
- Employ system demand management strategies (for example, constructing “managed” lanes such as high-occupancy vehicle lanes) to reduce traffic demand on area roadways, particularly during peak travel periods.

6.2 Transit and Freight System Conclusions

The low utilization of transit (2 percent) is influenced by land use and accessibility. To be effective, transit service must be easily accessed with connections from other modes, whether walking to a bus stop or driving to a train station, and the destination of travel must connect people to where they want

to go (for example, employment centers, shopping/commercial centers, and recreational centers). Transit usage has been hindered by low-density residential development, gaps in the transit network such as absence of last-mile service, limited station parking, and poor connectivity between stations and destinations.

As identified as part of the CMAP ON TO 2050 Transit Snapshot, transit trends indicate that numerous suburban jobs centers have poor transit availability, particularly in Lake County, and that development patterns (i.e., low density) play a crucial role in the viability of transit (CMAP 2019). As low-density housing is projected to continue to expand farther north and west, transit options are expected to be less viable.

Transit improvements included as part of ON TO 2050 and assumed in the 2050 No-Build Alternative are limited to investments in existing Metra lines (the Union Pacific North and Northwest lines) and do not include new bus service improvements.

The transit rail system in the TCA Study area has served the downtown Chicago area well, with service focused on peak periods and less frequent service during evenings and weekends. Pace Bus service is concentrated in northern Cook County and northern and eastern Lake County where there is denser development and a higher concentration of trips. Due to the challenge of serving low-density patterns, existing Pace service does not provide much intra suburban access from western Lake County to employment centers in northern Cook County.

The efficiency and effectiveness of the transit system are, and are expected to be, affected by access and performance constraints, inadequate reinvestment in infrastructure for some system elements, roadway congestion, and accessibility issues. These conditions mean that the transit system is not serving the desired trips in the TCA Study area today and is not likely to do so in the 2050 No-Build Alternative condition.

Even with planned transit improvements included on the No-Build Alternative, the transit system as a whole is expected to cover approximately 2 percent of all travel, and is therefore not expected to significantly contribute to mobility within the TCA Study area. A major factor contributing to relatively low transit use is the dispersed nature of residential development over much of the TCA Study area. The efficiency and effectiveness of the TCA Study area's transit system is affected by the area's land use characteristics, poor access to bus and rail, roadway conditions, and operational inefficiencies. Key findings and conclusions of the area's transit system performance are as follows:

- Forecasts of 2050 development indicate that TCA Study area residences and employment are expected to be even less convenient to existing transit facilities than they are today. Potential transit riders are expected to be disadvantaged by poor first- and last-mile connections to Metra and Pace routes, due to limited population and employment within walking distance to a Metra station (0.5 mile) or Pace stop (0.25 mile).
- Congestion is expected to increase on TCA Study area roadways, decreasing the attractiveness of bus service for either first- and last-mile connections or longer trips.
- Planned transit investments do not provide new connections between TCA Study area residents and the areas with the greatest job growth.
- Transportation network companies like Uber and Lyft (and likely other technologies not currently being used) may provide reasonably priced alternatives to transit but are expected to compound roadway congestion.

The continuation of low-density development is expected to adversely affect transit use. Major changes in the future condition for transit is expected to only occur with substantial investment in transit facilities and service that more directly serve the desired trips within the TCA Study area and encourage development patterns that are more oriented to transit use. In addition, the current pattern of

development would need to shift to higher-density development that can be efficiently served by transit. In addition, there would also need to be a shift in travel behaviors within the TCA Study area.

The following improvement strategies should be considered in the alternatives development process along major improvement corridors to promote expanding use of transit, mitigate travel demand on local roadways, and improve overall freight mobility:

- Opportunities to eliminate accessibility gaps in the transit system should be considered. Strategies to consider include instituting connecting bus or shuttle services to employment, activity centers, and residential concentrations; increasing availability of parking facilities at station areas; and improving transfer connections in the suburban bus system.
- Options to improve connectivity between transit corridors should be explored. Strategies to consider are express bus and bus rapid transit services in arterial or interstate corridors not served by rail; light rail lines in strategic locations; and new connections between Metra and Pace.
- Grade crossings should be improved at high volume freight rail and roadway crossings.

The freight rail system in the TCA Study area is extensive and serves as an important hub for the movement of goods through the Chicago metropolitan region. It is important to the region's economy, and when it is inefficient, it is costly to the freight rail companies. Where the system conflicts with roadway traffic throughout the TCA Study area, it also causes costly delays for travelers, as evidenced by the significant congestion and traffic delays at the numerous at-grade rail crossings along major area roadways.

Freight-truck traffic is also a factor in the efficiency of the roadway network in that there are limited access-controlled Class I truck routes in the TCA Study area. Truck traffic to industrial and commercial land uses spread throughout the TCA Study area especially McHenry County and western Lake County require longer trips on the Class II truck routes, which are slower, have more points of conflict, and are less efficient. There are also several interchanges along I-294 and I-90 that do not connect directly with Class II truck routes resulting in out of direction on the interstates and available local truck routes to reach destinations. Congested roadways cause freight carriers to also experience unreliable travel times. Within the TCA Study area, travel during peak periods is unreliable and is expected to worsen in future years due to growth in travel demand. Reliability of commercial freight travel time is important suppliers and for businesses awaiting deliveries.

6.3 Active Transportation System Conclusions

The bicycle and pedestrian system in the TCA Study area includes 748 miles of bicycle routes and trails, but the system is greatly fragmented and constrains bicycling or walking as desirable travel options. Gaps in access, defined as points more than 0.5 mile away from a safe route or path, occur particularly in the west central section of the TCA Study area. Gaps between bicycle and pedestrian routes and transit facilities are prevalent throughout the area. Even in locations with sidewalks, psychological or physical barriers that diminish a pedestrian's perceived safety and comfort may discourage walking.

Walking and biking account for 5 percent of daily trips, which includes trips such as shopping, school, and work. Pedestrian and bicycle travel potentially reduces roadway congestion. They increase travel mode options, and support transit services. Maintaining and improving pedestrian and bicycle accommodations is an important consideration for this study. Because of the TCA Study area's wide scale of problems, realistic solutions should focus on major gaps in corridors where roadways are being improved.

The area's nonmotorized routes and trails are being improved continually. However, gaps in the systems and safety considerations may be impediments to the optimum effectiveness of the systems. Key findings and conclusions of the bicycle and pedestrian system performance analysis are as follows:

- The availability of more than 700 bike trails and paths within the TCA Study area is overshadowed by the amount of fragmentation and lack of connectivity among these facilities.
- Gaps in access occur, especially in the west central section of the TCA Study area.
- Gaps in intermodal connectivity between bicycle and pedestrian routes and transit facilities could be improved by ensuring that safe routes, including signalized intersections, connect directly to transit stations.
- Design features of pedestrian and pedal cyclist facilities, in particular at roadway crossings and transit stops, are critical to promoting safety for area pedestrians and cyclists.

The following improvement strategies should be considered as part of the alternatives development process to support nonmotorized travel options, and to improve connections to the area transit system:

- Opportunities to improve connectivity in the bicycle and pedestrian network should be examined, with a focus on ensuring safe routes for nonmotorized travel. Bicycle routes should be upgraded to eliminate the worst unsafe conditions (i.e., route segments not recommended for bicycle travel).
- The bicycle network should be completed to provide safe routes or exclusive lanes within a designated distance of major activity centers and transit stations. A long-term strategy may be to establish a grid system of safe routes.
- Options to enhance the quality and safety of pedestrian routes throughout the TCA Study area should be explored and fostered by community zoning and land-use plans. Safe crossings at signalized intersections and safe direct access to transit stations and bus routes are important components.

7.0 References

American Association of State Highway and Transportation Officials (AASHTO). 2018. *Highway Safety Manual.* http://www.highwaysafetymanual.org/Pages/default.aspx. Accessed July 23, 2018.

Chicago Area Transportation Study (CATS). 1962. *Creating the First Plan (1955-1962).*

Chicago Area Transportation Study (CATS). 1992. *1991 Lake County Transportation Study*.

Chicago Area Transportation Study (CATS). 1998. *2020 Regional Transportation Plan.*

Chicago Metropolitan Agency for Planning (CMAP). 2010. *GO TO 2040.* http://www.cmap.illinois.gov/about/2040. Accessed July 23, 2018.

Chicago Metropolitan Agency for Planning (CMAP). 2010. *Daily Transearch Interzone Truck Flow Estimates – 2007*. December. http://www.cmap.illinois.gov/documents/10180/19427/Freight-Flow-Map-2007_12-31-2010_final.pdf/407e67bf-9bbe-41b8-b5e3-e606edc0997a. Accessed August 28, 2018.

Chicago Metropolitan Agency for Planning (CMAP). 2012. *Freight Trains per Day, 7-County Chicago Region, 2011*. September. http://www.cmap.illinois.gov/documents/10180/19427/Chicago-region-freight-trainsperday_20120917_draft.pdf/0668884b-02c3-4b77-93ec-12f0dd232c05. Accessed August 28, 2018.

Chicago Metropolitan Agency for Planning (CMAP). 2015. *Illinois Route 53/120 Corridor Land Use Strategy.*

Chicago Metropolitan Agency for Planning (CMAP). 2016. *2016 Regional Greenways and Trails Plan*. http://www.cmap.illinois.gov/documents/10180/587538/FinalRGTP+10-14-16.pdf/e6008659-336c-4b18-b569-22dc4fd9987e. Accessed August 28, 2018.

Chicago Metropolitan Agency for Planning (CMAP). 2018. *ON TO 2050 Comprehensive Regional Plan.* http://www.cmap.illinois.gov/onto2050. Accessed July 23, 2018.

Chicago Metropolitan Agency for Planning (CMAP). 2019. CMAP Data Hub https://datahub.cmap.illinois.gov/organization/data.

Cook County. 2016. *2040 Long Range Transportation Plan.* http://www.connectingcookcounty.org/pdf/CookCounty_LRTP_FINAL_WebVersion.pdf. Accessed July 23, 2018.

Cook County. 2017. *Cook County Sustainability Report 2017.* http://blog.cookcountyil.gov/sustainability/wp-content/uploads/2018/01/Sustainability-Report-2017_final.pdf. Accessed July 23, 2018.

Federal Highway Administration (FHWA). 2017. T*ravel Time Reliability: Making It There On Time, All The Time.* Office of Operations. https://ops.fhwa.dot.gov/publications/tt_reliability/TTR_Report.htm. Accessed July 23, 2018.

Illinois Department of Transportation. 1975. *Lake-Will (FAP 432) and Richmond-Waukegan (FAP 420) Freeway Draft Environmental Impact Statement.*

Illinois Department of Transportation. 1989. *FAP 432: Corridor Feasibility Study.*

Illinois Department of Transportation. 1996. *Technical Report on Social and Economic Studies - Existing Conditions: FAP 342 Environmental Impact Statement*.

Illinois Department of Transportation (IDOT). Blue Ribbon Advisory Council (BRAC). 2012. *Resolution and Summary Report.*

Illinois Department of Transportation (IDOT). Blue Ribbon Advisory Council (BRAC). 2015a. *Illinois Route 53/120 Corridor Land Use Strategy.*

Illinois Department of Transportation (IDOT). Blue Ribbon Advisory Council (BRAC). 2015b. *Illinois Route 53/120 Feasibility Analysis.*

Illinois Department of Transportation (IDOT). 2015. *Illinois Strategic Highway Safety Plan.* http://www.idot.illinois.gov/transportation-system/transportation-management/planning/SHSP. Accessed July 23, 2018.

Illinois Department of Transportation (IDOT). 2019. *Bureau of Design and Environment (BDE) Manual.*

Illinois Department of Transportation (IDOT), Illinois Tollway, in collaboration with the Federal Highway Administration (FHWA). 2015. *Draft Environmental Impact Statement.* September. http://www.idot.illinois.gov/transportation-system/environment/environmental-review-documents. Accessed July 23, 2018.

Illinois Department of Transportation and Illinois Tollway. 2001. *Lake County Transportation Improvement Study Draft Environmental Impact Statement.*

Illinois Economic Policy Institute. 2017. *In Support of Route 53/120.*

Illinois Tollway. 2015a. *Draft Feasibility Analysis Report: Illinois Route 53/120*.

Illinois Tollway. 2015b. *Illinois Route 53/120: Finance Committee Feasibility Analysis*.

Lake County Division of Transportation (LCDOT). 2006. *State Highway Consensus Plan for Lake County*.

Lake County Department of Transportation (LCDOT). 2009. *Central Lake Thruway: Illinois Route 120 Corridor*.

Lake County Department of Transportation (LCDOT) - Route 120 Corridor Planning Council (CPC). 2009. *Unified Vision Plan*.

Lake County Division of Transportation (LCDOT). 2012. *Lake County Transportation Market Analysis*.

Lake County Division of Transportation (LCDOT). 2014. *Lake County 2040 Transportation Plan*.

Lake County Division of Transportation (LCDOT). 2016. *Signal Coordination and Timing Study.* https://www.lakecountyil.gov/3833/Signal-Coordination-and-Timing-Study.

Lake County Division of Transportation (LCDOT). 2018a. *Route 120 Corridor Planning Council.* http://www.lake.k12.il.us/1981/Route-120-Corridor-Planning-Council. Accessed July 23, 2018.

Lake County Division of Transportation (LCDOT). 2018b. *Central Lake Thruway, Unified Vision.* https://www.lakecountyil.gov/DocumentCenter/View/11333. Accessed July 23, 2018.

Lake County Division of Transportation (LCDOT). 2018c. A story map: *LCDOT Contributes to a Sustainable Lake County.* https://www.arcgis.com/apps/MapJournal/index.html?appid=213822be831741fbb54cec6eeecb9402. Accessed July 23, 2018.

McHenry County Division of Transportation. 2014. *McHenry County 2040 Long Range Transportation Plan*. March. https://www.mchenrycountyil.gov/home/showdocument?id=30321. Accessed July 23, 2018.

Metra. 2015. *2014 Origin-Destination Survey*. March. https://metrarail.com/sites/default/files/assets/about-metra/2014_od_srvy_moa.pdf. Accessed August 28, 2018.

Metra. 2017. *Strategic Plan: On Track to Excellence*.

Metra. 2018. *On-Time Performance Report*. June. https://metrarail.com/node/5871. Accessed August 28, 2018.

Metra. 2018. *State of the System*. August. https://metrarail.com/sites/default/files/assets/metra_state_of_the_system_2018_reduced.pdf. Accessed November 24, 2018.

Pace. 2001. *Vision 2020: Blueprint for the Future*.

Pace. 2011. *Pace Performance: September 2011 (3rd Quarter)*. September. http://www.pacebus.com/pdf/performance2012_01.pdf. Accessed August 28, 2018.

Railroad Performance Measures. 2018. *CN: Weekly Performance Report*. July. http://www.railroadpm.org/Performance%20Reports/CN.aspx. Accessed August 28, 2018.

Railroad Performance Measures. 2018. *Union Pacific Railroad: Weekly Performance Report*. July. http://www.railroadpm.org/Performance%20Reports/UP.aspx. Accessed August 28, 2018.

Regional Transportation Authority Mapping and Statistics (RTAMS). 2016. *Metra Ridership Data*. http://rtams.org. Accessed August 28, 2018.

Regional Transportation Authority Mapping and Statistics (RTAMS). 2018. *Pace Ridership Data*. http://rtams.org. Accessed August 28, 2018.

United States Census Bureau. 2012 -2016. American Community Survey (ACS).

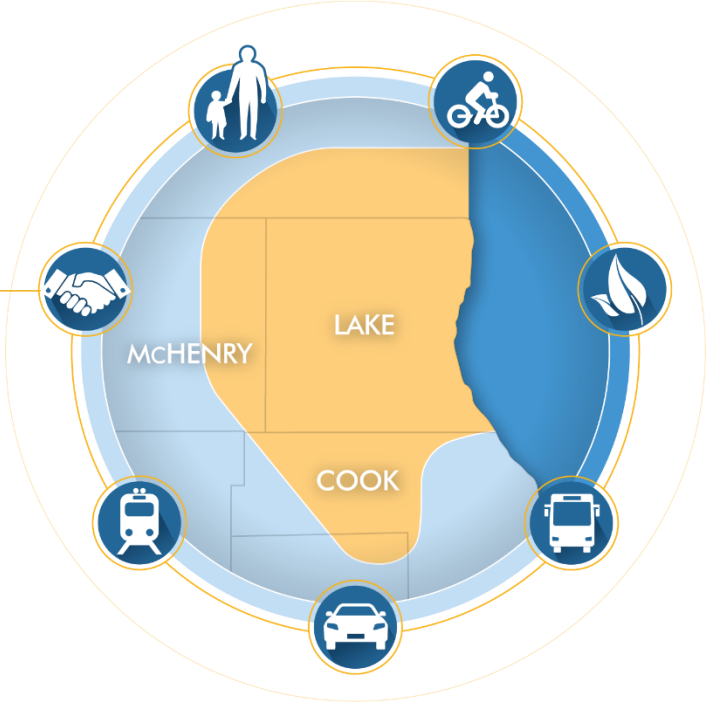
Village of Grayslake. 2012. *Grayslake's Vision for a Low Profile Route 53/120*.

Village of Long Grove. 1993. *FAP 342 Alternatives.*

Wegener, Michael & Fuerst, Franz. (2004). *Land-Use Transport Interaction: State of the Art.* SSRN Electronic Journal.

Appendix D

Draft Purpose and Need



TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Draft Environmental Impact Statement

Section 1: Draft Purpose and Need

May 2019

Illinois Tollway

U.S. Department of Transportation
Federal Highway Administration

Illinois Department of Transportation

Contents

Acronyms and Abbreviations ..... **v**

1.0 Purpose and Need **1**
1.1 Introduction 1
1.2 Tri-County Access Background 2
1.2.1 History 2
1.2.2 Regional Planning Context 4
1.3 Tri-County Access Study Area Characteristics 4
1.3.1 Population and Employment 5
1.4 Tri-County Access Study Needs 10
1.4.1 Inadequate Travel Options to Reach Regional Destinations 11
1.4.2 Widespread Congestion and Unreliable Travel 21
1.5 Study Purpose 29
1.6 Stakeholder and Public Input on the Purpose and Need 29
1.7 Summary 29
1.8 References 31

Tables

1-1 Base Year (2015) and No-Build Forecast Year (2050) Population in TCA Study Area 6
1-2 Base Year (2015) and No-Build Forecast Year (2050) Employment in TCA Study Area 10
1-3 Change in Roadway VMT and VHT in TCA Study Area between Base Year (2015) and No-Build Forecast Year (2050) 21
1-4 Change in CVMT in TCA Study Area by Functional Class During Peak Travel Periods Base Year (2015) to No-Build Forecast Year (2050) 23
1-5 Peak Period Travel Times Base Year (2015) Conditions and Google Comparison 28

Figures

1-1 TCA Study Area 1
1-2 Historical Perspective 3
1-3 Socioeconomic Profile in TCA Study Area 5
1-4 Base Year (2015) and No-Build Forecast Year (2050) Population in TCA Study Area 7
1-5 Nature of Development in TCA Study Area 8
1-6 Base Year (2015) and No-Build Forecast Year (2050) Employment in TCA Study Area 9
1-7 Base Year (2015) and No-Build Forecast Year (2050) Travel Desire and Large Employment Centers in TCA Study Area 13
1-8 Travel Mode Choice 14
1-9 Metra and Pace Transit Map 16
1-10 Classification and Route Miles of Roadway Types in TCA Study Area 17
1-11 Strategic Regional Arterials in TCA Study Area 18
1-12 Truck Freight Land Use in TCA Study Area 20
1-13 Level of Service 22
1-14 Base Year (2015) and No-Build Forecast Year (2050) Severe/Extreme Congestion in TCA Study Area 24
1-15 Example Roadways with CVMT Description 25
1-16 Example Travel Time Locations 27

Acronyms and Abbreviations

ACS	American Community Survey
BRAC	Blue Ribbon Advisory Council
CATS	Chicago Area Transportation Study
CPC	Lake County IL 120 Corridor Planning Council
CMAP	Chicago Metropolitan Agency for Planning
CVMT	Congested Vehicle Miles Traveled
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
GO TO 2040	Chicago Metropolitan Agency for Planning's *GO TO 2040 Comprehensive Regional Plan*
HBO	Home-Based Other
HBW	Home-Based Work
IDOT	Illinois Department of Transportation
INHD	Illinois National Heritage Database
Illinois Tollway	Illinois State Toll Highway Authority
JEG	Jacobs Engineering Group
LCDOT	Lake County Department of Transportation
LCTIP	Lake County Transportation Improvement Project
LOS	Level of Service
NEPA	National Environmental Policy Act of 1969
NHB	Non-Home-Based
ON TO 2050	Chicago Metropolitan Agency for Planning's *ON TO 2050 Comprehensive Regional Plan*
RTA	Regional Transportation Authority
RTP	Regional Transportation Plan
SPG	Stakeholder Participation Group
SRA	Strategic Regional Arterial
TCA	Tri-County Access
USFWS	United State Fish and Wildlife Service
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles Traveled

1.0 Purpose and Need

The Illinois State Toll Highway Authority (Illinois Tollway), in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is evaluating transportation needs and alternative transportation solutions within Lake County and the northeastern Illinois region. The National Environmental Policy Act of 1969 (NEPA) and Section 109(h) of Title 23 of the United States Code direct transportation officials to consider social, economic, and natural environmental factors when making decisions about transportation projects and engineering requirements. NEPA and Section 109(h) also provide opportunities for the public to review and comment.

This section describes the purpose of and need for transportation improvements. The Tri-County Access (TCA) Study Purpose and Need will determine the development and evaluation of a range of reasonable alternatives.

1.1 Introduction

The TCA Study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin (Figure 1-1). Three primary counties in Illinois are part of the TCA Study area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA Study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

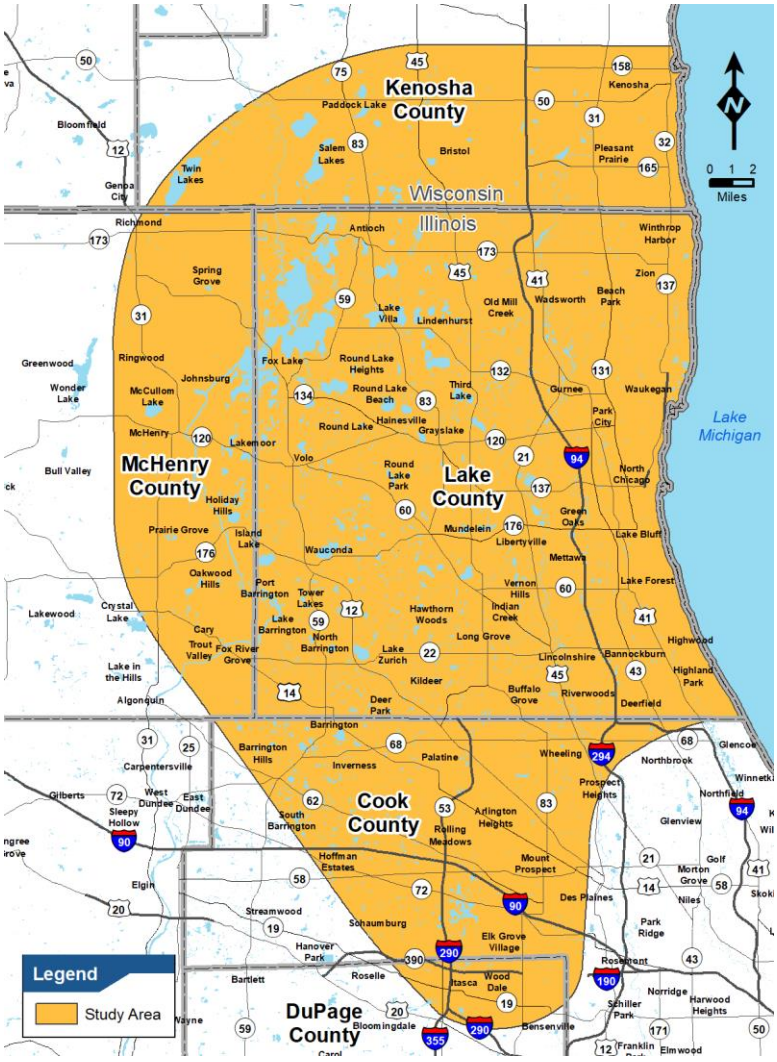


Figure 1-1. TCA Study Area

As part of the TCA Study, a transportation needs analysis was conducted to identify problems with existing roadways and transit systems and to assess active transportation (bicycle and pedestrian) accommodations in the TCA Study area. See the *Transportation System Performance Report* (JEG 2019) for more details. The analysis found that congestion and travel delays are currently widespread in the TCA Study area and will continue to worsen. The growing travel demand, resulting from steady population and employment growth, is outpacing the roadway capacity. The region's roadways and infrastructure have not undergone corresponding improvements to support the population and employment growth that has occurred. Today, one-fifth of the roadway network is congested during peak

travel periods,[1] and by 2050 traffic congestion-related delays will increase travel times by more than 50 percent compared to today's conditions. The TCA Study will identify alternatives across multiple modes of travel, including roadway, transit, active transportation (bicycle and pedestrian), and transportation system management/transportation demand management strategies to meet the defined Purpose and Need. Alternatives that most closely meet the Purpose and Need will be advanced for more detailed evaluation. Throughout the process, the No-Build Alternative will be carried forward to compare against the "build alternatives" and determine benefits and environmental impacts. The No-Build Alternative assumes that proposed infrastructure improvements in the Chicago Metropolitan Agency for Planning's (CMAP) *ON TO 2050 Comprehensive Regional Plan* (ON TO 2050; 2018a) are implemented, except for any improvements proposed by the TCA Study.[2]

1.2 Tri-County Access Background

1.2.1 History

The need for an improved transportation system in Lake County and its surrounding area has been the focus of years of planning and study. As early as the 1960s, regional plans identified the need for improved transportation linkages between Lake and McHenry counties and the rest of northeastern Illinois. Federal, state, and local agencies have been involved in various planning studies related to a potential extension of Illinois Route (IL) 53 to provide that linkage. As shown on Figure 1-2, the following are major milestones in studying transportation improvements in this area:

- In 1962, the plan for a north-south circumferential interstate route in the northeastern Illinois region was first identified (CATS 1962). The planned interstate, known as the Lake-Will Freeway, would extend the committed expressway system – what is now I-290 from I-294 to I-90 and IL 53 from I-90 to Dundee Road (IL 68)[3] – to the north and south. The northern extension would extend IL 53 from south of the Lake/Cook county border at IL 68 through the center of Lake County, and the southern extension would generally follow what is now I-355. Following completion of the plan, the Illinois Division of Highways (what is now IDOT) approved a "Route Location Decision" in 1964 for IL 53 to be a fully access-controlled route from Dundee Road (IL 68) in Cook County to Peterson Road in Lake County. IDOT began purchase right-of-way for the roadway alignment to protect it from being developed for other purposes, commonly referred to as "protective acquisition".
- In 1970, the enactment of NEPA resulted in further engineering and environmental study of the proposed IL 53 alignment. In 1975, FHWA released a Draft Environmental Impact Statement (EIS) evaluating the extension of IL 53 from IL 68 northward and east-west improvements along IL 120, but a Final EIS was never issued.[4]

[1] Congestion on the roadway network includes moderate, severe, and extreme conditions (described further in Section 1.4.2 Widespread Congestion and Unreliable Travel). Peak periods are when traffic is anticipated to be the greatest in the afternoon and evening and during the shoulder period (the time before and after the a.m. and p.m. peak periods). The Chicago Metropolitan Agency for Planning data upon which the study model is based considers the "peak period" to be between 6 and 10 a.m. and between 2 and 8 p.m. Monday through Friday.

[2] The No-Build Alternative includes planned roadway add lane, intersection/interchange, and road modernization improvements, as well as planned rail capacity and reliability improvements on two Metra lines within the TCA Study area by 2050. The No-Build Alternative adds approximately 365 lane miles to the existing freeway/tollway/expressway and arterial system, which is an increase of less than 8 percent. The planned projects are considered "fiscally constrained" in that sufficient revenue has been identified and is anticipated to be available over the next three decades to pay for the proposed infrastructure investments (CMAP 2018a).

[3] Existing IL 53 was constructed to IL 68 in the late 1960s, preceding the enactment of NEPA.

[4] The Lake-Will Freeway (Federal-Aid Primary [FAP] 432) from Illinois Route 68 (Dundee Road) to Richmond-Waukegan Freeway (FAP 420) and Richmond-Waukegan Freeway (FAP 420) from Alleghany Road to Almond Road Draft EIS analyzed two new corridors: (1) the IL 53 alignment, referred to as the Lake-Will Freeway (FAP 432), from IL 68 to an east-west improvement at IL 120, referred to as the Richmond-Waukegan Freeway (FAP 420); and (2) a segment of the Richmond-Waukegan Freeway from Alleghany Road to Almond Road (FHWA 1975). Plans for the Richmond-Waukegan Freeway extended to the west from the terminus at Alleghany Road to US 12, as part of separate studies.

- In the late 1980s, IDOT constructed IL 53 from IL 68 to Lake Cook Road (BRAC 2015a) as part of a separate project.
- In 1993, the Illinois Tollway became involved when the Illinois General Assembly authorized the Illinois Tollway to expand the toll road system and extend IL 53 from Lake Cook Road to IL 120. The Illinois Tollway collaborated with IDOT on IL 53 feasibility studies, and then the agencies jointly initiated the Lake County Transportation Improvement Project (LCTIP) EIS in 1998.
- In September 2001, IDOT and the Illinois Tollway, in collaboration with FHWA, completed the LCTIP Draft EIS (IDOT and Illinois Tollway 2001). The Draft EIS evaluated a No-Build Alternative and two roadway build alternatives—one with proposed IL 53 freeway/tollway extension and one with proposed arterial improvements to address the transportation issues in Lake County. The Draft EIS was presented at a public hearing in 2001, but a Final EIS was never completed. The "Notice of Intent" to prepare the EIS was withdrawn by FHWA on October 23, 2008 (FHWA 2008).
- In 2005, the focus shifted to the IL 120 corridor when improving IL 120 was identified as the number one transportation need in Lake County at the Lake County Transportation Summit held in September of that year (LCDOT 2018). The prioritization resulted in the formation of the Route 120 Corridor Planning Council (CPC), which included Lake County and 10 municipalities. The CPC focused on potential improvements to the IL 120 corridor. In 2009, the feasibility study concluded with the CPC releasing a visioning study that recommended improving IL 120 to a four-lane, limited-access arterial highway with a bypass along 7 miles of the roadway (LCDOT 2009).
- In 2011, the Illinois Tollway established the IL 53/120 Blue Ribbon Advisory Council (BRAC), consisting of representatives of transportation, planning, local governments, and local interest groups in Lake County dedicated to moving the IL 53/120 Project forward. While the BRAC was not a NEPA study, the final reports identified a context-sensitive design concept that consisted of a parkway design for IL 53/120 with a narrower footprint to minimize impacts and preserve the character of Lake County and recommended that the Illinois Tollway advance the project further (BRAC 2012, 2015a, 2015b).

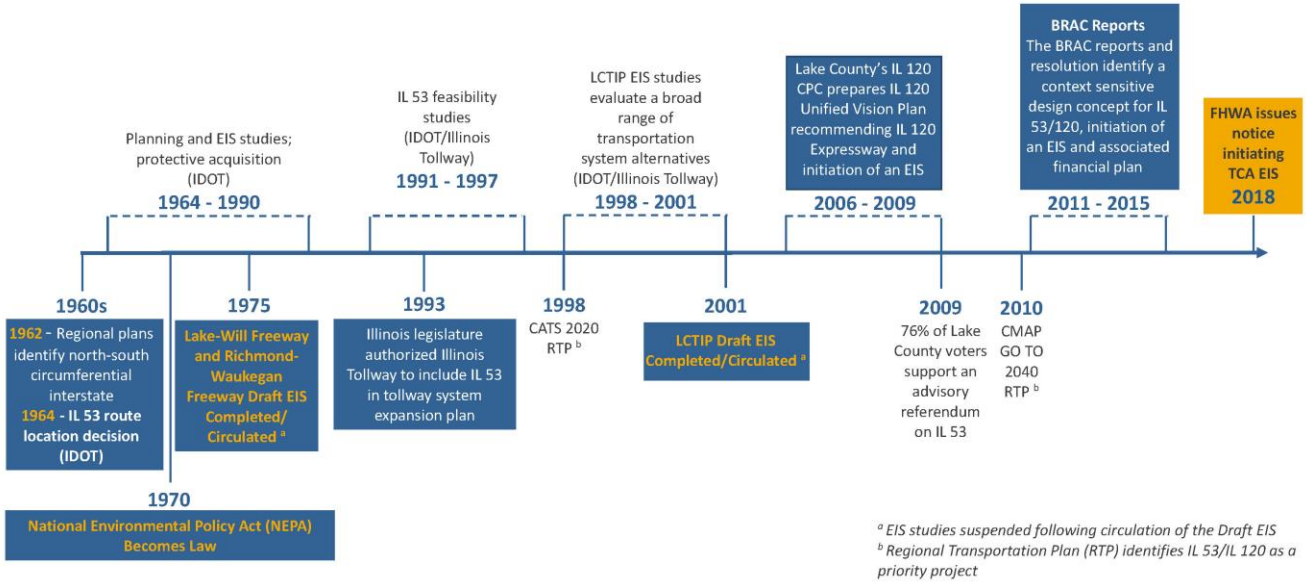


Figure 1-2. Historical Perspective

Given that an EIS has not been completed for the IL 53/120 Project and building on the performed transportation needs analysis and recommendations from the recent CPC and BRAC to advance the project to the next step, in 2017 the Illinois Tollway initiated engineering and environmental EIS studies. The preparation of an EIS under NEPA will address federal environmental review requirements for FHWA and other federal agencies that may provide funding, approvals, or issue permits for the ultimately selected alternative. FHWA, in cooperation with the Illinois Tollway and IDOT, issued a Notice of Intent to prepare an EIS on July 16, 2018 (FHWA 2018). The EIS is focused on identifying and evaluating current and future transportation needs and potential solutions in the TCA Study area (Figure 1-1).

1.2.2 Regional Planning Context

Throughout the history of the various studies for a new or improved transportation corridor in Lake County, Regional Transportation Plans (RTPs) have recognized the regional benefits of this potential transportation improvement for the region, as well as for Lake County and the surrounding areas. Both the Chicago Area Transportation Study (CATS) *2020 Regional Transportation Plan* (1998) and the CMAP *GO TO 2040 Comprehensive Regional Plan* (GO TO 2040) (CMAP 2010) identified the extension of IL 53 from Lake Cook Road to IL 120 as one of the region's priority projects. GO TO 2040 identified the project as "ranking highest among all projects in its effect on regionwide congestion" (CMAP 2010).

CMAP's adoption of the latest RTP – ON TO 2050 – identifies the extension of IL 53 and expansion of IL 120 as a project that requires further study (CMAP 2018a).[5] CMAP acknowledges that these improvements would have substantial mobility benefits for the region; however, consensus regarding the scope, design, and financing is still required. The TCA Study will focus on these efforts through the NEPA process and strive to meet the goals of ON TO 2050 by identifying fundable solutions that improve mobility, preserve community character, and preserve environmental quality.

The ON TO 2050 plan also serves as the basis for the TCA Study's transportation needs analysis, including population, employment, and travel forecasts developed by CMAP. As the agency charged with the development of the transportation planning forecasts, the analysis is based on CMAP's regional planning context from the base year (2015) into the forecast year 2050.[6] Input on trends from the Southeastern Wisconsin Regional Planning Commission (the metropolitan planning organization in Wisconsin that covers Kenosha County within the TCA Study area) are also included as part of CMAP's forecasting.

1.3 Tri-County Access Study Area Characteristics

Given the regional planning context assertion that transportation improvements in Lake County would have regional benefits in northeastern Illinois, the limits of the TCA Study area (Figure 1-1) include Lake County and the surrounding areas. To understand the transportation characteristics in this portion of the CMAP seven-county region (CMAP Region)[7] and neighboring southern Wisconsin, the TCA Study area includes Lake County in its entirety and portions of adjacent McHenry County to the west, northern Cook and DuPage counties to the south, and Kenosha County in Wisconsin to the north.

[5] CMAP defines the extension of IL 53 and expansion of IL 120 as an "unconstrained project" or a project that could not be included within the ON TO 2050 plan because it requires more study or cannot be completed within the limits of the region's forecast revenues (CMAP 2018a).

[6] The base year, the year 2015, is used to understand the existing transportation and socioeconomic (population and employment) characteristics in the TCA Study area. The forecast year, the year 2050, is used to understand the anticipated transportation and socioeconomic characteristics, including planned regional improvements under No-Build conditions. The base and forecast years provide a long-range comparison as identified by CMAP and serve as the basis for the TCA Study team's travel demand model and forecasting for the TCA Study area.

[7] The CMAP Region consists of seven Illinois counties – Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will counties.

The three primary counties of the TCA Study area (Lake, eastern McHenry, and northern Cook counties) are the focus of analyzing travel patterns, needs, and potential solutions. Portions of southern Kenosha County in Wisconsin and northeastern DuPage County are also included in the TCA Study area to capture their intertravel relationships with the three primary counties, even though transportation improvements are not the focus in these counties. Kenosha County is included in the TCA Study area only to account for how the interstate travel relationships may affect transportation needs. The portion of DuPage County is included based on considerations for major employment centers in this area and their effect on travel patterns.

The TCA Study area location is a critical link in the state of Illinois' interregional transportation system. Given its location between Wisconsin and the City of Chicago, the TCA Study area is in a strategic geographic position as a gateway to the state and the Chicago metropolitan area. A total of 27 percent of trips (5.7 million roadway trips) made per day in the entire CMAP modeling area are internal to, entering, leaving, and passing through the TCA Study area.[8]

Not only is the TCA Study area geographically important from a transportation perspective, it is also rich in sensitive environmental and community resources, including lakes and ponds, extensive wetlands, historic and archaeological resources, and numerous environmentally protected lands. Lake, McHenry, and Cook counties have the largest number of state and federally listed species in Illinois (INHD 2018; USFWS 2017) and have many areas with suitable habitat for wildlife. The TCA Study area also includes a great deal of publicly owned federal, state, and local park and recreation areas, forest and nature preserves, designated open spaces, and conservation easements. These "special lands" are protected for their recreational qualities and for their environmental or historical importance. In addition to the state and federal importance of the resources in the TCA Study area, these resources are also valued deeply by residents and other stakeholders.

1.3.1 Population and Employment

The TCA Study area is home to large employment centers and a mix of urban, suburban, and rural development patterns. Almost a quarter (24 percent) of the CMAP Region's employment and 20 percent of the CMAP Region's population are accounted for in the TCA Study area both today and in the future.

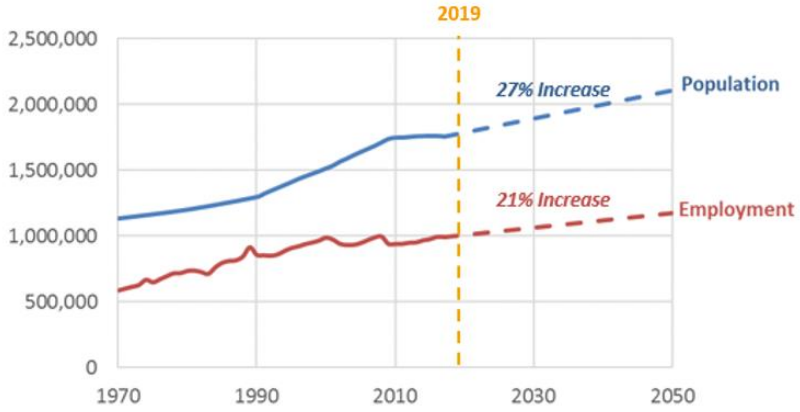


Figure 1-3. Socioeconomic Profile in TCA Study Area

Source: U.S. Census Historical County Database and Estimates; Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018).

The TCA Study area population and employment have steadily increased as the Chicago metropolitan region continued to expand from Chicago outward to suburban communities. Since 1970, the TCA Study area population has grown by over 60 percent (from just over 1 million to 1.65 million people), and employment has grown by approximately 65 percent (from 588,000 to 970,000 jobs). By 2050, the TCA Study area is expected to add approximately 450,000 more residents (an increase in population of 27 percent) and 200,000 more jobs (an increase in employment of 21 percent) (Figure 1-3). The forecasted population increase aligns

[8] The CMAP modeling area is based on a 21-county area that spans 15 counties in the state of Illinois, as well as 6 adjacent counties in Wisconsin and Indiana.

with the CMAP Region's projected growth of 27 percent by 2050, and the forecasted employment increase is just slightly less than the CMAP Region's projected growth of 22 percent by 2050.

Population

Figure 1-4 depicts the base year (2015) and forecast (2050) population within the TCA Study area, described as follows:

- The predominant development pattern throughout much of the TCA Study area is medium-density dispersed development, with population concentrations ranging between 100 and 4,999 residents per square mile (shown as yellow and green on the figure).
- Areas with denser population concentrations (greater than 5,000 persons per square mile, as shown in red and orange on the figure) are generally found in Cook County and in a few areas in Lake County (along the lakefront and in some parts through the middle of the county).
- Low-density population areas (fewer than 100 persons per square mile, as shown in white on the figure) occur in the northern and western portions of Lake County and in McHenry County. In Lake and McHenry counties, future population growth is forecasted to occur in the areas shown in white.

In the northern Cook/northeast DuPage portion of the TCA Study area, growth is projected to occur primarily through infill development (development of vacant or underused parcels within existing urban areas).

Table 1-1 provides the base year (2015) and anticipated (2050 projections) population by portions of counties within the TCA Study area. The population is greatest in the southern and eastern portions of the TCA Study area, in northern Cook/northeastern DuPage counties and in eastern (northeast/southeast) Lake County. These areas are expected to continue to grow, but the highest proportion of future growth is forecasted in the less populated northern and western portions of the TCA Study area, including southwestern Lake, eastern McHenry, and southeast Kenosha counties.

Table 1-1. Base Year (2015) and No-Build Forecast Year (2050) Population in TCA Study Area

Location	Population 2015	Population 2050	Absolute Change 2015-2050	% Change 2015-2050
Northwest Lake[a]	159,298	200,518	41,220	26%
Northeast Lake[b]	202,610	266,202	63,592	31%
Southwest Lake[c]	114,360	155,894	41,534	36%
Southeast Lake[d]	223,688	286,585	62,897	28%
Eastern McHenry[e]	152,679	231,732	79,053	52%
Northern Cook/Northeast DuPage[f]	632,541	736,348	103,807	16%
Kenosha	166,646	226,771	60,125	36%
TCA Study area Total	1,651,822	2,104,050	452,228	27%
CMAP Region	**8,456,818**	**10,722,812**	**2,265,994**	**27%**

Source: Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018)

[a] Includes Antioch, Avon, Grant, and Lake Villa townships.

[b] Includes Benton, Newport, Warren, Waukegan, and Zion townships.

[c] Includes Cuba, Ela, Freemont, and Wauconda townships.

[d] Includes Libertyville, Moraine, Shields, West Deerfield, and Vernon townships.

[e] Includes all of Burton, McHenry, and Richmond townships; and portions of Algonquin and Nunda townships.

[f] Includes all of Elk Grove, Palatine, Schaumburg, and Wheeling townships, and portions of Barrington, Hanover, Jefferson, Leyden, Maine, New Trier, and Northfield townships in Cook County; and portions of Addison and Bloomingdale townships in DuPage County.

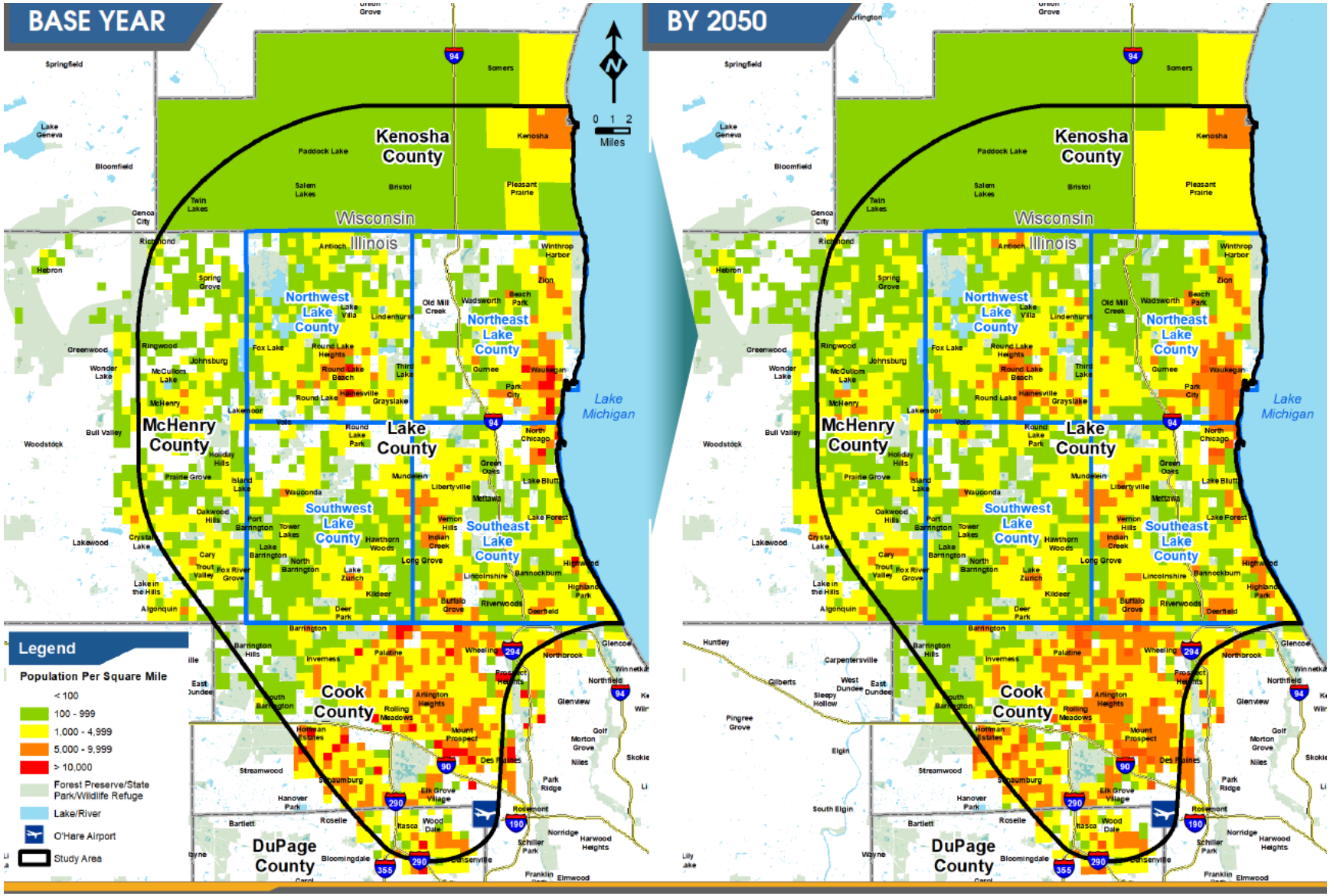


Figure 1-4. Base Year (2015) and No-Build Forecast Year (2050) Population in TCA Study Area
Source: Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018).

As shown on Figure 1-5, land-use patterns vary from low-density dispersed development (often characterized by subdivisions with larger lots, winding streets, and cul-de-sacs) to denser development (often in older developed areas, as well as in areas closer to suburban downtowns with commuter rail service). The most prevalent pattern of lower density, dispersed development (100 to 4,999 persons per square mile) is found throughout much of the TCA Study area, with predominance in southwest Lake, eastern McHenry, and Kenosha counties. Older developed areas with greater densities (ranging between 5,000 to 9,999 persons per square mile) include areas of northwest Cook County (in communities such as Wheeling, Palatine, and Arlington Heights, to name a few) and groupings of communities in northeast and northwest Lake County (in communities such as Waukegan, North Chicago, Round Lake Heights, and Round Lake Beach, to name a few). Additionally, many of the areas proximate to commuter rail stations have more compact, dense development (including areas of Barrington, Mundelein, Libertyville, and Buffalo Grove, to name a few).

Figure 1-5. Nature of Development in TCA Study Area

Employment

Figure 1-6 shows the base year (2015) and forecast (2050) employment within the TCA Study area. Employment is concentrated in the more densely populated areas of the TCA Study area, specifically in the eastern (southeast Lake County) and southern (northern Cook/northeast DuPage counties) portions of the area. Large employment centers attracting over 5,000 jobs per square mile will continue to be concentrated in these areas into 2050. Jobs are expected to expand to the north and west at lesser densities (less than 5,000 jobs per square mile) in the TCA Study area by 2050.

Employers such as Abbott Laboratories (in Lake Bluff), Shire (in Bannockburn), and Zurich (in Schaumburg) to name a few, are concentrated in southeast Lake County and northern Cook/northeast DuPage counties along interstate corridors (for example, I-94 and I-90). These and other employment centers attract thousands of employees each day and result in a considerable amount of work trips traveling to the area. The employment data show that while the starting points of many trips are dispersed through much of the TCA Study area, currently 64 percent of work trips made within the TCA Study area have a primary destination of southeast Lake County or northern Cook/DuPage counties. With a current base of nearly 1 million jobs, employment in the TCA Study area is forecasted to continue to grow, reaching about 1.2 million jobs by 2050 (Table 1-2). Most of the base year (72 percent) and

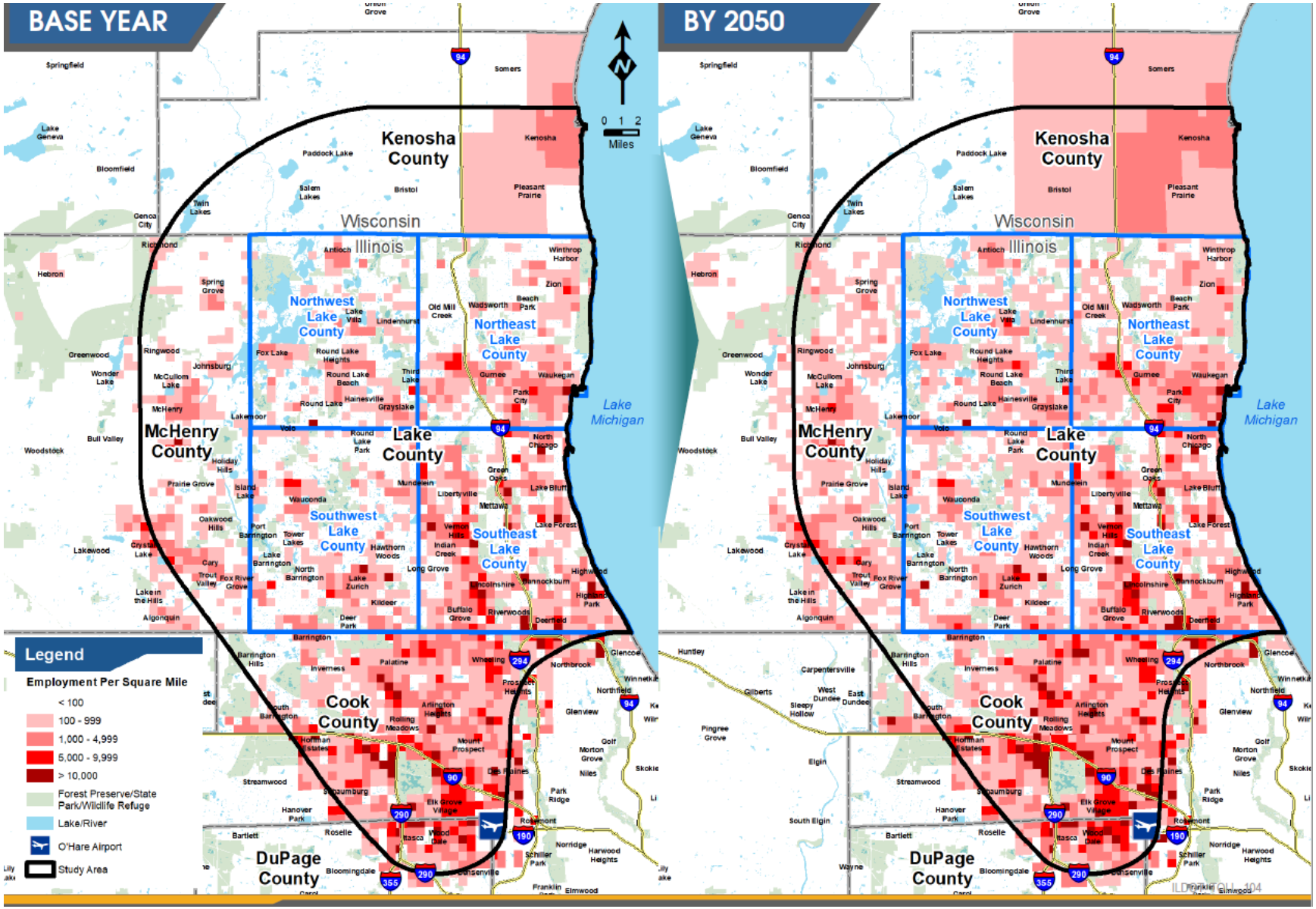


Figure 1-6. Base Year (2015) and No-Build Forecast Year (2050) Employment in TCA Study Area
Source: Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018).

forecast year (68 percent) jobs in the TCA Study area are in northern Cook/northeast DuPage counties and in southeast Lake County. Employment in northeastern and western Lake County, eastern McHenry County, and the southern Kenosha County portion of the TCA Study area accounts for the remaining 28 percent of the base year employment, and this area is forecasted to experience the highest proportion of growth by 2050, as employment expands north and west. Notable employers in these areas include Lacosta (Wauconda), Scot Forge (Spring Grove), and Sage Products (Cary).

Table 1-2. Base Year (2015) and No-Build Forecast Year (2050) Employment in TCA Study Area

Location	Total Employment 2015	Total Employment 2050	Absolute Change 2015-2050	% Change 2015-2050
Northwest Lake	31,577	44,504	12,927	41%
Northeast Lake	75,029	98,160	23,131	31%
Southwest Lake	54,303	68,778	14,475	27%
Southeast Lake	177,195	205,258	28,063	16%
Eastern McHenry	56,680	82,489	25,809	46%
Northern Cook/Northeast DuPage	518,994	592,644	73,650	14%
Kenosha	59,213	82,928	23,715	40%
TCA Study Area Total	**972,991**	**1,174,761**	201,770	21%
CMAP Region	**4,085,500**	**4,999,462**	**913,962**	**22%**

Source: Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018)

Both existing and forecast population and employment affects the performance of the transportation network. The population and job growth lead to people traveling to, from, and within the TCA Study area, adding to the local and regional demands on the transportation system. Population is dispersed and growing to the north and west, while major employment centers continue to be concentrated in the south and southeastern portions of the TCA Study area. This results in longer commutes within the TCA Study area and more people traveling to these destinations daily.

1.4 Tri-County Access Study Needs

The TCA Study team developed a travel demand model to evaluate travel demand and traffic operations in the base year (2015) and to forecast conditions by 2050.[9] Roadway elements in the model were developed based on traffic and trip data obtained from IDOT, CMAP, and the Illinois Tollway. Data about the availability, type, and frequency of transit service, as well as its current utilization, were coordinated with the region's transit providers (Metra, Pace Bus, and the Regional Transit Authority). The modeling approach and results were also coordinated with CMAP, as the agency with jurisdiction over the transportation planning forecasts in the region.

The findings of the transportation analysis form the basis for the following TCA Study needs:

1. Inadequate travel options to reach regional destinations
2. Widespread congestion and unreliable travel

Each need is discussed in more detail in the following subsections.

[9] The forecast (2050) condition in the TCA Study travel demand model includes proposed infrastructure improvements as part of the No-Build Alternative (improvements planned as part the ON TO 2050) and does not include any improvements proposed by the TCA Study.

1.4.1 Inadequate Travel Options to Reach Regional Destinations

The opportunity to travel efficiently within the TCA Study area is affected by the available roadway and transit options. The types of trips being made daily are reliant on automobiles and are longer than the regional average, yet the network of roadways requires drivers to travel farther to connect to higher-type facilities, such as freeways or expressways, that provide for higher speeds and fewer interruptions. Transit service is oriented toward downtown Chicago and experiences low utilization due to in part to the low-density development and lack of service to move people within the TCA Study area.

To understand inefficiencies in the transportation network, the TCA Study team analyzed regional destinations, the types of trips being made daily, the travel desires of where people want to go, and how the available travel options accommodate those desires, described further in the following subsections.

Regional Destinations

The primary goal of a transportation network is to move people and goods between origins and destinations. An origin is where a trip starts, and a destination is where it ends. Trips are made for different reasons and using different modes of travel (for example, car, bus, train, walking, and biking).

A destination may be local, such as a neighborhood grocery store, or it may be regional, such as specialized shopping or entertainment. Regional destinations include large employment centers and specialized attractions that draw high volumes of trips within and to the TCA Study area. Examples of attractions include the amusement park Six Flags Great America in Gurnee and the Woodfield Mall shopping center in Schaumburg. The TCA Study area also serves as a gateway to downtown Chicago, which is a regional destination that provides many offerings for entertainment, shopping, and employment.

Types of Trips

To understand where travelers are going and why, trips are categorized as part of travel analyses. For example:

- A work trip often begins at home and ends at a place of employment. This is known as a Home-Based Work (HBW) trip. A trip from work back to home is also categorized as HBW. These trips often occur during peak hours.
- A trip from home to a destination other than work (for example, a grocery store or other shop) is known as a Home-Based Other (HBO) trip. These trips are more likely to occur during nonpeak hours.
- A trip that is not based on the home as an origin or destination is known as a Non-Home-Based (NHB) trip. For example, a trip from work to a pharmacy. These trips are dispersed between peak and nonpeak hours.

HBW trips tend to be longer than HBO and NHB trips. People may choose to travel regionally for employment in order to get the best opportunity or the best pay. For shopping, routine medical treatment, and government services, people tend to stay closer because they have more local options (Wegener and Fuerst 2004).

HBO and NHB trips are typically more local in nature and have a shorter average trip length:

- HBO and NHB both averaged 5 miles in the CMAP Region in the base year.
- Within the TCA Study area, HBO and NHB trips averaged 6.8 miles in the base year. This slightly longer distance is likely due to the lower density of population and development in the TCA Study area.

HBW trips are more likely to be longer, regional trips:

- HBW trips averaged 8 miles in the CMAP Region in the base year.

- Within the TCA Study area, HBW trips averaged 15.7 miles in the base year, almost twice the average for the CMAP Region.

The longer HBW trip as compared to the rest of the CMAP Region shows that people in the TCA Study area travel longer for work, which is attributable to the low-density residential development in the north and west and the concentration of employers in the south and southeast. By 2050, both population and employment are expected to expand to the north and west within the TCA Study area. As this expansion occurs, the average length of HBW trips is predicted to remain more than 15 miles.

Travel Desires

The TCA Study team analyzed travel patterns in the TCA Study area in the base and forecast year. Figure 1-7 shows the desired direction of travel during peak hours for roadway users along with employment centers with 5,000 or more employees in the base and forecast year. The arrows do not reflect specific roadways but rather the desired direction of travel as the crow flies. As discussed in Section 1.3, employment centers in the TCA Study area are concentrated in southeast Lake County and northern Cook/northeast DuPage counties.

Figure 1-7 shows that commuting trips in the peak-period in both the base and forecast years have the following dominant patterns:

- From northwest Lake, McHenry, and Kenosha counties to southeast Lake and northern Cook/northeast DuPage counties
- From east and northeast Lake and Kenosha counties to southeast Lake and northern Cook/northeast DuPage counties

These diagonal movements include travel on roadways in both the east-west and north-south directions. As shown on Figure 1-7, the patterns align with the location of regional destinations (or large employment centers) within the TCA Study area, as well as in downtown Chicago. The pattern is also reinforced as population expands to the north and west. The transit system has a similar pattern of travel desires. This is in part due to the orientation of the commuter rail (Metra) lines and express bus service along I-90 (from northwest to southeast).

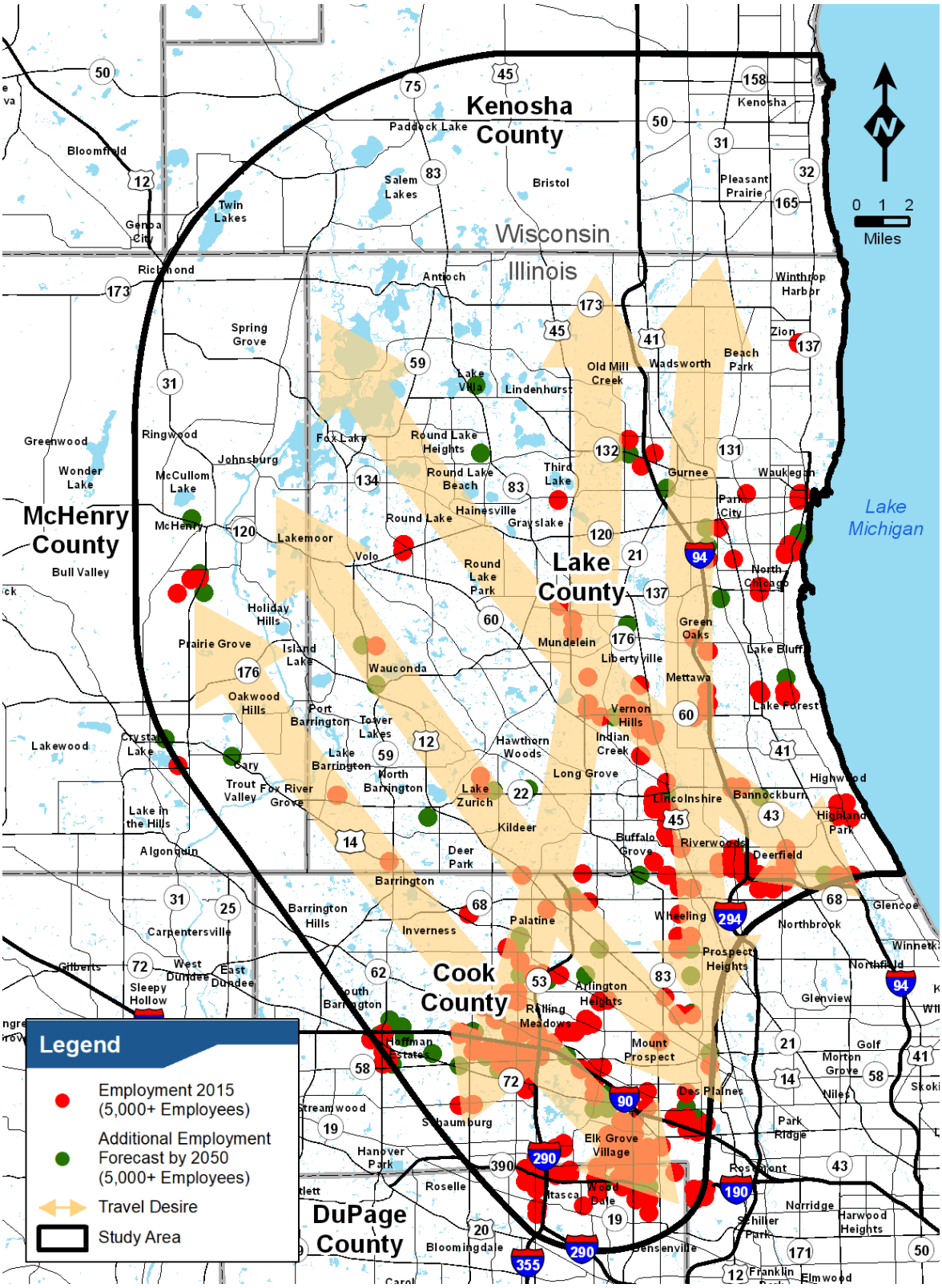


Figure 1-7. Base Year (2015) and No-Build Forecast Year (2050) Travel Desire and Large Employment Centers in TCA Study Area

Source: Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018)

Travel Options

To reach desired regional destinations, trips may be made by either single modes of travel (for example, driving an automobile) or by a combination of modes (for example, walking from home to a train, then using a shuttle from a train to work). A comprehensive household travel and activity survey performed by CMAP for people 16 years and older found that currently over 90 percent of trips starting in the TCA Study area are made using the automobile as the dominant mode of travel (Figure 1-8) (CMAP 2016). Walking/biking was second, with 5 percent of trips, and transit was third with 2 percent (Figure 1-8).

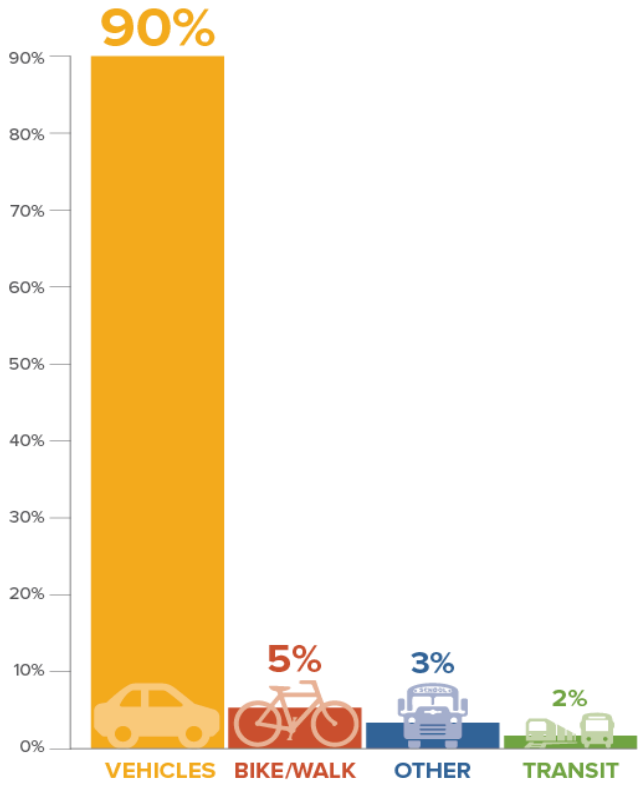


Figure 1-8. Travel Mode Choice
Source: CMAP 2016

Transit. The low utilization of transit is influenced by land use and accessibility. To be effective, transit service must be easily accessed with connections from other modes, whether walking to a bus stop or driving to a train station, and the destination of travel must connect people to where they want to go (for example, employment centers, shopping/commercial centers, and recreational centers). Suitable land use must also be in place to support connections using other transit services.

Lower-density residential development is less successful in supporting transit because users must travel farther to reach transit stations. Those who may need to drive to a transit station perhaps instead elect to remain in the car for the entirety of their trip. As identified in the CMAP *ON TO 2050 Transit Snapshot,* transit trends indicate that numerous suburban jobs centers have poor transit availability, particularly in Lake County, and that development patterns (specifically, low density) play a crucial role in the viability of transit (CMAP 2018b).

In addition to the "first-mile connection" required to reach a transit station from home, transit usage is also affected by the "last-mile connection" between the last transit stop and the ultimate destination. Where walking between the last transit stop and a workplace is not safe or practical (for example, too long of a distance in inclement weather) and shuttle or bus service is not available, travelers may again elect to drive.

Transit trips within the TCA Study area often require lengthy travel times and multiple transfers – or the switching from one service (i.e., bus or rail) to another to reach a destination. Transfers can sometimes deter people from using transit in that "they are often sources of delay, confusion, and hassle" (Spieler 2018). In the TCA Study area, transfers can be onerous, often require walking between modes, and service may be infrequent, causing delay. The following are examples of the length of time and number

of transfers required for morning commutes from municipalities to large employers within the TCA Study area using the Regional Transit Authority (RTA) Trip Planner (RTA 2019)[10]:

- A commute from the City of McHenry to Zurich (in Schaumburg) via transit requires at least 4 bus transfers and takes almost 2 hours to make a trip that would be an approximately 25-mile trip by car.
- A commute from Waukegan to Abbott Laboratories (in Lake Bluff) takes over 2 hours via transit and requires a minimum of 3 transfers (bus to train to train) plus a half-mile walk to make the 6-mile car trip.
- A commute from Mundelein to Walgreens Corporate Headquarters (in Deerfield) takes approximately 1 hour via transit and requires at least 2 transfers (bus to train) and a quarter-mile walk to make the almost 13-mile car trip.

The cost of parking is also a factor in transit use. Where transit service is available, travelers are more likely to use transit than pay for parking at their place of employment. Parking at large employers in the TCA Study area is generally free. For those traveling to Chicago, the cost of parking becomes a greater factor in the travel choice.

The transit system in the TCA Study area (particularly rail) has served the downtown Chicago area well, but as housing options have grown and continue to expand farther north and west, fewer transit options are available in those locations, and only 2 percent of trips use it. All five commuter rail (Metra) lines that service the TCA Study area are oriented toward downtown Chicago, with service frequencies that focus on the peak periods and less frequent service during evenings and weekends (Figure 1-9). Transit improvements included as part of ON TO 2050 and assumed in the No-Build Alternative are limited to investments in existing Metra lines (the Union Pacific North and Northwest lines) and do not include new bus service improvements.

The challenge of serving low-density patterns is also a factor for Pace Bus service. Bus service is currently concentrated in northern Cook County and northern and eastern Lake County where there is denser development and a higher concentration of trips (Figure 1-9). Existing Pace service does not provide easy intra-suburban access from western Lake County or eastern McHenry County to employment centers in northern Cook County.

Active Transportation. The household survey finds that active transportation (walking and biking) is the second most frequent travel mode choice in the TCA Study area (CMAP 2016) (Figure 1-8). The 5 percent of trips involving walking and biking include recreation trips, in addition to school, shopping, work, and other services. Outside of urban areas, bicycle paths and trails within the TCA Study area are primarily recreational and are not designed to connect residents to employment centers; therefore, people choosing to walk or bike to work most likely reside in proximity to their destination.

Roadway. Compared with the 2 percent of trips carried by transit, roadways in the TCA Study area carry 90 percent of all person trips (CMAP 2016). Approximately 65 percent of TCA Study area households own 2 or more vehicles, which is 14 percent higher than the CMAP Region average (ACS 2012-2016). Vehicle types other than privately owned cars (such as taxi and ride share, motorcycle, and school bus) account for 3 percent of daily trips, contributing to the strain on the roadway system (Figure 1-8). Additionally, 6 percent of workers telework at least some portion of time, and while teleworking has steadily increased since the 1980s and is anticipated to continue (CMAP 2015), automobile trips in the TCA Study area are predicted to be the dominant mode of choice for daily trips into 2050.

[10] The RTA oversees funding and transit planning for the CMAP Region's transit operators (the Chicago Transit Authority, Metra, Pace Suburban Bus and Pace Americans with Disabilities Act Paratransit). The RTA Trip Planner, located at the website https://rtachicago.org/index.php/plan-your-trip, allows an individual to plan a transit trip from a specific location to another. The trip planner outputs detailed trip information (time, distance, location) for trips made by transit (bus or train), including connection options involving driving, biking, or walking to/from transit.

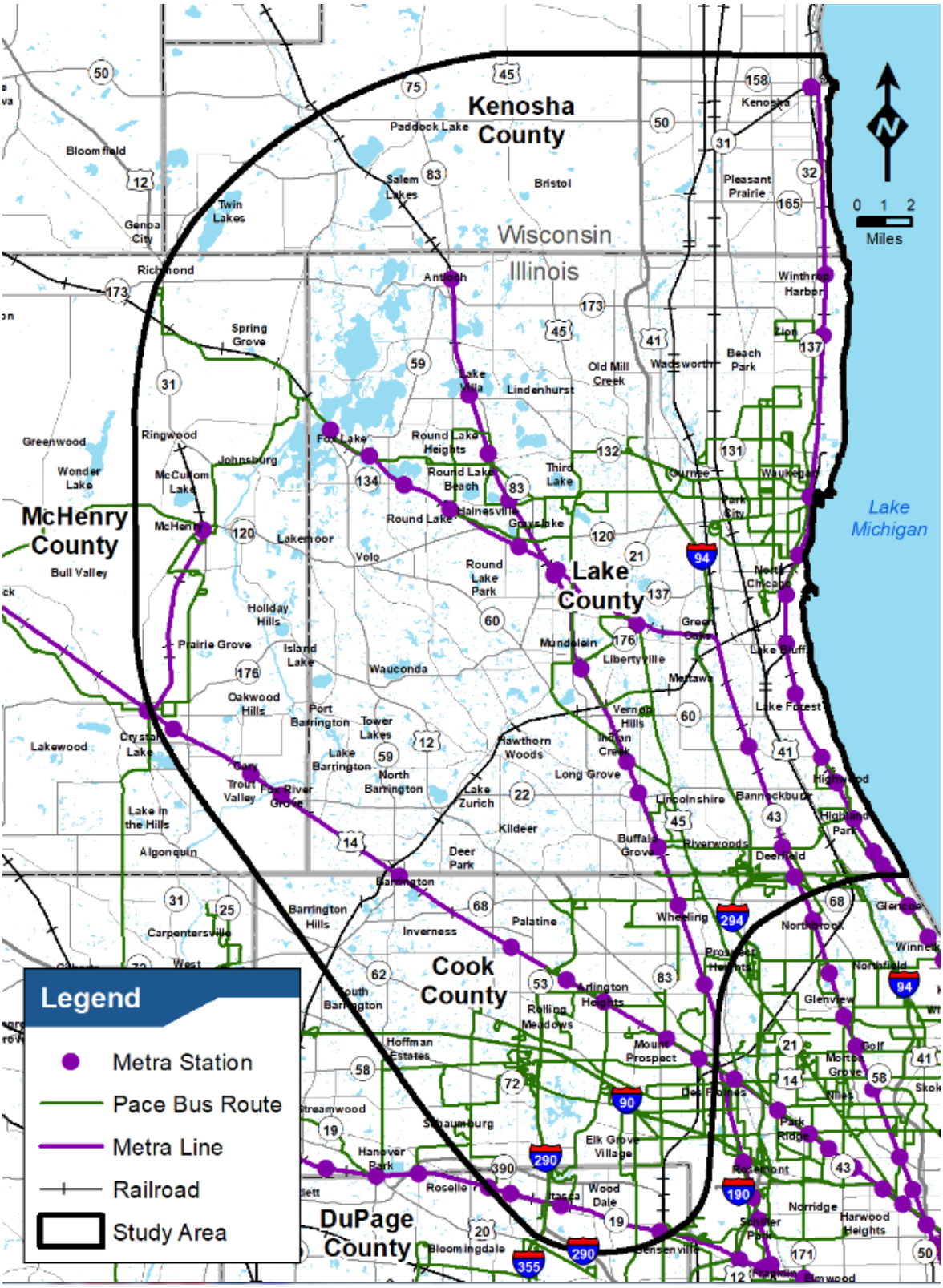


Figure 1-9. Metra and Pace Transit Map

As with the other modes, the roadway network serves both shorter trips, such as HBO and NHB trips, and longer trips, such as HBW trips. For transportation system planning, roadways are classified based

on their characteristics and functions. Figure 1-10 describes the classifications and the number of miles of each type of roadway in the TCA Study area.

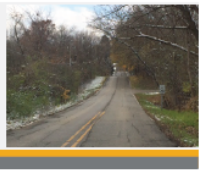
Classification	Characteristic	Number of Route Miles in TCA Study Area	Example	
Freeways/tollways/ expressways	Serve longer distance trips, emphasize mobility, access controlled	100 miles	I-94	
Principal arterials	Intended to carry higher traffic volumes and longer trips, providing more access than interstates, etc.	605 miles	US 12	
Minor arterials	Moderate-to-short length trips, regular access to adjacent land uses	711 miles	Old McHenry Rd.	
Collectors	Carry smaller volume, short trips, with frequent access points	723 miles	Cuba Rd.	

Figure 1-10. Classification and Route Miles of Roadway Types in TCA Study Area

For the roadway system to function most effectively, shorter trips should generally remain on minor arterials and collectors (low-to-moderate volume roads that serve shorter length trips) that allow for greater access to businesses and homes. Freeways/tollways/expressways and principal arterials are intended to carry longer distance trips, by allowing for fewer interruptions and higher travel speeds. Minor arterials and collectors make up 67 percent of the area roadways, while freeways/tollways/expressways and principal arterials account for the remaining 33 percent.

Within the arterial roadway category, IDOT designated a network of highways as Strategic Regional Arterials (SRAs). The SRA system is “designed to accommodate long-distance regional traffic, to complement a region’s major transit and highway facilities, and to supplement the freeway system” (IDOT 2019). Efforts are made to preserve the level of service of these arterials by providing appropriate access, traffic signal locations, and spacing. IDOT provides specific design criteria to determine the need for and spacing of traffic signals and access points, as well as SRA routes themselves. The recommended spacing of routes on the SRA system ranges from 3 miles in the most densely developed areas to 9 miles between roads in rural areas.

The SRA roads in the TCA Study area are shown on Figure 1-11; they generally align with principal arterials. In the TCA Study area, the spacing between SRAs is just over 10 miles between IL 176 on the south and IL 132 on the north in the middle of Lake County. In this same location from west to east, US 12 to US 45 is almost 9 miles. While the spacing between SRAs is recommended for a roadway network to operate efficiently, the spacing in the TCA Study area does not necessarily mean that an SRA is missing, but rather it shows that longer trips (for example, HBW) in the TCA Study area must travel farther to connect to higher type facilities or freeway/tollway/expressways intended to serve longer distance trips.

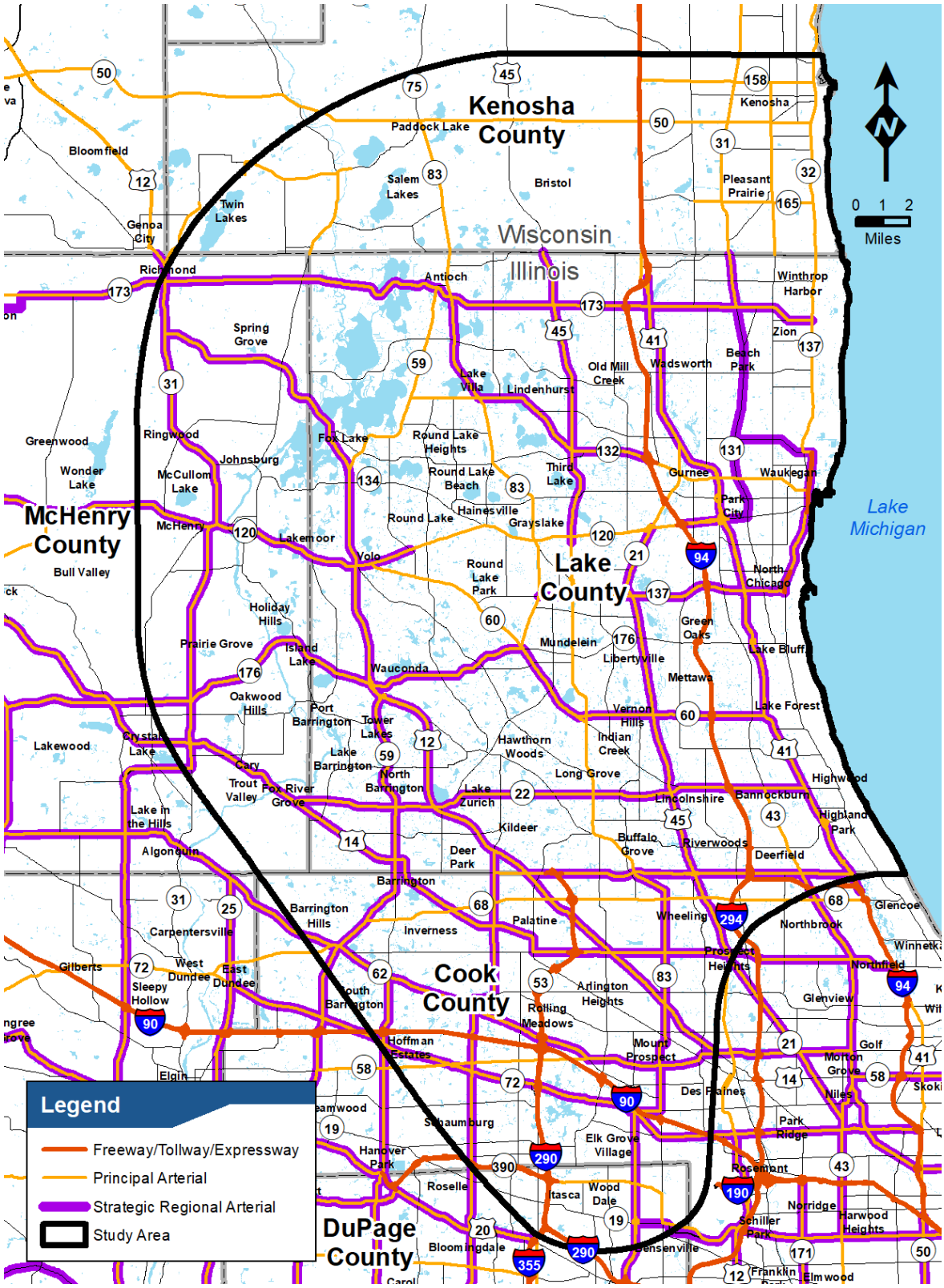


Figure 1-11. Strategic Regional Arterials in TCA Study Area
Source: IDOT 2019

In addition to automobiles, freight truck traffic traverses the area's roadways as trucks travel within, from, to, and through the TCA Study area. The Chicago Region is a major center for freight and manufacturing, with industrial development concentrated along major roadways, freight rail corridors, and the two major airports (CMAP 2015). Most of the TCA Study area's daily truck trips (56 percent) start and end within the TCA Study area (JEG 2018). Approximately 16 percent of daily truck trips travel through the TCA Study area, while 14 percent leave and 14 percent enter the TCA Study area. Truck trips in the TCA Study area will grow by 31 percent by 2050, with the percentage of truck travel in, through, leaving, and entering the TCA Study area remaining relatively the same.

Figure 1-12 shows major freight land-use clusters, as defined by CMAP (CMAP 2015). Three major freight clusters located in the TCA Study area – the Fox River Valley located along US 14 in southeastern McHenry County; the North Chicagoland located along I-94 in eastern Lake County; and the Greater O'Hare located in the area surrounding O'Hare Airport (northern Cook/northeastern DuPage counties). These areas serve as origin, destination, and distribution points for raw materials, intermediary products, and final goods, and rely on truck transport on the area's roadways.

In addition to the identified freight land use, Figure 1-12 shows the base year industrial and commercial land use. Both industrial and commercial land use are heavily reliant on trucks to receive products. These areas are dispersed throughout the TCA Study area, such as along US 12, US 45, and IL 83. These destinations result in trucks making longer trips throughout the TCA Study area, increasing the wear and tear on local roadways and intermingling with local (HBO and NHB) trips.

Inadequate Travel Options to Reach Regional Destinations Need Summary

In summary, travel behaviors and the current characteristics of the transportation system result in inadequate travel options to reach regional destinations (large employers or specialized attractions) within the TCA Study area. The dominant travel patterns are from northwest to southeast and south, and from east and northeast to southeast and south across the TCA Study area. Commuters are traveling longer distances to get to work and are primarily traveling by automobile, yet connecting to freeways/tollways/expressways and principal arterials intended for these longer-distance trips requires further travel. Similarly, trucks are traveling throughout the TCA Study area on these roadways and intermingling with the commuting trips (HBW) and local (HBO and NHB) trips. Transit only serves 2 percent of trips, and is hindered by low-density development, gaps in the network, required transfers between buses and trains, and the prevalence of free parking at places of employment within the TCA Study area.

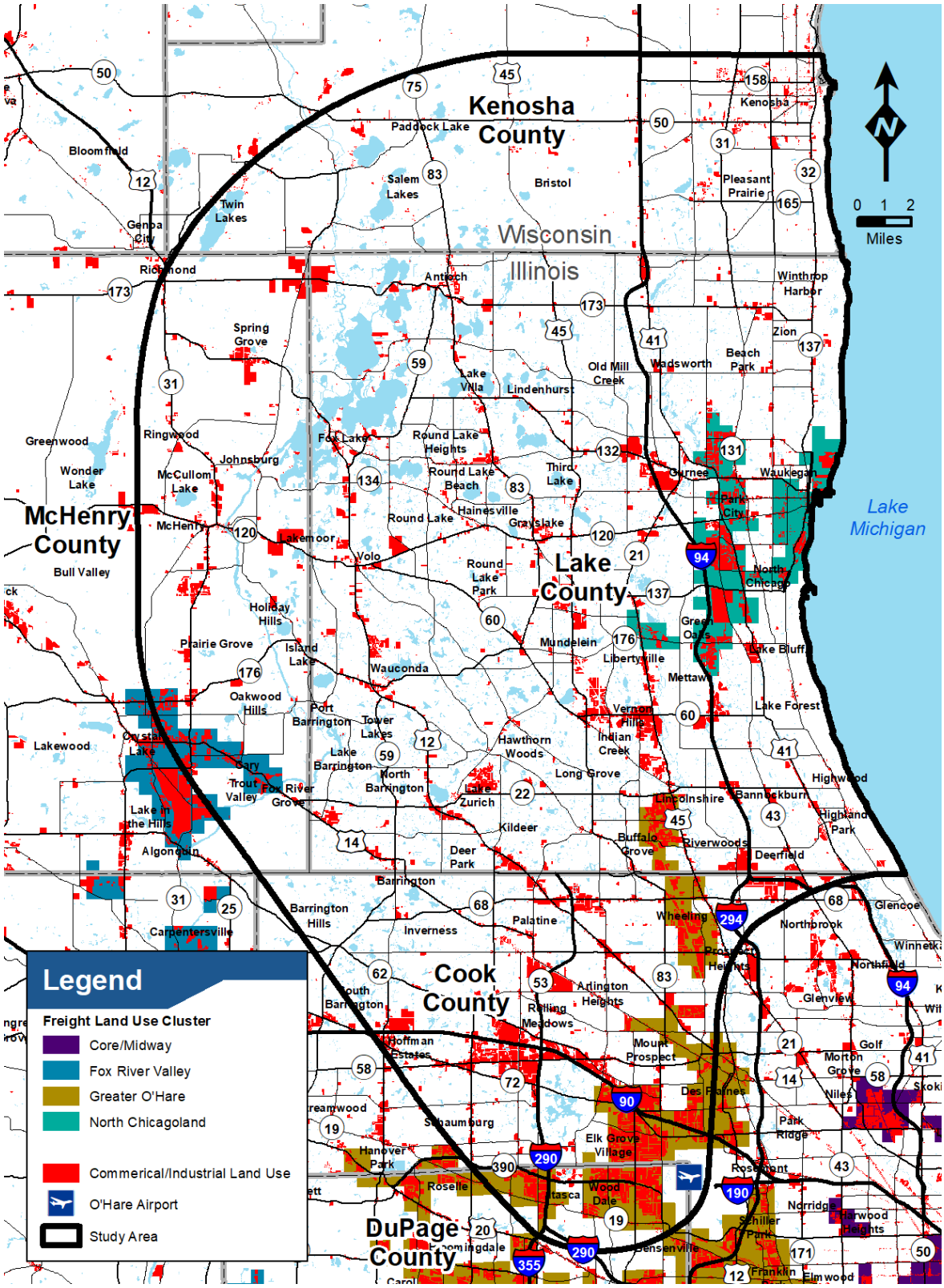


Figure 1-12. Truck Freight Land Use in TCA Study Area

Source: CMAP 2015; Southeast Regional Planning Commission 2000

1.4.2 Widespread Congestion and Unreliable Travel

The TCA Study area's reliance on automobiles and the inefficiencies on the roadway network result in widespread roadway congestion during peak travel periods. Congested roadways, particularly on the freeways/tollways/expressway and principal arterials, cause delay and unreliable travel times. Growth and development pattern forecasts suggest this will only worsen by 2050.

To understand the performance of the roadway network, the TCA Study team analyzed the roadway usage, including how many miles vehicles are traveling and the length of time the vehicles are on the roadway system during a given period. The traffic operations on individual roadways and the roadway network were then evaluated in terms of flow conditions, ranging from free (uncongested) flow to extremely congested flow. The congested conditions and lack of capacity both today and into the future, as described further below, result in unreliable travel times to move people and goods to regional destinations throughout the TCA Study area.

Vehicle Miles Traveled and Vehicle Hours of Travel

Quantifying the amount of traffic that uses existing roadways is the first step in understanding the performance of a roadway network. Vehicle Miles Traveled (VMT) and Vehicle Hours of Travel (VHT) are common measures of usage of a roadway system. VMT measures the total number of miles traveled and VHT measures the total number of hours vehicles travel on a roadway system during a given time period. Table 1-3 shows the change in VMT and VHT between the base year and 2050. Currently, VMT across the TCA Study area roadway system on an average weekday totals approximately 38.7 million miles and is projected to increase to 49.2 million miles by 2050 (a 27 percent increase). By comparison, VHT across the system is approximately 1.1 million hours daily in the base year and is projected to increase by a higher percentage to over 1.4 million hours daily by 2050 (a 31 percent increase). The higher rate of growth in VHT, as compared to VMT, is attributable to longer time spent in congestion.

Table 1-3. Change in Roadway VMT and VHT in TCA Study Area between Base Year (2015) and No-Build Forecast Year (2050)

Functional Class	Daily VMT				Daily VHT			
	2015	2050	Growth	% Growth	2015	2050	Growth	% Growth
Freeway/ Tollway/ Expressway[a]	11,850,100	14,751,900	2,901,800	24%	213,300	272,900	59,600	28%
Principal Arterial	14,411,300	17,911,600	3,500,300	24%	456,800	590,200	133,400	29%
Minor Arterial	8,911,100	11,427,600	2,516,500	28%	316,600	415,900	99,300	31%
Collector	3,562,800	5,163,800	1,601,000	45%	130,500	189,000	58,500	45%
Total	38,735,300	49,254,900	10,519,600	27%	1,117,200	1,468,000	350,800	31%

[a] Excludes ramps.

Source: Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018)

The comparison of roadway usage confirms that amount (VMT) and time (VHT) of travel on area roadways will increase across all types (functional classifications) of roadways. While the area's primary roadways (freeways/tollways/expressways and principal arterials) will continue to carry a large portion of travel demand, substantial growth in the amount and time of travel on secondary roadways (minor arterials and collectors) is also expected.

For example, collector roads such as Cary Algonquin Road (in Cary) and Cedar Lake Road (in Lake Villa) are expected to have the highest percentage increase in both VMT and VHT. This increase reflects several changing conditions. First, as the population increases and expands to new areas with fewer principal arterials, that population will need to use collector roadways for the entirety of their trips or for longer distances to reach a principal arterial. Second, drivers may choose to use collector roadways rather than principal arterials because the principal arterials are already congested.

Level of Service

Along an individual roadway corridor, Level of Service (LOS) is commonly used to measure operational performance by measuring traffic flow conditions. It is represented on a scale from A (best, free-flow stable operations) to F (worst, extremely unstable or breakdown conditions) (Figure 1-13). LOS considers factors such as average travel speed and available capacity to determine the congestion level on a given roadway.

Roadways are not designed to provide continuous free-flow conditions during peak periods of travel. During peak periods, some congestion is to be expected to avoid overbuilding roadways (creating unused capacity during nonpeak hours). In large metropolitan areas, roadways are generally designed to operate with moderate congestion (LOS D) during peak periods, which is considered acceptable per IDOT and Tollway design standards. LOS D indicates some delay and slower travel speeds at peak periods. The number of roads or lanes required to establish uncongested conditions during peak periods would far exceed what is needed during other periods of the day. In larger metropolitan areas, designing roadways to achieve a LOS higher than D would cause unacceptable impacts to environmental and community resources and achieving a LOS D best balances transportation needs with preserving environmental and community resources.

Congestion Level	Level of Service	Conditions	Average Travel Speed	Traffic Demand Capacity
Minimum	LOS C	**Stable operation**, motorists do not experience much delay	60 percent of the free-flow speed	75 to 80 percent of available roadway capacity
Moderate	LOS D	**Borderline unstable**, motorist start experiencing notable delay	40 to 50 percent of the free-flow speed	80 to 90 percent of available roadway capacity
Severe	LOS E	**Extremely unstable**, motorists experience significant delay and travel time increase	33 percent of the free-flow speed	Approaching capacity
Extreme	LOS F	**Breakdown**, high delays and grid lock like conditions	Less than 33 percent of the free-flow speed	Beyond capacity

Figure 1-13. Level of Service

Travelers encounter widespread congestion on TCA Study area roadways during peak travel periods. Figure 1-14 shows the severe or extreme congestion (LOS E and F) in the base year and by 2050 in the TCA Study area. A total of 180 miles of roadways in the TCA Study area operate at LOS E or F during peak travel periods. This is forecast to increase to 365 miles of roadways by 2050. Concentrations of severe and extreme congestion are projected to expand and intensify near employment centers (specifically, northern Cook County and southeast Lake County) and near planned residential growth in the less populated northern and western portions of the TCA Study area, including southwestern Lake County, eastern McHenry County, and Kenosha County.

By 2050, severe and extreme roadway congestion is projected to encompass much of the TCA Study area under the No-Build Alternative, as shown on Figure 1-14. The forecasted congestion by 2050 accounts for the implementation of roadway capacity and transit expansion and upgrade improvements as part of the No-Build Alternative.

Congested Vehicle Miles Traveled

Across a system of roadways, Congested Vehicle Miles Traveled (CVMT) is a measure used to quantify overall system congestion and performance. CVMT measures the total number of miles traveled by vehicles experiencing congested to extremely congested conditions. It is a function of the total miles of roadway, the number of miles that are congested, and the severity of congestion. Table 1-4 shows the total VMT and the proportion of CVMT in the TCA Study area by functional class during peak travel periods between the base year (2015) and the No-Build forecast year (2050).

Table 1-4. Change in CVMT in TCA Study Area by Functional Class During Peak Travel Periods Base Year (2015) to No-Build Forecast Year (2050)

Functional Class	Base Year (2015)			2050			Congested VMT Growth	Congested % Growth
	Total VMT	Congested VMT	% Congested	Total VMT	Congested VMT	% Congested		
Freeway/Tollway/ Expressway[a]	7,087,500	1,795,600	25%	8,883,800	3,816,900	43%	2,021,300	113%
Principal Arterial	9,221,400	1,885,100	20%	11,431,800	3,794,700	33%	1,909,600	101%
Minor Arterial	5,813,700	924,000	16%	7,428,000	2,054,200	28%	1,130,200	122%
Collector	2,339,500	309,700	13%	3,399,600	939,700	28%	630,000	203%
Total	24,462,100	4,914,400	20%	31,143,200	10,605,500	34%	5,691,100	116%

[a] Excludes ramps

Source: Adopted ON TO 2050 CMAP C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018)

In the base year, CVMT accounts for 20 percent (4.91 million vehicle miles of congested travel) of the total VMT during peak travel periods. The TCA Study area's primary roadways (freeways/tollways/expressways and principal arterials) account for the greatest amount of congested travel during peak travel periods. CVMT on these roadways currently totals 3.6 million vehicle miles and is projected to increase to over 7.6 million vehicle miles by 2050. By comparison, minor arterials and collectors, the area's secondary roadway system, are projected to experience the highest percentage of growth in CVMT (a combined 143 percent) between current and 2050 conditions.

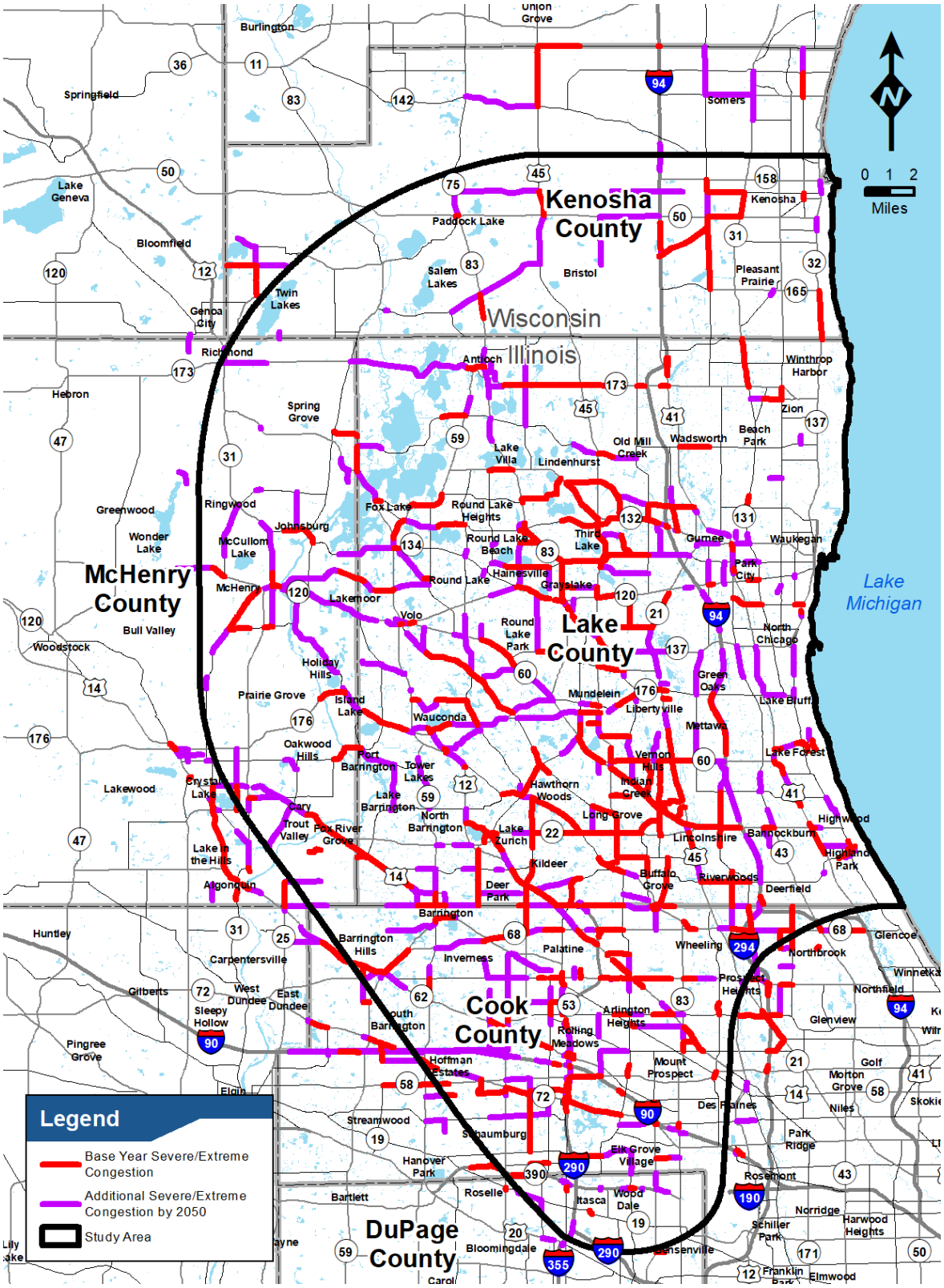


Figure 1-14. Base Year (2015) and No-Build Forecast Year (2050) Severe/Extreme Congestion in TCA Study Area
Source: Adopted ON TO 2050 C18Q3 Model Data and TCA Study Travel Demand Model (JEG 2018)

A review of traffic flow conditions (LOS) and CVMT on primary roadways (freeways/tollways/ expressways and principal arterials) intended to carry longer trips confirms worsening congestion by

2050. The VMT on these roadways is anticipated to increase by 2050 along with the proportion of the roads performing at LOS E and F. Target conditions in the TCA Study area would be to reduce the severe and extreme conditions (LOS E or F) to moderate (LOS D) or better. Based on output from the TCA Study travel demand model (JEG 2018), the existing CVMT and forecast growth is provided for the example TCA Study area roadways shown on Figure 1-15 and described as follows:

- **US 12 (IL 58 to IL 31)** currently experiences 80,300 miles of CVMT annually, which is anticipated to grow to 188,600 miles of CVMT by 2050. Almost half of the base year CVMT on US 12 (37,900 miles) experiences severe and extreme (LOS E and F) conditions and is anticipated to double by 2050 (76,800 miles).
- **US 45 (IL 21 to Wisconsin 50)** currently experiences 74,000 miles of CVMT annually, which is anticipated to grow to 158,700 miles of CVMT by 2050. Over 60 percent of the CVMT on US 45 (46,500 miles) is LOS E and F in the base year, increasing by 80 percent by 2050 (83,600 miles).
- **IL 22 (US 14 to I-94)** currently experiences 83,800 miles of CVMT annually, which is anticipated to grow to 122,000 miles of CVMT by 2050. Over 80 percent of the CVMT on IL 22 (69,000 miles) is LOS E and F in the base year, increasing by 22 percent by 2050 (84,300 miles).

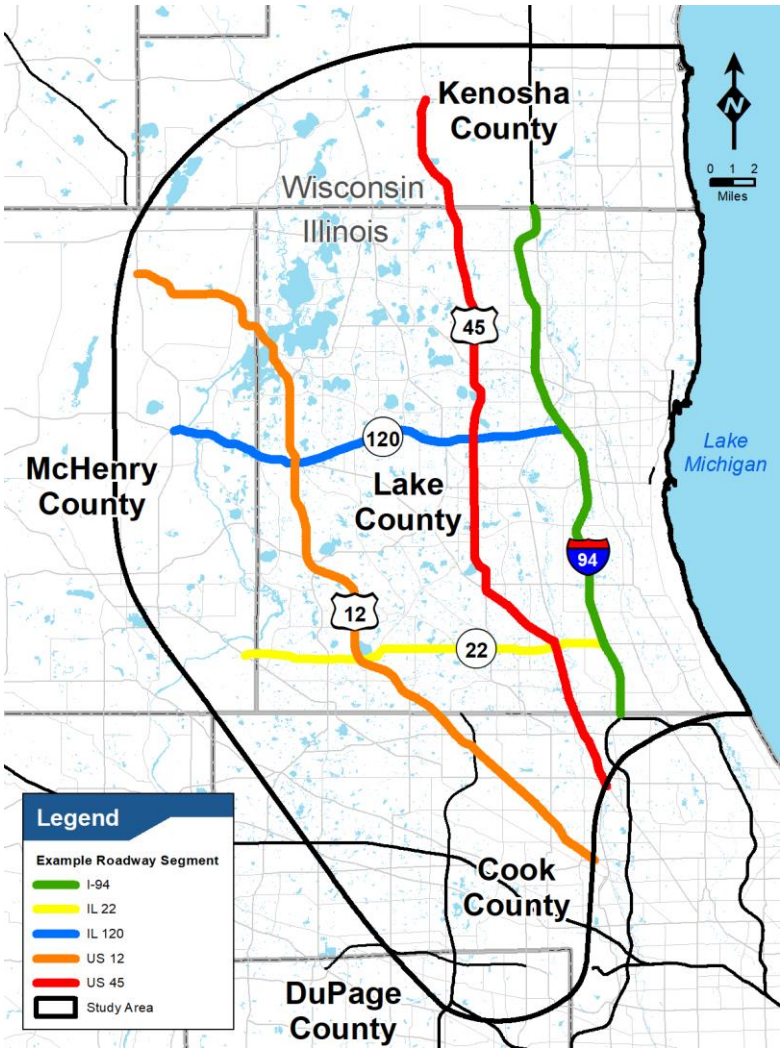


Figure 1-15. Example Roadways with CVMT Description

- **IL 120 (IL 31 to IL 120)** currently experiences 61,600 miles of CVMT annually, which is anticipated to grow to 176,400 miles of CVMT by 2050. Almost 60 percent of the CVMT on IL 120 (35,600 miles) experiences LOS E and F conditions and is anticipated to more than triple by 2050 (112,100 miles).
- **I-94 (I-294 to the Wisconsin state border)** which is the major north-south interstate within the TCA Study area, provides for long-distance trips connecting thousands of people to jobs daily. This interstate operates with limited congestion today, but congestion is expected to increase by 2050. Only 10 percent (101,300 miles) of the base year annual CVMT experiences severe and extreme (LOS E and F) conditions but is anticipated to increase to 38 percent (782,700 miles) by 2050.

Travel Time Reliability

As the measures previously discussed show, roadways across the TCA Study area are congested during peak periods and congestion is projected to expand and intensify by 2050. Where present, severe and extreme congestion contributes to unreliable travel on TCA Study area roadways when traveling to regional destinations. Travel-time reliability is an important consideration for many travelers and working families, particularly in larger urban areas. While most drivers will tolerate some level of congestion and delay, they prioritize reliable, consistent travel times from day-to-day. Being able to plan the appropriate amount of time to travel to work, appointments, or to pick up children at daycare has a direct impact on quality of life. For industry, unexpected delays may impact just-in-time deliveries or manufacturing processes. Roadways on which 80 to 90 percent of the capacity (LOS D) is used during peak-period conditions have greater reliability and are tolerated better than when capacity is close to or completely exceeded (LOS E and F).

Table 1-5 compares travel times generated via the travel demand model between seven municipalities within the TCA Study area during free-flow (uncongested) travel times versus the variability of travel times during the peak period (JEG 2018). These seven locations were chosen as representative residential or employment centers spread throughout the TCA Study area and are shown on Figure 1-16.

As a mechanism to validate the travel demand model, Table 1-5 also provides a range of travel times reported with Google 2019 data for these trip pairs during the peak travel period. The travel time range was collected using *Google Map Directions,* which provides crowdsourced navigation route options for driving between two points with considerations for real-time traffic conditions, duration, and length of the trip (Google 2019). The travel time ranges identified using Google average within 5 percent of the travel demand model generated travel time ranges for the base year.

Modeled travel times for free-flow (uncongested) versus the peak period show that travel times between representative residential and employment centers in the TCA Study area vary by an average of 73 percent depending on roadway conditions. Compared to the free-flow travel time, peak period travel times increase an average of 128 percent. This variability is expected to widen as demand on the roadways increases by 2050.

Widespread Congestion and Unreliable Travel Need Summary

In summary, inefficiencies in the roadway network and lack of capacity result in widespread congestion and unreliable travel conditions within the TCA Study area. The primary roadways (freeways/tollways/expressways and principal arterials) designed for longer trips account for the greatest amount of vehicle and congested travel during peak travel periods both today and into the future. A total of 180 miles of roadways in the TCA Study area are severely or extremely (LOS E or F) congested during peak travel periods, growing to an extensive 365 miles by 2050. Today's congestion-related delays result in unpredictable travel times for trips in the TCA Study area (i.e., HBW, HBO, and NHB trips), which will worsen with the growing travel demand and congestion into 2050.

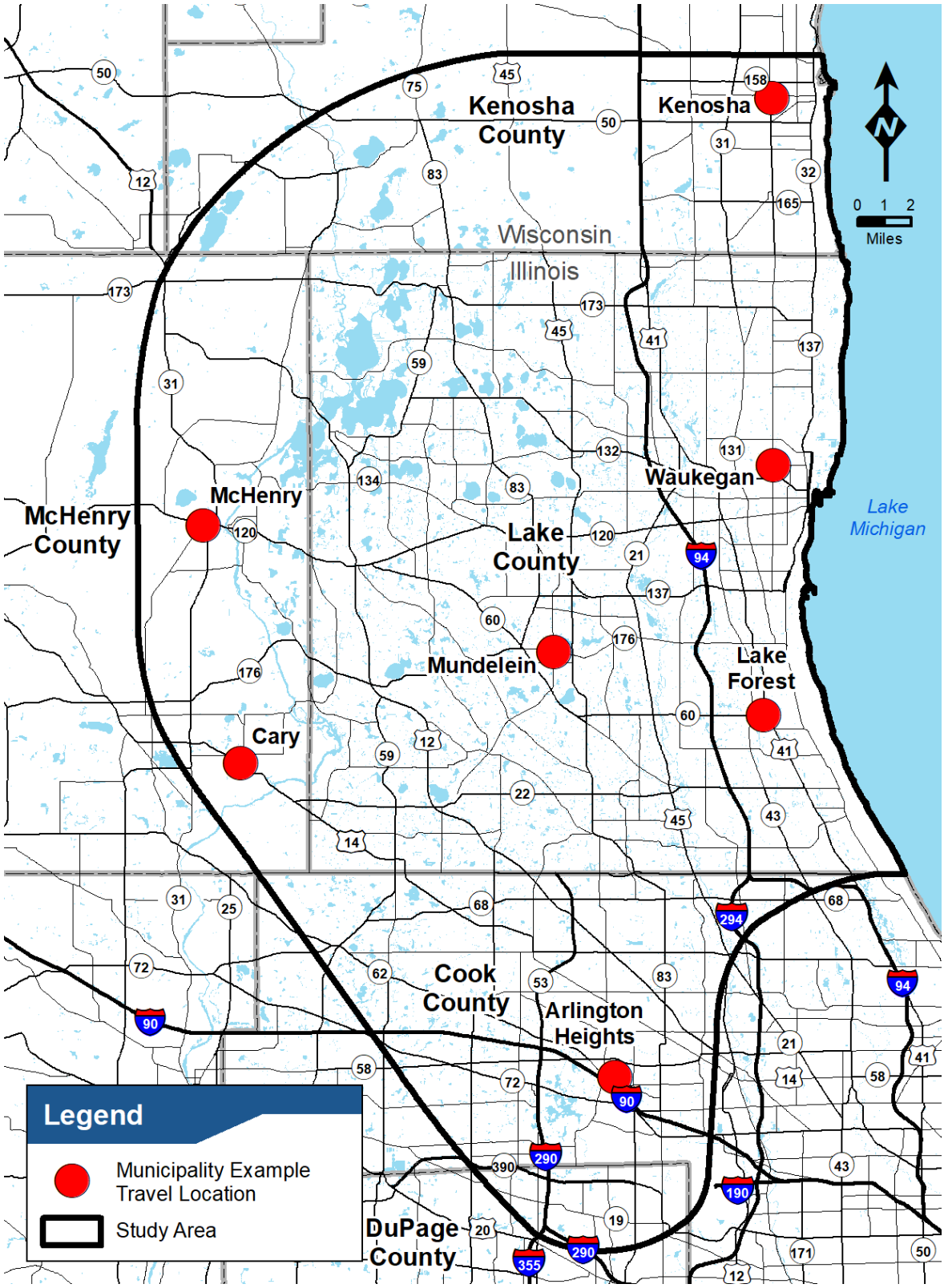


Figure 1-16. Example Travel Time Locations

Table 1-5. Peak Period Travel Times Base Year (2015) Conditions and Google Comparison

Municipality	To: Kenosha			McHenry			Waukegan			Cary			Lake Forest			Arlington Heights			Mundelein		
From:	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)
Kenosha	-	-	-	42 min	51-82 min	50-80 min	20 min	26-45 min	24-45 min	52 min	63-103 min	60-100 min	31 min	33-43 min	35-60 min	54 min	61-91 min	55-100 min	33 min	38-58 min	40-60 min
McHenry	42 min	51-83 min	50-80 min	-	-	-	32 min	45-82 min	40-80 min	13 min	18-34 min	16- 40 min	30 min	44-85 min	35-75 min	40 min	50-85 min	45-80 min	21 min	29-53 min	26-50 min
Waukegan	20 min	26-44 min	24-50 min	32 min	44-80 min	40-85 min	-	-	-	38 min	51-93 min	50-90 min	15 min	17-24 min	18-45 min	40 min	49-82 min	45-100 min	19 min	25-44 min	26-60 min
Cary	52 min	64 – 108 min	60-100 min	13 min	18-35 min	16-40 min	38 min	53-97 min	50-85 min	-	-	-	32 min	45-85 min	40-80 min	30 min	41-76 min	30-60 min	23 min	31-56 min	30-50 min
Lake Forest	31 min	33-42 min	35-60 min	30 min	43-82 min	40-100 min	15 min	17-26 min	20-45 min	32 min	45-83 min	45-90 min	-	-	-	27 min	36-63 min	30-80 min	10 min	15-30 min	20-45 min
Arlington Heights	54 min	61-88 min	60-110 min	40 min	49-81 min	50-90 min	40 min	49-81 min	45-100 min	30 min	40-74 min	35-70 min	27 min	35-60 min	30-70 min	-	-	-	24 min	33-61 min	35-65 min
Mundelein	33 min	39-61 min	40-80 min	21 min	28-52 min	28-60 min	19 min	26-47 min	28-55 min	23 min	31-57 min	30-60 min	10 min	16-33 min	16-45 min	24 min	34-65 min	35-75 min	-	-	-

Notes:

Peak periods are when traffic is anticipated to be the greatest in the afternoon and evening and during the shoulder period (the time before and after the a.m. and p.m. peak periods) or between 6 and 10 a.m. and between 2 and 8 p.m. Monday through Friday.

Free-flow (uncongested) travel time and peak period travel time data based on Adopted ONTO 2050 C18Q3 Model Data and TCA Study Travel Demand Model using travel time and planning time index calculations (JEG 2018).

Google peak-period travel time ranges are shown for comparative purposes with the travel demand model generated data. Using Google Maps, the travel time range is based on the route option between the two points that would take the least amount of time and the route option that would take the most amount of time during the evening peak period (5 p.m.) (Google 2019).

min = minutes

1.5 Study Purpose

The purpose of the TCA Study proposed improvement is to identify efficient travel options that meet current and future transportation needs by:

- Improving access to regional destinations including large employment centers and specialized attractions that draw high volumes of trips within and to the TCA Study area
- Reducing congestion on primary roadways (freeways/tollways/expressways and principal arterials) intended to serve longer distance trips

The TCA Study area is home to many sensitive environmental and community resources, including state and federally listed species, wetlands, surface waters, historic and archaeological resources, and community resources. The residents and other stakeholders in the area value a strong environmental policy and care deeply about environmental preservation. As such, the TCA Study recognizes the area's rich environmental resources and is committed to developing transportation solutions that minimize environmental impacts.

1.6 Stakeholder and Public Input on the Purpose and Need

Input has been solicited from stakeholders (regulatory agency, local governments, and interest groups) and the general public on the purpose of and need for the Study. As part of outreach activities, a Stakeholder Participation Group (SPG) was formed to provide input at key points in the Study, including on the TCA Study's Purpose and Need, natural and community resources to be studied, and the range of alternatives to be considered.[11] Additionally, two public meetings were held to solicit input on these issues from the general public.

At the first two SPG meetings, attendees were asked for their input on the performance of the base year transportation system, including where SPG members experience travel-related problems, which parts of the system are working well, and how they make travel choices. Among the top comments received were the following:

- Congestion and travel time reliability were the group's top transportation concerns.
- The specific roads most often avoided due to congestion are IL 22, IL 53, IL 83, IL 120, US 12, US 45, and Lake Cook Road.
- Many SPG members choose which roadways to use based on travel time, rather than distance – in other words, they are willing to travel farther if they can arrive at their destination faster.
- Many SPG members prefer the convenience of driving; transit is unavailable or does not go where people want to go, such as employment destinations.

Comments received during the public meetings were similar to those received during the SPG meetings. The Purpose and nNeed for the TCA Study is also being provided to stakeholders through the TCA website to solicit additional feedback.

1.7 Summary

In the TCA Study area, a lack of efficient connections to regional destinations, high levels of congestion, and unreliable travel are problems negatively affecting people traveling in the area. Today's deficiencies

[11] The TCA SPG consists of over 150 representatives from local governments (for example, counties and municipalities), districts, agencies, and interest groups in the TCA Study area.

in the transportation system affect the ability to move people and goods efficiently and will only continue to worsen over time. The area's land development patterns, the characteristics of the current transportation system, and travel behaviors of residents and other system users are influential factors. The Purpose and Need provides the framework for developing transportation solutions that improve transportation conditions for people traveling to and within the TCA Study area.

The TCA Study area offers desirable living and working opportunities demonstrated by the steady population and employment growth anticipated into 2050. Population is spreading into areas where there is less density, particularly the northern and western portions of the TCA Study area. Employment is also growing but is primarily concentrated in southeast Lake County and Cook/DuPage County. Large employment centers located in this area serve as regional destinations, along with specialized attractions such as shopping or entertainment within the TCA Study area or adjacent to it (for example, in downtown Chicago).

The locations where people live and work in the TCA Study area contribute to the fact that people travel longer distances to reach their jobs. The length of the average HBW trip today and in the future is almost 16 miles (15.7 miles), almost twice the average of the CMAP Region. The dominant commuting travel patterns are from northwest to southeast and south, and from east and northeast to southeast and south across the TCA Study area. The primary mode of travel for residents is automobile (90 percent of trips) with only 2 percent of trips made by transit. The opportunity to travel efficiently for people making these longer trips to regional destinations is affected by the available roadway and transit options.

Transit service (Metra) is oriented towards downtown Chicago, and bus service (Pace) is located where there is denser development in northern Cook County and eastern Lake County. Transit usage has been hindered by low-density residential development, gaps in the transit network such as absence of first- and last-mile service, poor connectivity between stations and destinations, the number of transfers required to reach the destination, and the prevalence of free parking at places of employment in the TCA Study area.

When traveling longer distances (that is, HBW), drivers should generally use primary roadways (freeways/tollways/expressways and principal arterials) for more efficient travel with fewer interruptions and higher speeds, but these higher-type facilities account for only a third (33 percent) of the roadway network. Similarly, the spacing between SRAs, designed to accommodate long-distance travel and connections to major transit and highway facilities, requires drivers to travel farther to connect to these higher type facilities. Freight truck traffic is also a factor in the efficiency of the roadway network in that truck traffic to industrial and commercial land uses spread throughout the TCA Study area requires longer trips on the local roadway network (minor arterials and collectors), which is slower, has more points of conflict, and is therefore less efficient.

Since most trips people make in the TCA Study area are by automobile, people are reliant on a roadway network with prevalent delays. Inefficiencies and lack of capacity in the roadway network result in widespread congestion during peak travel periods. The primary roadways (freeways/tollways/expressways and principal arterials) account for the greatest amount of congested travel during peak travel periods, especially in the southeastern and central Lake County and northern Cook County. A total of 180 miles of roadways in the TCA Study area is severely or extremely (LOS E or F) congested during peak travel periods. By 2050, severe and extreme roadway congestion is projected to encompass much of the TCA Study area, increasing to 365 miles of roadways by 2050.

The congested roadways cause motorists to also experience unreliable travel times. Reliability of travel is important for commuters and for businesses to get people and goods to their destination in a timely, predictable manner. Within the TCA Study area, travel during peak periods is unreliable and is expected to worsen in future years due to growth in travel demand. Travel plans are challenging when the travel time can vary up to 73 percent depending on the roadway conditions.

Public and stakeholder input has been an essential part of the process for developing the Purpose and Need. FHWA, IDOT, and the Illinois Tollway are committed to identifying a transportation solution that meets the Purpose and Need to address transportation issues in the TCA Study area, while also minimizing environmental impacts.

1.8 References

American Community Survey (ACS). 2012-2016. *2012-2016 5-year Estimates*. United States Census Bureau. https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2016/5-year.html.

Blue Ribbon Advisory Council (BRAC). 2012. *Illinois Route 53/120 Project Resolution and Summary Report.* June.

Blue Ribbon Advisory Council (BRAC). 2015a. *Illinois Route 53/120 Feasibility Analysis.* April.

Blue Ribbon Advisory Council (BRAC). 2015b. *Illinois Route 53/120 Corridor Land Use Strategy.* November.

Chicago Area Transportation Study (CATS). 1962. *Chicago Area Transportation Study Final Report in Three Parts; Volume III Transportation Plan*. April.

Chicago Area Transportation Study (CATS). 1998. *2020 Regional Transportation Plan*. August.

Chicago Metropolitan Agency for Planning (CMAP). 2010. *GO TO 2040 Comprehensive Regional Plan.* http://www.cmap.illinois.gov/about/2040. October.

Chicago Metropolitan Agency for Planning (CMAP). 2015. January 16. *Industrial Development Trends in the CMAP Region*. January 16. https://www.cmap.illinois.gov/about/updates/-/asset_publisher/UIMfSLnFfMB6/content/industrial-development-trends-in-the-cmap-region.

Chicago Metropolitan Agency for Planning (CMAP) 2016. *Travel Tracker Survey, 2007-2008*. https://datahub.cmap.illinois.gov/dataset/traveltracker0708. December.

Chicago Metropolitan Agency for Planning (CMAP). 2018a. *ON TO 2050 Comprehensive Regional Plan.* Accessed December 2018. http://www.cmap.illinois.gov/onto2050. October.

Chicago Metropolitan Agency for Planning (CMAP). 2018b. *Transit Trends*. Accessed December 2018. https://datahub.cmap.illinois.gov/dataset/0452fe28-113b-459f-bf6d-2fbe7fd1a950/resource/72c266bc-a491-4501-b48b-f6bb5abe41b8/download/FY18-0043-Transit-Trends-Snapshot.pdf. October.

Federal Highway Administration (FHWA). 1975. *Draft Environmental Impact Statement: Lake-Will Freeway (FAP 432) from Illinois Route 68 (Dundee Road) to Richmond-Waukegan Freeway (FAP 420) and Richmond-Waukegan Freeway (FAP 420) from Alleghany Road to Almond Road*. December. https://play.google.com/books/reader?id=55Y1AQAAMAAJ&hl=en&pg=GBS.PP1-IA1.

Federal Highway Administration (FHWA). 2008. "Notice of Intent." Federal Register. October 23, 2008. Available at: https://www.govinfo.gov/content/pkg/FR-2008-10-23/pdf/E8-25125.pdf.

Federal Highway Administration (FHWA). 2013. *Highway Functional Classification Concepts, Criteria and Procedures.* Accessed December 2018. https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf.

Federal Highway Administration (FHWA). 2018. "Notice of Intent to Prepare an Environmental Impact Statement (EIS)." Federal Register. July 16, 2018. https://www.govinfo.gov/content/pkg/FR-2018-07-16/pdf/2018-15097.pdf.

Google. 2019. *Google Map Directions*. Accessed February 22, 2019. https://www.google.com/maps.

Illinois Department of Transportation (IDOT) and Illinois Tollway. 2001. *Lake County Transportation Improvement Project Draft Environmental Impact Statement*.

Illinois Department of Transportation (IDOT). 2019. "Chapter 46 Strategic Regional Arterials (New Construction/Reconstruction) revised March 2017." *Bureau of Design and Environment Manual*.

Illinois Natural Heritage Database. 2018. *Illinois Threatened and Endangered Species by County*. July 23. https://www.dnr.illinois.gov/espb/documents/et_by_county.pdf.

Jacobs Engineering Group (JEG). 2018. *Tri-County Access Study Travel Demand Model.*

Jacobs Engineering Group (JEG). 2019. *Transportation System Performance Report.* April.

Lake County Department of Transportation (LCDOT). 2009. *Unified Vision for the Central Lake Thruway*. October. Accessed March 23, 2018. https://www.lakecountyil.gov/DocumentCenter/View/11333.

Lake County Department of Transportation (LCDOT). 2018. *Route 120 Corridor Planning Council*. Accessed March 23, 2018. https://www.lakecountyil.gov/1981/Route-120-Corridor-Planning-Council.

Regional Transportation Authority (RTA). 2019. *RTA Trip Planner*. Accessed February 27, 2019. https://rtachicago.org/index.php/plan-your-trip.

Spieler, Christof. 2018. Trains, Buses, People: An Opinionated Atlas of US Transit. October 23, 2018.

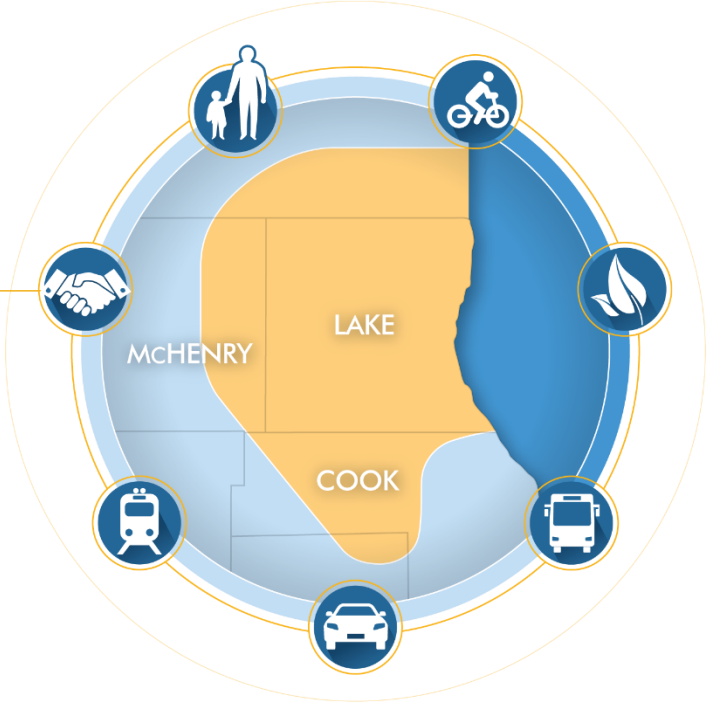
Transportation Research Board (TRB). 2016. *Highway Capacity Manual*.

U.S. Fish and Wildlife Service (USFWS). 2017. *Illinois County Distribution: Federally Endangered, Threatened, and Candidate Species*. May 9. https://www.fws.gov/midwest/endangered/lists/pdf/IllinoisCtyList09May2017.pdf

Wegener, Michael, and Franz Fuerst. 2004. "Land-Use Transport Interaction: State of the Art." *SSRN Electronic Journal*. October.

Appendix E

Alternatives Development and Evaluation Report



TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Alternatives Development and Evaluation Report

December 2019

Illinois Tollway

U.S. Department of Transportation
Federal Highway Administration

Illinois Department of Transportation

Contents

Acronyms ..... **iv**

1.0 Alternatives Development and Evaluation Methodology **1**
1.1 Project Introduction and Background 1
1.2 Planning Framework 2
1.3 Alternatives Development and Evaluation Process 8

2.0 Initial Range of Alternatives to be Considered **21**
2.1 Consideration of the No-Build Alternative 22
2.2 Types of Improvements to be Considered 24
2.3 Preliminary Corridor Improvement Concepts 26
2.4 System Scenario Development and Evaluation 67
2.5 Identified Initial Range of Alternatives to be Considered 105

Attachments

I. References
II. Preliminary Corridor Improvement Concepts Fact Sheets
III. Programmatic-Level Cost Analysis of Preliminary Corridor Improvement Concepts

Tri-County Access Project Companion Documents
Included in the Tri-County Access Executive Report Appendices

- Transportation System Performance Report (TSPR)
- Draft Purpose and Need
- Socioeconomic Forecast and Allocation Methodology Memorandum
- Stakeholder Involvement Plan for Agency and Public Involvement (SIP)
- Travel Demand Modeling and Travel Forecasting Technical Report
- Natural and Socioeconomic Resource Methodologies for the System Alternatives Evaluation Memorandums
- Initial System Scenarios: Development of Transit-Only Scenario Technical Memorandum

Acronyms

ALM	added lane mile(s)
ART	arterial rapid transit
BRAC	IL 53/120 Blue Ribbon Advisory Council
BRT	bus rapid transit
CAV	Connected and Autonomous Vehicle
CMAP	Chicago Metropolitan Area Planning
CMAP Region	CMAP seven-county region (Cook, DuPage, Kane, Kendall, Lake, McHenry and Will)
CPC	Route 120 Corridor Planning Council
CTA	Chicago Transit Authority
CTPP	Census Transportation Planning Package
CVMT	congested vehicle miles of travel
DOT	Department of Transportation
EIS	Environmental Impact Statement
FAP	Federal-Aid Primary
FHWA	Federal Highway Administration
GIS	geographic information system
HAA	Highway Authority Agreement
HBO	Home-Based Other
HBW	Home-Based Work
HSPRA	Human Skeletal Remains Preservation Act
I	Interstate
IL	Illinois Route
IDOT	Illinois Department of Transportation
INAI	Illinois Natural Areas Inventory
ISS	Initial System Scenarios
LCTIP	Lake County Transportation Improvement Project
LOS	Level of Service
MOU	memorandum of understanding
mph	mile(s) per hour
N/A	not applicable
NCS	North Central Service
NEPA	National Environmental Policy Act of 1969
NHB	Non-Home Based

NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
O-D	origin and destination
ON TO 2050	*ON TO 2050 Comprehensive Regional Plan*
PIM	public information meeting
PTI	planning time index
ROM	rough order-of-magnitude
ROW	right-of-way
RSP	Regionally Significant Project
RTA	Regional Transportation Authority
RTP	Regional Transportation Plan
SAV	shared autonomous vehicles
SIA	Statewide Implementation Agreement
SIP	Stakeholder Involvement Plan
SMC	Stormwater Management Commission
SPG	Stakeholder Participation Group
SRA	Strategic Regional Arterial
STOPS	Simplified Trips on Project Software
TBD	To be determined
TCA	Tri-County Access
TDM	transportation demand management
T&E	threatened and endangered
TIP	Transportation Improvement Program
TNC	transportation network company
TSM	transportation system management
TTI	travel time index
TSPR	Draft Transportation System Performance Report
VHD	vehicle hours of delay
VHT	vehicle hours of travel
VMT	vehicle miles of travel

1.0 Alternatives Development and Evaluation Methodology

1.1 Project Introduction and Background

The Illinois Tollway, in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), evaluated transportation needs and alternative transportation solutions within the Tri-County Access (TCA) Project study area. The study area boundary established for the TCA Project covers approximately 1,000 square miles, as shown in ***Figure 1***.

Located between Wisconsin and the City of Chicago, the TCA Project study area is in a strategic geographic position as a gateway to Illinois and the Chicago metropolitan area. The TCA Project study area included three primary counties in northeastern Illinois—Lake County, eastern McHenry County, and northern Cook County—which were the focus for analyzing the area's travel patterns, transportation needs and potential solutions. Portions of adjoining southern Kenosha County in Wisconsin and northeastern DuPage County were also included in the TCA Project study area to capture their effect on the area's current and future travel patterns.

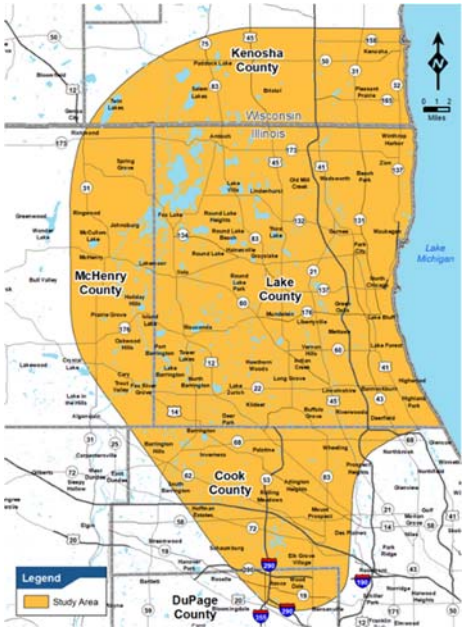


Figure 1. Study Area

1.1.1 Project Schedule

The TCA Project was initiated in 2017 with the objective of delivering an Environmental Impact Statement (EIS) documenting a recommended and federally approved transportation solution to the traffic congestion in Lake, northern Cook, and eastern McHenry counties. In July 2019, in consultation with FHWA and IDOT, the Illinois Tollway announced that—based on a careful evaluation of Illinois Tollway resources and feedback from local stakeholders—the agency had decided to suspend the TCA Project.

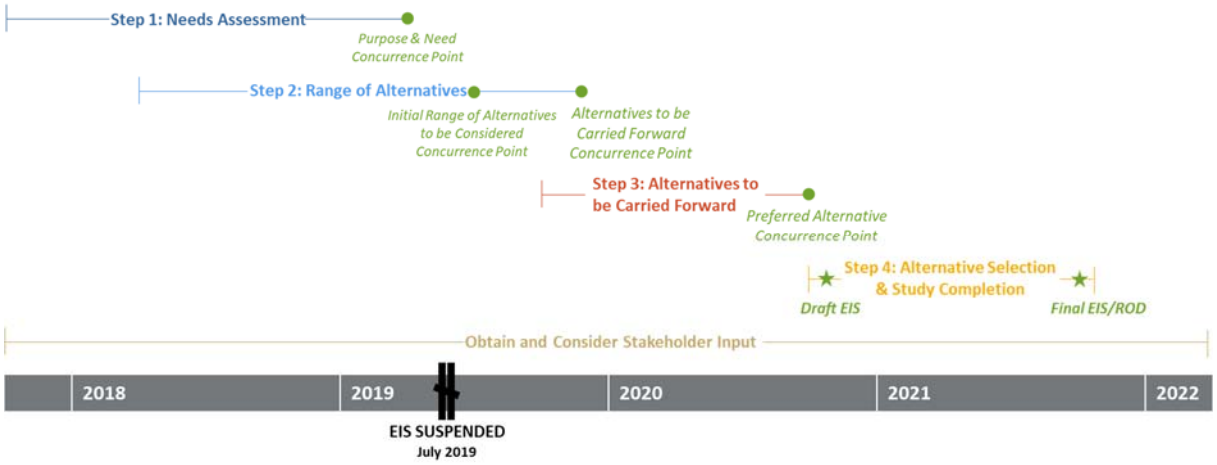
The general TCA Project schedule, shown in ***Figure 2***, presents an overview of the anticipated date of events for preparation of the TCA EIS, along with the corresponding steps for the Alternatives Development and Evaluation Process. The schedule depicts tasks completed prior to Project suspension and where the project process was halted.

The TCA Alternatives Development and Evaluation Process considered a wide range of alternatives, which were identified based on findings and recommendations from prior studies, newly completed technical analysis, an understanding of the area's environmental characteristics, and stakeholder input. The process was compliant with the National Environmental Policy Act (NEPA)/Section 404 merger agreement for Illinois, considering four concurrence points aligned with key Project decisions. Resource and regulatory agencies and stakeholders were engaged in the decision-making process from project initiation and would have specifically been consulted at each concurrence point. The following four concurrence points were planned for the Project:

1) Purpose and Need
2) Initial Range of Alternatives to be Considered
3) Alternatives to be Carried Forward
4) Preferred Alternative

Notably, and unique to the TCA Project, is the addition of the Initial Range of Alternatives to be Considered concurrence point. This concurrence point intended to provide an early, general agreement that a reasonable range of alternatives had been established within the large TCA Project study area that addressed the TCA Purpose and Need.

Figure 2. TCA Project Schedule



1.1.2 Prior Studies and Planning Efforts

The need for an improved transportation system in Lake County and its surrounding area has been the focus of years of planning and study. As early as the 1960s, regional plans identified the need for improved transportation linkages between Lake and McHenry counties and the rest of northeastern Illinois. Federal, state and local agencies have been involved in various planning studies related to a potential extension of Illinois Route (IL) 53, along with an upgrade of the IL 120 corridor, to provide that linkage. The prior studies and reports related to alternative transportation solutions considered with the TCA Project were gathered from regional planning agencies and transportation providers.

Relevant information and findings of prior studies were considered as part of the Alternatives Development and Evaluation Process.

A list of prior and ongoing studies can be found in *Attachment I: Report References*.

1.2 Planning Framework

The planning framework established the basic planning assumptions and guiding principles that were used to develop and evaluate alternative transportation solutions. The planning framework addressed the following questions:

- What planned regional transportation improvements and land-use assumptions should be considered?
- What are the transportation problems to be addressed by the Project?
- What principles will be used to develop effective transportation solutions for identified problems?
- What approach and procedures will be used to evaluate alternative transportation solutions?

The first two questions above were thoroughly covered through the completed analysis and findings of the TCA *Transportation System Performance Report* (TSPR) and the TCA *Draft Purpose and Need*, which identified problems to be addressed. A summary of these findings is provided herein. For a complete description and backup data, refer to the TSPR and/or Draft Purpose and Need.

1.2.1 Regional Planning Input and Assumptions

The TCA Project considered base year (2015) and forecast year (2050) conditions to determine transportation problems. The performance analysis for 2015 assumed existing transportation system conditions, and the 2050 analysis assumed expected improvements to the future transportation system would be in place by 2050, as identified in the Chicago Metropolitan Agency for Planning (CMAP) *ON TO 2050 Comprehensive Regional Plan* (*ON TO 2050 Plan*; CMAP 2018). The level of improvements identified for the 2050 forecasted year represented the No-Build Alternative for the TCA Project.

1.2.1.1 No-Build Alternative Development Methodology

The Alternatives Development and Evaluation Process began with the development of a No-Build Alternative (Baseline) consisting of transportation improvements, operational improvements and routine repairs that were anticipated to be constructed by 2050. It represented investments aligned to program funding levels at the time of the Project, and thus, did not include the major transportation improvements considered in the TCA Project. The No-Build Alternative assumed that routine repairs and operational improvements would continue for the existing roadway system, and constrained transportation improvements identified in the CMAP *ON TO 2050 Plan* would be in place for those parts of the region outside the Project study area. In addition to the roadway improvements, the No-Build Alternative included transit improvements, including improvements to the Metra Union Pacific North Line (UP-N) and Union Pacific Northwest Line (UP-NW) lines. For the TCA Project, the No-Build Alternative was considered either a stand-alone alternative or common to all TCA Project build alternatives. The No-Build Alternative would have been carried forward throughout the NEPA process to serve as the baseline for comparing the performance of the build alternatives to the effect of taking no action and ultimately could have been selected as the Preferred Alternative.

The No-Build Alternative included the following improvements to the existing transportation system:

- Fiscally-constrained Regionally Significant Projects (RSPs) identified in *ON TO 2050.*
- Programmed roadway and transit improvements in the TCA Project study area that were included in regional transportation agencies current Transportation Improvement Programs (TIPs).
- Roadway and transit improvements in the TCA Project study area that were anticipated to be completed beyond the end date of current transportation improvement programs through 2050. These included the current system and planned or approved capacity improvement projects.

Inputs for the No-Build Alternative

Development of the No-Build Alternative (Baseline) required extensive coordination with the region's transportation service providers to gather information on funded or anticipated transportation improvements in the Project study area. Specifically, the following agencies were consulted to confirm projects included in transportation agency TIPs and RSPs included in the fiscally constrained *ON TO 2050 Plan*:

- CMAP
- Illinois Tollway
- IDOT
- Lake County
- McHenry County
- Cook County
- Metra
- Pace
- RTA

Roadway Plan Inputs

The baseline roadway network for the No-Build Alternative consisted of the RSPs included in CMAP's *ON TO 2050 Plan* as well as projects identified in 5-year plans (TIPs) of IDOT, the Illinois Tollway, and the county transportation departments that involved capacity/access improvements along access-controlled highways or capacity/operational improvements along principal and major arterials. Projects from municipalities were not included, unless they were located along principal and major arterials. At the sub-regional scale, improvements to minor roadways (for example, collectors) were not expected to have an influence on network travel performance. Additional projects beyond the 5-year TIPs which were in development during the TCA Project would have been identified and reviewed through consultation with transportation providers. Only those projects for which tolling, or a similar dedicated funding source, was identified were considered for inclusion in the baseline roadway network.

Transit Plan Inputs

The transit elements of the No-Build Alternative were developed using a similar approach to the roadway elements. Planned transit improvements included in CMAP's *ON TO 2050 Plan* and projects identified in transit agencies 5-year plans (TIPs) that had the potential to affect capacity and ridership were incorporated into the No-Build Alternative and reflected in the project-specific land use and population and employment forecasts. This included projects such as station improvements, parking expansion, service extensions, dedicated bus lanes and frequency/headway changes.

Land Use/Population and Employment Considerations

The effects of the No-Build Alternative and potential transportation improvements on the area's future socioeconomic and land use characteristics would have been evaluated during the TCA Alternatives Development and Evaluation Process. In addition to the CMAP region's population and employment forecasts, the TCA Project would have used a combination of a market-based real estate model and a land use simulation model to develop alternative-specific socioeconomic allocations that would have accounted for specific transportation improvements considered with build alternatives and the No-Build Alternative. The study was suspended prior to initiation of these analyses.

The details of the forecasting and allocation process were described in the TCA ***Socioeconomic Forecast and Allocation Methodology Memorandum.***

1.2.2 Project Purpose and Need

Defining the TCA Project study area's transportation problems required an examination of all surface transportation modes through technical analysis of travel performance complemented by stakeholder input on the topic of transportation problems. This early input helped validate that analytical findings were consistent with the viewpoint of existing system users. The following primary findings were observed and identified in the TSPR and form the TCA Draft Purpose and Need:

Needs

- ***Inadequate travel options to reach regional destinations.*** The Project found that travel behaviors and the current characteristics of the transportation system result in inadequate travel options to reach regional destinations (large employers or specialized attractions) within the TCA Project study area. The dominant travel patterns are from northwest to southeast and south, and from east and northeast to southeast and south across the TCA Project study area. Commuters travel longer distances to get to work and are primarily traveling by automobile, yet reaching primary roads[1] intended for these longer-distance trips requires further travel just to connect to them. Additionally,

[1] The term "primary roads" is used throughout this document and is understood to encompass freeways/tollways/expressways and principal arterials.

trucks are traveling throughout the TCA Project study area on these roadways and intermingling with the commuting trips and local trips. Transit in the study area only serves two (2) percent of trips and is hindered by low-density development, gaps in the network, required transfers between buses and trains, and the prevalence of free parking at places of employment within the TCA Project study area.

- ***Widespread congestion and unreliable travel.*** Inefficiencies and lack of capacity in the roadway network results in widespread congestion and unreliable travel conditions within the TCA Project study area. The primary roads designed for longer trips account for the greatest amount of vehicle and congested travel during peak travel periods both today and into the future. Today's congestion-related delays result in unpredictable travel times for trips in the TCA Project study area, which will worsen with the growing travel demand and congestion into 2050.

Purpose

The purpose of the TCA Project proposed improvement was to identify efficient travel options that meet current and future transportation needs by:

- Improving access to regional destinations, including large employment centers and specialized attractions, that draw high volumes of trips within and to the TCA Project study area.
- Reducing congestion on primary roads intended to serve longer-distance trips.

Additionally, the residents and other stakeholders in the area valued a strong environmental policy and cared deeply about environmental preservation as the study area is home to many sensitive environmental and community resources, including state and federally listed species, wetlands, surface waters, and historic and archaeological resources. The TCA Project recognized these rich environmental resources and was committed to developing transportation solutions that minimized environmental impacts.

*See TCA **Draft Purpose and Need** for further details.*

1.2.3 Guiding Principles

The TCA Draft Purpose and Need and the following guiding principles with associated assumptions defined the basic "ground rules" to be followed throughout the Alternatives Development and Evaluation Process for addressing the transportation issues in the TCA Project study area.

Planning Horizon

The Project design year was 2050, consistent with the regional planning horizon or forecasted year.

Planning and Design Criteria

- Alternatives were developed in compliance with applicable planning and design criteria for roadway, transit, and active transportation (bicycle and pedestrian) facilities, as well as transportation system management (TSM) and transportation demand management (TDM) strategies. See *Attachment I: References* for a list of source criteria and guidance documents.
- Transportation performance measures and evaluation criteria were defined and used to support identification of the Initial Range of Alternatives to be Considered and would have been used to compare evaluation results for the Alternatives to be Carried Forward. They were also developed to support the detailed evaluations of localized design options when appropriate.
- Alternatives were developed with consideration of land-use patterns and community and environmental features. As commonly applied, principles of Context-Sensitive Solutions and flexible/practical design would have been used to avoid and/or minimize adverse impacts.

- Alternatives were developed to address transportation service gaps, to incorporate complementary multimodal features, and to consider potential standalone modal solutions—for example, considering the viability of a transit-only alternative.

Alternatives Development Guidelines

- Two basic types of alternatives were developed for the TCA Project—the No-Build Alternative and Build Alternatives.
- The No-Build Alternative[2] is the baseline condition carried through the entire Alternatives Development and Evaluation Process as an alternative.
- Build Alternatives were developed through an iterative process consisting of three basic steps: (1) technical analysis and initial development, (2) evaluation and refinement, and (3) stakeholder input. This process considered a full range of transportation solutions for addressing the identified needs of the Project at various steps and was designed to produce alternatives that were "technically and economically feasible that would satisfy the primary objectives of the Project as defined in the Purpose and Need statement" (Council on Environmental Quality 1981).
- Build Alternatives included improvements that represented a practical build-out condition. Practical, as termed, refers to capable of being done within reasonable natural, social, or economic constraints, while also taking into consideration cost, existing technologies, and logistics of implementation. Avoidance and minimization of environmental impacts was integrated early into the Alternatives Development and Evaluation Process.
- Build Alternatives were composed of a set (network) of multimodal components that included improvements to existing facilities, construction of new facilities, and TSM/TDM strategies intended to optimize transportation system performance.
- For the purposes of travel demand modeling and assessing social, environmental, and economic impacts, the Initial Build Alternatives were developed at a functional level of detail with corresponding planning-level cost to show travel modes, general corridors and alignments, facility types, number of lanes/rails, representative interchanges/intersections and their locations, as well as representative construction footprints.
- Build Alternatives would have been further refined to a conceptual level of detail and developed to include better defined working alignments, right-of-way and access control requirements, identification of interchanges and intersection types and grade separations, complementary improvements to adjoining roadways, as well as refined construction footprints. Localized design alternates, or options (i.e., interchange types) would have developed and evaluated at this stage to allow identification of optimal design treatments along proposed corridors. Preliminary estimates of cost would have been developed to support the evaluation of financial viability and implementation strategies.
- Coordination with the Resource and Regulatory Agencies, as well as stakeholders, assisted in defining the appropriate level of detail during the Alternatives Development and Evaluation Process.

Alternatives Evaluation Guidelines

- The evaluation of alternatives stemmed from the TCA's defined TSPR and Draft Purpose and Need.
- Evaluation criteria was developed to assess how well alternatives addressed the TCA Draft Purpose and Need and to compare the relative performance of alternatives. Criteria generally consisted of transportation performance and design measures, environmental and land use/socioeconomic

[2] For further discussion on the development of the No-Build Alternative, refer to the TCA Project TSPR.

impacts, financial performance, and implementation viability. A variety of performance measures and evaluation criteria were used to provide a comparative evaluation of the No-Build Alternative and the Build Alternatives throughout the Alternatives Development and Evaluation Process.

- The TCA travel demand model was used as the basis for studying year 2050 travel demand for the No-Build Alternative versus the Build Alternatives.
- The TCA Geographic Information System (GIS) database provided a means by which the environmental and socioeconomic impacts of alternatives were measured throughout the evaluation process.

Stakeholder Involvement

The TCA stakeholders participated throughout the Alternatives Development and Evaluation Process, as described separately in the TCA *Stakeholder Involvement Plan for Agency and Public Involvement* (SIP). The SIP details the process, goals, and objectives for stakeholder involvement, and describes the opportunities that will be available for public input and participation throughout the study.

1.2.4 Planning Tools

For the large geographic area of the TCA Project, the following tools were selected based on their ability to deliver data efficiently and objectively throughout the duration of the Alternatives Development and Evaluation Process:

Travel Demand Model. Used in evaluating the travel characteristics for the relative performance of alternatives. The model forecasted travel demand and compared systemwide travel performances, including corridor-level assessments between alternative solutions. The corridor-level transportation performance measures, such as travel reliability, travel demand shifts, and travel times between major origin and destination locations, was used to establish relative performances of alternatives due to network and travel demand adjustments.

The travel demand model developed for the TCA Project was based on the CMAP Model[3] for the northeastern Illinois region. The travel demand model is aligned with the CMAP model, thereby providing consistency with the regional planning process.

Detailed information regarding travel demand modeling and land-use forecasting is provided in the TCA Travel Demand Modeling and Travel Forecasting Technical Report.

Micro-simulation Software. Allows a more focused evaluation of operational performances through microsimulation. For example, VISSIM,[4] or other state-of-the-practice traffic simulation software, were used to quantify the level of service (LOS), travel delay, and operational effectiveness of design alternatives at interchanges or major intersections.

GIS Database. Developed as a decision-support tool for the development and evaluation of alternatives. Development began with published data (augmented by windshield surveys) and then would have been expanded to incorporate detailed environmental field studies throughout the Project process. The database readily stores environmental, land use and transportation inventory data that is easily retrievable. As alternatives are developed and footprints identified, the tool calculates impacts for early and ongoing identification of locations with sensitive environmental resources, community resources, or locations where impacts should be avoided or minimized.

[3] A set of computational tools used to predict transportation system use under a variety of socioeconomic conditions and public policy scenarios and used to evaluate long-range regional planning strategies and to estimate transportation contributions to regional air quality; the method is widely accepted and is the primary approach used for metropolitan transportation planning nationwide.

[4] A microscopic multi-modal traffic flow simulation software package developed by PTV Planung Transport Verkehr AG.

TRIMMS. A sketch-level tool that quantifies the performance effectiveness of complimentary TDM and TSM strategies as part of the alternative solutions. The outputs from the travel demand model were applied in combination with the TRIMMS analysis to evaluate overall effectiveness of alternatives.

Sketch-Level Transit Evaluations. The Federal Transit Administration's Simplified Trips on Project Software (STOPS) Model was used to evaluate feasibility of a Transit-Only Scenario. The STOPS model is calibrated to the Chicago region using Regional Transportation Authority (RTA) data inputs to provide consistency with the regional transit planning parameters. The STOPS model would also have been used in conjunction with the TDM to assess effectiveness of alternatives that include multimodal solutions.

1.3 Alternatives Development and Evaluation Process

The TCA Alternatives Development and Evaluation Process (***Figure 3***) was structured to encourage consideration of a full range of multimodal transportation solutions and assessed the relative ability of alternatives to address the TCA Draft Purpose and Need, along with their overall environmental/socioeconomic impacts, transportation performance and design, financial and implementation criteria. Alternatives were to be developed and evaluated through four separate but interrelated steps that align with the NEPA/Section 404 merger process concurrence points.

Figure 3. Alternatives Development and Evaluation Process

The following sections provide descriptions of each step of the process, including their objectives, the expected range of alternatives to be considered, the level of design development, the criteria and procedures that were and would have been used to evaluate alternatives, and the documentation that was and would have been prepared to present findings.

STEP 1: NEEDS ASSESSMENT

Objectives

- Establish transportation system features and socioeconomic forecasts for the No-Build Alternative.
- Conduct a comprehensive analysis to determine transportation deficiencies and needs and document findings in the TCA TSPR.
- Obtain and consider public input regarding the area's transportation problems and potential solutions, in conformance with the TCA SIP.
- Identify the TCA Draft Purpose and Need and secure concurrence via the NEPA/404 merger process.

Identify the No-Build Alternative

The No-Build Alternative was considered as its own standalone alternative and served as the baseline for comparing the full range of transportation solutions considered during the Alternatives Development and Evaluation Process. Improvements to be considered as part of the TCA Project were not included in the No-Build Alternative. The No-Build Alternative was established with input from local and regional transportation agencies, including consideration of ongoing Project development. In addition to the base year (2015) transportation system, the No-Build Alternative included the following projects in the TCA Project study area:

- Regionally Significant Projects (RSPs), as identified by CMAP in *ON TO 2050*. Only the RSPs listed as "fiscally constrained" were included.
- Programmed roadway, transit, and aviation projects listed in the current Transportation Improvement Program (TIP). Also included were projects that were not part of the current TIP but were expected to be funded and completed by 2050.

In addition to roadway projects, there were several fiscally constrained transit RSPs, including improvements to the Metra Union Pacific North Line (UP-N) and Union Pacific Northwest Line (UP-NW) lines.

As mentioned previously in Section 1.2.1.1, the No-Build Alternative was considered alongside the Build Alternatives throughout the Alternatives Development and Evaluation Process.

*For further details and discussion of the No-Build Alternative please see the TCA **TSPR**.*

Public Input

- Stakeholder Participation Group (SPG) Meeting #1 (March 2018, Round Lake Beach) – Project introduction; transportation performance findings; workshop for input on transportation problems in the Project study area
- SPG Meeting #2 (April 2018, Round Lake Beach) – Draft Goals and Objectives; introduction to Alternatives Development and Evaluation Process; mapping exercise to garner input on potential transportation solutions in the Project study area
- Public Information Meeting (PIM) #1 (July 2018, Lakemoor and September 2018, Kildeer) – Project introduction; Draft Purpose and Need; mapping exercise to garner input on potential transportation solutions in the Project study area

- SPG Meeting #3 (August 2018, Crystal Lake) – No-Build Alternative; Draft Purpose and Need; introduction to environmental study considerations; introduction to alternatives evaluation considerations

STEP 2: RANGE OF ALTERNATIVES

To arrive at a "reasonable" range of alternatives for the TCA Project, Step 2 was divided into two parts—Part "A" which identified and tested the effectiveness of potential improvement components, which consisted of general locations and corresponding design treatments that collectively satisfy the TCA Draft Purpose and Need; and Part "B", which would have further refined and developed complete alternatives – that is, complete sets of multimodal transportation improvements - to a functional design level for comparative evaluations of their environmental and socioeconomic impacts, travel performance, and design, financial, and implementation criteria. These two parts aligned with the NEPA/404 merger process concurrence points 2 and 3 and would have resulted in the identified Alternatives to be Carried Forward for further study in the Draft EIS.

STEP 2, PART A: IDENTIFY INITIAL RANGE OF ALTERNATIVES TO BE CONSIDERED

Objectives

- Establish transportation performance measures and evaluation criteria that were used to assess the ability of transportation Improvement Components and Initial System Scenarios to address the TCA Draft Purpose and Need.
- Identify a range of transportation Improvement Components to be considered in the study area. This was expected to include roadway, transit, and active transportation design treatments, as well as TSM/TDM strategies. This included a review of suggested improvements identified by the public during early outreach activities.
- Identify Preliminary Corridors to be considered, develop sketch-plans (preliminary locations, termini, and types of design treatments to be considered), and assess the reasonableness and viability of corridors based on their relative effectiveness versus potential effects to environmentally sensitive areas.
- Identify a range of Initial System Scenarios that are combinations of Preliminary Corridors with their corresponding Improvement Components and evaluate their relative effectiveness and ability to address the TCA Draft Purpose and Need.
- Obtain and consider public input, as described in the TCA SIP.
- Identify the Initial Range of Alternatives to be Considered and secure concurrence via the NEPA/404 merger process.

Identify Range of Improvement Components to be Considered

Improvement Components for the TCA Project acted as the building blocks for the creation of the Initial Build Alternatives. They were identified through technical findings of the transportation system performance analyses, evaluation of prior studies and consideration of stakeholder input. The range of Improvement Components to be considered included the following:

- Widen existing roadways.
- Improve system (freeway to freeway) and service (freeway to arterial) access in the study area.
- Improve major intersections and major at-grade railroad crossings.
- Construct new roadways, including consideration of various types of roadway facilities (freeways/tollways, expressways, arterials) and consideration of potential multimodal features.

- Improve existing transit services, including consideration of station improvements, platform improvements, operational and schedule improvements, and various ridership enhancement strategies.
- Construct new transit facilities along select corridors, including consideration of heavy rail, light rail, electric, rubber tire and other technologies.
- Expand pedestrian and bicycle facilities (active transportation facilities), with a focus on improving transportation connections and community connectivity.
- Freight trucking and rail improvements for better accessibility and mobility, such as implementing rail grade separations, truck-only lanes, truck route restrictions, intersection improvements, and additional road capacity.
- TSM strategies that mitigate transportation impediments and operating barriers by managing the physical transportation system through low-cost capital investments (such as information management systems/intelligent transportation systems).
- TDM strategies that alter travel characteristics by influencing intensity, timing, and distribution of travel by mode (such as ridesharing services).

The collection of Improvement Components represented the suite of multimodal improvement types and treatments to be initially considered, and as they were reviewed, those that supported the TCA Draft Purpose and Need were identified for consideration with the Project's Initial Build Alternatives. This review included a preliminary qualitative evaluation and screening of Improvement Components identified during early public involvement events (SPG Meetings #1 through #3 and PIM #1) and through the EIS scoping period. The qualitative evaluation assessed whether the improvements are relevant to the TCA Draft Purpose and Need and identified the stage of the Alternatives Development and Evaluation Process during which the improvement should be considered.

Identify and Evaluate Effectiveness of Preliminary Corridors

Preliminary Corridors are the general locations where improvements were considered along existing and new transportation corridors. At this early stage, a sketch-level representative layout was developed illustrating the type of design treatments to be considered and identifying initial opportunities to avoid and/or minimize impacts to environmentally sensitive areas within the identified corridors. The sketch-level representative layout depicted the following:

- The basic cross-section treatment type and limits (termini) for corridor improvements
- A representative alignment layout that considers opportunities for avoidance/minimization of impacts to environmentally sensitive areas, and identification of bypass locations
- Representative locations, types, and layouts of potential interchange improvements
- Representative intersection improvement types and layouts
- Representative locations, types (over versus under), and layouts of proposed grade separations
- Potential active transportation accommodations

Corridor-specific environmental criteria (see ***Table 1***) were used to assess the potential effects of corridor improvements to environmentally sensitive areas.

Identify and Evaluate Initial System Scenarios

Initial System Scenarios (ISS) are the starting point for identifying complete "systems" of improvements which, in combination, would address the TCA Draft Purpose and Need. At this early stage, a broad range of roadway-only ISS, along with a transit-only ISS, were identified and tested. Transportation

performance characteristics of the ISS were evaluated alongside the No-Build Alternative to identify complete "systems" of improvements that supported the TCA Draft Purpose and Need.

The range of ISS considered included the following categories:

- ***Existing System Strategies*** add capacity and improve access to the region's existing roadway and transit system networks. This includes improvements to existing interchanges and intersections, including providing new ramps to accommodate additional access.
- ***System Extension Strategies*** add new links or segments to the region's major expressway, tollway, arterial and transit system networks. Roadway-only as well as a standalone transit-only strategy were considered at this stage.
- ***Combined System Strategies*** consider the combination of adding capacity to existing roadways along with new links to the major expressway, tollway, and arterial networks.

The ISS identified at a sketch-planning level of detail the following basic features:

- Locations of existing or new corridors proposed for improvement.
- Improvement termini.
- Roadway improvement type, including proposed facility type (for example arterial or tollway) and the proposed number of traffic lanes.
- Representative interchange locations and types (full access vs. partial access).
- Facility grade separation locations.
- For the transit-only strategy, an operating plan, including station locations and travel-time estimates will be developed. This would have been representative of either a new express bus service, or rail system operating along a dedicated right-of-way.

Systemwide transportation performance measures (see ***Table 1***) were used to evaluate the comparative ability and effectiveness of the ISS (roadway-only and transit-only). At this initial stage of evaluation, the ISS were evaluated independently within their respective categories (Existing System Strategies, System Expansion Strategies, Combined System Strategies). This evaluation approach helped identify effective combined strategies to support the TCA Draft Purpose and Need.

Outside of the potential as stand-alone alternatives, improvements to an area's existing active transportation system, existing transit services, and inclusion of TSM/TDM strategies also served as complementary elements for any effective multimodal transportation system improvement. These features would have been identified and incorporated once alternatives had been further defined and identified in Step 2, Part B.

Table 1. Evaluation Criteria Initial Range of Alternatives to be Considered (Step 2, Part A)

Evaluation Criteria	**Definitions**
Environmental	
Objective: Evaluate ability of Preliminary Corridors to avoid or minimize impact to sensitive environmental and socioeconomic resources	
Resources: Wetlands; T&E Locations; Longitudinal floodplain crossings; Cultural/ Cemeteries; Special Waste; Noise/Air Sensitive Receptors; Special Lands; Public Facilities and Community Resources; Displacements: Environmental Justice	– Initial resources will be used for early alignment input within preliminary corridors for opportunities to avoid/minimize impacts to environmentally sensitive areas. – Details on environmental resource evaluations can be found in their respective methodology memorandums.

Evaluation Criteria	Definitions
Purpose[1]: Improve Access to regional destinations that draw high volumes of trips.	
Objective: Serve as much travel as possible on primary roads (principal arterials and above)	
Vehicle Miles of Travel (VMT)	– Systemwide assessment of shifts in VMT by functional class of roadway (daily and peak period) – Distribution of VMT along specific corridors
Vehicle Volume/Travel Demand	– Screenline[2] evaluation of daily and peak period vehicle volumes by functional class of roadway for east-west, and north-south directions – Travel demand increase/decrease along specific corridors
Objective: Reduce travel times compared to existing conditions	
Travel Time	– Change in cumulative travel times and travel sheds between major origin destination pairs[3] through use of isochronal maps – Travel time changes along specific corridors
Objective: Provide effective transit options and first/last mile connections	
Compatibility with existing transit routes and stations	– Systemwide and corridor-level assessment of degree of compatibility based on 1/2-mile buffers to transit facilities – Assessment of complementary transit options and modal improvements along corridors
Objective: Reduce the share of peak-period trips by single-occupant vehicles	
Modal Shares	– Mode split by facility or mode
Purpose[1]: Reduce Congestion on primary roads intended to serve longer distance trips	
Objective: Reduce congestion below existing levels on primary roads	
Vehicle Hours of Travel (VHT)	– Systemwide assessment of shifts in VHT by functional class of roadway (daily and peak period) – Change in VHT on specific corridors and impacts/benefits on secondary roadways
Vehicle Hours of Delay (VHD)	– Systemwide assessment of shifts in VHD by functional class of roadway (daily and peak period) – Change in VHD on specific corridors and impacts/benefits on secondary roadways
Congested Vehicles Miles of Travel CVMT)	– Systemwide and corridor-level assessment of change/reduction in CVMT and congested miles by functional class of roadway (daily and peak period)
Objective: Improve predictability of travel time	
Travel Time Index (TTI)/ Planning Time Index (PTI)	– Change in TTI and PTI through the ratio congested time to free flow time – Corridor specific assessment of travel time reliability
Objective: Provide throughput efficiency	
Travel time versus lane miles	– Ratio of cumulative travel time saved between major origin-destination pairs compared to lane-miles added – Corridor specific travel throughput and efficiency

1. "Purpose" statement summarized; see TCA Draft Purpose and Need for full description. 2. Imaginary line that crosses several roadway facilities. 3. O-D Pairs as identified in the Draft Purpose and Need.

Public Input to the Identification of Initial Range of Alternatives to be Considered

Any input received during prior public involvement events regarding the identification of the Initial Range of Alternatives to be Considered was considered during this step of the Alternatives Development and Evaluation Process. Additional public involvement opportunities would have included:

- One-on-One Local Agency Meetings—Meetings with local agencies located along the Preliminary Corridors were held, providing an opportunity for affected communities to provide early input on

the Initial Range of Alternatives to be Considered. These meetings were halted upon Project suspension.

- SPG Meeting #4 (scheduled for Summer 2019)—Would have introduced the Initial Range of Alternatives to be Considered
- SPG Meeting #5 (scheduled for Summer/Fall 2019)—Would have introduced Initial Range of Alternatives to be Considered performance characteristics
- PIM #2 (scheduled for Fall 2019)—Would have introduced the Initial Range of Alternatives to be Considered and performance characteristics

Step 2, Part B: Develop and Evaluate Initial Build Alternatives

Objectives

- Develop alternatives (the Initial Build Alternatives) – which would include appropriate multimodal improvements along proposed improvement corridors.
- Assess the potential effect of transportation trends on the area's future travel characteristics, and how those trends would affect the performance characteristics of the Initial Build Alternatives.
- Evaluate the overall performance of the Initial Build Alternatives and No-Build Alternative - environmental and socioeconomic impacts, travel performance (Purpose and Need criteria), design performance (design feasibility and constructability), and financial and implementation criteria (estimated costs and potential funding sources/availability).
- Obtain and consider public input, as described in the TCA SIP.
- Identify Alternatives to be Carried Forward for Detailed Consideration and secure concurrence via the NEPA/404 merger process.

Develop Initial Build Alternatives

Initial Build Alternatives would have been developed to a functional design level of detail required to allow an initial evaluation of their impacts and performance characteristics.

Roadway Functional Design: Roadway functional designs would have been developed to illustrate the representative characteristics and widths of proposed improvements. The designs would have included working horizontal and vertical alignments to validate engineering feasibility, identify the preliminary construction footprints, and to determine potential impacts. Alignment exhibits were not prepared at this early stage of design. The estimated footprints would have been based on cross-sectional treatments and widths to accommodate drainage needs, construction allowances, and potential right-of-way requirements. Design treatments to avoid or reduce impacts to environmentally sensitive areas would have been considered.

Roadway designs would have been developed on aerial photo base maps. Plans would generally depict the estimated footprint, roadway lane configurations, bridge and retaining wall locations, typical cross-sections, representative interchange and intersection layouts, and right-of-way needs along the improvement corridors.

Highway planning and design considerations during functional development would generally include:

- Preliminary basic lane requirements and corridor-sizing input (level of service)
- Representative access considerations and accompanying supporting improvements
- Provision to route continuity for priority movements
- Providing lane balance and lane continuity

- Representative interchange types and ramp configurations
- Representative intersection configurations
- Context sensitive design speeds
- Reuse of existing roadway infrastructure when practical
- Environmental sequencing (such as avoidance and minimization of impacts)
- For new roadway corridors, optional alignment locations will be studied
- Active transportation accommodations

Transit Functional Design: Transit operating plans and functional design plans would have been developed to illustrate representative characteristics of new transit services that may be considered as part of the Initial Build Alternatives. The operating plans would have addressed travel demand forecasts (ridership), service routings and stopping patterns, travel-time estimates, and first- and last-mile connections. Transit design plans would have depicted the trunk line alignment, station areas, connections to other modes such as park-and-ride facilities and connections to the regional transit network. Likewise, improved operating plans and functional design plans would have been developed for improvements to existing transit services along existing roadway corridors (such as route network reconfiguration, frequency of service, addition/removal of stops).

Transit planning and design considerations during functional development would generally include:

- Dedicated/exclusive runningways, direct ramps, and queue jumps
- Representative station locations, features, and footprints
- Representative park-and-ride locations and footprints
- Conceptual Intelligent Transportation Systems for transit vehicles and passengers
- Potential implementation sequencing (minimum operable segments)
- Active transportation accommodations
- Connecting transit services

Drainage Functional Design: Drainage functional design would have begun to identify sensitive drainage features (floodplain/floodway locations), sensitive outfalls, and methods of stormwater detention and compensatory storage for each Initial Build Alternative.

Structural Functional Design: Structural functional design would have begun to identify bridge, tunnel, and retaining wall locations for each Initial Build Alternative as required to support development of planning level costs.

TSM/TDM Strategies: Strategies to enhance the capacity of existing systems and to optimize overall operations of the transportation system would have continued to be studied and identified for implementation. TDM strategies intended to manage overall travel “demand” would also have continued to be studied. This may have included treatments such as managed lanes, as well as policies intended to reduce peak-period travel. Policies that would require action by federal, state or local officials would be identified.

Evaluate Initial Build Alternatives

A comprehensive evaluation of the Initial Build Alternatives would have been performed to support a determination of the Alternatives to be Carried Forward for detailed consideration, including the No-Build Alternative. This would have included an evaluation of the environmental impacts, travel performance (Purpose and Need criteria), design performance (design feasibility and constructability),

and financial and implementation criteria (estimated costs and potential funding sources/availability) of the No-Build and Initial Build Alternatives. A description of the performance measures and evaluation criteria are presented below and summarized in ***Table 2***.

Table 2. Evaluation Criteria Initial Build Alternatives (Step 2, Part B) and Alternatives to be Carried Forward (Step 3)

Evaluation Criteria	**Definitions**
Travel Performance and Design Acceptability	
Purpose and Need Criteria	– Systemwide and corridorwide as presented in ***Table 1***
Travel demand and accessibility[1] Mode-shifts Travel time isochronal maps Peak-period travel time profiles	– Peak-period, design hourly volumes and daily travel demand – Assessment of transit[2] options and modal improvements along major corridors – Assessment of routing options, ingress/egress and access locations for corridor sizing – Assessment of multimodal accessibility to population and employment centers within 1/2 mile – Access location considerations
Operational effectiveness and mobility[1] LOS Interchange/Intersection Delay TSM/TDM integration Corridor-level TTI and PTI	– Assessment of LOS using macro-level traffic operational analysis (segment and interchange/intersection analysis) – Corridor-level assessment of TSM/TDM strategies using macro & micro simulation analysis – Travel time reliability on major roadways – Evaluation of interchange/intersection types using microsimulation analysis
Engineering Design	– Assessment for compatibility to agency standards and criteria
Constructability	– Assessment of major design impacts (utility conflicts, drainage affects, existing transportation facility impacts, vertical grade and subsurface issues, structure feasibility)
Environmental	
See *Natural and Socioeconomic Resource Methodologies for the System Alternatives Evaluation Memorandums* under separate cover	
Land Use and Socioeconomic	
See *Socioeconomic Forecast and Allocation Methodology Memorandum* under separate cover	
Financial and Implementation	
Project Construction Cost	– Risk-based assessment for planning-level cost of improvements – Initial and life-cycle cost[1]
Implementation Options	– Qualitative assessment for carrying out proposed improvements, optional strategies, and their associated potential funding sources
Implementation Plan[1]	– Assessment of general sequence, duration of time, timeframe and agency responsibilities for proposed improvements, and risks associated

1. Additional criteria used during the development of a Draft EIS for build alternatives. 2. Transit and active transportation planning framework developed separately and incorporated appropriately.

Travel Performance and Design Feasibility Evaluation: Systemwide transportation performance would have been evaluated using an expanded set of measures and evaluation criteria. Qualitative measures would have been used to assess potential design feasibility issues. Design feasibility criteria at this stage would be qualitative in nature and would have begun to assess major utility conflicts, potential drainage issues, planning framework guidance (for example interchange spacing for highways), and general acceptance of meeting agency standards and design criteria.

Natural Resource Evaluation: An initial quantitative evaluation of potential environmental impacts of the Initial Build Alternatives would have been performed. Evaluation Criteria would have considered the

potential direct and indirect effects on the environment impacts to federal and state regulated resources.

Land use and Socioeconomic Evaluation: An initial quantitative evaluation would have been performed to evaluate the socioeconomic impacts of each Initial Build Alternative. This includes an initial evaluation of compatibility with existing and planned land use, potential property impacts (displacements), environmental justice issues, and potential effects on community cohesiveness and on special land uses.

Financial and Implementation Evaluation: A planning level cost estimate would have been developed for each Initial Build Alternative. This analysis would have included a risk-based cost assessment that includes readily available cost data and applies professional judgment to establish anticipated costs for risk areas. An initial qualitative assessment of implementation options, and of associated potential funding sources and uses, would have also been studied for each Initial Build Alternative.

Public Input to the Initial Range of Alternatives Considered

Any input received during prior public involvement events regarding the Initial Range of Alternatives to be Considered would have been considered during this step of the Alternatives Development and Evaluation Process. Additional public involvement opportunities would have included:

- One-on-One Local Agency Meetings
- SPG Meeting #6 (scheduled for Winter 2019/2020) - Input to the Alternatives to be Carried Forward
- PIM #3 (scheduled for Winter 2020)—Input to the Alternatives to be Carried Forward

STEP 3: DEVELOP AND EVALUATE ALTERNATIVES TO BE CARRIED FORWARD

Objectives

- Develop alternatives (the Build Alternatives) to a greater level of detail (conceptual design level) to allow a detailed evaluation of their impacts and transportation performance characteristics.
- Develop and evaluate localized Design Alternates (i.e., intersection and interchange types, proposed typical sections, types of structures, and geometric and right-of-way design) to allow identification of optimal design treatments along corridors included in the Build Alternatives. Design Alternates would have been evaluated based on their design performance (operations based on microsimulation analyses, design, constructability), environmental performance, and financial considerations (costs – initial and life-cycle costs).
- Identify and incorporate TSM/TDM strategies and associated design refinements into the Build Alternatives, with the objective of optimizing overall transportation system performance.
- Evaluate the overall performance of the alternatives (Build Alternatives and No-Build Alternative)—environmental and socioeconomic impacts, travel performance (Purpose and Need criteria), design performance, and financial and implementation criteria (estimated costs and potential funding sources/availability).
- Obtain and consider public input, as described in the TCA SIP.
- Identify the Preferred Alternative and secure concurrence via the NEPA/404 merger process.

Develop Alternatives to be Carried Forward

The Alternatives to be Carried Forward from Step 2, or Build Alternatives, would have been developed to a greater level of detail (conceptual design) allowing for a detailed evaluation of their environmental and socioeconomic impacts, transportation and design performance, and financial and implementation requirements. Complementary transit and active transportation components along with TSM/TDM

strategies would have been incorporated and evaluated as part of the Build Alternatives. Where required, off-system improvements to adjoining transportation facilities would have been identified and added to the Build Alternatives. Where appropriate, localized Design Alternates (such as interchange types) would have been developed and considered, with the objective of identifying optimal design treatments along improvement corridors included in the Build Alternatives.

A general overview of the type of refinements expected during conceptual design is provided below.

Roadway Conceptual Design:

- Develop alignment options to evaluate avoidance and minimization of impacts to sensitive areas.
- Update field survey, existing topography, aerial mapping, and right-of-way/parcel data.
- Develop and refine cross section geometry at critical and constrained locations, including consideration of stakeholder input and refined improvement components (i.e., bus transit, managed lanes, active transportation treatments).
- Identify specific supporting strategies for TSM/TDM implementation.
- Develop horizontal alignment controls—radii, stationing, and control points.
- Investigate vertical profile adjustments and alternatives, and associated earthwork impacts.
- Evaluate potential off-system traffic impacts and develop conceptual design for required off-system improvements.
- Determine utility relocations and adjustments.
- Identify agency-specific design exceptions.
- Establish refined construction footprint.
- Establish preliminary right-of-way limits and develop access control plans.
- Develop conceptual design-level cost estimates.
- Perform interchange type studies and intersection studies.
- Assess constructability and develop traffic management plans.
- Transit/Freight Conceptual Design:
  - Evaluate potential facility conflicts, relocation options, and requirements.
  - Identify working horizontal and vertical alignments and planning level costs.
  - Identify transit station locations and conceptual layouts, assess supporting improvement locations/limits, and effects to connecting services.
  - Evaluate freight facility treatments and layouts—grade crossings, access routes, Intelligent Transportation Systems, spot improvements, rail capacity, and improved access to intermodal facilities.

Structural/Geotechnical Conceptual Design:

- Assess feasible structure types, geometry, pier locations, and typical deck sections.
- Define waterway opening of major culverts.
- Identify bridge, tunnel, and retaining wall locations and limits, including the need for modifications to major existing structures.
- Develop boring plans with additional subsurface properties data.

Drainage/Environmental Conceptual Design:

- Perform hydrology/hydraulic system analyses: culvert sizing, pump station needs, encroachments.
- Further evaluate and continue the identification of sensitive drainage features (floodplain/floodway locations) and sensitive outfalls requiring mitigation.
- Identify methods of stormwater detention and compensatory storage.
- Determine the form and location of environmental mitigation and incorporate into the conceptual design and construction footprint of the Build Alternatives.

Conceptual Implementation Plan:

Develop a conceptual implementation plan identifying the general sequence, duration, timeframe and agency responsibilities for implementation of improvements identified with each Build Alternative. Potential funding sources and availability would have been considered as part of the conceptual implementation plan.

Evaluate Alternatives to be Carried Forward

A comprehensive evaluation of the Alternatives to be Carried Forward (Build Alternatives and No-Build Alternative) would have been performed to support preparation of the Draft EIS and a determination of the Preferred Alternative. This would have included an evaluation of the environmental impacts, travel performance (Purpose and Need criteria), design performance (design acceptability), financial criteria (estimated costs), and implementation criteria (funding availability and implementation timeframe).

The evaluation of Alternatives to be Carried Forward (Build Alternatives and No-Build Alternative) would have been performed using comparable procedures and criteria as used for the evaluation of the Initial Build Alternatives (Step 2, Part B), but would have been based on more refined conceptual design plans including potential supporting off-system improvements. A description of the performance measures and evaluation criteria are presented and summarized in ***Table 2***.

Travel Performance and Design Acceptability Evaluation: Systemwide transportation performance would have been evaluated using an expanded set of measures and evaluation criteria for the Build and No-Build Alternatives. The compatibility of the Build Alternatives with established agency standards and design criteria would have been evaluated to determine design acceptability. Localized Design Alternates would have been evaluated based on their design performance (operations based on microsimulation analyses, design, constructability), environmental performance, and financial considerations (costs – initial and life-cycle costs).

Environmental Evaluation: A refined evaluation of the environmental impacts of the Build Alternatives would have been performed, incorporating detailed environmental resource field survey data. Criteria would have considered the potential direct, indirect, and cumulative effects on the environment impacts to federal and state regulated resources.

Land use and Socioeconomic Evaluation: A refined evaluation of the socioeconomic impacts of the Build Alternatives would have been performed. This includes a refined evaluation of compatibility with existing and planned land use, potential property impacts (displacements), potential environmental justice effects, and potential effects on community cohesiveness and on special land uses.

Financial and Implementation Evaluation: A conceptual-level cost estimate would have been developed for each Build Alternative. This analysis would have included a risk-based cost assessment that includes readily available cost data and applies professional judgment to establish anticipated costs for risk areas. An evaluation of the implementation plan for each Build Alternative would have been performed to assess implementation timeframe, viability and risks.

Public Input to the Alternatives Carried Forward

Any input received during prior public involvement events regarding the Alternatives to be Carried Forward would have been considered during this step of the Alternatives Development and Evaluation Process. Additional public involvement opportunities would have included:

- One-on-One Local Agency Meetings
- SPG Meeting #7 (scheduled for Summer 2020)—Introduction to the Alternatives to be Carried Forward and Workshop
- SPG Meeting #8 (scheduled for Fall 2020)—Alternatives to be Carried Forward performance characteristics

STEP 4: ALTERNATIVE SELECTION AND STUDY COMPLETION

Objectives

- Obtain and consider public input, as described in the TCA SIP.
- Refine the Preferred Alternative as appropriate to address public and agency comments on the Draft EIS. Update the overall performance evaluation to support identification of the Selected Alternative and preparation of the Final EIS/Record of Decision.
- Develop the Selected Alternative to a greater level of detail (preliminary engineering level) to support required design approvals and corridorwide regulatory permits.
- Develop an overall Project Implementation Plan which establishes operationally independent improvements and identifies an overall sequence and timeframe for implementation of the Selected Alternative. As required, establish corridor protection to enable preservation of right-of-way for any new corridor(s) which may be included in the Selected Alternative.
- As required, prepare a Project Management Plan and an Initial Financial Plan under federal Major Study requirements.

Identify Preferred/Selected Alternative

The Preferred Alternative would have been identified and any modifications and refinements required to address comments received during public review of the Draft EIS would have been considered and incorporated in the Final EIS/Record of Decision and associated preliminary engineering design plans/reports.

Should a Build Alternative been selected as the Preferred Alternative, a Project Implementation Plan would have been developed. This plan would have: identified projects with independent utility, prioritized improvements, identified implementing agencies, and established an initial implementation sequence and schedule. The Project Implementation Plan would have been developed in close coordination with transportation agencies responsible for implementing the Preferred/Selected Alternative.

Should a Build Alternative have been selected as the Preferred Alternative, an Initial Financial Plan[5] may have also been developed should the Preferred Alternative meet the requirements of "Major Projects." Various funding scenarios, including state and federal funding, as wells as public/private partnerships, would have been identified and evaluated. The Initial Financial Plan would have identified both required and available funding to implement the selected Preferred Alternative.

[5] It was anticipated an Initial Financial Plan would have been required for any Alternatives to be Carried Forward for Detailed Consideration selected for the TCA Project. Should the No-Build Alternative been selected as the Preferred Alternative, this requirement would not apply.

Complete Preliminary Engineering and Secure Related Approvals

Preliminary engineering studies and concept design would have been completed to secure required design approvals and corridor-wide regulatory permits for the Preferred/Selected Alternative identified in the Final EIS/Record of Decision. Concept design development would have been advanced to the level of detail required to secure corridor-wide regulatory permits within the timeframe defined via One Federal Decision, and to the level required to secure Design Approvals from agencies who would have been responsible for implementation of the Selected Alternative.

Public Input to the Preferred/Selected Alternative

Any input received during prior public involvement events regarding the Preferred/Selected Alternative would have been considered during this step of the Alternatives Development and Evaluation Process. Additional public involvement opportunities would have included:

- One-on-One Local Agency Meetings
- SPG Meeting #9 (scheduled for Winter 2021)—Introduction to Draft EIS materials and Preferred Alternative
- Public Hearing (scheduled for Spring 2021)—Introduction to Draft EIS materials and Preferred Alternative
- SPG Meeting #10 (scheduled for Summer 2021)—Preferred Alternative performance characteristics; Refinements to the Selected Alternative

2.0 Initial Range of Alternatives to be Considered

The development and evaluation of alternatives was structured as an iterative process that would consider a full range of multi-modal alternatives to address the TCA Draft Purpose and Need based on technical analyses; an understanding of the area's environmental characteristics; findings and recommendations from prior studies; and stakeholder input. The process began with the identification of Improvement Components, which led to the identification of the Initial Range of Alternatives, and had the TCA Project continued, eventually Alternatives to be Carried Forward through the EIS process to the point of selecting an alternative, which may have been either a Build or No-Build Alternative.

This section describes the following:

- How the No-Build Alternative would have been considered during the alternatives evaluation process
- The types of improvements that were considered
- Emerging technologies and mobility trends and how these would have been considered during the alternatives evaluation process
- The preliminary corridor improvement concepts identified and evaluated, which—when combined into complete sets (networks) of roadway improvements and enhanced with complementary multi-modal features—would have formed the complete Initial Build Alternatives
- The complete sets (networks) of improvements (ISS) identified and considered to address the TCA Draft Purpose and Need
- The Initial Range of Alternatives (No-Build and Initial Build Alternatives) that would have been advanced for further development and evaluation, including a description of suggested next steps

2.1 Consideration of the No-Build Alternative

The TCA Project considered two basic types of alternatives – the No-Build Alternative and Build Alternatives. The No-Build Alternative was considered as its own standalone alternative and served as the baseline for comparing the full range of transportation alternatives considered during the TCA Alternatives Development and Evaluation Process. Any projects or improvements proposed as part of the TCA Project were not included in the No-Build Alternative.

The No-Build Alternative was established with input from local and regional transportation agencies, including consideration of ongoing project development. In addition to the base year (2015) transportation system, the forecast year (2050) No-Build Alternative included the following projects in the TCA Project study area:

- Fiscally constrained RSPs, as identified by CMAP in *ON TO 2050*.
- Programmed roadway, transit, and aviation projects listed in current TIPs. Also included were projects that were not part of current TIPs but were expected to be funded and completed by 2050.

In addition to roadway projects, there were several fiscally constrained transit RSPs, including improvements to the Metra UP-N and UP-NW lines. There were no bus service improvements included in the list of fiscally constrained RSPs. There were, however, three Pace Bus local routes (604, 608, 611) expected to implement service and routing improvements by 2050.

Table 3 and ***Table 4*** list the programmed and expected roadway and transit projects included in the 2050 No-Build Alternative. ***Figure 4*** and ***Figure 5*** show the type, location, and extent of those projects.

Table 3. No-Build Forecast Year (2050) Roadway Projects

Name	Project Type	From	To	Implementing Agency
Aptakisic Rd	Add Lanes	Buffalo Grove Rd	IL 83	LCDOT
Barrington Rd	Add Lanes	Central Rd	IL 62	IDOT
Buffalo Grove Rd	Add Lanes	IL 83 McHenry Road	IL 22 Half Day Road	LCDOT
Cedar Lake Road	Add Lanes	Townline Road	Hart Road	LCDOT
Deerfield Road	Add Lanes	Saunders Road	IL 21/US 45	LCDOT
IL 120		US 41	Wilson Road	IDOT
IL 131 Green Bay Road - RSP 14	Add Lanes	Sunset Avenue	Russell Road	IDOT
IL 137 Buckley Rd	Add Lanes	Petersen Rd	IL 83	IDOT
IL 173 Rosecrans Rd - RSP 15	Add Lanes	US 41 (Skokie Hwy)	IL 59	IDOT
IL 22/Lake Zurich Rd	Add Lanes	W of IL 83	Quentin Rd	IDOT
IL 31 Front St - RSP 6	Add Lanes	N of IL 176 (Terra Cotta Ave)	S of IL 120 Belvidere Rd	IDOT
IL 60/IL 83 - RSP 10	Add Lanes	Townline Road (IL 60)	IL 176	IDOT
IL 62 (Algonquin Rd) - RSP 11	Add Lanes	IL 68 (Dundee Rd)	IL 25 (JF Kennedy Memorial Dr)	IDOT
IL 83 (Barron Blvd)	Add Lanes	IL 137 & At Atkinson Rd	IL 120 (Belvidere Rd)	IDOT
IL 83 Milwaukee Ave - RSP 13	Add Lanes	IL 120	Petite Lake Rd	IDOT
Lake Cook Road	Add Lanes	Hastings Lane	Raupp Boulevard	Cook Co DoTH
Meacham Rd	Add Lanes	IL 62 Algonquin Rd	Kirchoff Rd	TBD
Quentin Road	Add Lanes	IL 68 Dundee Road	Lake Cook Road	Cook Co DoTH
US 41 Skokie Hwy	Add Lanes	0.5 miles S of IL 176	Quassey Avenue	IDOT
US 45 Lake Ave	Add Lanes	N of IL 120	Rollins Rd	IDOT
US 45 McHenry Rd	Add Lanes	N of IL 132 & At Milburn Creek	S of Milburn Bypass	IDOT
US 45/IL 83 (Old Half Day Rd) - RSP 114	Add Lanes	IL 22 (Half Day Rd)	IL 60/Townline Rd	IDOT

Table 3. No-Build Forecast Year (2050) Roadway Projects

Name	Project Type	From	To	Implementing Agency
Weiland Rd	Add Lanes	CH A50 Lake Cook Road	IL 22 Half Day Road	TBD
Crystal Lake Rd	Intersection/Interchange	Silver Lake Trail	Silver Lake Rd	TBD
Dowell Rd/Fisher Rd	Intersection/Interchange		Darrell Road	LCDOT
Hart Road	Intersection/Interchange		US 14 Northwest Highway	TBD
Lakeview Parkway	Intersection/Interchange	Fairway Drive	Hawthorn Pkwy	TBD
Three Oaks Rd	Intersection/Interchange	Village of Cary's municipal limits	Silver Lake Rd	TBD
Wadsworth Road	Intersection/Interchange		Lewis Avenue	LCDOT
Willow Rd	Intersection/Interchange	Waterview Dr	E of DesPlaines River	IDOT
I-190 O'Hare Access Rds - RSP 32	Road Modernization	Cumberland Ave	US 12/US 45	CDOT
IL 62 Algonquin Rd	Road Modernization	IL 53	Plum Grove Rd	TBD
Wolf Rd	Road Modernization	N of Hintz Rd	IL 21/Milwaukee Ave	IDOT

Table 4. No-Build Forecast Year (2050) Transit Projects

Owner	Location	Project Type	Description
Metra	UP-N Line	Capacity/Reliability	Installation of crossovers and track, new outlying coach yard, reconstruction of bridges, upgrades to existing stations, new station at Peterson and Ridge avenues
Metra	UP-NW Line	Line Extension, Capacity/Reliability	Extend line from McHenry to Johnsburg, allow space for new yards, signal system improvements, crossovers, track improvements, two additional stations at Prairie Grove and Ridgefield, planning for transit-supportive development at new stations and for feeder bus service
Pace Bus	Route 604	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing
Pace Bus	Route 608	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing
Pace Bus	Route 611	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing

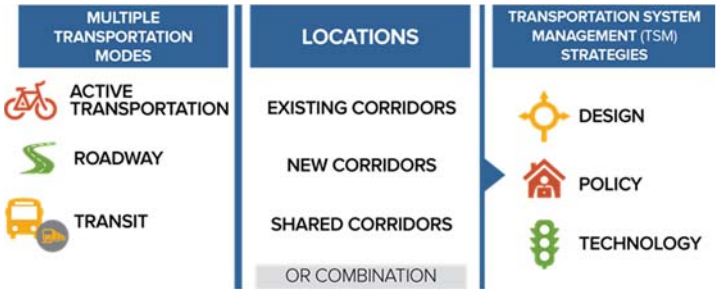
Figure 4. No-Build Forecast Year (2050) Roadway Projects

Figure 5. No-Build Forecast Year (2050) Transit Projects

2.2 Types of Improvements to be Considered

Improvement Components for the TCA Project served as the building blocks for multi-modal alternatives and aligned with emerging transportation technologies and mobility trends. These building blocks were identified through technical findings of the transportation system performance analyses, evaluation of prior studies including transit agency plans and consideration of stakeholder input. The following types and locations of improvements were identified for consideration:

Figure 6. Improvement Components



Roadway Improvement Types and Locations

- Adding capacity (widening) to numerous existing arterial roads, improving major intersections, and grade-separating major at-grade railroad crossings.
- Constructing new roads, which consider a variety of new road types (expressways/tollways, parkways, and arterials), and constructing new interchanges with complementary improvements to adjoining existing roads.
- Where required, widening existing expressways and improving existing interchanges.

Transit Improvement Types and Locations

- Improving existing transit services, including consideration of station/platform improvements, operational and schedule improvements, and various ridership enhancement strategies.
- Where supported by complementary transit-oriented land use policies, providing new transit services along new or existing roads.
- Assessing opportunities for transit-oriented land use policy enhancements.
- Considering whether transit system improvements alone have the potential to address the TCA Draft Purpose and Need.

Active Transportation System Improvements

- Expanding pedestrian and bicycle facilities (active transportation facilities) along existing and new road corridors proposed for improvement, with a focus on improving transportation connections and community connectivity.
- While improvements to the area's active transportation system would enhance modal connections, they alone did not have the ability to address the TCA Draft Purpose and Need. The volume of people using active transportation comprises 5 percent of daily trips, so simply increasing the number of people using active transportation as a primary travel mode several fold would still not substantially address the Draft Purpose and Need. Additionally, the average home-based work trip length in the TCA Project study area is 15.7 miles, which would not typically be addressed by active transportation as a commuting mode.

Transportation System Management Systems and Policies

- Continuing deployment and upgrades to the area's Transportation System Management (TSM) systems to mitigate transportation impediments and operating barriers through information management systems/intelligent transportation systems.

- Supporting policies to alter travel characteristics by influencing intensity, timing, and distribution of travel by mode.
- Exploring how emerging technologies and mobility trends may affect how people in the Chicago metropolitan area will get around in the future, and how these trends may affect travel demand.
- While enhancements to the area's transportation system management and policies would optimize operations of a right-sized transportation system, they alone do not have the ability to address the TCA Draft Purpose and Need.
- Given the extent and magnitude of congestion on TCA Project study area roads, no one transportation solution would address all problems. Solutions must focus on strategic investments to support multiple modes of travel in order to reduce congestion, improve reliability of travel, improve travel options connecting regional destinations, and improve local and regional travel efficiency.

2.2.1 Consideration of Emerging Technologies and Mobility Trends

Current and emerging technologies and their potential to provide transportation solutions to congestion concerns in the TCA Project study area were considered and advocated for by Stakeholders during the TCA Alternatives Development and Evaluation Process. This section discusses various emerging technologies and mobility trends and how they would have been considered as part of the TCA Alternatives Development and Evaluation Process.

2.2.1.1 Transportation System Management Technologies

Improved highway management and operations techniques address the recurring and non-recurring sources of congestion to move toward a system that operates more efficiently, reliably, and safely. Highway management and operations strategies include active traffic management; managed lanes (controlled by pricing, occupancy, or other means); ramp metering; incident management (detection and response); traveler information; access management; integrated corridor management; and, more broadly, the emergence of Smart Cities—that is, a system of interconnected systems, including employment, health care, retail/entertainment, public services, residences, energy distribution, and transportation, tied together by information and communication technologies that transmit and process data about all sorts of activities.

Current and emerging TSM technologies alone did not have the ability to address the TCA Draft Purpose and Need. However, they offered the ability to optimize operations across a right-sized transportation network.

2.2.1.2 Automated and Connected Vehicle Technologies

In recent years, few emerging transportation technologies have captured as much public and policymaker attention as automated or 'driverless' vehicles. The term Connected and Autonomous Vehicles (CAVs) refers to vehicles that can partially or completely drive on their own, providing safety, convenience, accessibility, and quality of life benefits. Recent studies predict broad CAV market penetration within 10 to 20 years, dependent on a number of factors including the price of remote sensing technology, the adoption of CAV technologies, and customer preferences (CMAP 2017).

Implementation of CAVs will bring disruptive changes—both positive and negative. CAVs have the potential to dramatically change the transportation network system performance. Smart communications technology would enable vehicles to send and receive real-time information about road conditions and would enable transportation agencies to quickly re-route vehicles, respond to accidents, and adjust signal timing, speed limits, and tolls to reduce congestion and improve the speed and reliability of transportation. In addition, CAVs could provide critical mobility to the elderly and disabled, enhance effective road capacity, and reduce fatal crashes, injuries, traffic congestion, and fuel

consumption. CAVs might be able to travel with more compact spacing, increasing the capacity of roadways while maintaining safety.

At the same time, CAVs are likely to result in an increase in travel demand. As mobility improves, vehicle miles of travel (VMT) increases. Such increases will be related to the demand for more trips, for trips serving populations that currently do not drive (children, disabled, and the elderly), and empty vehicles. There may also be shifts from transit usage (with high occupancies) to lower-occupancy CAV use. Also, the transition period between human driving and fully-automated driving is likely to be marked by focused decreases in capacity, safety conflicts, and policy issues.

While broad market penetration of CAV offers the potential to enhance transportation network system performance, it is likely to result in increased roadway travel demand. Regional and project transportation planning studies should explore how design practices may need to change to accommodate CAVs, how pavement may be effected as vehicles would have little lateral movement within lanes due to lane centering, how bridge and pavement infrastructure assets are maintained and replaced with the potential for more vehicles, as well as monitor ongoing CAV pilot programs for best practices and lessons learned.

2.2.1.3 Shared Mobility Technologies for Passenger Vehicles

Transportation network companies (TNCs) connect passengers with drivers who provide transportation on the driver's non-commercial vehicle (e.g., their personal vehicle) via websites and mobile apps. These services allow riders to arrange rides in real-time with drivers who provide a ride in exchange for payment. Uber and Lyft are examples of well-known (and growing) TNCs. These services have sometimes been called "ride sourcing" services, rather than "ridesharing," since they are not designed to reduce vehicle trips, as is the goal for ridesharing approaches (e.g., carpooling and high-occupancy vehicle lanes). However, these companies are increasingly pursuing ridesharing functions, which involve the sharing of one vehicle by multiple riders. Some services have gone further, creating smartphone-enabled transit services. The service optimizes pick-ups, drop-offs, and routing based on demand, at a cost typically higher than a public transit fare but lower than a taxi. These services can provide a level of flexibility less available in more traditional public transit systems.

Supporters view ride sourcing as part of a suite of transport options that serve a previously unmet demand for fast, flexible, and convenient mobility in urban areas. By providing an appealing alternative to driving, it can potentially reduce auto use when effectively coupled with transit. However, it has been argued that these privatized transit companies have the potential to undermine local transit routes and fare revenues, as well as to increase VMT while vehicles drive awaiting a call for a ride.

There may be opportunities for passenger vehicles to operate as shared autonomous vehicles (SAV), which could operate as fleets of self-driving cars for which customers pay an initial subscription fee and then pay per use.

Regional and project transportation planning studies should explore opportunities to integrate ride sharing and transit across the transportation system, as well as monitor the emergence of SAV technologies for adoption.

2.3 Preliminary Corridor Improvement Concepts

Preliminary Corridor Improvement Concepts (Improvement Concepts) are the general types of improvements identified for consideration along existing and new transportation corridors. The Improvement Concepts were identified based on public input, findings of early travel demand modeling efforts, and early input from municipal officials along the improvement corridors.

Based on an analysis of the CMAP *ON TO 2040* plan, 15 existing roadway corridors and 5 new roadway corridors were initially identified for further study; see ***Figure 7.*** When the Draft CMAP *ON TO 2050 Plan*

was released in June 2018, the travel demand model was updated to include improvements assumed in the No-Build Alternative. Based on the updated travel demand model, 12 existing and 3 new corridors were identified for improvement.

As a first step, sketch-level improvement cross-section treatments and representative layouts were developed along each of the 15 roadway corridors identified for improvement. The cross-section treatments represent the type of improvements identified along each corridor—for example, adding lanes to an existing two-lane or four-lane arterial roadway or building a new access-controlled roadway. The number of travel lanes was determined based on the Draft design year (2050) traffic forecasts. The representative layouts are the siting for the improvements—for example, widening an existing roadway on both sides to minimize impacts to adjoining neighborhoods or routing a new roadway to avoid or minimize impacts to adjoining environmentally sensitive areas. An initial evaluation of potential environmental impacts was performed along each corridor, along with a programmatic-level cost analysis.

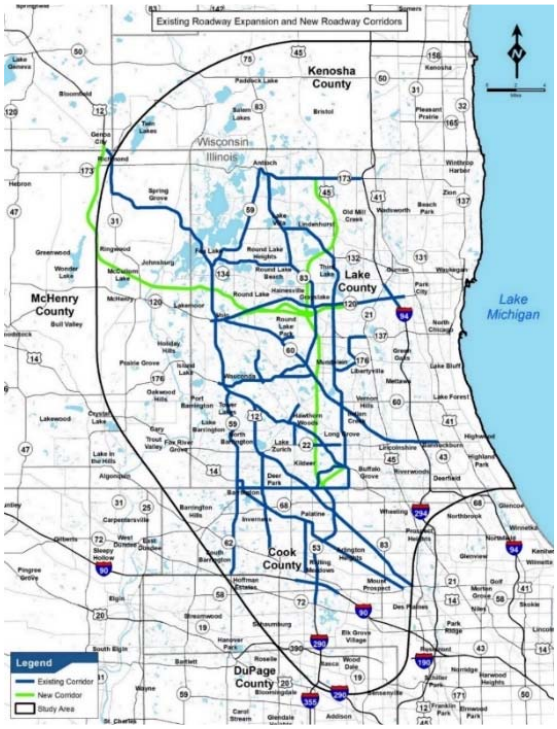


Figure 7. Existing Roadway Expansion and New Roadway Corridors Identified for Improvement

Following the release of the adopted CMAP *ON TO 2050 Plan* in January 2019, the TCA Project travel demand model was again updated and final design year (2050) traffic forecasts were prepared. Based on the final 2050 traffic forecasts, corridor refinements have been identified for future studies on several existing roadway expansion corridors. Programmatic-level cost reductions associated with these refinements have been estimated and are included in Section 2.3.3; see ***Table 27***, Total Programmatic Cost Summary. Due to the TCA Project's suspension in July 2019, further refinement of the Improvement Concepts was halted. Had the Project continued, the next steps in the refinement and development of the corridor improvement plans would have included the following:

- Incorporating complementary multi-modal improvements along each existing and new transportation corridor.
- Refining corridor cross-section treatments and improvement termini based on traffic studies.
- Developing corridor functional design plans that would incorporate treatments to avoid or minimize effects to adjoining communities and environmental resources.
- Considering alternate location and facility type options for new transportation corridors—for example, parkway versus access-controlled new roadway design alternates, alignment alternates, and below-grade (depressed) alternates.
- Identifying complementary off-system improvements along new transportation corridors—for example, improving existing arterial roadways in the vicinity of new interchange locations and providing local road and active transportation connections to adjoining communities.
- Considering community bypass options along existing transportation corridors.

2.3.1 Existing Roadway Expansion Corridors

Twelve existing roadway corridors were identified for expansion – that is, widening and where appropriate new grade separations to accommodate current and projected travel demand; see ***Figure 8***. These corridors were identified based on early modeling efforts and public input.

Each of the identified corridors represents a link on the existing roadway system where expansion improvements are needed to accommodate regional travel patterns and traffic forecasts. These individual existing roadway expansion improvements, when combined into a complete network of existing roadway improvements with complementary multi-modal improvement features, would form an Initial Build Alternative.

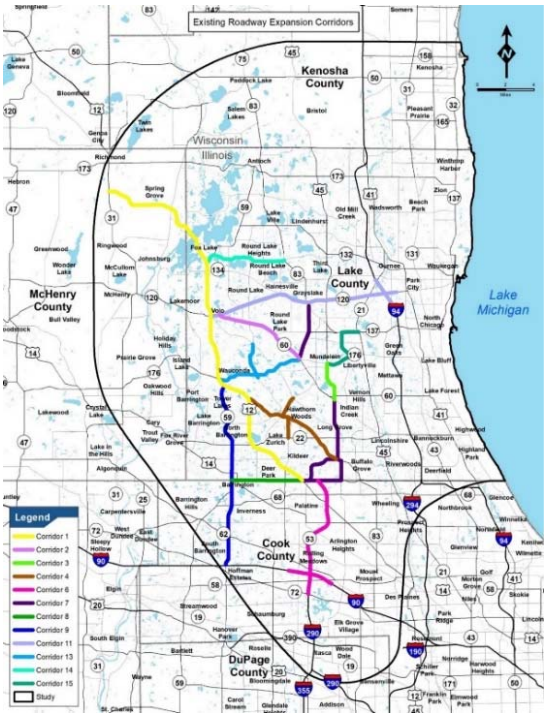


Figure 8. Existing Roadway Expansion Corridors Considered for Improvement

2.3.1.1 Representative Cross-Section Treatments

Five representative cross-section treatments were developed for existing roadway corridor improvements. At this initial stage, four illustrative treatments were identified for arterial roadway widening improvements – arterials widened to 4 travel lanes (2 in each direction) or to 6 travel lanes (3 in each direction), with complementary active transportation features such as sidewalks and bikeways. These treatments represent widened arterial roadways in both an urban setting (for example, in community downtown areas) and in a suburban or rural setting. A fifth illustrative treatment was identified for widening along the existing IL 53 Expressway (8-Lane Access-Controlled Facility). The representative cross-section includes new and existing frontage roads, the construction footprint needed to accommodate future transit opportunities and representative active transportation accommodations. Bus only lanes have been illustrated on the inside shoulder. Further study of transit needs would have informed a multimodal solution along the existing IL 53 Expressway; see ***Figure 9***.

Representative Cross-Section Treatments – Existing Corridors	
4-Lane Closed Drainage Arterial • Two lanes in each direction • Mountable median • Curb and gutter • Sidewalk • Multi-use path	
4-Lane Open Drainage Arterial • Two lanes in each direction • Wide grass median • Ditch • Sidewalk	
6-Lane Closed Drainage Arterial • Three lanes in each direction • Curbed median • Curb and gutter • Sidewalk • Multi-use path	
6-Lane Open Drainage Arterial • Three lanes in each direction • Wide grass median • Ditch • Sidewalk	
8-Lane Access-Controlled Facility • Four lanes in each direction • Barrier median • Frontage roads for local access • Access-controlled • Interchanges • Bus Only lane on inside shoulder	

Figure 9. Existing Corridors Representative Cross-Section Treatments

The illustrative cross section treatments were developed to be compatible with roadway design policies and standards, and to represent a typical configuration in the context of adjoining communities.

2.3.1.2 Representative Improvement Layouts

This section provides a summary of representative improvement layouts and concepts identified for each existing roadway expansion corridor, illustrates select design options identified at various locations along the corridors and provides a summary of corridor improvement refinements which should be considered with future studies. Sensitive environmental and socioeconomic resources were also considered in the development of the preliminary corridor layouts. Locations of these resources were identified through a review of published data augmented by windshield surveys. Along the existing road expansion corridors, alignments were shifted where possible to avoid these resources. Included below are descriptions of the existing environmental and socioeconomic conditions along each existing roadway expansion corridor and the potential impacts of the construction footprints developed to-date for each corridor.

CORRIDOR 1 (US 12: LAKE COOK ROAD TO NORTH RICHMOND ROAD)

Corridor 1 (US 12) is within both Lake and McHenry counties and passes through 11 communities - Richmond, Spring Grove, Fox Lake, Lakemoor, Volo, Wauconda, Hawthorn Woods, North Barrington, Lake Zurich, Kildeer, and Deer Park. The scope of improvements tested between Lake Cook Road and State Park Road included widening to 6 travel lanes (3 in each direction) and a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. The scope of improvements between State Park Road and North Richmond Road included widening to 4 travel lanes (2 in each direction) to provide additional capacity. This scope was identified based on Draft Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $670M (low range) to $1150M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating roadway widening north of IL 59.

Environmental and Socioeconomic Conditions

AFFECTED ENVIRONMENT

There are areas of significant commercial development at US 12 and IL 22 in Lake Zurich, and at US 12 and Long Grove Road in Deer Park, as well as through or near several communities' downtowns (particularly Wauconda and Fox Lake). It also passes through areas that are largely undeveloped (near the corridor's terminus at IL 31 and in and around Volo). A "priority high-risk" special waste site enrolled in the state remediation program is located along the corridor north of IL 120 in Volo.

The heaviest concentrations of special lands (forest preserve/conservation district lands, nature preserves, Illinois Natural Areas Inventory (INAI) sites, local publicly and privately-owned parks, and recreational areas) occur in the McHenry County portion of the corridor. Most notable is the USFWS' Hackmatack National Wildlife Refuge (NWR) at the corridor's northern terminus. The highest potential for threatened and endangered species to be present is within forest preserve/conservation district lands. Wetlands and large forested areas are generally scattered throughout the corridor, with the heaviest concentrations located along Nippersink Creek at the north end in McHenry County and in the middle of the corridor associated with Singing Hills Forest Preserve and Marl Flat Forest Preserve. Fourteen streams are located throughout the analysis area. One of which, North Branch Nippersink Creek, is considered a biologically significant stream, and is present within the far north end of the analysis area.

Open waters (lakes, ponds, and detention basins) are also present throughout the corridor. The largest open waters are Nippersink and Pistakee Lakes in the northern end of the analysis area and Lake Zurich in the southern portion.

POTENTIAL EFFECTS

Improvements in Corridor 1 would potentially cause 121 displacements, including 43 commercial buildings and 78 single-family residences. The largest number would occur in Fox Lake where the

alignment goes through town. Clusters of displacements also occur where the alignment goes west of Wauconda through Lake Zurich. Similarly, sensitive noise receptors are clustered in Fox Lake and from west of Wauconda through Lake Zurich. The "priority high-risk" special waste site enrolled in the state remediation program is potentially impacted by the footprint.

Areas where concentrations of natural resource impacts are within the footprint include:

- Vicinity of North Branch of Nippersink Creek: The corridor crosses the North Branch of Nippersink Creek (which is a Biologically Significant Stream and an INAI site) and Nippersink Creek (the roadway crosses this creek three times); there are also numerous wetland, floodplain crossing, and large wooded area impacts.
- Vicinity of Nippersink Canoe Base (MCCD park/preserve): There are potential large forested area, wetland (some potentially high quality), and floodplain impacts. In addition, within this area is the Nippersink Marsh INAI site, which is potentially impacted.
- Fox Lake crossing: Within this area, there are a concentration of potential impacts, including state threatened and endangered species including banded killifish, pale vetchling, and starhead topminnow, forested areas, floodplain, and wetland. There are numerous longitudinal floodplain crossings around Fox Lake.
- Vicinity of Volo: There are numerous natural resources that would be potentially impacted, including Fish Lake and Marl Flats Forest Preserve INAI site and wetlands (some potentially high quality), and to forested areas and concentrations of wetlands (some potentially high quality) and floodplain area adjacent to Volo Bog.
- Vicinity of Singing Hills Forest Preserve (north of Case Road): In addition to forest preserve impacts, there are large forested areas and floodplain crossings.

Table 5 summarizes the affected environment and potential effects of the current Corridor 1 construction footprint for each environmental and socioeconomic resource.

Table 5. Corridor 1 (US 12: Lake Cook Road to North Richmond Road)

	Affected Environment		Potential Effects	
	Count	(Acres)	Count	(Acres)
Natural Resources				
Wetland	N/A[a]	1,125.1	N/A[a]	37.7
Open Water[b]	317	467.8	26	4.9
Stream	14[c]	N/A	8[c]	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	26	N/A
Floodplain Crossing - Transverse	N/A	N/A	17	N/A
Threatened and Endangered Species Record[d]	23	N/A	3	N/A
Forested Area - 10-19 Acres	14	185.1	9	5.5
Forested Area - 20+ Acres	29	1,041.3	19	46.5
Special Lands[e]				
Natural Area (INAI)	5	244.2	3	1.2
Nature Preserve	1	22.4	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	1	38.1	1	1.1
Local, County and State Recreational Area	23	479.2	5	1.5
Socioeconomic Resources				
Community Facility - Building	45	N/A	0	N/A
Displacement/Building – Commercial[f]	N/A	N/A	43	N/A
Displacement/Building - Residential	N/A	N/A	78	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	1,704	N/A	1,595	N/A
Cultural Resources				
Historic Site	1	N/A	0	0
Archaeological Site	16	51.5	5	2.0

Table 5. Corridor 1 (US 12: Lake Cook Road to North Richmond Road)

	Affected Environment		Potential Effects	
	Count (Acres)		Count (Acres)	
Special Waste Site				
"Priority High-Risk" Special Waste Site	5	4.0	5	3.4

[a] Wetlands were identified using secondary sources, which often identified individual wetlands that are likely part of larger wetland complexes. Wetland delineations are required to confirm connectivity of wetland polygons and therefore determine accurate wetland counts. Because delineations were not yet completed for the project, total counts for wetlands are not provided.
[b] Open water includes lakes, detention basins, and ponds.
[c] Includes on Biologically Significant Stream, the North Branch of Nippersink Creek.
[d] No critical habitat was identified along any of the corridors.
[e] Some sites have multiple designations and therefore appear under multiple categories.
[f] Some commercial building displacements are multi-unit.
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 2 (IL 60: IL 83 to IL 120)

Corridor 2 (IL 60) is within central Lake County and passes through the communities of Volo, Round Lake, Round Lake Park, and Mundelein. The scope of improvements tested between IL 120 and IL 83 included widening to 4 travel lanes (2 in each direction) to provide additional capacity. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $100M (low range) to $170M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating roadway widening between Fairfield Road and IL 120.

Environmental and Socioeconomic Conditions

Affected Environment

Within the corridor are three principal areas of development: industrial areas in Volo at the western end near IL 120, residential uses around Round Lake and Round Lake Park in the middle, and retail in Mundelein at the eastern end near IL 83. In between these nodes, land use is largely agricultural or open space. One "priority high-risk" special waste site, which is a nursery with a solid waste permit history, is located in the middle of the corridor.

Large expanses of parks and preserves are clustered at the west end and in the middle of the corridor. The areas with the highest potential for threatened and endangered species to be present are within forest preserve lands. Wetlands are generally scattered throughout the corridor. Large forested areas are located on the western and eastern ends of the corridor. Two streams, Lake Helen Drain and Squaw Creek, are located within the central portion of the analysis area. Lake Betty is the largest open water resource in the corridor and is present in the western portion near the Stonewall Orchard Golf Course. Additional smaller open waters are also present scattered throughout the corridor.

Potential Effects

Because the corridor is relatively undeveloped, very few displacements would occur. One commercial building and two single-family residences could be impacted. The development along the corridor is largely in the middle and western end; as such, the sensitive noise receptors are clustered in those locations. The "priority high-risk" special waste site, which is located in the middle of the corridor, is in the footprint.

The following areas have concentrations of natural resource impacts within the footprint:

- Singing Hills Forest Preserve: Located on the far western end of the footprint, this area is associated with a wetland and floodplain crossings.
- Kettle Grove Forest Preserve: Located on the western end of the footprint, this area is associated with a wetland (some potentially high quality), floodplain crossing, and a large forested area.

- Lakewood Grove Park: Located in the central portion of the footprint, this area is associated with wetlands, a floodplain crossing, and Lake Helen Drain crossing.
- Squaw Creek Crossing: Located in the central portion of the footprint, in addition to Squaw Creek Crossing, this area is also associated with a potentially high-quality wetland and floodplain crossings.
- Undeveloped land: Several undeveloped areas, southeast of N. Fremont Center Road, are associated with open water, wetlands, floodplains, and large forested areas.

Table 6 summarizes the affected environment and potential effects of the current Corridor 2 construction footprint for each environmental and socioeconomic resource.

Table 6. Corridor 2 (IL 60: IL 83 to IL 120)

	Affected Environment		Potential Effects	
	Count	**Acres**	**Count**	**Acres**
Natural Resources				
Wetland[a]	N/A	236.0	N/A	2.9
Open Water[b]	61	36.5	5	<0.1
Stream	2	N/A	2	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	5	N/A
Floodplain Crossing - Transverse	N/A	N/A	5	N/A
Threatened and Endangered Species Record[c]	1	N/A	0	N/A
Forested Area - 10-19 Acres	7	56.2	2	2.3
Forested Area - 20+ Acres	4	102.8	2	0.1
Special Lands[d]				
Natural Area (INAI)	1	0.2	0	0.0
Nature Preserve	0	0.0	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	10	115.7	4	0.6
Socioeconomic Resources				
Community Facility	10	N/A	0	N/A
Commercial Building[e]	N/A	N/A	1	N/A
Single-family Residential Building	N/A	N/A	2	N/A
Multi-family Residential Building	N/A	N/A	0	N/A
Noise Receptor	227	N/A	224	N/A
Cultural Resources				
Historic Site	0	N/A	0	0.0
Archaeological Site	6	10.3	1	3.7
Special Waste Site				
Priority High-Risk Special Waste Site	1	20.1	1	0.9

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

CORRIDOR 3 (US 45: IL 120 TO IL 83)

Corridor 3 (US 45) is within Lake County and passes through the Village of Mundelein. The scope of improvements tested between IL 120 and IL 83 included widening to 6 travel lanes (3 in each direction) and a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $150M (low range) to $250M (high range).

Environmental and Socioeconomic Conditions

Affected Environment

Corridor 3 is highly developed; commercial development is concentrated at the northern end near IL 83 (this is Mundelein's downtown), as well as the southern end, near IL 60. Residential development also lines portions of the corridor. There is one large park within the corridor (Diamond Lake); all other parks tend to be small neighborhood recreation sites. Wetlands, streams and a large forested area are present primarily in the southern half of the analysis area and are associated with or tributaries to Diamond Lake Drain. Open waters are also present primarily in the southern half of the analysis area, with the largest being Diamond Lake. The remaining open waters are ponds, many of which are associated with commercial development. There is low potential for threatened and endangered species to be present within Corridor 3.

Potential Effects

Improvements in Corridor 3 would potentially impact 89 buildings, including 25 commercial buildings, 54 single-family residences, 10 multi-family residential buildings, and 3 community facilities. Many of these displacements are located along the northern two-thirds of the corridor where it passes through Mundelein. Similarly, noise receptors are located in the northern two-thirds of the corridor where it is more densely developed.

Because the northern two-thirds of the corridor goes through Mundelein; only limited natural resource impacts are present in the footprint and are primarily in the southern third of the corridor. These include a large forested area, and one stream crossing, Diamond Lake Drain, which includes associated wetlands and a floodplain crossing. The footprint encroaches on Clearbrook Park, a Mundelein Park District property.

Table 7 summarizes the affected environment and potential effects of the current Corridor 3 construction footprint for each environmental and socioeconomic resource.

Table 7. Corridor 3 (US 45: IL 120 to IL 83)

	Affected Environment		Potential Effects	
	Count	**Acres**	**Count**	**Acres**
Natural Resources				
Wetland[a]	N/A	26.3	N/A	0.0
Open Water[b]	34	35.6	3	0.1
Stream	5	N/A	1	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	1	N/A
Floodplain Crossing - Transverse	N/A	N/A	1	N/A
Threatened and Endangered Species Record[c]	0	N/A	0	N/A
Forested Area - 10-19 Acres	2	28.2	1	<0.1
Forested Area - 20+ Acres	0	0.0	0	0.0
Special Lands[d]				
Natural Area (INAI)	0	0.0	0	0.0
Nature Preserve	0	0.0	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	8	50.4	1	<0.1
Socioeconomic Resources				
Community Facility - Building	22	N/A	3	N/A
Displacement/Building – Commercial[e]	N/A	N/A	22	N/A
Displacement/Building - Residential	N/A	N/A	54	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	10	N/A
Noise Receptor	702	N/A	614	N/A
Cultural Resources				
Historic Site	7	N/A	1	<0.1
Archaeological Site	1	1.9	0	0.0
Special Waste Sites				

Table 7. Corridor 3 (US 45: IL 120 to IL 83)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Priority High-Risk Special Waste Site	5	2.7	2	0.6

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 4 (Old McHenry Road, Midlothian Road, and Quentin Road)

Corridor 4 consists of segments of three roadways (Old McHenry, Midlothian, and Quentin roads) and passes through six communities: North Barrington, Hawthorn Woods, Lake Zurich, Kildeer, Long Grove, and Buffalo Grove. The scope of improvements tested included widening Old McHenry Road to 6 travel lanes (3 in each direction) with a raised barrier median and widening Midlothian Road and Quentin Road to 4 travel lanes (2 in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $270M (low range) to $460M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider reducing required widening on Old McHenry Road to 4 travel lanes (2 in each direction).

Environmental and Socioeconomic Conditions

Affected Environment

Corridor 4 retains a rural character and passes through areas of primarily large-lot single-family residential subdivisions, with some open space and agricultural land uses interspersed. There are numerous protected lands (parks and forest preserves, dedicated nature preserves, and INAI sites) along portions of the corridor. Wetlands are located throughout the analysis area, with most associated with streams, rivers, and lakes. A few large wetland complexes are present associated with the Land Conservancy of Lake County, Foglia YMCA, Villages of Long Grove and Kildeer open spaces, and Reed-Turner Woodland Nature Preserve. Five streams and associated large forested areas are located within the analysis area, primarily in the southern half. Open waters are scattered throughout the analysis area. The largest are Forest Lake and Kemper Lake 1, which are both located in the central portion of the analysis area in a residential development and golf course. The highest potential for threatened and endangered species to be present along the corridor is within the Villages of Long Grove and Kildeer open spaces, wetlands, Heron Creek Forest Preserve, Reed-Turner Woodland Nature Preserve, and Pond-A-Rudy.

Potential Effects

Improvements in Corridor 4 would potentially impact 48 buildings, including 3 commercial buildings, 1 cemetery, and 44 single-family residences. Residential displacements are clustered in the residential areas along Quentin Road, the central portion of Old McHenry Road (primarily in Hawthorn Woods), and west of Long Grove Road. Noise receptors are located throughout the corridor.

Corridor 4 was initially designed to go through downtown Long Grove. However, design was revised to bypass Long Grove to the east and avoid impacts to the community to connect with IL 53. Now it crosses Buffalo Creek, which is one of the areas on this corridor with a concentration of potential natural resources (described below). Wetland impacts are generally scattered throughout the footprint, but the majority of natural resource impacts and protected lands are on the eastern end of the footprint along Old McHenry Road, including the following:

- Buffalo Creek Crossing: Located on the far southern end of the footprint, this area is associated with a wetland, floodplain crossing, and large forested area. One archaeological site that has not yet been reviewed for eligibility for listing on the National Register of Historic Places is located in this area.
- Reed Turner Woodland Nature Preserve/INAI site: Located at the southern end of the analysis area along Old McHenry Road, this area is associated with Kildeer Creek crossing, wetlands (some potentially high quality), a floodplain crossing, and a large forested areas
- Heron Creek Forest Preserve: Located in the central portion of the footprint south of IL 22, this area is associated with wetlands.
- Village of Long Grove Open Space: Located in the central portion of the footprint north of IL 22, this area is associated with open water, wetlands, and a floodplain crossing.
- Kemper Lakes Golf Club: This area is associated with wetlands, a floodplain crossing, a stream crossing (Forest Lake Drain), and a large forested area.

Table 8 summarizes the affected environment and potential effects of the current Corridor 4 construction footprint for each environmental and socioeconomic resource.

Table 8. Corridor 4 (Old McHenry, Midlothian, and Quentin Roads)

	Affected Environment		Potential Effects	
	Count	**Acres**	**Count**	**Acres**
Natural Resources				
Wetland[a]	N/A	325.8	N/A	10.4
Open Water[b]	147	162.4	12	0.8
Stream	6	N/A	3	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	0	N/A
Floodplain Crossing - Transverse	N/A	N/A	7	N/A
Threatened and Endangered Species Record[c]	3	N/A	0	N/A
Forested Area - 10-19 Acres	6	88.8	3	5.7
Forested Area - 20+ Acres	10	259.9	4	4.9
Special Lands[d]				
Natural Area (INAI)	1	71.1	1	2.7
Nature Preserve	3	71.7	2	1.3
Federally-designated Site (NPS NNL, USFWS NWR)	0	0	0	0
Local, County and State Recreational Area	14	165.3	6	2.9
Socioeconomic Resources				
Community Facility - Building	21	N/A	1	N/A
Displacement/Building – Commercial[e]	N/A	N/A	3	N/A
Displacement/Building - Residential	N/A	N/A	44	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	704	N/A	651	N/A
Cultural Resources				
Historic Site	1	N/A	0	0.0
Archaeological Site	13	36.8	8	14.5
Special Waste Sites				
Priority High-Risk Special Waste Site	1	3.2	1	2.9

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 6 (IL 53 Expressway: Lake Cook Road to Higgins Road)

Corridor 6 (IL 53 Expressway) is in Cook County and passes through Schaumburg, Rolling Meadows, Palatine, and Arlington Heights. This widening was determined to be required with Initial Build Alternatives which include Corridor 16 (a new IL 53 Extension to IL 120). Proposed improvements to Corridor 6 include widening to 8 travel lanes (4 in each direction) and improving the I-90 at IL 53 system interchange and adjoining interchanges along I-90 and IL 53. This scope was identified based on Draft Year 2050 traffic forecast and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $780M (low range) to $1340M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Future studies should consider interchange design alternatives in the vicinity of the I-90 at IL 53 system interchange to enhance traffic operations.

Environmental and Socioeconomic Conditions

Affected Environment

Corridor 6 is a highly developed urban-type corridor and largely built out. The southern end of the corridor contains regionally significant retail, office, and employment development at the I-90/I-290 interchange. Other major commercial concentrations are located near the corridor interchanges at US 14 and IL 68. Residential development borders the remaining areas of the corridor and is usually separated from the roadway by frontage roads and screened buffer areas.

Cook County Forest Preserve's Busse Woods/Ned Brown Preserve is along the corridor (at the south terminus), and there are other protected open-space properties throughout the corridor's length. Few wetlands are present within the analysis area due to development of the IL 53 freeway. Large wetlands are located near undeveloped land at the northern end. Large wetlands and forested areas, as well as the potential for threatened and endangered species, are associated with Busse Woods/Ned Brown Forest Preserve at the southern end of the analysis area. One wetland mitigation bank is present within the analysis area, Buffalo Creek near the north end of Corridor 6 where IL 53 ends. Salt Creek and several tributaries to Salt Creek are located scattered throughout the analysis area. Ponds and lakes are located in the analysis area primarily in the northern and southern portions. The largest are unnamed lakes associated with Busse Woods Forest Preserve, Twin Lakes Golf Course, and Doug Lindberg Park.

Potential Effects

Improvements in Corridor 6 would potentially impact 32 buildings, including 28 single-family residences and 4 commercial buildings. Residential displacements are clustered towards the northern end of the corridor, near the interchange with Palatine Road, and as the corridor goes through Rolling Meadows. Because the corridor is largely residential, noise receptors are located throughout the corridor. One industrial facility that is a "priority high-risk" special waste site is located near the interchange with I-90.

Because of the developed nature of the corridor, only limited natural resource impacts are present in the footprint and are primarily in the following areas:

- Doug Lindberg Park: Located at the north end of the footprint, this area includes a lake, unnamed stream, and floodplain crossings.
- Twin Lakes Golf Course: Located northwest of IL 53 freeway and US 14, this area includes a floodplain crossing and Salt Creek crossing.
- Busse Woods Forest Preserve: Located at the southern end of the footprint southeast of the IL 53 freeway and I-90, this area contains wetlands (some potentially high quality), floodplain crossings, a pond, and Salt Creek Crossings.

Table 9 summarizes the affected environment and potential effects of the current Corridor 6 construction footprint for each environmental and socioeconomic resource.

Table 9. Corridor 6 (IL 53 Expressway: Lake Cook Road to Higgins Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	51.0	N/A	2.4
Open Water[b]	91	130.5	12	1.7
Stream	11	N/A	7	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	8	N/A
Floodplain Crossing - Transverse	N/A	N/A	3	N/A
Threatened and Endangered Species Record[c]	4	N/A	0	N/A
Forested Area - 10-19 Acres	0	0.0	0	0.0
Forested Area - 20+ Acres	2	77.2	1	0.1
Special Lands[d]				
Natural Area (INAI)	0	0.0	0	0.0
Nature Preserve	1	111.0	1	1.2
Federally-designated Site (NPS NNL, USFWS NWR)	1	111.0	1	1.2
Local, County and State Recreational Area	14	406.6	2	19.9
Socioeconomic Resources				
Community Facility - Building	23	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	4	N/A
Displacement/Building - Residential	N/A	N/A	28	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	852	N/A	825	N/A
Cultural Resources				
Historic Site	0	N/A	0	0.0
Archaeological Site	0	0.0	0	0.0
Special Waste Sites				
Priority High-Risk Special Waste Site	4	5.5	3	1.3

a Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
b Open water includes lakes, detention basins, and ponds.
c No critical habitat was identified along any of the corridors.
d Some sites have multiple designations and therefore appear under multiple categories.
e Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 7 (Lake Cook Road, Arlington Heights Road, IL 53, and IL 83)

Corridor 7, within Cook and Lake Counties, consists of five roadway segments (IL 53, IL 83, Lake Cook Road, Arlington Heights Road, and IL 83) that pass through Long Grove, Vernon Hills, Buffalo Grove, Deer Park, Palatine, Arlington Heights, Mundelein, and Grayslake. The scope of improvements tested included widening IL 53, IL 83, Lake Cook Road, and a portion of IL 83 to 6 Lake Cook Road to 6 travel lanes (3 in each direction) with a raised barrier median, as well as widening another portion of IL 83 to 4 travel lanes (2 in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $410M (low range) to $710M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider reduced roadway widening along parts of IL 53 and IL 83.

Environmental and Socioeconomic Conditions

Affected Environment

Corridor 7 segments are primarily residentially developed, with agricultural lands interspersed. The Ivanhoe Road/IL 83 roadway segment north of Peterson Road is more industrial in nature. Three "priority high-risk" sites, which are solid waste facilities, are located along this stretch of the corridor.

Protected open-space lands (Buffalo Creek Forest Preserve) border the middle and eastern portion of the Lake Cook Road segment. There are also other protected open-space lands (parks and INAI sites) scattered along the other corridors. Large forested areas, potentially high-quality wetlands and potential for threatened and endangered species coincide with these protected open-space lands. Wetlands are located throughout the analysis area, with most associated with streams, rivers, and lakes. A few large wetlands are present associated with Indian and Buffalo Creeks. Several small, potentially farmed wetlands are present in the northern part of the analysis area. A wetland mitigation bank is present at the south end of analysis area near the IL 53 terminus. Streams and open waters are present scattered throughout the analysis area. The largest open waters are Buffalo Creek Reservoir in Buffalo Creek Forest Preserve and an unnamed lake at Lake Cook and Hicks Roads, both of which are located at the southern end of the analysis area. There are also numerous ponds associated with residential development and golf courses.

Potential Effects

Improvements in Corridor 7 would potentially displace 60 buildings including 7 commercial buildings and 53 single-family residences. The residences are clustered along Arlington Heights Road and Hicks Road/IL 53. A cluster of potential commercial building displacements is located at the intersection with IL 83. Noise receptors are all clustered along Arlington Heights Road, Hicks Road, Lake Cook Road, and IL 83. The footprint would potentially encroach on two of the solid waste facilities in the corridor.

Natural resource impacts are generally scattered throughout the footprint. Areas where concentrations of potential natural resource impacts within the footprint occur include:

- Indian Creek Crossing: Located along IL 83 north of Gilmer Road, this area includes wetlands (some potentially high quality), floodplain crossings, large forested areas, two stream crossings (including Indian Creek), and local parks.
- Kildeer Creek Crossing: Located near the intersection of IL 83 and Oak Grove Drive, this area includes, wetlands (some potentially high quality), a pond, floodplain crossings, large forested areas, Long View Meadows Park, and Village of Long Grove Open Space.
- Edge impacts to Buffalo Creek Forest Preserve and Buffalo Creek Mitigation Bank: Located northwest of the intersection of Lake Cook Road and Arlington Heights Road, this area includes wetlands (some potentially high quality), two stream crossings (Buffalo Creek and Buffalo Creek Reservoir Tributary), a pond, large forested areas, and floodplain crossings.
- Bridgewater Farms Open Space: Located near the intersection of IL 53 and Old McHenry Road, this area includes a stream crossing (Buffalo Creek), wetlands, floodplain crossing, and large forested area.
- Long Grove Site INAI Site: Located along Hicks Road between Lake Cook Road and Long Grove Road, this area contains wetlands, a pond, large forested areas, and a record for the state endangered mountain blue-eyed grass.

Table 10 summarizes the affected environment and potential effects of the current Corridor 7 construction footprint for each environmental and socioeconomic resource.

Table 10. Corridor 7 (Lake Cook Road, Arlington Heights Road, IL 53, and IL 83)

	Affected Environment		Potential Effects	
	Count	**Acres**	**Count**	**Acres**
Natural Resources				
Wetland [a]	N/A	552.3	N/A	17.0
Open Water[b]	186	175.0	17	6.5
Stream	18	N/A	7	N/A
Floodplain Crossing – Longitudinal	N/A	N/A	8	N/A
Floodplain Crossing – Transverse	N/A	N/A	5	N/A

Table 10. Corridor 7 (Lake Cook Road, Arlington Heights Road, IL 53, and IL 83)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Threatened and Endangered Species Record[c]	3	N/A	1	N/A
Forested Area - 10-19 Acres	15	148.6	7	4.1
Forested Area - 20+ Acres	11	274.5	9	8.9
Special Lands[d]				
Natural Area (INAI)	1	25.6	1	2.4
Nature Preserve	0	0.0	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	1	0.0	0	0.0
Local, County and State Recreational Area	36	571.9	16	11.9
Socioeconomic Resources				
Community Facility - Building	29	N/A	0	N/A
Displacement/Building - Commercial[e]	N/A	N/A	7	N/A
Displacement/Building - Residential	N/A	N/A	53	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	971	N/A	894	N/A
Cultural Resources				
Historic Site	2	N/A	0	0.0
Archaeological Site	14	38.8	4	2.5
Special Waste Sites				
Priority High-Risk Special Waste Site	6	88.0	5	4.1

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 8 (Lake Cook Road: Barrington Road to US 12)

Corridor 8 (Lake Cook Road) is in both Cook and Lake counties and passes through the communities of Barrington, Deer Park, and Palatine. The scope of improvements tested included widening Lake Cook Road to 4 travel lanes (2 in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $70M (low range) to $120M (high range).

Environmental and Socioeconomic Conditions

Affected Environment

Commercial development is concentrated at the west end near IL 59 (this is Barrington's downtown), as well as east of Quentin Road (Deer Park's commercial center), with residential subdivisions backing the corridor through the middle. Downtown Barrington has a National Register Historic District with numerous buildings associated with the District.

Within the eastern portion of the corridor is Deer Grove Forest Preserve, a large protected open space property with a large forested area. The highest potential for threatened and endangered species to be present is within the forest preserve. One large emergent wetland that accounts for almost half of the wetlands in this analysis area is located in the forest preserve. Three streams, including a tributary to Lake Louise, and open water are located throughout the analysis area. Ponds account for the majority of open water, most of which are located within residential developments. Large forested areas are located in the forest preserve and in a residential development east of Ela Road.

Potential Effects

Improvements in Corridor 8 would potentially displace 38 buildings including 1 church, 15 commercial buildings, and 22 single-family residences. The commercial displacements are all in Barrington at the

west end of the corridor. Similarly, most of the residential impacts are in Barrington towards the west end of the corridor. Noise receptors are located along the entire corridor. Six cultural resource sites, including one that is part of a National Register Historic District, would potentially be impacted. All sites are in Barrington.

The majority of natural resource impacts are located at the east end of the corridor at Deer Grove Forest Preserve. This area includes wetlands, large forested areas, and records for the state endangered black tern and state endangered yellow-headed blackbird. There is also a stream crossing (Lake Louise Tributary) on the western side of footprint that includes associated wetlands and a floodplain crossing.

Table 11 summarizes the affected environment and potential effects of the current Corridor 8 construction footprint for each environmental and socioeconomic resource.

Table 11. Corridor 8 (Lake Cook Road, Arlington Heights Road, IL 53, and IL 83)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland [a]	N/A	86.4	N/A	1.5
Open Water[b]	61	45.0	3	0.4
Stream	3	N/A	1	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	0	N/A
Floodplain Crossing - Transverse	N/A	N/A	1	N/A
Threatened and Endangered Species Record[c]	6	N/A	2	N/A
Forested Area - 10-19 Acres	2	26.6	1	1.1
Forested Area - 20+ Acres	3	162.4	2	1.7
Special Lands[d]				
Natural Area (INAI)	1	101.2	0	0.0
Nature Preserve	1	101.2	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	6	180.3	2	0.1
Socioeconomic Resources				
Community Facility - Building	25	N/A	1	N/A
Displacement/Building - Commercial[d]	N/A	N/A	15	N/A
Displacement/Building - Residential	N/A	N/A	22	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	705	N/A	656	N/A
Cultural Resources				
Historic Site	54	N/A	6	0.2
Archaeological Site	3	3.5	0	0.0
Special Waste Sites				
Priority High-Risk Special Waste Site	2	1.0	2	0.6

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 9 (IL 59 and Barrington Road)

Corridor 9 (Barrington Road/IL 59) is within both Cook and Lake counties and passes through South Barrington, Hoffman Estates, Barrington Hills, Inverness, Barrington, North Barrington, Lake Barrington, Tower Lakes, and Wauconda. The scope of improvements tested included widening the corridor to 6 travel lanes (3 in each direction) with a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. This scope was identified based on Draft Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $280M (low range) to $470M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating roadway widening south of IL 62, reducing roadway widening north of IL 62, and bypass design alternates in Barrington.

Environmental and Socioeconomic Conditions

AFFECTED ENVIRONMENT

Commercial uses (retail and business/industrial) are concentrated in four distinct areas: around the I-90 interchange at the south end of the corridor; at IL 68; around US 14 (downtown Barrington); and near US 12 at the north terminus. Outside of these areas, land uses are generally a mix of residential and open spaces. Downtown Barrington has a National Register Historic District with numerous buildings associated with the District. A "priority high-risk" special waste site, which is in the state remediation program, is located along the corridor in downtown Barrington.

Notable protected open space properties along the corridor are generally in the middle of the corridor and include Crabtree Nature Center Forest Preserve, Grassy Lake Forest Preserve, and Barrington Bog. The highest potential for threatened and endangered species to be present is within these protected lands. Large forested areas are located throughout the corridor, the majority of which are associated with the forest preserves and stream crossings. Several large emergent wetlands are present within the analysis area, the majority of which are in the northern half and associated with Barrington Bog Nature Preserve and Grassy Lake Forest Preserve. There is also a large wetland in the southern half of the analysis area associated with Crabtree Forest Preserve. The majority of streams in the analysis area are also associated with the forest preserves. Open waters are located throughout the analysis area. The largest are at the northern end and include Grassy Lake and Lake Barrington.

POTENTIAL EFFECTS

Improvements in Corridor 9 would potentially displace 97 buildings including 26 commercial buildings, 69 single-family residences, and 2 multi-family residential structures. All but one commercial displacement would occur in Barrington. Both multi-family residential structure displacements and the biggest cluster of single-family residential displacements would also occur in Barrington. Two smaller clusters of potential single-family residential impacts would occur in North Barrington. Noise receptors are located across the corridor, with large clusters in downtown Barrington, North Barrington and Tower Lakes. Thirteen cultural resource sites, including 8 that are part of a National Register Historic District and 3 that are listed on the National Register of Historic Places, would potentially be impacted all in Barrington. The footprint encroaches on the "priority high-risk" special waste in the state remediation program.

This is a largely residential corridor with several protected open spaces. The majority of natural resource impacts in the footprint are in the protected open spaces, including the following:

- Barrington Bog Nature Preserve/INAI site: Located at the northern end of corridor north of Miller Road, this area contains wetlands (some potentially high quality), floodplain crossings, large forested areas, and a record for state threatened buckbean.
- Grassy Lake Forest Preserve: Located south of Miller Road, this area contains two stream crossings, wetlands (some potentially high quality), and floodplain crossings.
- Crabtree Forest Preserve/INAI site: Located southwest of Dundee and Barrington Roads, this area contains wetlands (some potentially high quality), floodplain crossings, large forested area, and records for the state endangered yellow-headed blackbird and state endangered king rail.

Table 12 summarizes the affected environment and potential effects of the current Corridor 9 construction footprint for each environmental and socioeconomic resource.

Table 12. Corridor 9 (IL 59 and Barrington Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	376.1	N/A	12.3
Open Water[b]	159	201.7	11	0.7
Stream	10	N/A	5	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	7	N/A
Floodplain Crossing - Transverse	N/A	N/A	9	N/A
Threatened and Endangered Species Record[c]	6	N/A	3	N/A
Forested Area - 10-19 Acres	6	75.4	2	3.7
Forested Area - 20+ Acres	9	407.5	7	15.2
Special Lands[d]				
Natural Area (INAI)	3	222.3	2	10.1
Nature Preserve	1	39.5	1	1.3
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	15	501.6	6	9.9
Socioeconomic Resources				
Community Facility - Building	39	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	26	N/A
Displacement/Building - Residential	N/A	N/A	69	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	2	N/A
Noise Receptor	1,055	N/A	941	N/A
Cultural Resources				
Historic Site	48	N/A	13	0.6
Archaeological Site	7	43.9	4	0.5
Special Waste Site				
Priority High-Risk Special Waste Site	2	0.9	2	0.8

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 11 (IL 120: US 12 to US 41 - Arterial Widening)

Corridor 11 (IL 120) is within Lake County and passes through the communities of Lakemoor, Volo, Round Lake, Round Lake Park, Hainesville, Grayslake, and Gurnee. The scope of improvements tested included widening the arterial corridor to 6 travel lanes (3 in each direction) with a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. This scope was identified based on Draft Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $230M (low range) to $390M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider reducing roadway widening along parts of IL 120.

Environmental and Socioeconomic Conditions

Affected Environment

The corridor is less developed at the west end and is more developed through the middle and eastern portions of the corridor. The middle of the corridor contains varied types of residential, as well as commercial and industrial land uses. Three “priority high-risk” special waste sites were identified across the corridor, including a dry cleaner with a solvent release adjacent to the corridor, a construction waste landfill, and a concrete recycling and landscaping waste composter. Numerous archaeological sites are spread along the corridor.

Both the west and east ends of the corridor contain large areas of forest preserve and other protected open space lands. The highest potential for threatened and endangered species to be present is within these protected lands. Wetlands are scattered throughout the analysis area. Most of the forested wetlands are located in the eastern part of the analysis area associated with the Des Plaines River and Lake Carina Forest Preserve. A wetland mitigation bank, Big Sag 1, is present within middle of the analysis area. The Des Plaines River and several tributaries are present on the east side of the roadway. Additional streams include Squaw Creek and the Avon-Fremont Drainage Ditch. Open waters are located throughout the analysis area. Grays Lake is the largest and is in the central portion of the corridor analysis area. Large forested areas are associated with the Kettle Grove Forest Preserve, Almond Marsh Forest Preserve, Squaw Creek crossing, open spaces across from and east of the Merit Club Golf Course, an open space east of S Ivanhoe Road, Lake Carina Forest Preserve, and Heather Ridge Woods.

Potential Effects

Improvements in Corridor 11 would potentially displace 49 buildings including 15 commercial buildings, 31 single-family residences, and 3 multi-family residential buildings. Most of the displacements occur in Grayslake. A cluster of potential residential displacements is also located east of US 45. Noise receptors are located sporadically throughout the corridor where development occurs. The largest cluster of receptors are in Grayslake. One archaeological site that is considered potentially eligible for the National Register of Historic Places is potentially impacted at the east end of the corridor. Another archaeological site that is recommended for Phase II evaluation is potentially impacted in the middle of the corridor.

Natural resource impacts are scattered along the western portion of the footprint, including a record for state endangered Blanding's turtle, a record for state threatened blackchin shiner, forest preserves, and wetlands. Areas where concentrations of potential natural resource impacts within the footprint occur are generally located on the eastern portion of the footprint, including the following:

- Almond Marsh Forest Preserve and INAI Site: Located near Belvidere and Almond Roads, this area contains large forested areas and records for numerous state-listed birds, including black-crowned night-heron, least bittern, yellow-headed blackbird, and common gallinule. This area is also listed as a rookery location in the threatened and endangered species records.
- Merit Club Golf Course: This area has wetlands (some potentially high quality), a conservation easement, and a record for the state-endangered yellow-headed blackbird.
- Sherman Corners Creek Crossing: Located at the intersection of Belvidere Road and Milwaukee Avenue, this stream crossing includes fringing wetlands and a record for state threatened Iowa Darter.

Table 13 summarizes the affected environment and potential effects of the current Corridor 11 construction footprint for each environmental and socioeconomic resource.

Table 13. Corridor 11 (IL 120: US 12 to US 41 - Arterial Widening)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	567.9	N/A	8.9
Open Water[b]	166	216.1	7	0.4
Stream	6	N/A	3	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	0	N/A
Floodplain Crossing - Transverse	N/A	N/A	5	N/A
Threatened and Endangered Species Record[c]	23	N/A	8	N/A
Forested Area - 10-19 Acres	7	64.8	1	0.2
Forested Area - 20+ Acres	14	347.0	4	1.7
Special Lands[d]				
Natural Area (INAI)	5	192.6	1	0.1
Nature Preserve	1	50.0	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0

Table 13. Corridor 11 (IL 120: US 12 to US 41 - Arterial Widening)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Local, County and State Recreational Area	40	575.7	8	1.9
Socioeconomic Resources				
Community Facility - Building	34	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	15	N/A
Displacement/Building - Residential	N/A	N/A	31	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	3	N/A
Noise Receptor	1,055	N/A	987	N/A
Cultural Resources				
Historic Site	4	N/A	0	0.0
Archaeological Site	24	53.0	6	8.3
Special Waste Site				
Priority High-Risk Special Waste Site	3	67.4	2	1.4

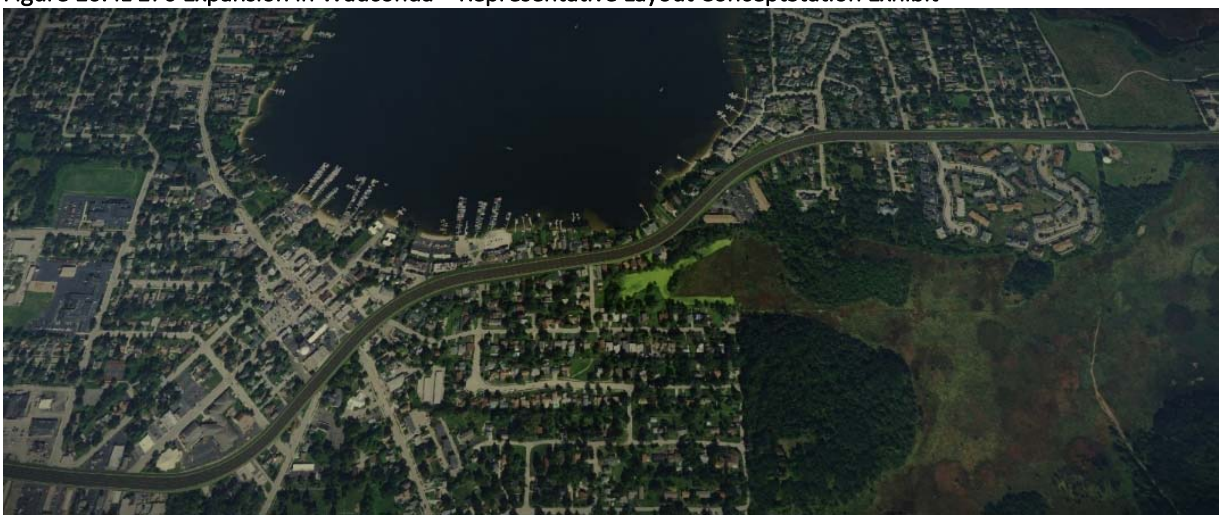
[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 13 (IL 176 and Fairfield Road)

Corridor 13 consists of two roadway segments (IL 176 and Fairfield Road) within west-central Lake County and passes through the communities of Wauconda, Hawthorn Woods, and Mundelein. The scope of improvements tested included widening to 4 travel lanes (2 in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $190M (low range) to $320M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating IL 176 widening east of Fairfield Road.

Figure 10. IL 176 Expansion in Wauconda – Representative Layout ConceptStation Exhibit



Environmental and Socioeconomic Conditions

Affected Environment

Wauconda's downtown is a mix of commercial and residential lands. Ten sites that were identified for consideration for eligibility for the National Register of Historic Places are located in Wauconda.

Protected open space (Lakewood Forest Preserve) surrounds the central portion of the IL 176 portion of roadway, and nearly all the Fairfield Road portion of roadway. The highest potential for threatened and endangered species to be present is within Lakewood Forest Preserve. Wetlands are present throughout the analysis area, with the largest in the central portion associated with Lakewood Forest Preserve and Wauconda Bog INAI site. Large forested areas are associated with the protected open spaces located in the central part of the corridor and undeveloped open spaces in the eastern part of the corridor. Open waters are located throughout the analysis area. Bangs Lake and Davis Lakes are the largest, located in the western and central portion of the analysis area, respectively.

Potential Effects

Improvements in Corridor 13 would potentially displace 76 buildings including 18 commercial buildings, 55 single-family residences, and 3 multi-family residential buildings. Most are located in Wauconda. Noise receptors are also mostly located in Wauconda.

Lakewood Forest Preserve is located along both the north-south and east-west segments of this corridor. Therefore, the majority of natural resource impacts are associated with Lakewood Forest Preserve and Wauconda Bog INAI site, including wetlands (some potentially high quality), lakes, ponds, floodplain crossings, large forested areas, and records for state listed species, including black-crowned night-heron, black tern, bunchberry, pitcher plant, white-stemmed pondweed, grass-leaved pondweed, and buckbean. The footprint encroaches on McLean Woods and Wetlands Nature Preserve/INAI site, which is located at the northern end of Lakewood Forest Preserve. At the western end, the footprint crosses a narrow channel of Bangs Lake, which is associated with Wauconda Bog INAI site, as well as fringing wetlands (some potentially high quality), a floodplain, and records for state-listed Iowa darter, pitcher plant, blackchin shiner, blacknose shiner, white-stemmed pondweed, grass-leaved pondweed, and bunchberry.

Table 14 summarizes the affected environment and potential effects of the current Corridor 13 construction footprint for each environmental and socioeconomic resource.

Table 14. Corridor 13 (IL 176 and Fairfield Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	377.0	N/A	4.9
Open Water[b]	90	248.4	6	0.5
Stream	2	N/A	0	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	3	N/A
Floodplain Crossing - Transverse	N/A	N/A	10	N/A
Threatened and Endangered Species Record[c]	18	N/A	11	N/A
Forested Area - 10-19 Acres	10	126.5	7	2.3
Forested Area - 20+ Acres	11	243.8	7	7.0
Special Lands[d]				
Natural Area (INAI)	2	330.0	2	0.4
Nature Preserve	1	161.9	1	<0.1
Federally-designated Sites (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	6	1,012.1	2	24.0
Noise Receptor	486	N/A	417	N/A
Socioeconomic Resources				
Community Facility - Building	21	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	18	N/A
Displacement/Building - Residential	N/A	N/A	55	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	3	N/A
Cultural Resources				
Historic Site	13	N/A	1	4.1

Table 14. Corridor 13 (IL 176 and Fairfield Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Archaeological Site	4	18.1	1	0.5
Special Waste Sites				
Priority High-Risk Special Waste Site	1	0.7	1	0.6

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 14 (IL 59 and Rollins Road)

Corridor 14 consists of two roadway segments (IL 59 and Rollins Road) within northwest Lake County, and passes through the communities of Fox Lake, Round Lake Heights, and Round Lake Beach, and Grayslake. The scope of improvements tested included widening IL 59 to 4 travel lanes (2 in each direction) and widening Rollins Road to 6 travel lanes (3 in each direction) with a raised barrier median, providing additional required capacity and enhancing access management. This scope was identified based on Draft Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $270M (low range) to $470M (high range).

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating widening along IL 59 and Rollins Road.

Environmental and Socioeconomic Conditions

Affected Environment

Most of the corridor is residential areas and lower-density retail strips with substantial retail development at the corridor's east end (at IL 83). Three archaeological sites are located in the vicinity of the intersection with Wilson Road.

The western portion of this corridor is within the Fox River Chain of Lakes boating and recreation area. There are several interconnected lakes along the corridor (Duck and Long) that connect to the greater Chain of Lakes. The middle of the corridor contains a large protected open space (Grant Woods Forest Preserve). The highest potential for threatened and endangered species to be present is within the forest preserve and other protected lands along the corridor. Large forested areas are located in the Grant Woods Forest Preserve, in the vicinity of the wetlands associated with Duck Lake, and in the Village of Round Lake Beach Open Space. Most of the wetlands in this corridor are in the western half and are associated with Duck Lake, Squaw Creek, Duck Lake Drain, or the Grant Woods Forest Preserve. Five streams are located within the analysis area. Of these streams, three are crossed by the corridor centerline.

Potential Effects

Improvements in Corridor 14 would potentially displace 90 buildings including 38 commercial buildings, a post office, and 51 single-family residences. Most of the potential commercial displacements are clustered at the west end of the corridor and in Round Lake Beach in the east end of the corridor. Multiple clusters of potential residential displacements are located along the corridor including ones west of Fairfield Road and west of Wilson Road. Noise receptors are located all along the corridor.

The western side of the corridor has most of the natural resource impacts as it is in the Chain O' Lakes area, and generally includes crossings of wetlands, streams, and floodplain. Impacts in the Grant Woods

Forest Preserve also include large forested areas, wetlands (some potentially high quality), and a record for the state endangered plant small yellow lady's slipper.

Table 15 summarizes the affected environment and potential effects of the current Corridor 14 construction footprint for each environmental and socioeconomic resource.

Table 15. Corridor 14 (IL 59 and Rollins Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	242.6	N/A	4.3
Open Water[b]	49	114.1	6	0.1
Stream	5	N/A	4	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	6	N/A
Floodplain Crossing - Transverse	N/A	N/A	3	N/A
Threatened and Endangered Species Record[c]	11	N/A	1	N/A
Forested Area - 10-19 Acres	4	47.0	1	0.7
Forested Area - 20+ Acres	5	133.9	2	0.9
Special Lands[d]				
Natural Area (INAI)	1	58.6	0	0.0
Nature Preserve	1	47.2	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	19	258.0	2	4.6
Socioeconomic Resources				
Community Facility - Building	27	N/A	1	N/A
Displacement/Building – Commercial[e]	N/A	N/A	38	N/A
Displacement/Building - Residential	N/A	N/A	51	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	1,160	N/A	1,074	N/A
Cultural Resources				
Historic Site	2	N/A	0	0.0
Archaeological Site	3	4.8	1	1.6
Special Waste Site				
Priority High-Risk Special Waste Site	0	0.0	0	0.0

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 15 (IL 176, Butterfield Road, and IL 137)

Corridor 15 consists of three roadway segments (IL 176, Butterfield Road, and IL 137/Peterson Road) within central Lake County, and passes through the communities of Mundelein and Libertyville, as well as unincorporated areas. The scope of improvements tested included widening IL 176 to 4 travel lanes (2 in each direction) and widening Butterfield Road and IL 137 to 6 travel lanes (3 in each direction) with a raised barrier median, providing additional required capacity and enhancing access management. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $130M (low range) to $210M (high range).

Environmental and Socioeconomic Conditions

Affected Environment

The corridor is generally suburban in nature, with a mix of land uses adjacent to the roadway, including residential, business, and rural areas. Some segments of the corridor contain high transmission power lines crossing or paralleling the portions of the roadway. Much of the IL 176 segment contains

Mundelein Seminary (also known as St. Mary of the Lake), which contains large forested areas and is set back from the roadway. Marytown/Sanctuary of Perpetual Adoration-Friary, which has been determined to be eligible, is located adjacent to the Seminary. The David Adler Estate/Cultural Center is located along the corridor in Libertville. A number of other sites that were identified for consideration for eligibility for the National Register of Historic Places are located in Mundelein. In addition to the Seminary, much of the corridor contains residential and commercial development. Bull Creek is present in the northern and central portion of the analysis area and is where natural resources are mostly concentrated. The highest potential for threatened and endangered species is within the protected lands along the corridor. Independence Grove Forest Preserve at the northeastern end of the corridor contains large forested areas, wetlands, and the Des Plaines River. Open water in the analysis area mostly consists of smaller ponds that are primarily located in the northern half and are associated with commercial and residential development.

Potential Effects

Improvements in Corridor 15 would potentially displace 95 buildings including 16 commercial buildings, a house of worship, 76 single-family residences, and 1 multi-family residential building. The commercial displacements are clustered in Mundelein, the intersection of IL 176 and Butterfield, and near the intersection with IL 21. Residential displacements are clustered in Mundelein, the intersection of IL 176 and Butterfield, and north along Butterfield Road. Noise receptors are largely located in the vicinity of the clusters of displacements. The footprint encroaches upon the NRHP-eligible Marytown/Sanctuary of Perpetual Adoration-Friary.

The following areas have concentrations of potential natural resource impacts within the footprint:

- Independence Grove Forest Preserve: Located at the far northeastern end of the corridor, this area contains wetlands (some potentially high quality) and a record for the state threatened plant downy Solomon's seal.
- Bull Creek Crossing 1: Located near Peterson Road and Cass Avenue, this area contains wetlands (some potentially high quality), a floodplain crossing, and a record for the state listed Iowa Darter.
- Bull Creek Crossing 2: A second crossing of Bull Creek is located at Butterfield Road, north of Park Avenue. This area also contains wetlands, floodplain crossings, and Paradise Park on the east side of Butterfield Road.
- St. Mary's of the Lake contains wetlands and large forested areas.

Table 16 summarizes the affected environment and potential effects of the current Corridor 15 construction footprint for each environmental and socioeconomic resource.

Table 16. Corridor 15 (IL 176, Butterfield Road, and IL 137)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	142.6	N/A	3.5
Open Water[b]	40	23.3	3	<0.1
Stream	4	N/A	1	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	0	N/A
Floodplain Crossing - Transverse	N/A	N/A	3	N/A
Threatened and Endangered Species Record[c]	5	N/A	2	N/A
Forested Area - 10-19 Acres	0	0.0	0	0.0
Forested Area - 20+ Acres	4	226.5	3	3.0
Special Lands[d]				
Natural Area (INAI)	0	0.0	0	0.0
Nature Preserve	0	0.0	0	0.0
Federally-designated Sites (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	14	116.9	5	0.9

Table 16. Corridor 15 (IL 176, Butterfield Road, and IL 137)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Socioeconomic Resources				
Community Facility - Building	24	N/A	1	N/A
Displacement/Building – Commercial[e]	N/A	N/A	16	N/A
Displacement/Building - Residential	N/A	N/A	76	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	1	N/A
Noise Receptor	722	N/A	635	N/A
Cultural Resources				
Historic Site	12	N/A	2	0.2
Archaeological Site	1	2.4	0	0.0
Special Waste Sites				
Priority High-Risk Special Waste Site	3	1.0	3	1.0

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

CORRIDOR 5 (US 14), CORRIDOR 10 (IL 59) AND CORRIDOR 12 (IL 173)

Following the release of the Draft CMAP *ON TO 2050 Plan*, the existing roadway corridors identified for further study were analyzed with the updated travel demand model. Based on that model, Corridors 5, 10 and 12 were removed from active study and were no longer considered for improvement during the TCA Project; see ***Table 17***.

Table 17. Existing Roadway Corridors Identified but not Considered for Improvement

Corridor	Route	Limits of Corridor	Facility Type	Notes
5	US 14	Il 59 to Wolf Rd	Existing; Arterial	Using the Draft 2050 traffic model, improvement does not provide a regional benefit
10	IL 59	Rollins Rd to IL 173	Existing; Arterial	Draft 2050 traffic model does not show need for improvement
12	IL 173	IL 59 to I-94	Existing; Arterial	Included in No-Build

FACT SHEETS for each of the 12 existing roadway expansion corridors considered for improvement are included as *Attachment II: Preliminary Corridor Improvement Concept Fact Sheets* to this Report. Each corridor Fact Sheet describes the design characteristics, key engineering design components, potential impacts, and costs associated with the corridor. The programmatic-level cost estimates included with each Fact Sheet enables potential implementing agencies to better understand the level of effort and investment needed for future improvements in the corridor. The range of potential cost for corridors ranges from a low of $70 million to a high of $1.3 billion. It is important to note, however, that these are for individual corridors, and not totals for the combinations of corridor improvements that would be needed to address the Project's Draft Purpose and Need. Additionally, the Fact Sheets note which elements of the corridor may require refinement (for example, based on Final Year 2050 traffic forecasts) or may need more detailed consideration should work in a given corridor be undertaken in the future. For example, the Fact Sheets may note where additional care and investigation should focus on avoidance of sensitive community or environmental resources.

2.3.2 New Roadway Corridors

Three new roadway corridor links were identified for consideration—that is, construction of new roadways to accommodate current and projected regional travel patterns and demand; see ***Figure 11***. When developing these corridor links, a variety of representative facility types, layouts and location options were considered. Three new access-controlled corridors (Corridor 16 – IL 53 Extension, Corridor

20 – IL 120 Expressway to I-94, and Corridor 21 – IL 120 Expressway to US 12) were identified as representative facility types and layouts for the new roadway corridors. Two corridor facility type and location options were identified along the IL 53 Extension (Corridors 17 and 18). A series of corridor location options was also identified for the IL 120 Expressway to US 12 (Corridors 22, 23, 24, and 25). These corridors were identified based on early modeling efforts, public input and consideration of prior studies.

Each identified new roadway corridor represents a new link on the roadway system needed to accommodate regional travel patterns and traffic forecasts. These individual new links, when combined into a complete network of roadway improvements with complementary multi-modal improvement features, would form an Initial Build Alternative.

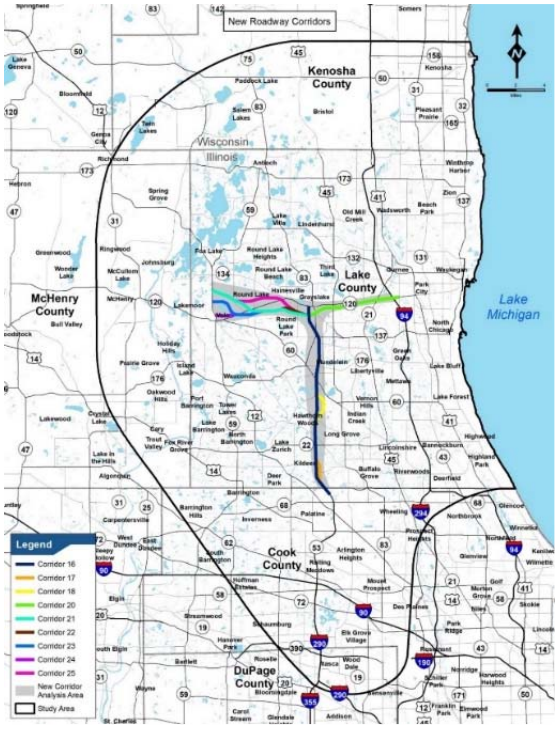


Figure 11. New Roadway Corridors Considered for Improvement

2.3.2.1 Representative Cross-Section Treatments

At this initial stage, three illustrative treatments were identified for new corridors – a 4-lane access-controlled facility, a 6-lane access-controlled facility and a 6-lane new arterial/parkway facility. The access-controlled facilities provided accommodations for future transit opportunities. Representative bus only lanes have been illustrated on the inside shoulder and further study of transit needs would have informed a multimodal solution along these new corridors. While active transportation features are illustrated alongside the new arterial/parkway facility, active transportation connections would also be accommodated along new access-controlled facilities, where appropriate. See ***Figure 12***.

Representative Cross-Section Treatments – New Corridors	
4-Lane Access-Controlled Facility • Two lanes in each direction • Wide grass median • Ditch • Access-controlled • Interchanges • Bus Only lane on inside shoulder	
6-Lane Access-Controlled Facility • Three lanes in each direction • Wide grass median • Ditch • Access-controlled • Interchanges • Bus Only lane on inside shoulder	
6-Lane New Arterial Facility • Four lanes in each direction • Barrier median • Limited to full access • Intersections • Multi-use path	

Figure 12. New Corridors Representative Cross-Section Treatments

The illustrative cross section treatments were developed to be compatible with roadway design policies and standards, and to represent a typical configuration in the context of adjoining communities.

2.3.2.2 Representative Improvement Layouts

This section provides a summary of representative improvement layouts and concepts identified for each new roadway corridor as well as illustrates select design options identified at various locations along the new corridors and provides a summary of corridor improvement refinements which should be considered with future studies.

Sensitive environmental and socioeconomic resources were also considered in the development of the preliminary corridor layouts. Locations of these resources were identified through a review of published data augmented by windshield surveys. Along the new corridors, alignments were shifted where possible to avoid these resources. Included below are descriptions of the existing environmental and socioeconomic conditions along each new roadway corridor and the potential impacts of the construction footprints developed to-date for each corridor.

Corridor 16 (IL 53 Extension: Lake Cook Road to IL 120)

Corridor 16 (new IL 53 Extension), within southern and central Lake County, extends north from Lake Cook Road to IL 120 and passes through six communities: Palatine, Kildeer, Hawthorn Woods, Long Grove, Mundelein, and Grayslake. The scope of improvements tested includes a new 6-lane access-controlled roadway with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new system interchanges). This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $1090M (low range) to $1900M (high range).

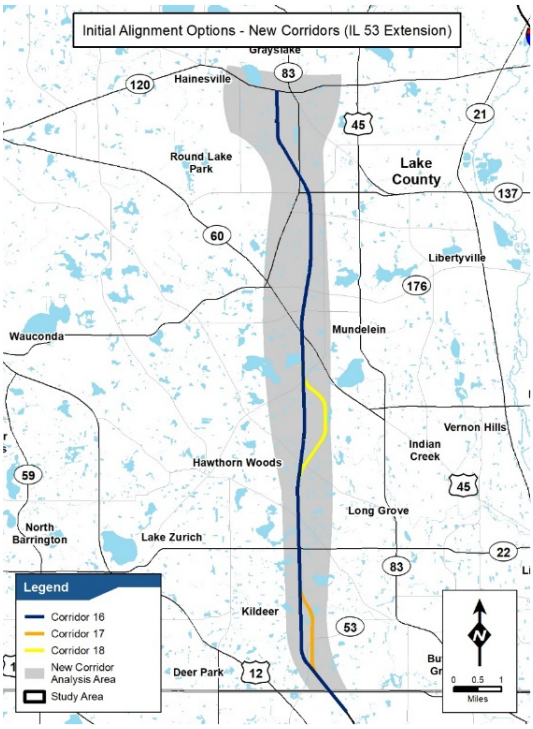


Figure 13. New IL 53 Extension Corridor Termini and Representative Alignment Options

Corridor 16 would need to be implemented in combination with Corridor 6 (IL 53 Expressway) and Corridor 20 (IL 120 Expressway to I-94), and optionally with Corridor 21 (IL 120 Expressway to US 12).

Whereas Corridor 16 is in the vicinity of established communities and sensitive environmental resources, a series of facility type and location options (Corridors 17 and 18) were identified along portions of this new corridor; see ***Figure 13***. The Corridor 16 layout was used as the initial representative layout to evaluate existing environmental and socioeconomic conditions and potential impacts to adjoining resources.

Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (expressway or parkway), roadway elevation design options (at-grade or below-grade roadway options), alignment options, interchange type design options, and complementary off-system improvement design options (improving existing roadways near new interchange locations and transportation connections to adjoining communities) should be considered with any future studies of the IL 53 Extension. Select initial design options identified along portions of Corridor 16 are illustrated in ***Figure 14*** and ***Figure 15***.

Figure 14. IL 53 Extension in Mundelein At-Grade Design Option

Figure 15. IL 53 Extension in Mundelein Below-Grade Design Option

Environmental and Socioeconomic Conditions

AFFECTED ENVIRONMENT

The character of lands adjacent to the corridor are more developed at the south end and give way to less developed areas towards the north end of the corridor. Three solid waste facilities and two dry cleaners, which are considered “priority high-risk” special waste sites, are located in this end of the corridor. The corridor traverses a mix of communities and land uses, from large-lot suburban residential areas in the south portion of the corridor, to more dense residential areas in the middle, to undeveloped areas in the north. Large portions of the proposed roadway corridor are owned by IDOT, and those lands are leased for agricultural purposes.

Wetlands are generally scattered throughout the analysis area and most are adjacent to the named streams, including Buffalo Creek, Kildeer Creek, Indian Creek, and Avon-Fremont Drainage Ditch. One wetland mitigation bank, Buffalo Creek, is present within the analysis area, at the south end of the corridor where IL 53 freeway ends. Open waters are located throughout the analysis area. Lake County Forest Preserve District Pond is the largest open water and is located in the middle of the corridor, just south of Countryside Golf Club. The highest potential for threatened and endangered species to be present is within forest preserve lands along the corridor. Large forested areas are located in the

southern half of the corridor and are associated with forest preserves and residential developments. Archaeological sites located in the corridor tend to be associated with the open spaces and waterways throughout the corridor. Once archaeological site is associated with a cemetery alongside road improvements in the corridor. The site is protected by the HSRPA and is potentially eligible for listing on the NRHP.

Potential Effects

Improvements in Corridor 16 would potentially displace 33 buildings including 5 commercial buildings and 28 single-family residences. The commercial displacements are spread along the corridor. All 28 residential displacements occur along off-system improvements to Midlothian Road. Noise receptors are located along the corridor with a notable cluster in the middle of the corridor where it runs on the west side of Mundelein. One of the dry cleaners, which is considered a "priority high risk" special waste site, is within the footprint of off-system improvements to Midlothian Road. The archaeological site associated with a cemetery is within the footprint of off-system improvements to Winchester Road.

Impacted wetlands, open waters, forested areas, and floodplain impacts are scattered throughout the northern two-thirds of the footprint, largely where waterbodies cross the corridor, including Indian Creek, West Branch of Indian Creek, and Forest Lake Drain. However, the majority of the natural resource impacts are found in the southern one-third of the footprint. Concentrations of these areas include the following:

- Heron Creek Forest Preserve: This area includes a stream crossing (Kildeer Creek), wetlands (some potentially high quality), a floodplain, a large forested area, and a record for the state-listed black-crowned night heron. This is also listed as a rookery location in the threatened and endangered species records.
- Near Cuba Road: This area contains wetlands, a pond, large forested areas, floodplain crossings, and Glenstone Park.
- South of Cuba Road and North of Lake Cook Road: This area contains wetlands, a pond, two stream crossings (Buffalo Creek and South Branch Buffalo Creek), floodplain crossings, and large forested areas. This footprint is near the Buffalo Creek Mitigation Site but does not appear to cross it.
- Long Grove Site INAI Site: Located along Hicks Road between Lake Cook Road and Long Grove Road, this area contains large forested areas and a record for the state endangered mountain blue-eyed grass.

Table 18 summarizes the affected environment and potential effects of the current Corridor 16 construction footprint for each environmental and socioeconomic resource.

Table 18. Corridor 16 (IL 53 Extension: Lake Cook Road to IL 120)

	Affected Environment		Potential Effects	
	Count	**Acres**	**Count**	**Acres**
Natural Resources				
Wetland[a]	N/A	669.5	N/A	70.7
Open Water[b]	171	175.1	21	5.3
Stream	18	N/A	7	N/A
Floodplain Crossing – Longitudinal	N/A	N/A	2	N/A
Floodplain Crossing – Transverse	N/A	N/A	13	N/A
Threatened and Endangered Species Record[c]	6	N/A	3	N/A
Forested Area - 10-19 Acres	20	253.2	13	54.1
Forested Area - 20+ Acres	10	293.9	8	54.8
Special Lands[d]				
Natural Area (INAI)	2	23.9	1	0.3
Nature Preserve	1	6.7	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	27	375.9	9	12.2

Table 18. Corridor 16 (IL 53 Extension: Lake Cook Road to IL 120)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Socioeconomic Resources				
Community Facility – Building	24	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	5	N/A
Displacement/Building – Residential	N/A	N/A	28	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	1,475	N/A	1,432	N/A
Cultural Resources				
Historic Site	1	N/A	0	0.0
Archaeological Site	21	52.8	11	19.4
Special Waste Sites				
Priority High-Risk Special Waste Site	7	46.9	3	1.5

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 17 (IL 53 Extension facility and location option: Lake Cook Road to Cuba Road)

Corridor 17 provides a corridor facility and location option to the section of Corridor 16 connecting Lake Cook Road and Cuba Road in Long Grove. The scope of improvements tested includes a new 6-lane arterial/parkway. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. This scope also reflects concepts considered with prior studies. The corridor improvement programmatic-level costs range from $60M (low range) to $110M (high range).

Corridor 17 could be considered for implementation as part of Initial Build Alternatives which include an IL 53 Extension. See ***Figure 13***.

Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (arterial or parkway), roadway elevation design options (at-grade or below-grade roadway options), alignment options, and complementary multi-modal connections to adjoining communities should be considered with any future studies of the IL 53 Arterial Extension.

Environmental and Socioeconomic Conditions

Affected Environment

Corridor 17 is an approximate 2-mile-long alternate routing option for a portion of Corridor 16 in south central Lake County and passes primarily through the corporate limits of Long Grove. The corridor is rural in nature and consists of primarily large lot, heavily wooded, secluded residential areas.

Protected open space lands are concentrated at the south and north project limits, and include forest preserves, INAI sites, and local parks. Wetlands, ponds, and lakes are located throughout the analysis area. The largest wetlands are located in the northern half of the analysis area associated with Buffalo Creek, South Branch Buffalo Creek, Hidden Valley Lake, and Marden Oaks Pond. The highest potential for threatened and endangered species to be present is within the forest preserve lands and the Buffalo Creek Wetland complex. Large forested areas are associated with Marden Oaks Pond, Hidden Valley Lake and local parks.

Potential Effects

Improvements in Corridor 17 would potentially displace 7 single-family residences all located along Hidden Valley Road. Noise receptors are located in the northern half of the corridor where the

residences are located. There are fewer noise receptors in the residential areas because of the dispersed nature of the development and larger lot sizes.

This is a mostly new alignment through undeveloped lands. The following are areas where concentrations of potential natural resource impacts occur within the footprint:

- Near Cuba Road: This area contains wetlands (some potentially high-quality), a pond, a large forested area, floodplain crossings, Glenstone Park, and edge impacts to Heron Creek Forest Preserve.
- Buffalo Creek Crossing: Located south of Cuba Road, this area contains wetlands, a pond, large forested areas, and a floodplain crossing.

Table 19 summarizes the affected environment and potential effects of the current Corridor 17 construction footprint for each environmental and socioeconomic resource.

Table 19. Corridor 17 (IL 53 Extension facility and location option: Lake Cook Road to Cuba Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	160.3	N/A	14.9
Open Water[b]	33	35.0	4	0.6
Stream	3	N/A	1	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	1	N/A
Floodplain Crossing - Transverse	N/A	N/A	2	N/A
Threatened and Endangered Species Record[c]	1	N/A	0	N/A
Forested Area - 10-19 Acres	6	85.5	4	10.2
Forested Area - 20+ Acres	4	71.7	1	6.3
Special Lands[d]				
Natural Area (INAI)	1	12.5	0	0.0
Nature Preserve	0	0.0	0	0.0
Federally-designated Sites (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	5	48.0	2	2.5
Socioeconomic Resources				
Community Facility - Building	3	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	0	N/A
Displacement/Building - Residential	N/A	N/A	7	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	62	N/A	52	N/A
Cultural Resources				
Historic Site	0	N/A	0	0.0
Archaeological Site	1	0.6	0	0.0
Special Waste Sites				
Priority High-Risk Special Waste Site	0	0.0	0	0.0

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 18 (IL 53 Extension facility and location option: Gilmer Road to Midlothian Road)

Corridor 18 provides a corridor facility and location option to the section of Corridor 16 connecting Gilmer Road and Midlothian Road in Hawthorn Woods, Long Grove and Mundelein. The scope of improvements tested includes a new 6-lane arterial/parkway. This scope was identified based on Draft

Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. This scope also reflects concepts considered with prior studies. The corridor improvement programmatic-level costs range from $150M (low range) to $260M (high range).

Corridor 18 could be considered for implementation as part of Initial Build Alternatives which include an IL 53 Extension. See ***Figure 13***.

Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (arterial or parkway), roadway elevation design options (at-grade or below-grade roadway options), alignment options, and complementary multi-modal connections to adjoining communities should be considered with any future studies of the IL 53 Arterial Extension.

Environmental and Socioeconomic Conditions

AFFECTED ENVIRONMENT

Corridor 18 is an approximate 3-mile-long alternate routing option for a segment of Corridor 16 in central Lake County and passes through the communities of Mundelein, Long Grove, and Hawthorn Woods. The corridor is primarily agricultural and residential in nature.

Wetlands are present throughout the analysis area, with most located adjacent to Indian Creek, which is present along the western edge of the analysis area and also runs through the central portion. A portion of one lake, named Lake County Forest Preserve District Pond, is present in the far northern portion of the analysis area, just south of Countryside Golf Club. Other smaller open waters, including ponds, are scattered primarily throughout the southern half of the analysis area in open land (Conservatory of Indian Creek), agricultural land, or residential development. The highest potential for threatened and endangered species to be present is within Lake County Forest Preserve land (Countryside Golf Course) and the Indian Creek Wetland Complexes. Large forested areas are scattered throughout the corridor with the majority associated with Indian Creek and Forest Lake Drain.

POTENTIAL EFFECTS

Improvements in Corridor 18 would potentially displace 15 single-family residences all mostly located between Indian Creek Road and EJ&E Railroad. Noise receptors are clustered at the residential areas at the south and north ends and the middle of the corridor.

Natural resources, including wetlands, large forested areas, and floodplain impacts are scattered throughout the footprint. Areas where concentrations of potential natural resource impacts within the footprint occur are located at two stream crossings in the southern half:

- Indian Creek Crossing: This crossing is in an agricultural field and includes wetlands (some potentially high quality), a floodplain crossing, and is identified as a rookery location in the threatened and endangered species records.
- Forest Lake Drain Crossing: This area includes wetlands, large forested areas, and floodplain crossings.

Table 20 summarizes the affected environment and potential effects of the current Corridor 18 construction footprint for each environmental and socioeconomic resource.

Table 20. Corridor 18 (IL 53 Extension facility and location option: Gilmer Road to Midlothian Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	199.7	N/A	11.4
Open Water[b]	33	56.9	4	0.5
Stream	4	N/A	2	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	0	N/A
Floodplain Crossing - Transverse	N/A	N/A	5	N/A

Table 20. Corridor 18 (IL 53 Extension facility and location option: Gilmer Road to Midlothian Road)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Threatened and Endangered Species Record[c]	3	N/A	1	N/A
Forested Area - 10-19 Acres	10	117.2	5	8.0
Forested Area - 20+ Acres	2	19.0	1	<0.1
Special Lands[d]				
Natural Area (INAI)	0	0.0	0	0.0
Nature Preserve	0	0.0	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	3	50.3	1	0.1
Socioeconomic Resources				
Community Facility - Building	3	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	0	N/A
Displacement/Building - Residential	N/A	N/A	15	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	155	N/A	140	N/A
Cultural Resources				
Historic Site	0	N/A	0	0.0
Archaeological Site	2	6.2	1	2.0
Special Waste Sites				
Priority High-Risk Special Waste Site	0	0.0	0	0.0

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

CORRIDOR 20 (IL 120 EXPRESSWAY: IL 83 TO I-94)

Corridor 20 is a new 120 Expressway extending from IL 83 through I-94, and passing through the communities of Grayslake, Gurnee, and Waukegan. The scope of improvements tested includes a new 6-lane access-controlled roadway with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new system interchanges). This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $650M (low range) to $1130M (high range).

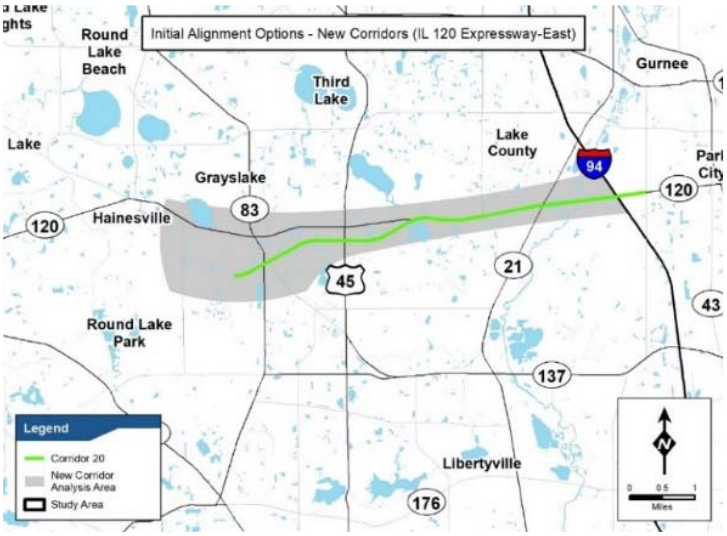


Figure 16. New IL 120 Expressway to I-94 Corridor Termini and Representative Alignment

Corridor 20 would need to be implemented in combination with Corridor 21 (IL 120 Expressway to US 12) and/or with Corridor 16 (IL 53 Extension).

Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (expressway or parkway), roadway elevation design options (at-grade or below-grade roadway options), alignment options, interchange type design options, and complementary off-system improvement design options (improving existing roadways near new interchange locations and

transportation connections to adjoining communities) should be considered with any future studies of Corridor 20. A select initial design option identified along portions of Corridor 20 is illustrated in ***Figure 17***.

Figure 17. IL 120 Expressway at I-94 Interchange Representative Layout

Environmental and Socioeconomic Conditions

Affected Environment

Corridor 20 is a combination of existing and new alignments that extends from west of IL 83 to east of I-94. It is within central and east-central Lake County and passes through the communities of Grayslake, Gurnee, and Waukegan. The west portion of the corridor contains residentially developed areas. A substantial portion of the corridor is owned by IDOT and those lands are typically leased for agricultural use. One "priority high-risk" special waste site, a construction waste landfill, is located along the corridor in the vicinity of the interchange with Milwaukee Avenue.

Protected open space properties (including publicly owned sites and privately-owned sites under conservation easements) are clustered in the middle and east end of the corridor (generally from west of Almond Road to I-94). Natural resources, including wetlands, streams, open water and large forested areas, and archaeological sites (two that are protected by HSRPA and are potentially eligible for the NRHP) are scattered throughout the analysis area with concentrations in the central portion and east end located near Almond Marsh Forest Preserve, the Des Plaines River/Lake Carina Forest Preserve, and a local park. The highest potential for threatened and endangered species to be present is within these and the other protected lands along the corridor.

Potential Effects

Improvements in Corridor 20 would potentially displace 9 buildings including 1 commercial building and 8 single-family residences. Residential displacements are clustered at the west end of the corridor at Ivanhoe Road and in the middle of the corridor west of Almond Road. Noise receptors are clustered in the middle of the corridor on the north side and at the east end of the corridor. The construction waste landfill, which is considered a "priority high risk" site, is within the footprint. Two archaeological sites that are protected by HSRPA and are potentially eligible for the NRHP are within the footprint within and east of the Belvidere Road/Milwaukee Avenue interchange.

The following are areas where concentrations of potential natural resource impacts occur within the footprint:

- Almond Marsh Forest Preserve and INAI Site: Located near Belvidere and Almond Roads, this area contains wetlands (some potentially high quality), large forested areas, and records for numerous

state-listed birds, including the black-crowned night-heron, least bittern, yellow-headed blackbird, and common gallinule. This area is also listed as a rookery location in the threatened and endangered species records. Some of the large forested areas here are owned by IDOT.

- Merit Club Golf Course: This area has wetlands (some potentially high quality), a conservation easement, and a record for the state-endangered yellow-headed blackbird.
- Sherman Corners Creek Crossing: Located at the intersection of Belvidere Road and Milwaukee Avenue, this stream crossing includes fringing wetlands (some potentially high quality) and a record for state threatened Iowa Darter.
- Lake Carina and Independence Grove Forest Preserves: Located east of the intersection of Belvidere Road and Milwaukee Avenue, this area contains a Des Plaines River crossing, wetlands (some potentially high quality), a pond, floodplain crossings, large forested areas, and records for state-listed Iowa darter, blackchin shiner, and downy Solomon's seal.

Table 21 summarizes the affected environment and potential effects of the current Corridor 20 construction footprint for each environmental and socioeconomic resource.

Table 21. Corridor 20 (IL 120 Expressway: IL 83 to I-94)

	Affected Environment		Potential Effects	
	Count	Acres	Count	Acres
Natural Resources				
Wetland[a]	N/A	331.0	N/A	27.0
Open Water[b]	115	92.6	4	2.3
Stream	5	N/A	3	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	0	N/A
Floodplain Crossing - Transverse	N/A	N/A	6	N/A
Threatened and Endangered Species Record[c]	16	N/A	9	N/A
Forested Area - 10-19 Acres	6	72.8	5	12.5
Forested Area - 20+ Acres	8	309.0	6	26.7
Special Lands[d]				
Natural Area (INAI)	2	99.8	1	1.7
Nature Preserve	1	29.4	0	0.0
Federally-designated Sites (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	16	437.5	3	24.4
Socioeconomic Resources				
Community Facility - Building	13	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	1	N/A
Displacement/Building - Residential	N/A	N/A	8	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	0	N/A
Noise Receptor	523	N/A	503	N/A
Cultural Resources				
Historic Site	0	N/A	0	0.0
Archaeological Site	12	26.7	7	24.1
Special Waste Sites				
Priority High-Risk Special Waste Site	1	13.3	1	<0.1

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

Corridor 21 (IL 120 Expressway: US 12 to IL 83)

Corridor 21 is a new IL 120 Expressway alignment extending from US 12 to IL 83, within central and west-central Lake County, and passing through the communities of Volo, Round Lake, Round Lake Park,

Hainesville, and Grayslake. The scope of improvements tested includes a new 4-lane access-controlled roadway with access to adjoining arterial roadways (via new service interchanges). This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. The corridor improvement programmatic-level costs range from $440M (low range) to $770M (high range).

Corridor 21 would need to be implemented in combination with Corridor 20 (IL 120 Expressway to US 12) and optionally with Corridor 16 (IL 53 Extension).

Whereas Corridor 21 is in the vicinity of established communities and sensitive environmental resources, a series of corridor location options (Corridors 22, 23, 24, and 25) were identified along portions of this new corridor; see ***Figure 18***. The Corridor 21 layout was used as the initial representative layout to evaluate existing environmental and socioeconomic conditions and potential impacts to adjoining resources.

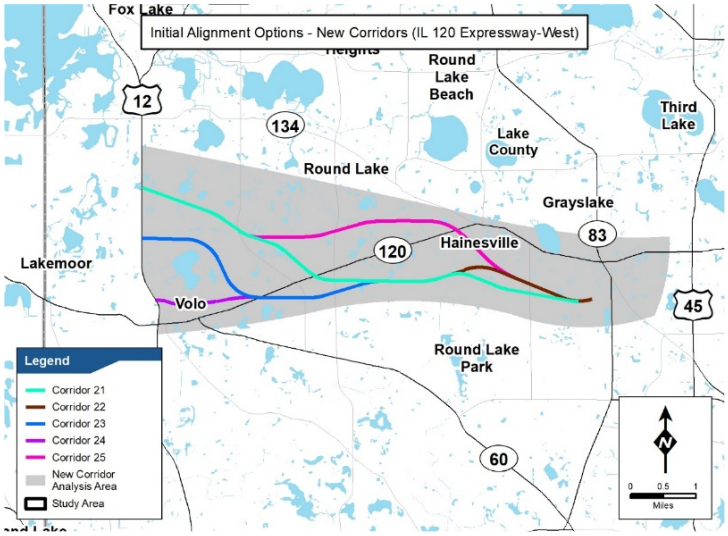


Figure 18. New IL 120 Expressway to US 12 Corridor Termini and Representative Alignment

Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (expressway or parkway), roadway elevation design options (at-grade or below-grade roadway options), alignment options, interchange type design options, and complementary off-system improvement design options (improving existing roadways near new interchange locations and transportation connections to adjoining communities) should be considered with any future studies of the IL 53 Extension.

Environmental and Socioeconomic Conditions

Affected Environment

A substantial portion of this corridor is in agricultural production, with residential areas in and around where the proposed corridor crosses other major roadways (including US 12, Wilson, Cedar Lake, and Alleghany roads) developments. In addition, a portion of the corridor at the east end is owned by IDOT, and those lands are typically leased for agricultural use. Archaeological sites are located throughout the corridor

Wetlands are scattered throughout the corridor with a concentration located near Squaw Creek on the eastern side. A large forested area is also associated with Squaw Creek. Other natural resource concentrations including wetlands and large forested areas are located near Fischer Lake, Fish Lake Drain and Kestrel Ridge Forest Preserve/Marl Flat Forest Preserve on the western end and Avon-Fremont Drainage Ditch on the far eastern end. One wetland mitigation bank, Big Sag 3, is present within the eastern part of analysis area near Squaw Creek. The highest potential for threatened and endangered species to be present is within forest preserve lands, and the Northbrook Sports Club and adjacent lands.

Potential Effects

Improvements in Corridor 21 would potentially displace 34 buildings including 2 commercial buildings, , 30 single-family residences, and 2 multi-family residential buildings. Most of the single-family residential building displacements are located at the west end of the corridor. Because of the rural nature of the

corridor, noise receptors are sporadically clustered along the corridor where residences are found. The footprint crosses the northeast corner of the Grant Community High School where a baseball diamond is present, and the southeast corner of the District 38 campus, which houses district offices and Big Hollow Primary, Elementary, and Middle Schools. The footprint crosses the parking lot for the school buses.

Wetlands, small ponds, and floodplains impacts are scattered throughout the footprint. Areas where concentrations of potential natural resource impacts within the footprint occur include:

- Fish Lake Drain Crossing: Located at the far western end of the footprint, this area contains wetlands and floodplain crossings.
- Kestrel Ridge Forest Preserve: Located at the western end of the footprint, just east of Wilson Road, this area contains wetlands (some potentially high quality), a floodplain crossing, and large forested areas.
- Squaw Creek Crossing: Located at the east end of the footprint, this area contains wetlands (some potentially high quality), a floodplain crossing, a large forested area, and a record for state endangered yellow-headed blackbird. Big Sag 3 Mitigation Bank is near this area, but further evaluation is needed to identify if the footprint is in the bank.
- Avon-Fremont Drainage Ditch Crossing: Located at the far eastern end of the footprint, this area contains wetlands and a floodplain crossing.

Table 22 summarizes the affected environment and potential effects of the current Corridor 21 construction footprint for each environmental and socioeconomic resource.

Table 22. Corridor 21 (IL 120 Expressway: US 12 to IL 83)

	Affected Environment		Potential Effects	
	Count	**Acres**	**Count**	**Acres**
Natural Resources				
Wetland[a]	N/A	400.9	N/A	43.8
Open Water[b]	78	83.8	12	4.8
Stream	4	N/A	3	N/A
Floodplain Crossing - Longitudinal	N/A	N/A	8	N/A
Floodplain Crossing - Transverse	N/A	N/A	15	N/A
Threatened and Endangered Species Record[c]	5	N/A	1	N/A
Forested Area - 10-19 Acres	4	45.2	2	6.0
Forested Area - 20+ Acres	8	237.2	5	7.3
Special Lands[d]				
Natural Area (INAI)	1	1.7	0	0.0
Nature Preserve	0	0.0	0	0.0
Federally-designated Site (NPS NNL, USFWS NWR)	0	0.0	0	0.0
Local, County and State Recreational Area	10	92.5	2	3.8
Socioeconomic Resources				
Community Facility - Building	13	N/A	0	N/A
Displacement/Building – Commercial[e]	N/A	N/A	2	N/A
Displacement/Building - Residential	N/A	N/A	30	N/A
Displacement/Building - Residential Multi-unit	N/A	N/A	2	N/A
Noise Receptor	377	N/A	336	N/A
Cultural Resources				
Historic Site	0	N/A	0	0.0
Archaeological Site	12	26.1	4	6.5
Special Waste Sites				
Priority High-Risk Special Waste Site	1	6.5	0	0.0

[a] Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
[b] Open water includes lakes, detention basins, and ponds.
[c] No critical habitat was identified along any of the corridors.
[d] Some sites have multiple designations and therefore appear under multiple categories.
[e] Some commercial building displacements are multi-unit
N/A = not applicable; NPS NNL = National Park Service Natural National Landmark; USFWS NWR = United States Fish and Wildlife Service National Wildlife Refuge

CORRIDOR 19, 22, 23, 24, 25

Corridor 19 and Corridors 22 through 25 represent location options identified as part of early studies, and had studies continued, they would be been considered alongside the "illustrative" layout described in *Attachment II: Preliminary Corridor Improvement Concept Fact Sheets.*

FACT SHEETS for each of the three new roadway corridors considered are included as *Attachment II: Preliminary Corridor Improvement Concept Fact Sheets* to this Report. Each corridor Fact Sheet describes the design characteristics, key engineering design components, potential impacts, and costs associated with the corridor. The programmatic-level cost estimate included with each Fact Sheet, enables potential implementing agencies to better understand the level of effort and investment needed for future improvements in the corridor. The range of potential cost for corridors ranges from a low of $440 million to a high of $1.9 billion. It is important to note, however, that these are for individual corridors, and not totals for the combinations of corridor improvements that would be needed to address the Project's Draft Purpose and Need. Additionally, the Fact Sheets note which elements of the corridor may need more detailed consideration should work in a given corridor be undertaken in the future. For example, the Fact Sheets may note where additional care and investigation should focus on avoidance of sensitive community or environmental resources.

2.3.3 Programmatic-Level Cost Analyses of Preliminary Corridor Improvement Concepts

2.3.3.1 Background

Planning level cost estimates were prepared for existing roadway expansion corridors and new corridors (new access-controlled roadways). Each of the corridors were developed to a sufficient level of detail to prepare planning level costs (construction, ROW, engineering, and environmental mitigation). A description of each of the corridors is provided in *Attachment I: Fact Sheets*. In general, Corridors 1 to 15 represent existing roadway expansions and Corridors 16 to 21 represent new roadway corridors.

Comparative planning-level estimates support alternative screening decisions and provide a programmatic level cost for establishing funding priorities. At this stage, the estimates included quantification of a limited number of construction elements, and remaining values are assumed percentages of interrelated items generated from historical construction cost trends.

Estimated costs (current year 2019 $) for the Preliminary Corridor Improvement Concepts considered the following elements:

- Conceptual design layouts for roadway improvements, including some supporting improvements to existing roadways.
- Given the very limited information regarding existing roadway infrastructure condition and re-use potential available, full reconstruction was assumed for all improvements.
- In addition to construction cost for improvements, estimates also considered engineering, land acquisition, and environmental mitigation.

It is recommended that future studies consider the following as part of their estimates:

- Potential re-use of existing roadways. This could reduce cost of some segments that require only widening, and not complete reconstruction.
- Alternate design layouts and treatments at intersections or interchanges. Design treatments may need to be modified to accommodate future travel demands, which would affect the overall costs.
- Additional items should be considered as engineering development and environmental analyses advance. Examples of these include pump stations, noise barriers, new or expanded maintenance facilities, railroad relocations, and major utility relocations.

2.3.3.2 Cost Estimating Methodology

Analyses were prepared based on 'sketch level engineering drawings' or engineering layouts over an aerial base in MicroStation. The cost data types contributing to the major categories are as follows:

- ***Unit Cost Items:*** Costs obtained for major roadway and structural items, based on preliminary quantities and historical bid data. These include roadway and structural cost elements.
- ***Roadway and Structural Incidentals:*** Additional percentages applied to roadway and structural elements to account for unknown items (such as bad soils or change in materials) that were not anticipated at time of estimate.
- ***Percentage Items:*** Cost items based on major construction costs that are typically derived from a percentage of roadway and structural costs. In addition, other costs were quantified based on percentages such as mobilization, construction contingency, and engineering.
- ***Improvement Specific Cost Items:*** Items such as traffic signals were quantified based on a specific corridor improvement.
- ***Environmental and ROW Costs:*** Wetland mitigation and ROW costs were developed based on a preliminary assessment of footprint requirements along each improvement corridor.

Class 4 is a project cost estimate class defined by the Association for the Advancement of Cost Engineering, primarily used for a Feasibility Study Estimate. Class 4 cost estimates are generally prepared based on limited information and subsequently have wide accuracy ranges. These estimates are used for feasibility studies where the level of engineering development is less than 10 percent. The typical accuracy ranges for Class 4 cost estimates are minus 15 percent to minus 30 percent on the low side and plus 20 percent to plus 50 percent on the high side, depending on the technological complexity of the project, appropriate reference information, and other risks. Ranges could exceed those shown if there are unusual risks involved with the project. The following range of costs was applied at this early stage of analysis:

- Construction Cost Model Elements including Engineering: minus 25 percent to plus 30 percent
- Environmental (Wetland Mitigation): minus 50 percent to plus 100 percent
- Land Acquisition: minus 20 percent to plus 20 percent

Cost Model Elements and Pricing

The cost model relies on quantity estimates for major unit cost items that have the greatest influence on construction cost and can reasonably be defined at this early stage of conceptual engineering. Roadway and structural items comprise the majority of these quantities, as follows:

- New pavement quantities are measured in computer-aided design for all facility types. For the new roadway corridors, the mainline pavement, shoulders, ramps, and barrier median were quantified. For the existing roadway expansion corridors, new pavement quantities were determined for arterial roadways, paved medians, multi-use paths, and sidewalks. Sub-base quantities were auto-calculated from the pavement area. Unit costs for pavement quantities vary by facility type, as shown in ***Table 23***.
- Pavement removal quantities were derived from the project limits of the proposed improvements, and at this early stage, assumed complete reconstruction.
- Bridges (New and Removed) quantities were derived from conceptual structural plan view limit information in Microstation. A range of unit costs was identified for each of the potential bridge types to be considered.

- Retaining walls locations and approximate lengths were determined from the conceptual plan view information in MicroStation. The estimated construction cost was based on the plan length of each retaining wall and an average height (15 feet) assumed throughout a corridor segment.
- Roadway and Structural Incidentals were developed as a percentage of these costs and account for items such as guardrail, riprap, and treatment of soils requiring additional foundational support.

The quantity basis and suggested unit costs for pavement are shown in ***Table 23*** and ***Table 24*** for the items discussed herein. Had the Project process advanced, unit costs would have been adjusted to reflect current construction pricing information and market conditions.

Table 23. Roadway Cost Elements

Unit Description by Facility Type	% or Cost	Unit
New Corridors		
Pavement [Mainline+Ramp]	$ 80	yd^2
Warm Mix Asphalt Stabilized Subbase	$ 12	yd^2
Aggregate Subgrade	$ 15	yd^2
Shoulder [Mainline+Ramp]	$ 50	yd^2
Median Barrier	$100	linear feet
Existing Roadway Expansion Corridors		
Hot Mix Asphalt SC "C" N50 – 2-inch Depth	$75	ton(s)
Hot Mix Asphalt BC IL-19.0 N50 – 10-inch Depth	$65	ton(s)
Aggregate Base CSE B – 6-inch Depth	$26	ton(s)
Aggregate Base Subgrade IMPR 12-inch	$15	yd^2
Concrete Curb and Gutter (B-6.24, 4 EDGES)	$26 to $30	foot
Median	$6.50	ft^2
Other Paved Features		
Shared-Use Path (10 feet W x 6-inch Hot Mix Asphalt)	$36	yd^2
Sidewalks (5 feet wide x 5-inch Portland cement concrete)	$6	ft^2
Driveways (variable width x 8-inch Hot Mix Asphalt)	$60	yd^2
Roadway Incidentals (Guardrail, Patching, Riprap, Etc.)	5%	% of Roadway
Pavement Removals	$6	yd^2

yd^2 = square yard(s)

Table 24. Structural Cost Elements

Structural Items	% or Cost	Unit
Bridge Removal	$35 to $100	ft^2
New Bridges	$160 to $300	ft^2
Bridge Widening	$110	ft^2
Railroad Bridges (New Corridors)	$12,000	track feet
Railroad Bridges (Existing Roadway Expansion Corridors)	$1,400	ft^2
Railroad: At-Grade X-Ing To Grade Separation	$40,000,000	each
Box Culverts (New Corridors)	$150	ft^2
Box Culverts (Existing Roadway Expansion Corridors)	$2,000	foot
Retaining Walls	$80 to $120	square feet
Structure Incidentals	15%	% of Structures

ft^2 = square feet

The cost model accounts for most other items as a percentage of the roadway and structural cost elements. ***Table 25*** lists the percentages, derived from historical construction cost data from projects of a similar type.

Table 25. Major Construction Cost Elements

Item	% or Cost	Cost Basis
Other Major Construction Cost Items		
Earthwork	24%	Roadway Pavement Cost
Landscaping	10%	Roadway Pavement Cost
Erosion Control	3%	Roadway Pavement Cost
Temporary (Access, Aggregate, Pavement, Fences, and Other Items)	8%	Roadway Pavement Cost
Removals; pavement, drainage features, signs; and other items	8 to 12%	Roadway Pavement Cost
Drainage (Storm and Sanitary)	35 to 40%	Roadway Pavement Cost
Special Waste	10%	Roadway Pavement Cost
Temporary Traffic Control	8 to 12%	Roadway Pavement Cost
Signing	1%	Roadway Pavement Cost
Pavement Markings (Including raised pavement markers, r	4%	Roadway Pavement Cost
Trench Backfill	4%	Roadway Pavement Cost
Utilities (Water)	10%	Roadway Pavement Cost
Lighting	5%	Roadway Pavement Cost
Traffic Signals	$350 to $750k	Intersection Type and # of Signals
Tolling Mainline Toll Point	$2.5 M	Each
Intelligent Transportation Systems (ITS) Infrastructure	$0.5 M	Mile

Table 26 lists other items included in the cost model developed either based on improvement specific quantities or as a percentage of roadway, structure, and other major construction cost items, as follows:

- Environmental (Wetland Mitigation): Wetland mitigation was quantified using GIS database. The range of mitigation varies from a ratio of 1:1.5 to 1:2.0 depending on environmental analysis.
- Mobilization: The mobilization item is a percentage applied to the total construction estimate to include miscellaneous items such as construction layout, field office, and insurance.
- Construction Contingency: A contingency of 25 to 30 percent of the total construction cost was applied to the cost estimate to account for the many unknowns at this early stage of engineering development. Note that the contingency is not intended to cover anticipated inflation.
- Engineering: A range in engineering costs was applied based on lead agency typical practice.

Table 26. Additional Cost Elements Considered

Item	% or Cost	Cost Basis
Environmental (Wetland Mitigation)	$120 K	Acre (Mitigation ratio requirements vary from 1:1.5 to 1:2.0 depending on specific location)
Mobilization	8%	Roadway, Structural, and Other Major Construction Costs
Construction Contingency	25 to 30%	Roadway, Structural, and Other Major Construction Costs, and Mobilization
Engineering	16 to 25%	Varies by Lead Agency

Right-of-Way Costs

Based on an initial review of preliminary construction footprint requirements for the representative corridor improvement layouts, programmatic-level analyses of potential right-of-way (ROW) acquisition requirements were determined. Potential acquisitions were then categorized based on zoning, use, property type, and owner type, as well as by location within specific municipalities. The areas of these potential acquisitions were identified for each improvement corridor. Adjacent land values were utilized to determine a value range for agency-owned land, railroad property, and land owned by utilities. The sale price per square foot of land was quantified, and a mean square foot value was established per category and municipality to be expressed with an accuracy of plus or minus 20 percent.

The square foot values for the existing roadway expansion corridors were based on a representative sample from the new corridor analysis. For municipalities not included in the new corridor analysis, square foot values were estimated based on county-wide data collected. Damage to the remaining property due to proximity or severance damage was approximated at a cumulative value of 10 percent and applied to each property. Due to the sample sizes, 10 percent was deemed a reasonable figure for initial programmatic estimating purposes.

At this stage, programmatic-level ROW estimates excluded agency costs related to property acquisition.

The summary of total costs by Corridor are provided in ***Table 27***. The costs represent a range from low to high based on the Class 4 assessment. ***Tables 28*** summarizes only the land acquisition costs.

Table 27. Total Programmatic Cost Summary (Including ROW Acquisition)

Corridor	Initial Preliminary Cost Estimate		Refined Preliminary Cost Estimate	
	Low Range ($M)	High Range ($M)	Low Range ($M)	High Range ($M)
1	$670	$1,150	$510	$880
2	$100	$170	$70	$120
3	$150	$250	No recommended corridor refinements	
4	$270	$460	$240	$410
6	$780	$1,340	No recommended corridor refinements	
7	$410	$710	$380	$650
8	$70	$120	No recommended corridor refinements	
9	$280	$470	$220	$380
11	$230	$390	$190	$320
13	$190	$320	$140	$240
14	$270	$470	$0	$0
15	$130	$210	No recommended corridor refinements	
16	$1,090	$1,900	No recommended corridor refinements	
17	$60	$110	No recommended corridor refinements	
18	$150	$260	No recommended corridor refinements	
20	$650	$1,130	No recommended corridor refinements	
21	$440	$770	No recommended corridor refinements	

Table 28. ROW Acquisition Cost Summary

Corridor	Low Range ($M)	High Range ($M)
1	$56	$85
2	$4	$5
3	$22	$33
4	$15	$22
6	$17	$26
7	$31	$47
8	$10	$15
9	$53	$80
11	$22	$33
13	$29	$43
14	$24	$36
15	$24	$36
16	$19	$29
17	$6	$10
18	$11	$16
20	$8	$12
21	$27	$40

Refer to ***Attachment III: Programmatic-Level Cost Analyses of Preliminary Corridor Improvement Concepts Memorandum*** *for additional information.*

2.4 System Scenario Development and Evaluation

Initial System Scenarios (ISS) were developed using transportation performance modeling efforts, input from stakeholders and an evaluation of prior studies. The TCA Project Team developed a broad range of ISS to test the effectiveness of system strategies, with a focus on identifying the sets of corridor improvements which, when combined, would address the Project Draft Purpose and Need.

The improvement features considered for developing the ISS included the following:

- Locations of existing or new corridors proposed for improvement
- Improvement termini
- Roadway improvement type, including proposed facility type (arterial or freeway)
- Proposed number of through traffic lanes
- Proposed post speed
- Interchange locations and types (full versus partial)
- Tolling options
- Potential for multimodal improvement opportunities

ISS were evaluated[6] using the TCA travel demand model[7]. Each proposed ISS was coded onto the 2050 No-Build Baseline network, and the travel performance was compared against the 2050 No-Build Alternative. In addition, a comparative assessment of system-wide travel performance among the ISS was used to assess ISS effectiveness in addressing the Draft Purpose and Need. At this early stage, ISS were developed independently for each mode (transit-only and roadway-only) to ascertain utilization and performance of transit-only and roadway-only scenarios.

A Transit-Only Scenario was developed to attempt to optimize transit ridership and address the TCA Draft Purpose and Need. The transit-only ISS represented a 'best-case scenario' to assess and evaluate the extent of potential transit ridership and mode shift from automobile. The Transit-Only Scenario evaluation used regional transit mode share benchmarks and sketch-level modeling using the STOPS model to evaluate the viability of the Transit-Only Scenario. See subsection 2.4.1 for further details on the Transit-Only Scenario.

Eleven Roadway Initial System Scenarios (ISS) were developed and evaluated to address the TCA Draft Purpose and Need, representing a broad range of roadway improvement networks grouped under the following three system strategies:

1. **New Access-Controlled Facilities** - proposed a broad range of options to extend IL 53 from Lake Cook Road to a new IL 120 Expressway (an access-controlled facility parallel to existing IL 120)
    - ISS 100: IL 53 extension and IL 120 Expressway
    - ISS 120: IL 53 extension to Wisconsin with IL 120 Expressway and existing IL 53 Expressway widening
    - ISS 130: IL 53 extension, IL 120 Expressway and existing IL 53 Expressway widening

[6] Early development of the ISS began prior to the adoption of the CMAP *ON TO 2050 Plan* and the development of the Draft Purpose and Need. The early ISS development was guided by stakeholder input and it utilized the draft *ON TO 2050* travel demand modeling assumptions prior to plan adoption. Following availability of the adopted CMAP *ON TO 2050 Plan*, the early development of the ISS was refined to reflect the adopted *ON TO 2050 Plan* assumptions, and the analysis was completed using the updated 2050 TCA travel demand model.

[7] Refer to the TCA *Travel Demand Modeling and Travel Forecasting Technical Report* for further information on the TCA travel demand model.

- ISS 140: IL 53 extension with toll free IL 120 Expressway

2. **Combination Strategy** - proposed a hybrid solution including both new access-controlled facilities and existing arterial improvements
   - ISS 110: Partial IL 53 extension and IL 120 Expressway
   - ISS 200: Existing IL 83/IL 120 Expressway
3. **Existing Arterial Improvements** - aimed to address TCA Project needs by expanding existing major arterials and enhancing local network connections
   - ISS 300: IL 59 Network
   - ISS 410: US 12/US 14 Network
   - ISS 500: IL 83 Network
   - ISS 600: US 45 Network
   - ISS 700: Four Lane Arterials Network

The roadway ISS development and evaluation process utilized a range of systemwide travel performance measures, and an assessment of travel demand shifts between roadways and capacity utilization in the TCA Project study area. Key systemwide travel performance measures utilized in the evaluation are outlined as follows:

- **Vehicle hours of delay (VHD):** This is a commonly used measure that describes the overall traffic operating conditions on the roadway network. For purposes of this study, vehicle hours of delay (VHD) were calculated for individual links of the system using the formula below, then summed for all links on the network to yield a cumulative delay.

  VHD = Volume X (congested travel time – free flow travel time)

- **Congested vehicle miles of travel (CVMT):** This measure calculates the amount of travel that occurs in congested conditions. Congested conditions were defined as level of service (LOS) D or worse. ***Table 29***.

Table 29. Level of Service (LOS) for Highways

LOS	Technical Description	Flow Conditions
A	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed.	**No Delays**
B	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability.	**No Delays**
C	Stable traffic flow, but less freedom to select speed, change lanes or pass.	**Minimal Delays**
D	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult.	**Minimal Delays**
E	Unstable traffic flow. Speeds change quickly and maneuverability is low.	**Significant Delays**
F	Heavily congested traffic. Demand exceeds capacity and speeds vary greatly.	**Considerable Delays**

- **Study area travel time savings:** Estimates of travel time between 7 select origins which represent prevalent internal travel movements within the TCA Project study area. Cumulative travel time saving from all 7 origins were summed up for each ISS and compared to the 2050 No-Build Alternative. ***Table 30*** lists the 7 select internal origins. They are also mapped in ***Figure 19***.

- **Regional travel time saving:** This measure assesses where regional travel performance will be improved based on population and employment within the TCA Project study area that will experience significant (greater than 10 percent) travel time saving. Travel time to seven surrounding locations outside the TCA Project study area were selected for this analysis,

Table 30. Select Locations for Travel Time Saving

Index	Study Area Locations	Regional Locations
1	Arlington Heights, IL	Chicago CBD, IL
2	Cary, IL	Elgin, IL
3	Kenosha, WI	Harvard, IL
4	Lake Forest, IL	Hinsdale, IL
5	McHenry, IL	Naperville, IL
6	Mundelein, IL	Racine, WI
7	Waukegan, WI	Woodstock, IL

representing travel between the TCA Project study area and adjoining municipalities in the Chicago metropolitan area. ***Table 30*** lists the select municipalities and they are also mapped in ***Figure 20***.

- **Reduce traffic on major roads:** This measures the total reduction of daily traffic on select major corridors - I-94, US 45, US 12 and US 41, which carry heavy daily commute traffic in the study area. See ***Figure 21***.

Figure 19. Internal Place of Interests

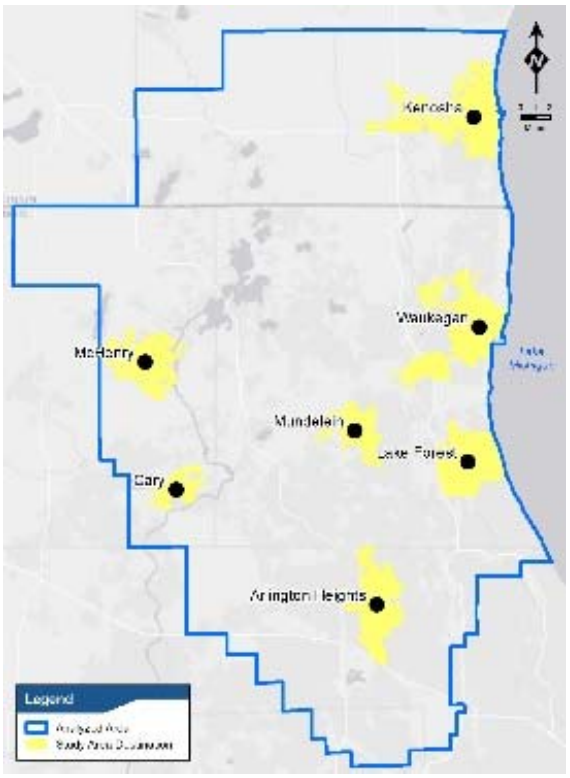


Figure 20. External Place of Interests

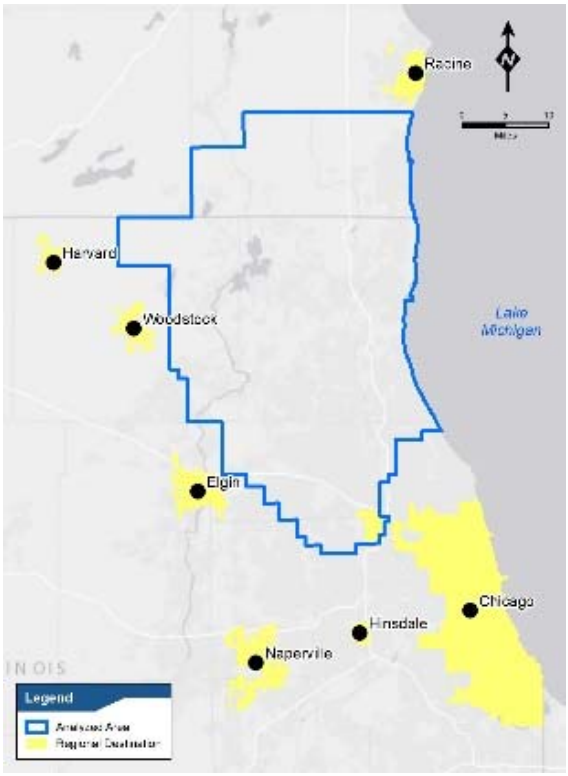
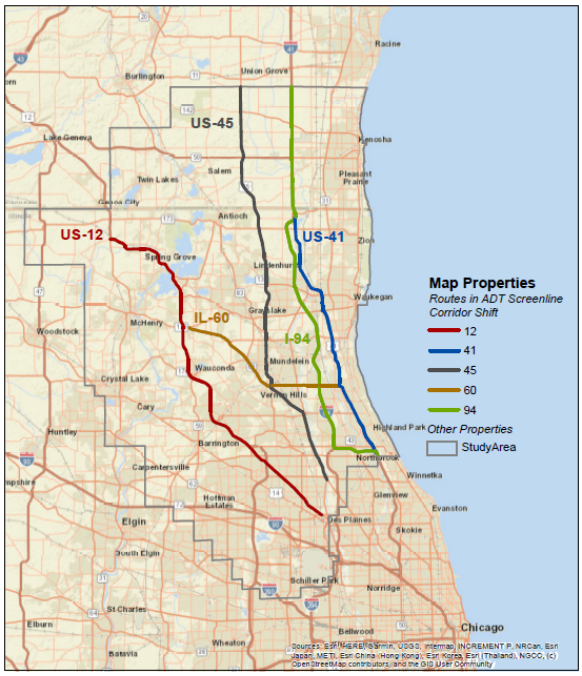


Figure 21. Major Routes in Study Area



At this early stage of alternatives process, the ISS evaluation was conducted on the basis of the No-Build Alternative population and employment forecasts. Alternative specific socioeconomic forecasts were to be developed and considered in the next step of the Initial Range of Alternatives development and evaluation process.

2.4.1 Transit-Only Scenario

ISS for transit considered a range of planned transit projects in the TCA Project study area and were developed using extensive coordination with regional transit services (RTA, Metra and Pace) and stakeholder input. This section documents the development and evaluation of the ISS for transit improvements and the Transit-Only Scenario's benefits and performance against the TCA Draft Purpose and Need.

To provide guidance on the identification, development, and evaluation of transit improvements in the TCA Project study area, a Transit Framework[8] was established with the following guiding principles:

- Understand the TCA Project study area characteristics and their influence on the transit system
- Understand the extent of planned transit projects in the TCA Project study area identified as part of the regional long-range planning activities by transit providers
- Develop a Transit-Only Scenario that would attempt to optimize the ridership to address the Draft Purpose and Need
- Test and evaluate the Transit-Only Scenario using a "best-case scenario" based on best practices and bench-marking approaches
- Identify and develop complimentary transit opportunities along with roadway improvements to address the Draft Purpose and Need

2.4.1.1 TCA Project Study Area Transit Characteristics

The public transportation system serving the TCA Project study area includes services provided by two of the RTA's operating agencies: Metra, the region's commuter rail operator; and Pace, the suburban bus operator. The transit system in the TCA Project study area (particularly commuter rail) has served the downtown Chicago area well, but there are limited transit connections for other destinations. Chicago Transit Authority (CTA) network and services were not considered as they operate only in the southernmost portion of the TCA Project study area.

Currently, two percent of all trips within the TCA Project study area are transit trips. Population and employment in the study area have been steadily increasing over the past 30 years. During that time, Metra and Pace have enhanced the frequency of their service yet, during that same time period, ridership on Metra and Pace has not increased. Based on the evaluation of 2050 conditions and planned projects, the future transit system is expected to maintain a similar level of performance.

Several factors contribute to low transit usage in the study area, including but not limited to:

- Dispersed land use
- Congested roadways
- Limited service to suburban employment centers
- Poor first- and last-mile connections to existing routes
- Introduction of transportation network and ride-share companies (such as Uber and Lyft) providing reasonably priced alternatives to transit
- Consumer behavior indicates consumers in the TCA Project study area prefer driving over public transit use

Understanding the TCA Project study area characteristics and their influence on the transit system served as the starting point for the development of the Transit-Only Scenario.

2.4.1.2 Regional Plans

Given the constraints of the study area to support efficient transit, an assessment of regional long-range plans (both historic and current) and stakeholder engagement were utilized to identify a range of

[8] The Transit Framework is included in the TCA *Initial System Scenarios: Development of Transit-Only Scenario Technical Memorandum.*

opportunities for transit improvements in the TCA Project study area. The following regional plans were reviewed, with a focus on information relevant to the development of the Transit-Only Scenario:

Lake County Transportation Improvement Project (LCTIP) Draft Environmental Impact Statement (EIS) (IDOT/Tollway 2001)

The LCTIP, completed in 2001, identified a system of strategic roadway, rail, and bus improvements to address key congestion and mobility problems in the study area. The LCTIP Draft EIS presented two build alternatives – the IL 53 Freeway/Tollway Alternative and the IL 83/US 45 with US 12 Alternative. These alternatives included extensive roadway improvements as well as a package of multimodal transportation improvements (i.e., rail, bus, bike, transportation management strategies) that were common to both build alternatives.

The complementary transit service expansion proposed for the LCTIP build alternatives included new commuter rail service on the EJ&J Railroad between Spaulding and Waukegan, new express bus routes between major origins and destinations, frequent bus service on four trunk corridors (Winthrop Harbor-Waukegan, Waukegan-Round Lake, Gurnee-Libertyville-Buffalo Grove, Highland Park-Fox River Grove) a BRT line in the Lake Cook Corridor, new shuttle bus services and frequency improvements on existing local routes.

Another component of the package of proposed transit improvements was enhanced transportation centers. This component would add opportunities for bus-to-bus and bus-to-rail transfers, as well as improved automobile connections at five key locations: Round Lake, Libertyville, Palatine, Highland Park, and Fox River Grove.

Pace Vision 2020 (Pace 2001)

The Pace Vision 2020 document represents the blueprint for Pace's vision for the future which is to provide a publicly acceptable level of efficient suburban mobility. Vision 2020 points out changing travel needs such as growth in population and employment in the suburban "ring" and demand for services connecting locations in the City of Chicago with widely distributed suburban centers.

The plan identifies two types of line-haul routes based on their primary operating environment: Expressway/Tollway Routes and Arterial Routes. Expressway/Tollway services use comfortable over-the-road coaches, provide frequent service, connect major regional activity centers with few stops in between, and operate in a high-occupancy vehicle lanes or dedicated right-of-way, where appropriate, to avoid traffic delays. Line-haul Arterial Routes use specially marked low-floor transit buses to enhance system identity and increase boarding speed. They will also use Pace's Intelligent Bus System to improve on-time performance, communicate with customers, protect transfers with other bus services, and reduce operating costs.

RTA 2018-2023 Strategic Plan: Priority Projects (RTA 2017)

The RTA and transit operating agencies developed the Regional Transit Strategic Plan to serve as the roadmap for near-term transit investment in the RTA's six-county area and to make the case for pursuing dependable funding streams for transit in the region. The strategic plan presents key findings and research conducted in 2016 that was also used, in coordination with CMAP, to develop the *ON TO 2050 Plan*. Priority Projects, defined as key initiatives that the transit agencies cannot complete at current funding levels but are necessary for high-quality transit for the region, are identified in the report.

Priority Projects include:

- Metra's A-2 interlocking replacement, that would allow faster service and increased capacity on the MD-N, MD-W, UP-W and NCS lines
- Metra fleet modernization, signal upgrades and station improvements

- New Pace buses for replacement and service expansion
- Regional deployment of Pace Transit Signal Priority
- Upgraded Pace transportation/transfer centers at Buffalo Grove, Elgin and Gurnee Mills Mall
- Design and construction of Pace passenger facilities for the soon-to-be-implemented I-94 Eden's Bus-on-Shoulder corridor

ON TO 2050 Comprehensive Regional Plan, Chicago Metropolitan Agency for Planning (CMAP 2018)

CMAP adopted the *ON TO 2050* comprehensive regional plan in October 2018. Mobility was one of five subject areas addressed by the *ON TO 2050 Plan*. One of the goals under mobility is "a modern, multimodal system that adapts to changing travel demand" with "making transit more competitive" identified as a key recommendation for reaching the goal. Several challenges to making transit more competitive are outlined in the *ON TO 2050 Plan* including lack of funding, minimal supportive land use changes, demographic shifts, aging infrastructure, and competition from emerging private transportation services.

The *ON TO 2050 Plan* states that the region's transit agencies are experiencing a capital funding shortage with 31 percent of the transit system not in a state of good repair – a percentage projected to grow without significant increases in capital funding. Nonetheless, an aggressive target of doubling transit ridership was set for the region. According to the CMAP's comprehensive plan, the region's transit agencies should focus limited funding on projects that build on transit's key strengths: frequent, fast, reliable service that makes connections in areas of moderate and high density and walkability. Further, the plan recognizes that the region cannot meet its transit ridership goals without supportive development near bus and rail.

Notably, the *ON TO 2050 Plan* encourages roadway agencies to adopt transit-oriented roadway improvements. For example, transit and highway agencies can build on the success of Pace expressway service on I-55, I-94, and I-90 to offer additional routes and continue to provide innovative bus service options.

CMAP identifies RSPs, or capital improvements in the region's expressways, transit system, and arterials with impacts and benefits that are large enough to warrant additional discussion through the regional planning process. The *ON TO 2050 Plan* includes constrained RSPs that have been identified as priorities for the region and recommends further study of others that are classified as "unconstrained". Only constrained projects are eligible to receive federal transportation funds. As described previously, these improvements are included in the TCA No-Build Alternative (Sections 1.2.1.1 and 2.1). See ***Figure 22***.

In addition to the CMAP *ON TO 2050* constrained RSPs, the *ON TO 2050* discusses a list of unconstrained projects that could enhance transit utilization in the region. This represents the region's long-term vision for arterial rapid transit and express bus opportunities which include projects in the TCA Project study area. Some of planned Pace routes along IL 83, IL 120, US 12, and IL 59 align with

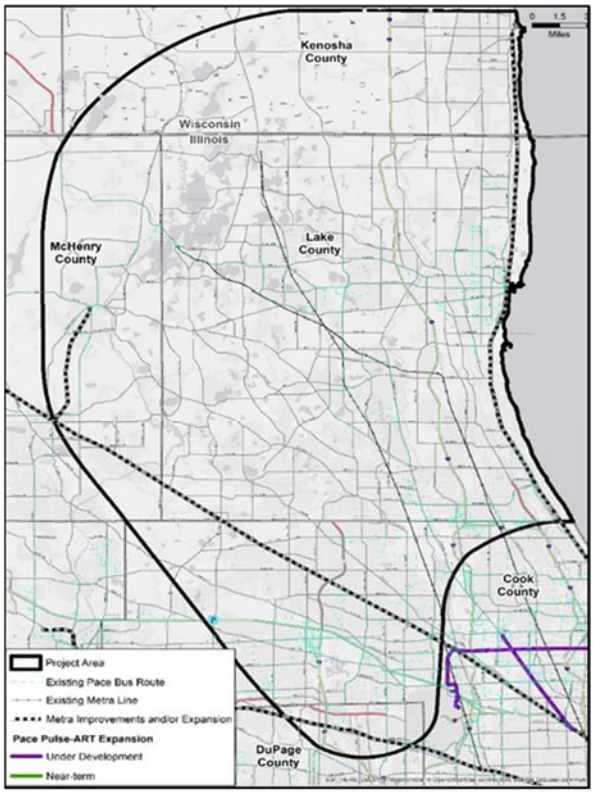


Figure 22. ON TO 2050 Constrained RSP

corridors identified with the stakeholder engagement process. The Pace Pulse-ART development plan will provide fast and reliable service along these corridors, encouraging residents to use transit and contributing to reduced roadway congestion.

The Pace Pulse program of projects is discussed in detail in the CMAP *ON TO 2050 Plan*. The program focuses on improving Pace's 24 most heavily used arterials routes by providing ART service with enhanced amenities, and other improvements. Near-term Pulse projects are included in CMAP's list of constrained RSP; mid-term and long-term projects are included in CMAP's list of unconstrained RSP. Pace's Express Bus expansion corridors are also included in CMAP's list of unconstrained RSP. TCA Project study area Pace projects included in the unconstrained RSP are listed in ***Table 31***.

Several commuter rail improvements are also included in CMAP's list of unconstrained RSP. These include extensions to the MD-N and MD-W lines, upgrades to the NCS line, and electrification of the UP-N and UP-NW lines.

Table 31. ON TO 2050 Unconstrained Pace Bus Initiatives

Road Name	Description	Type	Priority Level
Golf Road	Evanston to IL 83	PULSE ART	Mid-term
Golf Road	IL 83 to IL 19 (Irving Park Road)	PULSE ART	Long-term
IL 83	Halsted Street to Golf Road	PULSE ART	Mid-term
Milwaukee Avenue	Golf Mill Mall to IL 68 (Dundee Road)	PULSE ART	Mid-term
Milwaukee Avenue	IL 68 (Dundee Road) to IL 120	PULSE ART	Long-term
Touhy Avenue	Evanston to Arlington Heights Road	PULSE ART	Mid-term
IL 19 (Irving Park Road)	Randall Road to Harlem Avenue	PULSE ART	Long-term
IL 59	US 30 to US 12 (Rand Road)	PULSE ART	Long-term
IL 62 (Algonquin Road)	IL 31 to Arlington Heights Road	PULSE ART	Long-term
IL 68 (Dundee Road)	IL 31 to Milwaukee Avenue	PULSE ART	Long-term
IL 120	Crystal Lake Road to S Greenleaf Street	PULSE ART	Long-term
US 12 (Rand Road)	IL 59 to Dempster Street	PULSE ART	Long-term
Randall Road	IL 120 to IL 59	PULSE ART	Long-term
Ogden Avenue	Eola Road to Higgins Road	PULSE ART	Long-term
I-90	Rosemont to IL 47	Express Bus	N/A
I-294	Wisconsin State Line to Indiana State Line	Express Bus	N/A
I-355/IL 53	New Lenox to Lake Cook Road	Express Bus	N/A
I-94 Edens	Dempster Street to Lake Cook Road	Express Bus	N/A
Elgin O'Hare Corridor	West Terminal to Elgin	Express Bus	N/A

Corridors considered for improvement as part of the TCA Initial Range of Alternatives would incorporate features to accommodate the planned Pace Pulse-ART and Express Bus services.

2.4.1.3 Transit-Only Initial System Scenario Development

In addition to understanding the extent of planned transit projects in the study area, an ISS representing a Transit-Only Scenario was developed that would attempt to optimize transit ridership and address TCA Draft Purpose and Need.

Table 32 provides the evaluation criteria considered for the Transit-Only Scenario.

Table 32. Preliminary Evaluation Criteria for the Transit-Only Scenario

Draft Purpose and Need	Evaluation Criteria
Inadequate travel options to reach regional destinations	• Project study area connections • Transit network coverage
Widespread congestion and unreliable travel	• Existing transit ridership • Projected transit ridership

The Transit-Only Scenario was a mode agnostic option and represented a 'best-case scenario' to address the extent to which potential transit ridership and mode shift from automobile could be realized in the TCA Project study area. The Transit-Only Scenario evaluation used regional transit mode share benchmarks and sketch-level modeling using the STOPS model to evaluate the viability of the Transit-Only Scenario for the Project.

In order to better understand the range of transit solutions applicable to the TCA Project study area, several suburban transit projects operated by agencies across the United States were explored in detail. Although each transit project includes a unique set of best practices and lessons learned, the following were common to the researched suburban transit systems:

- Create dedicated running-ways to offer attractive travel times and reliability
- Establish simple and direct routing between origins and destinations
- Increase frequency of service where applicable (e.g. peak periods, popular locations)
- Connect to downtown areas or other activity centers
- Develop a reliable network of connections and transfer points
- Select densely-populated corridors with transit-supportive land use

Corridor Identification

While it is typically difficult to obtain new dedicated running way for suburban transit, the right-of-way that was protected for the IL 53 extension represented an opportunity to implement a premium transit service that fills an existing gap in the transit network.

Providing dedicated infrastructure that improves transit network coverage, if not for the protected right-of-way, would entail repurposing heavily-utilized roadway lanes and/or large amounts of right-of-way acquisition. Because of the impacts associated with removing roadway capacity and/or acquiring property, the right-of-way preserved for IL 53 extension is indicated as being the corridor with the highest potential for constructing transit-dedicated infrastructure within the TCA Project study area.

Premium transit, operating along exclusive running ways, are offered within the study area via Pace's express bus service on I-90 flex lanes as well as Metra's UP-N, MD-N, NCS, MD-NW and MD-W lines. The proposed IL 53 extension corridor is not served by premium transit and lacks connectivity to the regional transit network.

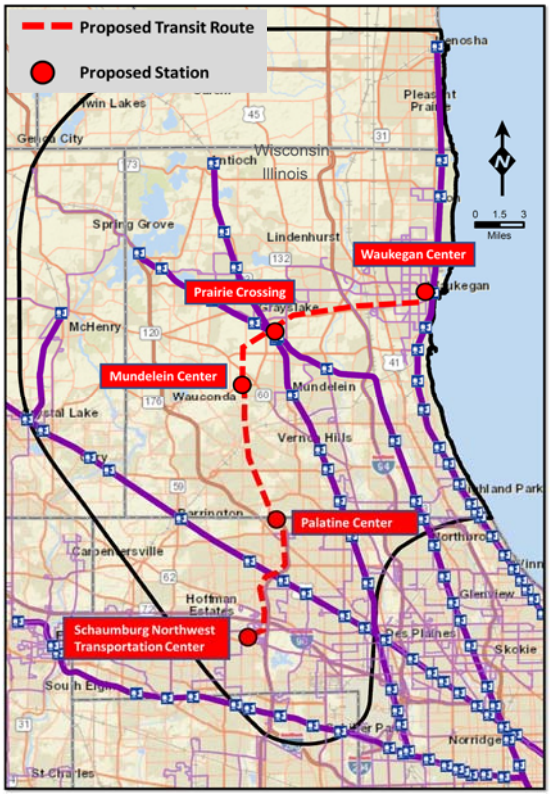


Figure 23. Transit-Only Scenario Route Plan

For these reasons, the right-of-way protected for the IL 53 extension represented the "best-case scenario" that would provide dedicated transit right-of-way, optimizing ridership and utilization in the study area. The proposed IL 53 extension corridor connected the regional destination centers of Schaumburg and Waukegan, via the existing IL 53 in the south and IL 120 in the north. The logical terminus in Waukegan is the Waukegan Metra Station. In Schaumburg, the logical terminus is the Northwest Transportation Center, with an approximate route length of 33 miles.

Intermediate Stations

Along the corridor between Schaumburg and Waukegan, intermediate stations were located within reasonably dense clusters of population or employment and where there were opportunities to provide convenient connections to the existing transit network. The route provided direct access and

connections to existing transit opportunities and avoided duplication of service. The route traverses through several residential centers and employment centers, terminating in the Schaumburg area (which supported a significant number of jobs in the region). The proposed connection provided connections to existing Metra stations at Vernon Hills and in the Libertyville area.

The Transit-Only Scenario service was oriented in the north-south direction from Waukegan to Schaumburg, with dedicated stops along the route at Prairie Crossing, Mundelein, and Palatine. In addition, it provided transfers at Waukegan via UP-N line to Kenosha and at Prairie Crossing via MD-N line to Fox Lake and North-Central service to Antioch.

Service Plan

The service plan for the Transit-Only Scenario aimed to be consistent with the levels of service offered for premium transit services within the CMAP region as well as the national sample of suburban transit systems reviewed. As these systems are predominantly oriented towards commuters, a greater level of service is offered during the peak periods in the peak travel period.

Station-to-station travel times for the Transit-Only Scenario were estimated based on the assumption that a dedicated running way would be utilized from end-to-end so that there would be no delays from interactions with traffic or traffic signals. A sketch level analysis was used to calculate the travel time estimates including 20 second dwell times at stations.

The proposed service provided about 47 minutes of travel time from Waukegan to Schaumburg and was assumed to have 30- to 60-minute headways, based on the time-of-day with four vehicles at capacity in the peak periods. Schedule and frequency based on time-of-day and direction are summarized below in ***Table 33A*** and ***Table 33B***. In addition, an assessment of travel time compared to drive time is summarized in ***Table 34*** demonstrating comparable travel time between auto and transit between stations in the TCA Project study area.

Table 33A. AM Period Schedule by Direction of

		A	B	C	D	A	B	C	D	B	D	B
	Project Station	*5300*	*5302*	*5304*	*5306*	*5308*	*5310*	*5312*	*5314*	*5316*	*5318*	*5320*
Southbound	**Waukegan**	5:28	5:58	6:28	6:58	7:28	7:58	8:28	8:58	9:58	10:58	11:58
	Prairie Crossing	5:46	6:16	6:46	7:16	7:46	8:16	8:46	9:16	10:16	11:16	12:16
	Mundelein	5:53	6:23	6:53	7:23	7:53	8:23	8:53	9:23	10:23	11:23	12:23
	Palatine	6:05	6:35	7:05	7:35	8:05	8:35	9:05	9:35	10:35	11:35	12:35
	Schaumburg	6:15	6:45	7:15	7:45	8:15	8:45	9:15	9:45	10:45	11:45	12:45

		A	B	C	D	A	B	D	B	D	B	D
		5301	*5303*	*5305*	*5307*	*5309*	*5311*	*5313*	*5315*	*5317*	*5319*	*5321*
Northbound	**Schaumburg**	6:30	7:00	7:30	8:00	8:30	9:00	10:00	11:00	12:00	13:00	14:00
	Palatine	6:40	7:10	7:40	8:10	8:40	9:10	10:10	11:10	12:10	13:10	14:10
	Mundelein	6:51	7:21	7:51	8:21	8:51	9:21	10:21	11:21	12:21	13:21	14:21
	Prairie Crossing	6:59	7:29	7:59	8:29	8:59	9:29	10:29	11:29	12:29	13:29	14:29
	Waukegan	7:16	7:46	8:16	8:46	9:16	9:46	10:46	11:46	12:46	13:46	14:46

Table 33B. PM Period Schedule by Direction of Travel

		D	B	D	B	A	D	C	B	A	D	B
	Project Station	*5322*	*5324*	*5326*	*5327*	*5328*	*5329*	*5330*	*5331*	*5332*	*5333*	*5334*
Southbound	**Waukegan**	12:58	13:58	14:58	15:58	16:28	16:58	17:28	17:58	18:58	19:58	20:58
	Prairie Crossing	13:16	14:16	15:16	16:16	16:46	17:16	17:46	18:16	19:16	20:16	21:16
	Mundelein	13:23	14:23	15:23	16:23	16:53	17:23	17:53	18:23	19:23	20:23	21:23
	Palatine	13:35	14:35	15:35	16:35	17:05	17:35	18:05	18:35	19:35	20:35	21:35
	Schaumburg	13:45	14:45	15:45	16:45	17:15	17:45	18:15	18:45	19:45	20:45	21:45

		B	D	C	B	A	D	C	B	A	D	B
		5323	*5325*	*5327*	*5329*	*5331*	*5333*	*5335*	*5337*	*5339*	*5341*	*5343*
Northbound	**Schaumburg**	15:00	16:00	16:30	17:00	17:30	18:00	18:30	19:00	20:00	21:00	22:00
	Palatine	15:10	16:10	16:40	17:10	17:40	18:10	18:40	19:10	20:10	21:10	22:10
	Mundelein	15:21	16:21	16:51	17:21	17:51	18:21	18:51	19:21	20:21	21:21	22:21
	Prairie Crossing	15:29	16:29	16:59	17:29	17:59	18:29	18:59	19:29	20:29	21:29	22:29
	Waukegan	15:46	16:46	17:16	17:46	18:16	18:46	19:16	19:46	20:46	21:46	22:46

Table 34. Comparable Travel Time between Auto and Transit

	Span of Service (Departure Times)	Avg. Frequency (Minutes)	Avg. Travel Time (H:MM)	Drive Time (H:MM)
Kenosha	6:00 to 9:00	30	1:21	1:00 to 1:25
Fox Lake	5:15 to 7:15	24	1:01	0:40 to 1:20
Antioch	5:30 to 7:00	23	0:57	0:55 to 1:15
Waukegan	5:30 to 9:00	30	0:46	0:45 to 1:05
Prairie Crossing	5:45 to 9:15	30	0:29	0:35 to 1:00
Mundelein	6:00 to 9:30	30	0:21	0:26 to 0:45
Palatine	6:00 to 9:30	30	0:10	0:08 to 0:14

2.4.1.4 Transit-Only Initial System Scenario Evaluation

A combination of regional benchmarking assumptions and the STOPS model was used to assess and evaluate performance of the Transit-Only Scenario. The STOPS model was developed by the Federal Transit Administration to estimate project ridership using a streamlined set of procedures that forecast transit ridership. The STOPS model uses national calibration parameters but is responsive to local conditions; the TCA Project used the calibrated RTA STOPS model developed in 2015 as the starting point for this effort. The RTA 2015 model was updated to add in the representation of the Transit-Only Scenario and incorporated current demographics and travel time assumptions (both highway and transit) for the TCA Project study area.

Transit Ridership Assessment – Using Regional Benchmarks

The regional benchmarking approach used the best-case transit utilization scenario from existing Metra services oriented towards Chicago's central business district. Current transit mode share around Metra Stations is around 10 percent of the total trips in the region. In addition to Metra mode share benchmark, information from the Census Transportation Planning Package (CTPP) was used, which suggested a 2 to 11 percent maximum likelihood of transit usage in the region. ***Figure 24*** shows study area CTPP transit zones and ***Table 35*** summarizes the mode share estimates from the CTPP study area zones utilized as a regional benchmark for transit ridership comparisons for the Transit-Only Scenario.

Figure 24. Study Area CTPP Transit Zones

Table 35. TCA Project Study Area CTPP Transit Mode Share Estimates

Residence Location	VERNON		DEERFIELD		NORTHFIELD		SCHAUMBURG	
	Total Workers	Transit Mode Share	Total Workers	Transit Mode Share	Total Workers	Transit Mode Share	Total Workers	Transit Mode Share
Lake County-Northwest	**5,882**	**2%**	**2,977**	**6%**	**2,841**	**11%**	**918**	**0%**
Antioch Township	783		641	1%	303	13%	64	
Lake Villa Township	1,421		836	2%	879	5%	232	
Grant Township	787	3%	314	10%	525	8%	281	
Avon Township	2,891	3%	1,186	12%	1,134	16%	341	
Lake County-Northeast	**5,766**	**2%**	**5,454**	**2%**	**2,968**	**1%**	**548**	**5%**
Newport Township	153		152		75			
Benton/ Zion Township	1,195		647	1%	534	4%	20	
Warren Township	2,253	3%	2,275		1,532	1%	289	
Waukegan Township	2,165	2%	2,380	4%	827	1%	239	11%
Lake County-Southwest	**4,915**	**0%**	**1,844**	**1%**	**2,356**	**1%**	**1,507**	**1%**
Wauconda Township	951		196		237	13%	304	
Fremont Township	1,983		848	1%	822		132	
Cuba Township	274		87		172		348	3%
Ela Township	1,707		713		1,125		723	
Lake County-Southeast	**13,795**	**1%**	**16,323**	**2%**	**7,504**	**2%**	**1,289**	**4%**
Liberty Township	3,463	1%	1,794		1,258	4%	190	
Shields Township	454		1,147		344		64	
Vernon Township	8,745	1%	2,521	1%	2,973		734	7%
Moraine and West Deerfield Townships	1,133		10,861	3%	2,929	3%	301	

Based on a 2.5-mile radius buffer from proposed stations, an assessment of utilization of the proposed transit service was estimated compared to the total number of trips generated within the 2.5-mile buffer of the proposed station. Of the approximately 21,000 total trips, between 400 (minimum) to 3,100 (maximum) trips were likely to use the proposed transit service. ***Table 36*** summarizes the mode share estimates from the benchmarking approach for the Transit-Only Scenario.

Table 36. Estimate of Mode Share of Transit-Only Scenario Using Regional Benchmarks

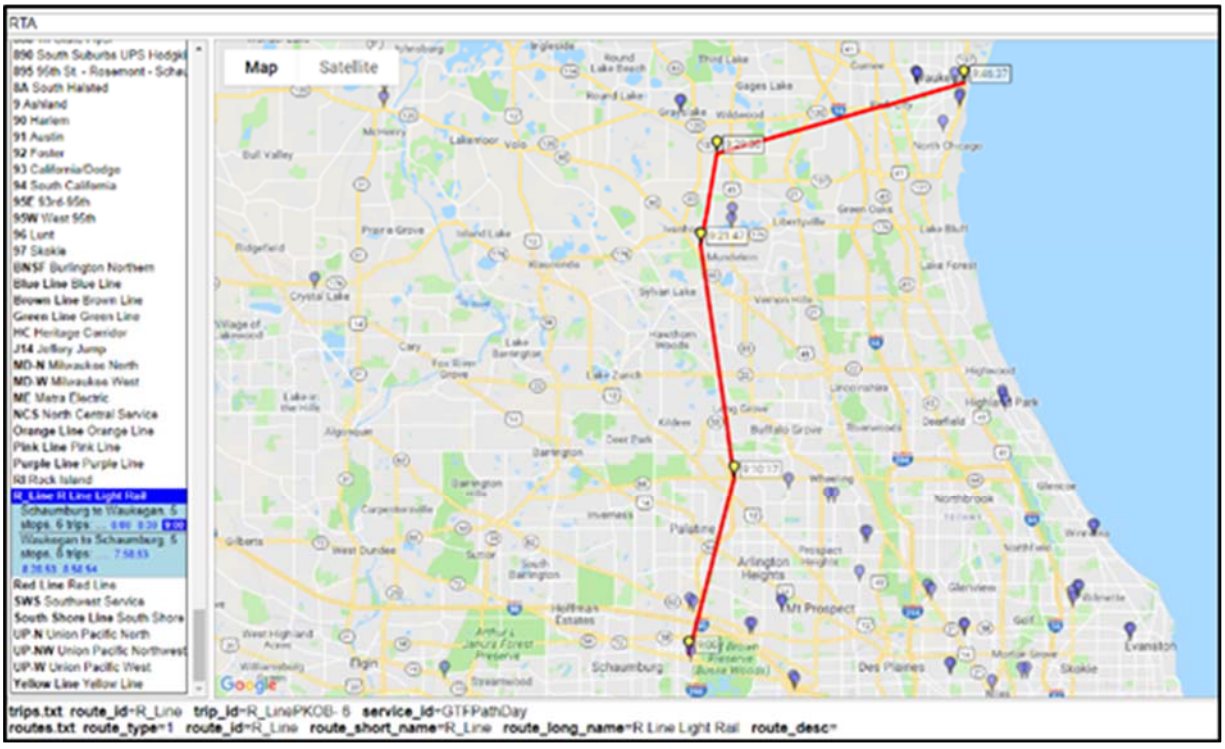
Origin-Station	All Trips	Transit Trips	
		Low-End	High-End
Kenosha	0	0	0
Antioch	35	1	5
Fox Lake	622	12	93
Waukegan	9	0	1
Prairie Crossing	217	4	33
Mundelein	587	12	88
Palatine	19,625	393	2,944
TOTAL	**21,095**	**422**	**3,164**

The total number of expected transit trips using the regional benchmarking represents a small portion of the overall trips in the TCA Project study area. Thus, the Transit-Only Scenario is underutilized and does not support the Draft Purpose and Need for the Project.

Transit Ridership Assessment – Using STOPS Model

Like the regional benchmarking assessment, evaluations from the STOPS model resulted in similar estimates of transit mode share and shifts for the proposed new Transit-Only Scenario. A diagrammatic representation of the Transit-Only Scenario in the STOP model is shown in ***Figure 25***.

Figure 25. Transit-Only Scenario – STOPS Model



The STOP model was calibrated to develop ridership estimates for existing year and forecast year 2050 for the TCA Project study area. The existing year network represented the existing transit system to include all regional transit services, demographic considerations and travel times. The Transit-Only Scenario was coded into the existing network as well as the forecast year 2050 network in the calibrated regional STOPS model.

The flow-chart in ***Figure 26*** describes the process, input and assumptions for the TCA Project study area STOPS model that was utilized to generate estimates of transit ridership for the Transit-Only Scenario.

Figure 26. STOPS Model (Process, Inputs and Assumptions)

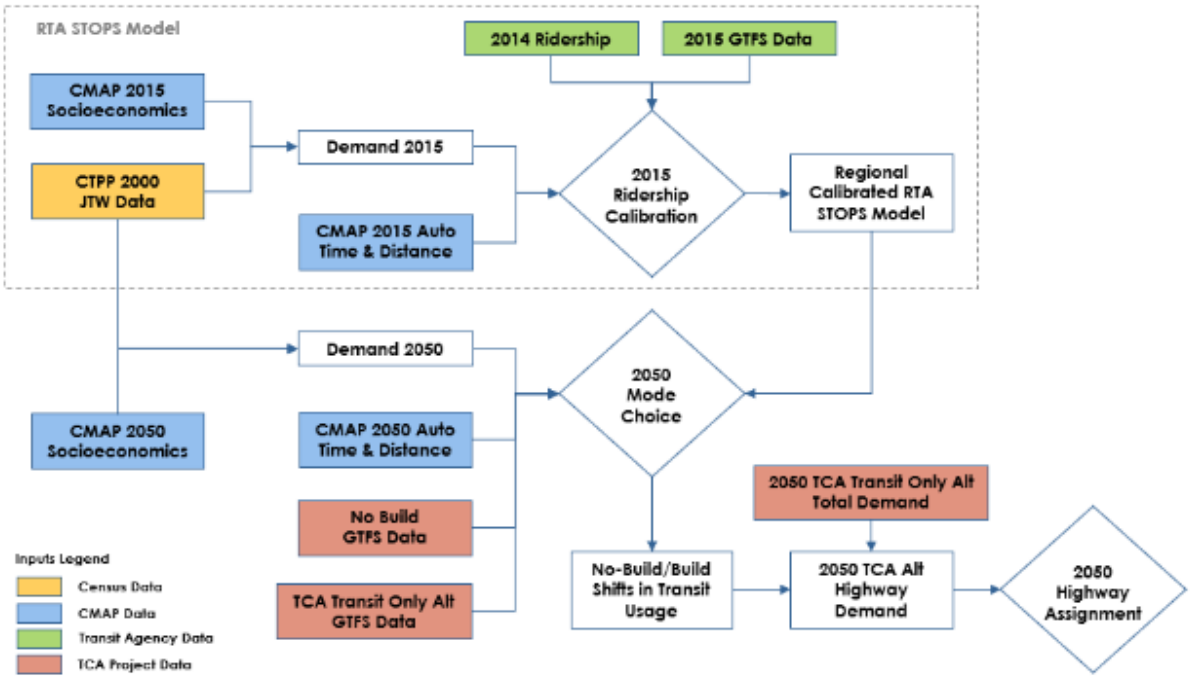


Table 37. Daily Estimate of Transit-Only Scenario Boardings using STOPS Model

Station Location	Existing Year	Forecast Year (2050)
Waukegan Center	225	275
Prairie Crossing	275	300
Mundelein Center	125	150
Palatine Center	450	475
Schaumburg NW	450	475
Total	**1,525**	**1,675**

The STOPS model evaluation resulted in transit mode share and shifts for the proposed new Transit-Only Scenario comparable to the benchmark approach described above. Ridership for the new Transit-Only Scenario was concentrated around the station locations along the proposed route. The total estimated ridership for the new Transit-Only Scenario ranged from approximately 1,500 daily trips in the existing condition to about 1,700 trips in the 2050 forecast year condition. ***Table 37*** summarizes daily boarding estimates by station locations along the proposed Transit-Only Scenario using the STOPS model.

In addition to the overall estimate of transit trips by station location, the STOPS model generated transit mode share and shifts based on trip type and vehicle ownership for the TCA Project study area. ***Table 38*** summarizes estimates of ridership and mode shifts by vehicle ownership and ***Table 39*** summarizes estimates of trip type for the TCA Project study area.

The highest transit mode share is expected in households with access to two or more automobiles and the highest utilization are home-based trips, which account for about 65 percent of all the transit trips for the proposed new service.

Both the STOPS model and the benchmarking approach demonstrate a small percentage of total trips utilizing transit and marginal mode shifts from automobiles for the proposed new Transit-Only Scenario.

Table 38. Transit Mode Shift by Vehicle Ownership

Vehicle Ownership	Existing Year Trips	% of Project Trips by Car Ownership	Forecast Year (2050) Trips	% of Project Trips by Car Ownership
0 Cars	125	8	125	8
1 Car	400	25	425	25
2 Cars	1,000	67	1,125	67
Total	**1,525**	**100**	**1,675**	**100**

Table 39. Transit Mode Share by Trip Purpose

Trip Purpose	Existing Year Trips	% of Project Trips by Trip Purpose	Forecast Year (2050) Trips	% of Project Trips by Trip Purpose
HBW	1,000	65	1,100	65
HBO	425	28	450	28
NHB	100	7	125	7
Total	**1,525**	**100**	**1,675**	**100**

2.4.1.5 Transit-Only Scenario Cost Considerations

Cost considerations of a new transit service depend on several contributing factors, including but not limited to:

- Geography
- Land Use Patterns
- Density (Population and Built-Environment)
- Environmental Constraints
- Right-of-Way Acquisition

A rough order-of-magnitude (ROM) cost for a new transit service can often be estimated by considering its mode. For example, a BRT system is often associated with lower capital and operating costs than its light rail counterpart.

Table 40 below provides an overview of the ROM per route-mile costs for three different transit modes, including a high and low estimate for each cost component. The cost ranges provided here were aggregated from a variety of different transit projects completed throughout the United States.

Table 40. ROM Cost Estimate for Different Transit Modes

Cost Component (Per Route-Mile)	Bus Rapid Transit		Light Rail		Commuter Rail	
	Low	High	Low	High	Low	High
Capital	$5,000,000	$25,000,000	$40,000,000	$160,000,000	$2,000,000	$26,000,000
Annual Operating	$250,000	$1,000,000	$1,000,000	$5,000,000	$500,000	$1,600,000

As mentioned, ***Table 40*** shows that BRT has both a lower capital and operating cost than light rail, whose costs are relatively high compared to the other modes. The high capital cost of light rail can likely be attributed to its construction in dense, urban environments where right-of-way acquisition can be particularly challenging. The costs in ***Table 40*** however are by no means a rule, and only serve as a representative ROM based on reported costs from transit projects throughout the nation. Exceptions to these costs exist, such as the Portland-Milwaukie light rail service in Portland, Oregon whose capital costs exceeded $200 M per route-mile.

The proposed Transit-Only Scenario described, however, does not yet fit into any of the three transit mode categories provided in ***Table 40***. At the suspension of the TCA Project, the Transit-Only Scenario was an idealized, mode-agnostic service connecting popular destinations in the TCA Project study area. Considering the length of the proposed Scenario, the costs provided in ***Table 40*** only serve as a ROM for what the Scenario might cost if implemented as any of the three different transit modes.

To provide additional context, the cost information for three different transit projects have been collected. Two of these projects are local, Chicago projects that provide a sense for the magnitude of costs associated with new, regional transit services. In addition, a third project implemented in Phoenix, Arizona was included as an additional point of reference.

- **Pulse Milwaukee Line (Pace Bus):** This 7.6-mile BRT service in Chicago, Illinois will operate in mixed traffic along Milwaukee Avenue between the Golf Mill Shopping Center and the Jefferson Park Transit Center. The Pulse Milwaukee Line is currently under construction and is expected to begin operation in 2019. This service will combine a variety of BRT features (e.g. limited-stop service) and other roadway improvements.
- **Initial Segment (Valley Metro):** This 20-mile, 28-station light rail service was launched in 2008 to connect Phoenix, Arizona with other regional cities and destinations. Users of the system were provided with nine park-and-ride locations from which the transit service could be accessed. At the time of construction, it was the longest starter line in Federal New Starts grant history.
- **STAR North (Metra):** This proposed 32-mile, 9-station rail service would follow an existing freight route between Waukegan and Hoffman Estates in the Chicago, Illinois metropolitan area. This proposed route has the most similarities with that of the Transit-Only Scenario. The STAR North service would also provide two connection points to existing Metra services that currently operate radially between downtown and the northern suburbs.

Table 41 provides an overview of the capital and operating costs for these three transit projects. For the two local services that are either proposed or currently under construction, the costs provided are estimates. The costs for the Valley Metro light rail service are based on actual reported costs.

Table 41. Transit Project Capital and Operating Costs

Transit Project	System Characteristics		Capital Cost**		Annual Operating Cost	
	Miles	Weekday Riders	Total	Per Route-Mile	Total	Per Route-Mile
Pulse Milwaukee*	7.6	N/A	$14,000,000	$1,842,105	$1,580,000	$207,895
Initial Segment	20	44,029	$1,840,000,000	$92,000,000	$35,300,000	$1,765,000
STAR North*	32	4,700	$1,480,000,000	$46,250,000	$18,900,000	$590,625

* Proposed or currently under construction, all costs and rider characteristics are estimated
** All capital costs transformed into current year (2019) dollars, using a 2.5% inflation rate

2.4.1.6 Transit-Only Scenario Summary

The proposed Transit-Only Scenario concept represents an optimistic and aggressive scenario for a stand-alone transit improvement for the TCA Project. However, based on the land use characteristics, demographics, and consumer behavior, the TCA Project study area does not support a stand-alone transit option. Findings from both the STOPS model and the benchmarking approach do not support significant transit ridership demand in the TCA Project study area, which is similar to findings from other studies undertaken by RTA and other transit agencies in the region. In addition, the analysis costs and service effectiveness for a Transit-Only Scenario suggests that the capital and operational costs of implementing a transit-only service outweigh the utilization in the TCA Project study area.

Hence, it was recommended that a Transit-Only Scenario be dropped from further consideration, and that the TCA Project focus on a suite of improvement packages including multi-modal solutions that were best suited to accommodate travel needs and desires in the TCA Project study area.

2.4.2 Initial System Scenarios – New Access-Controlled Facilities Strategies

ISS 100, ISS 120, ISS 130 and ISS 140 considered new access-controlled facilities to address the TCA Draft Purpose and Need. Although each variation had its own unique characteristics, each ISS shared two common components - the IL 53 Extension from Lake Cook Road to IL 120 as an access-controlled toll facility, and a new IL 120 Expressway. Unique variations in each scenario are described as follows:

- ISS 100 did not include improvements to the existing IL 53 Expressway. The remaining alternatives proposed widening existing IL 53 from I-90 to Lake Cook Road, converting it to a toll road, and providing access improvements on IL 53/I-290 from Higgins Road to Algonquin Road and on I-90 from west of Meacham Road to west of Arlington Heights Road.
- ISS 120 had the most lane miles of improvements. It proposed to extend IL 53 from Lake Cook Road to IL 173, while all other scenarios ended at IL 120. It also proposed a new IL 120 Expressway from I-94 to the Wisconsin state border while other alternatives end at US 12.
- ISS 130 proposed to build a new IL 120 toll road from US 12 to I-94, extend IL 53 from Lake Cook Road to the new IL 120 toll road, and widen the existing IL 53 from I-90 to Lake Cook Road and convert it into a toll road.
- ISS 140 proposed to build the IL 120 Expressway as a freeway without tolling. It also included the IL 53 extension from Lake Cook Road to the new IL 120 freeway.

Tolling was proposed on the IL 53 Extension in each scenario. A representative tolling structure with a combination of mainline and ramp tolls was assumed, whereby users traveling within the IL 53/IL 120 toll system would be charged a flat fee at entrance or exit ramps. Entering or leaving the system would be tolled on mainline. Toll pricing was set to match the I-94 corridor tolling, with the goal of a balanced pricing structure between the I-94 corridor and new tolled corridors.

A comparative assessment of travel performance of the Initial System Scenarios - New Access-Controlled Facilities Strategies suggested that ISS 130 was the most efficient and best suited to address the Draft Purpose and Need and to provide significant travel benefits in the Project study area. While ISS 120 provided the highest level of travel performance, the number of added lane miles required to implement ISS 120 made the scenario an inefficient solution to the Draft TCA Purpose and Need.

Table 42 lists modeling assumptions for each corridor included in ISS 100 to ISS 140. ***Figure 27*** summarizes lane miles added with each ISS in relation to the No-Build Alternative.

Table 42. New Access-controlled Facility Strategy Group Summary

Model Assumptions	Road Name	ISS 100	ISS 120	ISS 130	ISS 140
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	6	8	8	8
	IL 53 Extension (Lake Cook Rd to IL 120)	6	6	6	6
	IL 53 Extension (IL 120 to IL 173)	N/A	4	N/A	N/A
	New IL 120 Expressway (West End to New IL 53)*	4	4	4	6
	New IL 120 Expressway (New IL 53 to I-94)	6	6	6	6
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	55	65	65	65
	IL 53 Extension (Lake Cook Rd to IL 120)	65	65	65	65
	IL 53 Extension (IL 120 to IL 173)	N/A	65	N/A	N/A
	New IL 120 Expressway (West End to New IL 53)*	65	65	65	45
	New IL 120 Expressway (New IL 53 to I-94)	65	65	65	45
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Free	Tolled	Tolled	Tolled
	IL 53 Extension (Lake Cook Rd to IL 120)	Tolled	Tolled	Tolled	Tolled
	IL 53 Extension (IL 120 to IL 173)	N/A	Tolled	N/A	N/A
	New IL 120 Expressway (West End to New IL 53)*	Tolled	Tolled	Tolled	Free
	New IL 120 Expressway (New IL 53 to I-94)	Tolled	Tolled	Tolled	Free

*New IL 120 Expressway ends at Wisconsin state line in ISS 120, and ends at IL 59/US 12 in ISS 100, 130 and 140.

Figure 28 to ***Figure 30*** compare systemwide travel performance among ISS 100 to ISS 140. ***Table 43*** compares the efficieny of systemwide travel performance benefits, normalized by the number of by the

number of added lane miles in each ISS. ***Table 44*** provides a general travel performance rating normalized to added lane miles based on efficiency measures provided in ***Table 43***.

It was recommended that ISS 130 (a tolled access-controlled IL 53 facility with capacity improvements from I-90 to Lake Cook Rd and a tolled new corridor between Lake Cook Rd and IL 120, complimented with the tolled IL 120 Expressway from IL 59/US 12 on the west to I-94 to the east) be carried forward for further consideration as part of the Initial Range of Alternatives to be Considered for the Project. Design refinements such as cross-section requirements, access and off-system needs, multi-modal components such as transit and active transportation, and pricing and socioeconomic considerations would have been addressed with next steps of the Initial Range of Alternatives Development and Evaluation Process.

Figure 27. Added Lane Miles

Figure 28. Internal Travel Time Saving in Peak Periods

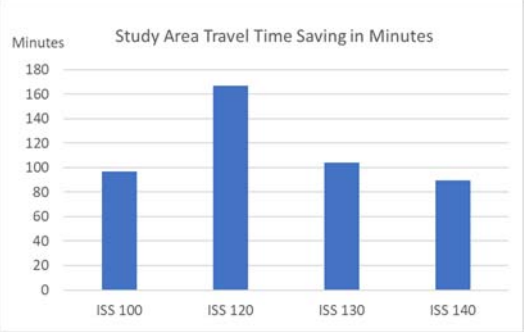


Figure 29. Reduction in VHD

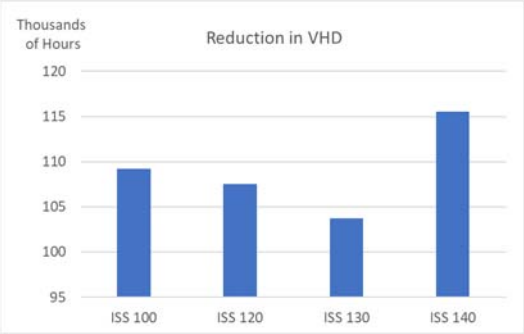


Figure 30. Reduction in Congested VMT

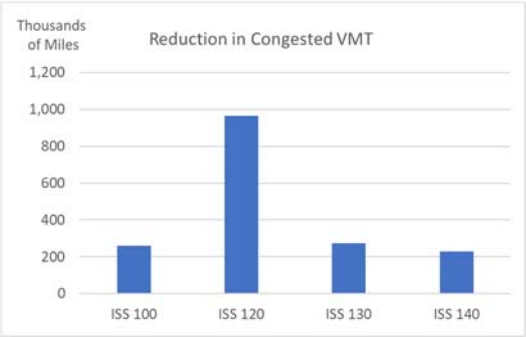


Table 43. Efficiency Measures

Efficiency Measures	ISS 100	ISS 120	ISS 130	ISS 140
Added lane miles (ALM)	221	364	225	238
VHD reduction per ALM	-492	-297	-462	-488
Congested VMT reduction per ALM	-1,174	-2,650	-1,218	-955
Study area travel time saving per ALM	0.44	0.46	0.46	0.38
Population with regional travel time saving per ALM	4,752	4,907	4,589	4,272
Employment with regional travel time saving per ALM	2,938	2,671	2,605	2,476

Table 44. Performance Rating*

Performance Rating	ISS 100	ISS 120	ISS 130	ISS 140
Added lane miles	●	◔	●	◕
VHD reduction	●	◒	●	●
Congested VMT reduction	◕	●	◕	◒
Study area travel time saving	◕	●	●	◒
Population with regional travel time saving	●	●	●	◕
Employment with regional travel time saving	●	●	●	◕
Overall Rating	◕	◒	●	◕

Key: ● = Highest; ○ = Lowest

**Ratings represent the comparative travel performance benefits of the new Access-Controlled Facilities Strategies, as compared to lane miles added with each strategy.*

2.4.2.1 ISS 100: IL 53 Extension and IL 120 Expressway

ISS 100 was the starting point for considering new access-controlled system scenarios. Roadway characteristics and new interchanges included in ISS 100 are illustrated and tabulated below.

Table 45. ISS 100 Roadway Characteristics

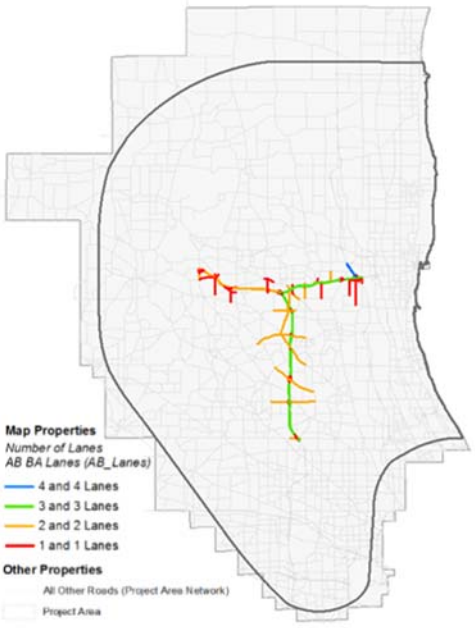
System Scenario Assumptions	Road Name	ISS 100
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	6
	IL 53 Extension (Lake Cook Rd to IL 120)	6
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	4
	New IL 120 Expressway (New IL 53 to I-94)	6
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	55
	IL 53 Extension (Lake Cook Rd to IL 120)	65
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	65
	New IL 120 Expressway (New IL 53 to I-94)	65
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Free
	IL 53 Extension (Lake Cook Rd to IL 120)	Tolled
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	Tolled
	New IL 120 Expressway (New IL 53 to I-94)	Tolled
Interchanges	IL 53 Extension and Lake Cook Road	Full
	IL 53 Extension and IL 22	Full
	IL 53 Extension and Gilmer Road (Cty V76)	Full
	IL 53 Extension and IL Route 60-83	Half (South)
	IL 53 Extension and IL 176	Half (North)
	IL 53 Extension and Peterson Road	Full
	IL 53 Extension and IL 120	Full
	IL 120 Expressway and IL 59	Full
	IL 120 Expressway and Existing IL 120	Full
	IL 120 Expressway and New Road	Full
	IL 120 Expressway and IL 53	Full
	IL 120 Expressway and US 45	Full
	IL 120 Expressway and IL 21	Full
	IL 120 Expressway and I-94	Full
	Existing IL 53 and Lake Cook Road	Full

ISS 100 provided an additional 221 lane-miles of roadways compared to the 2050 No-Build Alternative. The new tolled facilities considered for the ISS 100 scenario provided greater accessibility to residents and jobs in the Project study area.

Key Findings:

- The IL 53 Extension as an access-controlled facility reduced significant congestion along major parallel routes in the study area such as the US 12, IL 83, IL 21/US 45, IL 60, existing IL 120 and I-94.
- The IL 53 Extension as an access-controlled facility attracted traffic to the existing IL 53 Expressway between I-90 and Lake Cook Road, warranting improvements along the existing IL 53 Expressway. This provided regional travel benefits extending beyond the study area especially between Northwest Cook and Lake County.

Figure 31. ISS 100 Number of Lanes



- The IL 120 Expressway as an access-controlled facility provided significant travel benefits to the adjoining east-west roadway network and provided network continuity between IL 53 and the I-94 corridor.

The travel performance evaluation demonstrates overall system-wide benefits compared to the 2050 No-Build Alternative. However, additional improvements along the existing IL 53 corridor between I-90 and Lake Cook Road were warranted. Hence, as a guiding principle, all other scenarios that included an IL 53 Extension as an access-controlled facility included capacity improvements to the existing IL 53 Expressway.

System-wide travel performance for ISS 100 as compared to the 2050 No-Build Alternative is summarized below.

Table 46. ISS 100 Systemwide Performance Measures

Added lane miles	221
Reduction of VHD	-109,000
Reduction of congested VMT	-260,000
Study area travel time saving in minutes	97
%Population with regional travel time saving	50%
%Employment with regional travel time saving	55%

Figure 32. ISS 100 Travel Time Savings by Location

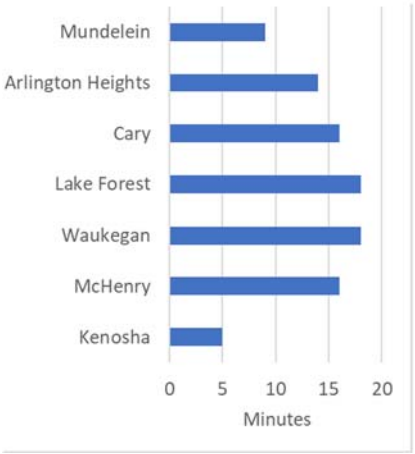


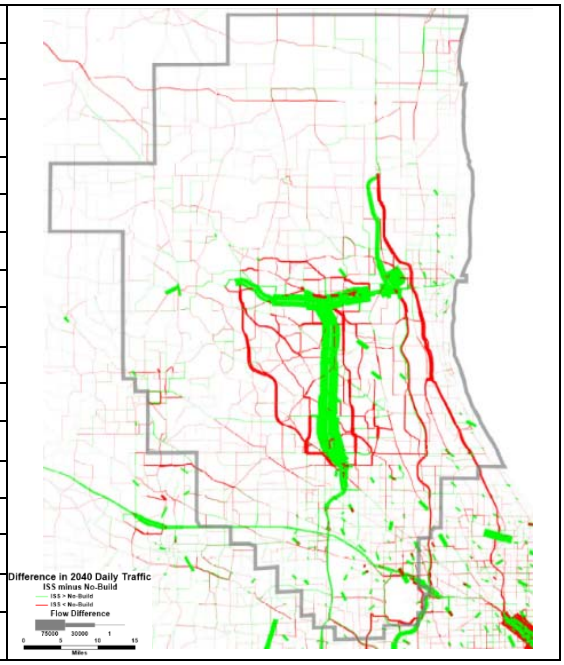
Table 47. Change (Δ) System Performance Measures by Roadway Functional Classification

	ΔVMT	ΔVHT	ΔVHD	ΔCVMT
Freeway/Expressway	1,675,000	38,000	17,000	1,237,000
Principal Arterials	-728,000	-94,000	-68,000	-821,000
Minor Arterials	-463,000	-34,000	-23,000	-337,000
Collectors	-153,000	-20,000	-14,000	-116,000
Overall	35,000	-129,000	-109,000	-260,000

Implementing new access-controlled facilities would fundamentally change the flow of traffic in the TCA Project study area by absorbing vehicle traffic currently supported by the existing network onto a higher capacity facility. See ***Table 48***.

Table 48. ISS 100 Projected Traffic Redistribution

Route	Junction	ADT Diff	ADT %Diff
I-94	IL 173	19,000	19%
	IL 120	30,200	24%
	IL 176	-4,300	-3%
	Lake Cook Rd	-8,700	-5%
US-45	IL 173	-400	-4%
	IL 120	-10,000	-20%
	IL 176	-11,100	-30%
	I-90	-1,000	-4%
US-12	IL 173	-1,000	-5%
	IL 120	4,000	9%
	IL 176	-12,700	-24%
	Lake Cook Rd	-2,200	-4%
US-41	IL 173	-15,100	-24%
	IL 120	-13,200	-19%
	IL 176	-18,800	-23%
	Lake Cook Rd	-11,800	-14%



2.4.2.2 ISS 120: IL 53 Extension, IL 120 Expressway to Wisconsin and Existing IL 53 Expansion

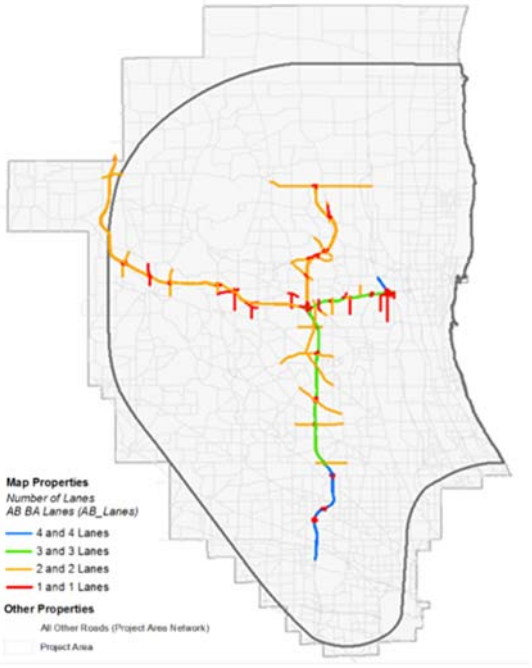
ISS 120 was developed to represent the largest extent of system expansion based on initial findings from the ISS 100 modeling effort, input from stakeholders and the identified system needs in the Project study area. ISS 120 proposed to widen existing IL 53 from six to eight lanes between I-90 and Lake Cook Road and convert this section to a toll road. In addition, ISS 120 extended IL 53 north as a tolled access-controlled facility with six lanes from Lake Cook Road to IL 120 and four lanes from IL 120 to IL 173. A 30-mile long IL 120 Expressway was also included as a tolled facility with six lanes from I-94 to the IL 53 Extension and four lanes from the IL 53 Extension to the Wisconsin state line at the farthest west/northwest end of the Project study area.

Table 49. ISS 120 Roadway Characteristics

System Scenario Assumptions	Road Name	ISS 120
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	8
	IL 53 Extension (Lake Cook Rd to IL 120)	6
	IL 53 Extension (IL 120 to IL 173)	4
	New IL 120 Expressway (Wisconsin State Line to New IL 53)	4
	New IL 120 Expressway (New IL 53 to I-94)	6
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	65
	IL 53 Extension (Lake Cook Rd to IL 120)	65
	IL 53 Extension (IL 120 to IL 173)	65
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	65
	New IL 120 Expressway (New IL 53 to I-94)	65
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Tolled
	IL 53 Extension (Lake Cook Rd to IL 120)	Tolled
	IL 53 Extension (IL 120 to IL 173)	Tolled
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	Tolled
	New IL 120 Expressway (New IL 53 to I-94)	Tolled
Interchanges	IL 53 Extension and Lake Cook Road	Full
	IL 53 Extension and IL 22	Full
	IL 53 Extension and Gilmer Road (Cty V76)	Full
	IL 53 Extension and IL Route 60/83	Half (South)
	IL 53 Extension and IL 176	Half (North)
	IL 53 Extension and Peterson Road	Full
	IL 53 Extension and IL 120	Full
	IL 53 Extension and IL 83 – Barron Blvd	Half (South)
	IL 53 Extension and Rollins Road	Half (North)
	IL 53 Extension and Grand Avenue	Full
	IL 53 Extension and US 45	Full
	IL 53 Extension and IL 173	Full
	Existing IL 53 and Dundee Road	Full
	Existing IL 53 and US 12	Half (South)
	Existing IL 53 and Palatine Road	Full
	Existing IL 53 and US 14	Full
	Existing IL 53 and Euclid	Full
	Existing IL 53 and Kirchoff Road	Half (South)
	Existing IL 53 and Algonquin Road	Full
	Existing IL 53 and I-90	Full
	IL 120 Expressway and US 12 (Genoa City)	Full
	IL 120 Expressway and IL 173	Full
	IL 120 Expressway and Ringwood Road	Full
	IL 120 Expressway and US 31	Full
	IL 120 Expressway and N Chapel Hill Road	Full
	IL 120 Expressway and IL 59	Full
	IL 120 Expressway and Existing IL 120	Full
	IL 120 Expressway and New Road	Full
	IL 120 Expressway and IL 53	Full
	IL 120 Expressway and US 45	Full
	IL 120 Expressway and IL 21	Full
	IL 120 Expressway and I-94	Full

The ISS 120 resulted in an additional 364 lane-miles of roadways compared to the 2050 No-Build Alternative. The existing and new tolled facilities considered for the ISS 120 Scenario provided greater accessibility to residents and jobs in the Project study area and provided significant improvement in travel performance compared to the 2050 No-Build Alternative.

Figure 33. ISS 120 Number of Lanes



Key Findings:

- Including widening on existing IL 53 provided overall system continuity and significant travel performance benefits in the Project study area. ISS 120 reduced significant congestion along major parallel routes in the study area such as the US 12, IL 83, IL 21/US 45, IL 60, existing IL 120 and I-94.
- The access-controlled section of IL 53 between the proposed IL 120 Expressway and IL 173 is underutilized due to proposed improvements along the existing sections of IL 83 and US 45 north of IL 120 as part of the 2050 No-Build Alternative. Since capacity improvements along IL 83 and US 45 can accommodate future needs in this area, the need for extending the IL 53 corridor north as a new access-controlled facility north of the IL 120 Expressway was not warranted.
- Similarly, the access-controlled section along the proposed IL 120 Expressway between the Wisconsin state line and the IL 59/US 12 corridor on the west/northwest side of the Project study area was not warranted due to underutilization of capacity along adjoining parallel roadways north and west of the IL 59/US 12 corridor.
- The IL 120 Expressway as an access-controlled facility provided significant travel benefits between the IL 59/US 12 on the west end and the I-94 corridor on the east end of the Project study area. In addition, the IL 120 access-controlled bypass when combined with the IL 53 Extension provided network continuity between the Jane Addams Memorial (I-90) corridor and the I-94 corridor.

System-wide travel performance for the ISS 120 scenario compared to the 2050 No-Build Alternative are summarized below.

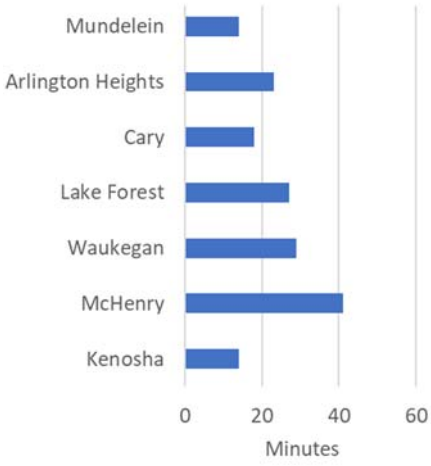
Table 50. ISS 120 Systemwide Performance Measures

Systemwide Performance Measures	Statistics
Added lane miles	364
Reduction of VHD	-108,000
Reduction of congested VMT	-964,000
Study area travel time saving in minutes	167
%Population with regional travel time saving	85%
%Employment with regional travel time saving	83%

Table 51. Change (Δ) System Performance Measures by Roadway Functional Classification

	ΔVMT	ΔVHT	ΔVHD	ΔCVMT
Freeway/Expressway	2,604,000	49,000	14,000	1,324,000
Principal Arterials	-1,040,000	-104,000	-71,000	-1,313,000
Minor Arterials	-550,000	-29,000	-16,000	-462,000
Collectors	-271,000	-22,000	-14,000	-216,000
Overall	296,000	-129,000	-108,000	-964,000

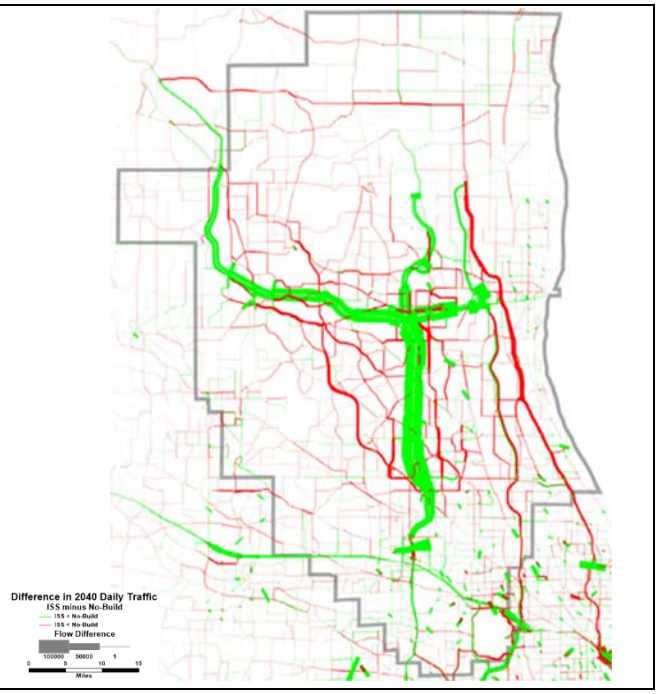
Figure 34. ISS 120 Travel Time Savings by Location



Implementing new access-controlled facilities would fundamentally change the flow of traffic in the TCA Project study area by absorbing vehicle traffic currently supported by the existing network onto a higher capacity facility. See ***Table 52***.

Table 52. ISS 120 Projected Traffic Redistribution

Route	Junction	ADT Diff	ADT %Diff
I-94	IL 173	10,800	11%
	IL 120	13,100	11%
	IL 176	-5,100	-3%
	Lake Cook Rd	-9,000	-5%
US-45	IL 173	1,900	17%
	IL 120	-15,300	-30%
	IL 176	-14,500	-39%
	I-90	-1,600	-7%
US-12	IL 173	-6,000	-34%
	IL 120	-5,800	-13%
	IL 176	-13,400	-26%
	Lake Cook Rd	-2,800	-6%
US-41	IL 173	-19,300	-30%
	IL 120	-15,500	-22%
	IL 176	-23,100	-28%
	Lake Cook Rd	-15,100	-18%



2.4.2.3 ISS 130: IL 53 Extension, IL 120 Expressway and Existing IL 53 Expansion

ISS 130 was developed based on evaluation findings from the ISS 100 and ISS 120 scenarios and to test alternate scenarios to provide access and capacity for east-west travel demand in the TCA Project study area. ISS 130 proposed to widen existing IL 53 from six to eight lanes between I-90 and Lake Cook Road in addition to extending IL 53 north as a six-lane access-controlled roadway from Lake Cook Road to IL 120 as a tolled facility. In addition, a 14-mile long six-lane IL 120 bypass as a tolled facility from I-94 on the east to IL 59/US 12 on the west served as a major east-west connection, providing system continuity for the TCA Project study area. The existing IL 120 arterial remained a four-lane facility and ran parallel to the access-controlled IL 120 corridor with local access to existing land uses in the area.

ISS 140 is similar to ISS 130, except that it operates the IL 120 Expressway as a freeway instead of a toll road and adds improvements to the existing IL 53 Expressway. This scenario considered a 6-lane cross section on the IL 120 Expressway between the IL 59/US 12 junction and I-94. ISS 140 was structured to test alternate scenarios to provide access and capacity for east-west travel demand in the TCA Project study area.

Table 53. ISS 130 Roadway Characteristics

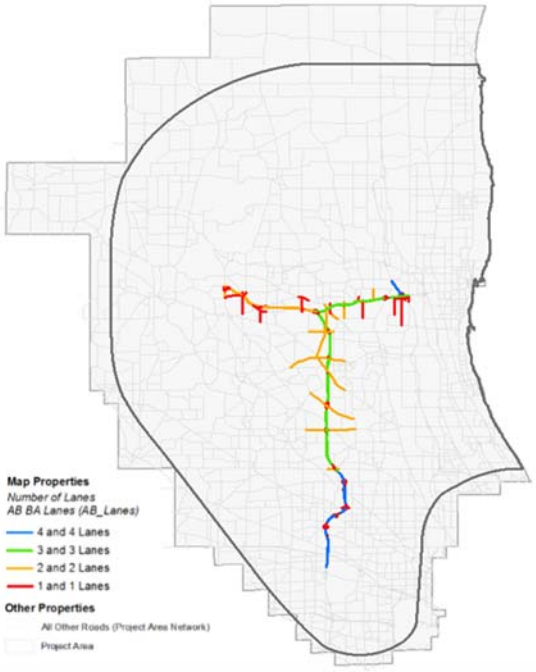
System Scenario Assumptions	Road Name	ISS 130
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	8
	IL 53 Extension (Lake Cook Rd to IL 120)	6
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	4
	New IL 120 Expressway (New IL 53 to I-94)	6
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	65
	IL 53 Extension (Lake Cook Rd to IL 120)	65
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	65
	New IL 120 Expressway (New IL 53 to I-94)	65
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Tolled
	IL 53 Extension (Lake Cook Rd to IL 120)	Tolled

Table 53. ISS 130 Roadway Characteristics

System Scenario Assumptions	Road Name	ISS 130
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	Tolled
	New IL 120 Expressway (New IL 53 to I-94)	Tolled
Interchanges	IL 53 Extension and Lake Cook Road	Full
	IL 53 Extension and IL 22	Full
	IL 53 Extension and Gilmer Road (Cty V76)	Full
	IL 53 Extension and IL Route 60-83	Half (South)
	IL 53 Extension and IL 176	Half (North)
	IL 53 Extension and Peterson Road	Full
	IL 53 Extension and IL 120	Full
	IL 120 Expressway and IL 59	Full
	IL 120 Expressway and Existing IL 120	Full
	IL 120 Expressway and New Road	Full
	IL 120 Expressway and IL 53	Full
	IL 120 Expressway and US 45	Full
	IL 120 Expressway and IL 21	Full
	IL 120 Expressway and I-94	Full
	Existing IL 53 and Dundee Road	Full
	Existing IL 53 and US 12	Half (South)
	Existing IL 53 and Palatine Road	Full
	Existing IL 53 and US 14	Full
	Existing IL 53 and Euclid	Full
	Existing IL 53 and Kirchoff Road	Half (South)
	Existing IL 53 and Algonquin Road	Full
	Existing IL 53 and I-90	Full

ISS 130 provides an additional 225 lane-miles of roadways compared to the 2050 No-Build Alternative. The improved and new access-controlled facilities provided greater accessibility to residents and jobs in the Project study area and provided significant improvement in travel performance as compared to the 2050 No-Build Alternative.

Figure 35. ISS 130 Number of Lanes



Key Findings:

- The widening of the existing IL 53 Expressway provided overall system continuity and significant travel performance benefits in the Project study area. ISS 130 reduced significant congestion along parallel routes in the study area, including along major corridors such as the US 12, IL 83, IL 21/US 45, IL 60, existing IL 120 and I-94.
- Improvements to the existing IL 53 Expressway in combination with the IL 53 Extension and IL 120 Expressway provided network continuity and travel benefits across the system to support the Draft Purpose and Need.
- The IL 120 Expressway as an access-controlled facility provided significant travel benefits between the IL 59/US 12 and I-94. In addition, the IL 120 Expressway provided network continuity between IL 53 from the I-90 corridor and the I-94 corridor.

System-wide travel performance for the ISS 130 scenario compared to the 2050 No-Build Alternative are summarized below.

Table 54. ISS 130 Systemwide Performance Measures

Added lane miles	225
Reduction of VHD	-104,000
Reduction of congested VMT	-274,000
Study area travel time saving in minutes	104
%Population with regional travel time saving	49%
%Employment with regional travel time saving	50%

Figure 36. ISS 130 Travel Time Savings by Location

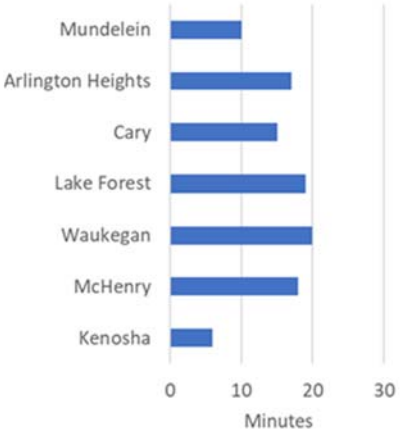


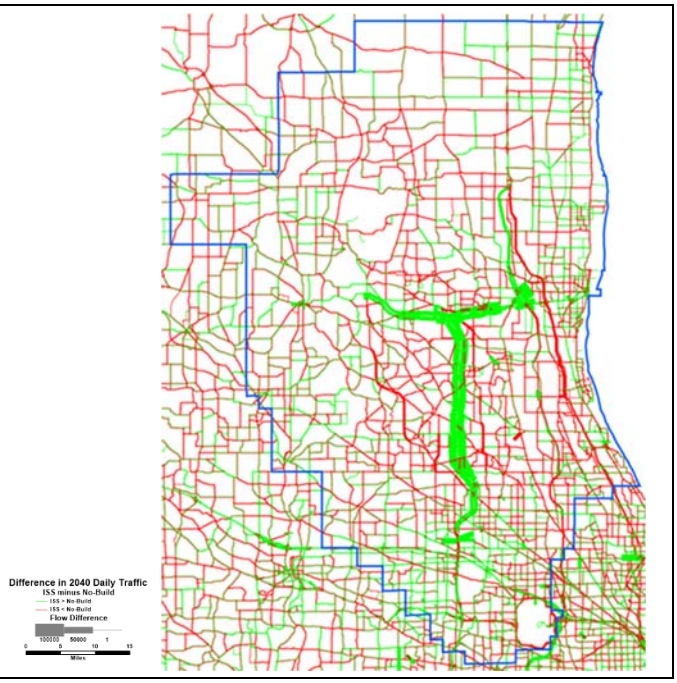
Table 55. Change (Δ) System Performance Measures by Roadway Functional Classification

	ΔVMT	ΔVHT	ΔVHD	ΔCVMT
Freeway/Expressway	1,720,000	30,000	7,000	1,225,000
Principal Arterials	-693,000	-84,000	-60,000	-802,000
Minor Arterials	-482,000	-34,000	-23,000	-345,000
Collectors	-158,000	-21,000	-15,000	-130,000
Overall	87,000	-124,000	-104,000	-274,000

Implementing new access-controlled facilities would fundamentally change the flow of traffic in the TCA Project study area by absorbing vehicle traffic currently supported by the existing network onto a higher capacity facility. See ***Table 56***.

Table 56. ISS 130 Projected Traffic Redistribution

Route	Junction	ADT Diff	ADT %Diff
I-94	IL 173	19,200	20%
	IL 120	31,400	25%
	IL 176	-4,100	-3%
	Lake Cook Rd	-7,900	-4%
US-45	IL 173	-200	-2%
	IL 120	-10,200	-20%
	IL 176	-10,900	-29%
	I-90	-700	-3%
US-12	IL 173	-900	-5%
	IL 120	4,700	11%
	IL 176	-12,200	-23%
	Lake Cook Rd	-1,500	-3%
US-41	IL 173	-14,500	-23%
	IL 120	-14,100	-20%
	IL 176	-19,100	-23%
	Lake Cook Rd	-12,700	-15%



2.4.2.4 ISS 140: IL 53 Extension and 120 Expressway (Toll-Free IL 120)

ISS 140 is similar to ISS 130, except that it operates the IL 120 Expressway as a freeway instead of a toll road and adds improvements to the existing IL 53 Expressway. This scenario considered a 6-lane cross section on the IL 120 Expressway between the IL 59/US 12 junction and I-94. ISS 140 was structured to test alternate scenarios to provide access and capacity for east-west travel demand in the TCA Project study area.

Table 57. ISS 140 Roadway Characteristics

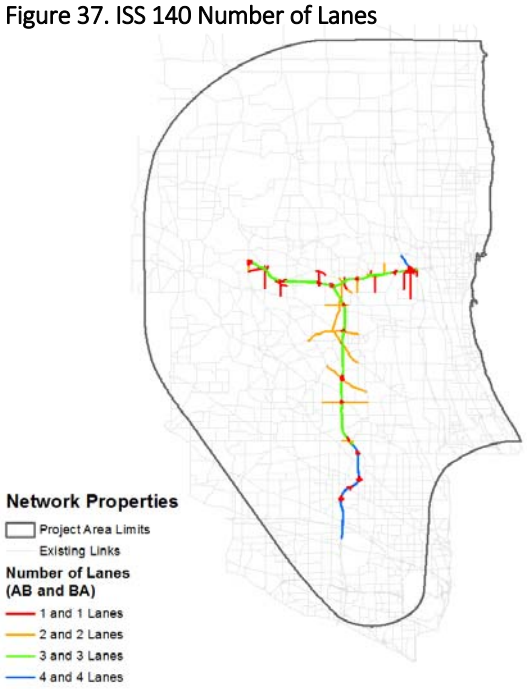
System Scenario Assumptions	Road Name	ISS 140
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	8
	IL 53 Extension (Lake Cook Rd to IL 120)	6
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	6
	New IL 120 Expressway (New IL 53 to I-94)	6

Table 57. ISS 140 Roadway Characteristics

System Scenario Assumptions	Road Name	ISS 140
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	65
	IL 53 Extension (Lake Cook Rd to IL 120)	65
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	45
	New IL 120 Expressway (New IL 53 to I-94)	45
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Tolled
	IL 53 Extension (Lake Cook Rd to IL 120)	Tolled
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	Free
	New IL 120 Expressway (New IL 53 to I-94)	Free
Interchanges	IL 53 Extension and Lake Cook Road	Full
	IL 53 Extension and IL 22	Full
	IL 53 Extension and Gilmer Road (Cty V76)	Full
	IL 53 Extension and IL 60/83	Half (South)
	IL 53 Extension and IL 176	Half (North)
	IL 53 Extension and Peterson Road	Full
	IL 53 Extension and IL 120	Full
	IL 120 Expressway and IL 59	Full
	IL 120 Expressway and Existing IL 120	Full
	IL 120 Expressway and New Road	Full
	IL 120 Expressway and IL 53	Full
	IL 120 Expressway and US 45	Full
	IL 120 Expressway and IL 21	Full
	IL 120 Expressway and I-94	Full
	Existing IL 53 and Dundee Road	Full
	Existing IL 53 and US 12	Half (South)
	Existing IL 53 and Palatine Road	Full
	Existing IL 53 and US 14	Full
	Existing IL 53 and Euclid	Full
	Existing IL 53 and Kirchoff Road	Half (South)
	Existing IL 53 and Algonquin Road	Full
	Existing IL 53 and I-90	Full

ISS 140 provided an additional 238 lane-miles of roadways compared to the 2050 No-Build Alternative. The existing and new access-controlled facilities provided greater accessibility to residents and jobs in the Project study area and provided significant improvement in travel performance as compared to the 2050 No-Build Alternative.

Figure 37. ISS 140 Number of Lanes



Key Findings:

- The inclusion and widening of the existing IL 53 corridor provided overall system continuity and significant travel performance benefits in the Project study area. ISS 140 reduced significant congestion along parallel routes in the study area along the major corridors such as the US 12, IL 83, IL 21/US 45, IL 60, existing IL 120 and the I-94 corridors.
- Existing IL 53 in combination with the proposed IL 53 extension and IL 120 Expressway provided network continuity and provided the travel benefits across the system to support the Draft Purpose and Need.

- The IL 120 Expressway as an access-controlled free facility provided significant travel benefits between the IL 59/US 12 on the west end and the I-94 corridor on the east end of the Project study area. However, the IL 120 Expressway as a 6-lane freeway was underutilized (especially on the west and northwest portions of the study area) and travel demand needs could be accommodated with a reduced cross-section and capacity enhancement in these portions of the Project study area.

System-wide travel performance for the ISS 140 as compared to the 2050 No-Build Alternative are summarized below.

Table 58. ISS 140 Systemwide Performance Measures

Systemwide Performance Measures	Statistics
Added lane miles	238
Reduction of VHD	-116,000
Reduction of congested VMT	-227,000
Study area travel time saving in minutes	90
%Population with regional travel time saving	48%
%Employment with regional travel time saving	50%

Figure 38. ISS 140 Travel Time Savings by Location

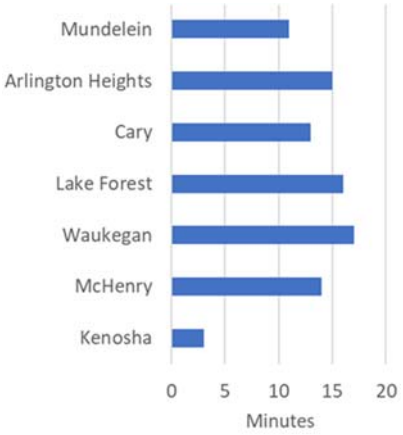


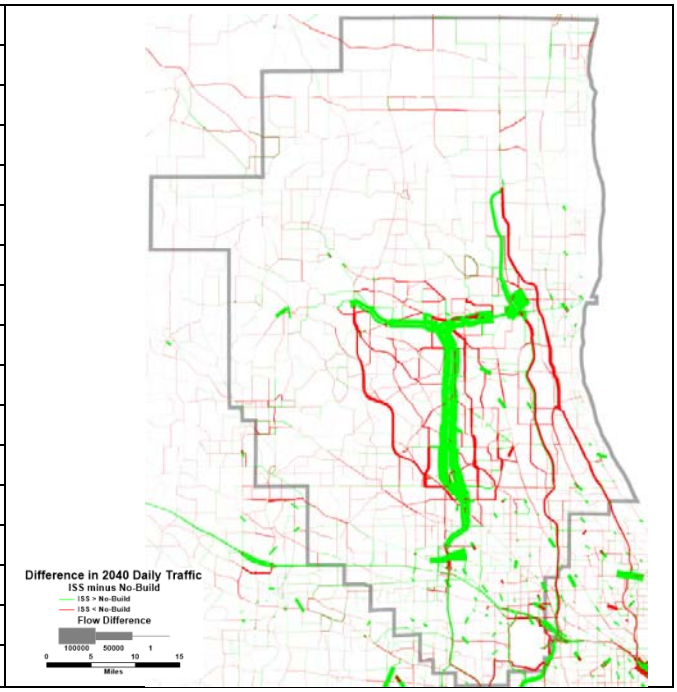
Table 59. Change (Δ) System Performance Measures by Roadway Functional Classification

	ΔVMT	ΔVHT	ΔVHD	ΔCVMT
Freeway/Expressway	1,584,000	30,000	6,000	1,216,000
Principal Arterials	-717,000	-94,000	-68,000	-780,000
Minor Arterials	-475,000	-34,000	-23,000	-317,000
Collectors	-197,000	-23,000	-16,000	-127,000
Overall	-89,000	-138,000	-116,000	-227,000

Implementing new access-controlled facilities would fundamentally change the flow of traffic in the TCA Project study area by absorbing vehicle traffic currently supported by the existing network onto a higher capacity facility. See ***Table 60***.

Table 60. ISS 140 Projected Traffic Redistribution

Route	Junction	ADT Diff	ADT %Diff
I-94	IL173	16,100	16%
	IL120	26,000	21%
	IL176	-6,300	-4%
	Lake Cook Rd	-10,000	-5%
US-45	IL173	-100	-1%
	IL120	-10,100	-20%
	IL176	-10,200	-28%
	I-90	-600	-3%
US-12	IL173	-500	-3%
	IL120	3,800	9%
	IL176	-11,600	-22%
	Lake Cook Rd	-2,900	-6%
US-41	IL173	-12,700	-20%
	IL120	-11,700	-17%
	IL176	-16,600	-20%
	Lake Cook Rd	-10,300	-12%



2.4.3 Initial System Scenarios - Combination Strategies

The ISS combination strategies, ISS 110 and ISS 200, represent the range of options to combine an access-controlled system with complimentary regional arterial improvements to support the TCA Draft Purpose and Need.

ISS 110 proposed to connect the IL 53 Extension with IL 120 to the east and an improved IL 120 arterial to the west as well as I-94. This alternative proposed to widen existing IL 120 as an arterial instead of adding a new IL 120 Expressway. ISS 200 proposed to alleviate congestion in the east-west direction with a toll bypass that ran parallel to the existing IL 120. The proposed new access-controlled roadway ran between IL 59 and I-94. In addition, IL 83 was widened between IL 53 and the new IL 120 facility.

A comparative assessment of travel demand and travel performance of the combination strategies suggests that both combination strategies provided regional travel benefits and addressed the TCA Draft Purpose and Need.

Table 61. Combination Strategy Group Summary

System Scenario Assumptions	Road Name	ISS 110	ISS 200
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	8	6
	IL 53 Extension (Lake Cook Rd to IL 120)	6	N/A
	Existing IL 120 Arterial (IL 59/US 12 to New IL 53)	4	4
	New IL 120 Expressway (New IL 53 to I-94)	6	6
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	55	55
	IL 53 Extension (Lake Cook Rd to IL 120)	65	N/A
	Existing IL 120 Arterial (IL 59/US 12 to New IL 53)	45	65
	New IL 120 Expressway (New IL 53 to I-94)	65	65
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Tolled	Free
	IL 53 Extension (Lake Cook Rd to IL 120)	Tolled	N/A
	Existing IL 120 Arterial (IL 59/US 12 to New IL 53)	Free	Tolled
	New IL 120 Expressway (New IL 53 to I-94)	Tolled	Tolled

Figure 39. Added Lane Miles

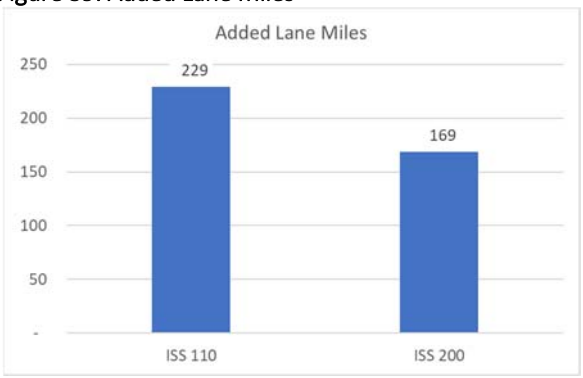


Figure 40. Internal Travel Time Saving in Peak Periods

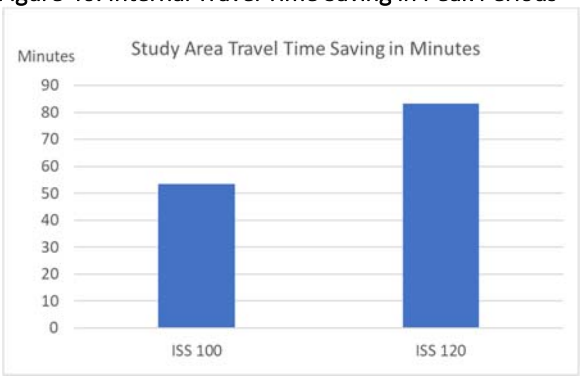


Figure 41. Reduction in VHD

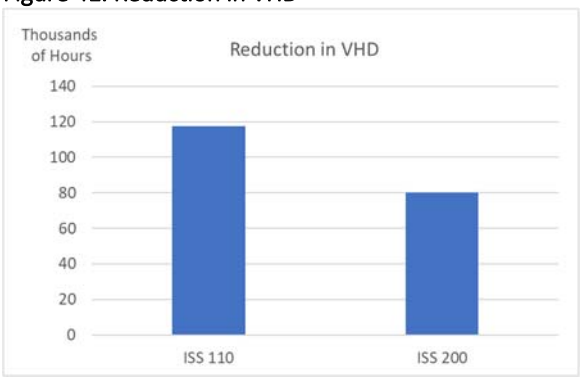


Figure 42. Reduction in Congested VMT

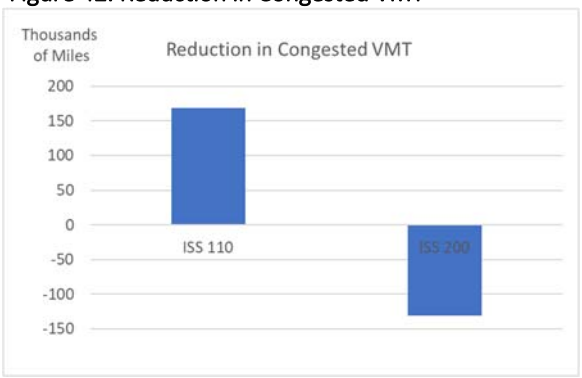


Table 62. Efficiency Measures

Efficiency Measures	ISS 110	ISS 200
Added lane miles (ALM)	229	169
VHD reduction per ALM	-514	-474
Congested VMT reduction per ALM	-737	776
Study area travel time saving per ALM	0.23	0.49
Population with regional travel time saving per ALM	5,110	5,618
Employment with regional travel time saving per ALM	3,083	3,684

Table 63. Performance Rating

Performance Rating	ISS 100	ISS 120
Added lane miles	◕	●
VHD reduction	●	◕
Congested VMT reduction	●	◒
Study area travel time saving	◒	●
Population with regional travel time saving	●	●
Employment with regional travel time saving	●	●
Overall Rating	◕	◕

Key: ● = Highest; ○ = Lowest

It was recommended that both combination strategies (ISS 110 and ISS 200) be carried forward for further consideration to develop a best performing combination of access-controlled and regional arterial improvement as part of the Initial Range of Alternatives for the Project. Design refinements such as cross-section requirements, access and off-system needs, multi-modal components such as transit and active transportation, and pricing and socioeconomic considerations would have been addressed as part of the Initial Range of Alternatives development and evaluation process.

2.4.3.1 ISS 110: Partial IL 53/IL 120 Expressway

ISS 110 represented an improved existing IL 53 corridor from I-90 to Lake Cook Road and a new IL 53/IL 120 Expressway as an access-controlled facility from Lake Cook Road connecting the I-94 corridor to the east. The existing IL 120 arterial was widened to four-lanes between IL 59/US 12 on the west to the new junction of IL 53 at IL 120 in Grayslake. The east leg of existing IL 120 would remain, running parallel to the new IL 120 Expressway as an access-controlled facility connecting the IL 53 Extension to the I-94 corridor.

Table 64. ISS 110 Roadway Characteristics

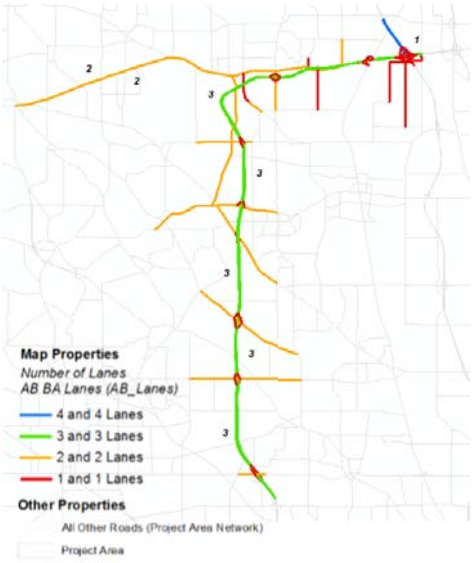
System Scenario Assumptions	Road Name	ISS 110
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	8
	IL 53 Extension (Lake Cook Rd to IL 120)	6
	Existing IL 120 Arterial (IL 59/US 12 to New IL 53)	4
	New IL 120 Expressway (New IL 53 to I-94)	6
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	55
	IL 53 Extension (Lake Cook Rd to IL 120)	65
	Existing IL 120 Arterial (IL 59/US 12 to New IL 53)	45
	New IL 120 Expressway (New IL 53 to I-94)	65
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Tolled
	IL 53 Extension (Lake Cook Rd to IL 120)	Tolled
	Existing IL 120 Arterial (IL 59/US 12 to New IL 53)	Free
	New IL 120 Expressway (New IL 53 to I-94)	Tolled
Interchanges	IL 53 Extension and Lake Cook Road	Full
	IL 53 Extension and IL 22	Full
	IL 53 Extension and Gilmer Road (Cty V76)	Full
	IL 53 Extension and IL Route 60-83	Half (South)
	IL 53 Extension and IL 176	Half (North)
	IL 53 Extension and Peterson Road	Full
	IL 53 Extension and US 45	Full

Table 64. ISS 110 Roadway Characteristics

System Scenario Assumptions	Road Name	ISS 110
	IL 53 Extension and IL 21	Full
	IL 53 Extension and I-94	Full
	Existing IL 53 and Dundee Road	Full
	Existing IL 53 and US 12	Half (South)
	Existing IL 53 and Palatine Road	Full
	Existing IL 53 and US 14	Full
	Existing IL 53 and Euclid	Full
	Existing IL 53 and Kirchoff Road	Half (South)
	Existing IL 53 and Algonquin Road	Full
	Existing IL 53 and I-90	Full

The ISS 110 resulted in an additional 229 lane-miles of roadways compared to the 2050 No-Build Alternative. The existing and new tolled facilities considered for the ISS 110 scenario provided greater accessibility to residents and jobs in the Project study area and provided significant improvement in travel performance compared to the 2050 No-Build Alternative.

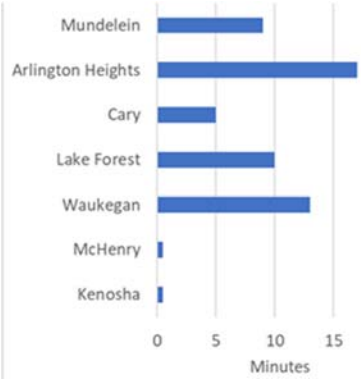
Figure 43. ISS 110 Number of Lanes



Key Findings:

- The inclusion and widening of the existing IL 53 corridor provided overall system continuity and significant travel performance benefits in the Project study area. ISS 110 reduced significant congestion along major parallel routes in the study area such as the US 12, IL 83, IL 21/US 45, IL 60, existing IL 120 and I-94.
- Route continuity and system connectivity from the I-90 to I-94 corridors along the new IL 53 and IL 120 corridors supported regional travel demand and reduced congestion on the secondary roadway network.
- Arterial improvements along existing IL 120 from IL 59/US 12 to the IL 53 extension provided adequate capacity to support travel demand needs in this area. However, the arterial improvements as compared to an access-controlled scenario (ISS 130) along the IL 120 corridor had lower travel demand and travel performance.

Figure 44. ISS 110 Travel Time Savings by Location



System-wide travel performance for the ISS 110 scenario compared to the 2050 No-Build Alternative are summarized below.

Table 65. ISS 110 Systemwide Performance Measures

Added lane miles	229
Reduction of VHD	-118,000
Reduction of congested VMT	-169,000
Study area travel time saving in minutes	53
%Population with regional travel time saving	56%
%Employment with regional travel time saving	60%

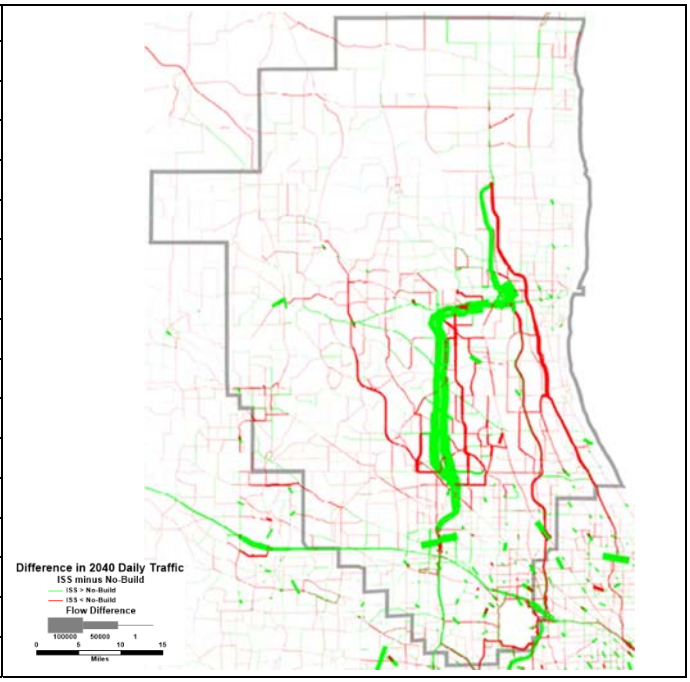
Table 66. Change (Δ) System Performance Measures by Roadway Functional Classification

	ΔVMT	ΔVHT	ΔVHD	ΔCVMT
Freeway/Expressway	1,317,000	26,000	11,000	1,188,000
Principal Arterials	-555,000	-93,000	-69,000	-729,000
Minor Arterials	-364,000	-33,000	-24,000	-257,000
Collectors	-218,000	-25,000	-17,000	-152,000
Overall	-54,000	-141,000	-118,000	-169,000

Implementing new access-controlled facilities would fundamentally change the flow of traffic in the TCA Project study area by absorbing vehicle traffic currently supported by the existing network onto a higher capacity facility. See ***Table 67***.

Table 67. ISS 110 Projected Traffic Redistribution

Route	Junction	ADT Diff	ADT %Diff
I-94	IL173	21,300	22%
	IL120	33,200	27%
	IL176	-6,000	-4%
	Lake Cook Rd	-10,200	-5%
US-45	IL173	100	1%
	IL120	-10,500	-21%
	IL176	-11,500	-31%
	I-90	-1,500	-7%
US-12	IL173	-800	-4%
	IL120	-6,400	-15%
	IL176	-7,100	-14%
	Lake Cook Rd	-1,200	-2%
US-41	IL173	-16,000	-25%
	IL120	-14,400	-21%
	IL176	-20,200	-24%
	Lake Cook Rd	-13,200	-15%



2.4.3.2 ISS 200: Existing IL 83/IL 120 Expressway

This combination scenario was developed using IL 120 as a backbone to address primarily east-west travel demand in the Project study area. ISS 200 proposed to build a tolled access-controlled IL 120 Expressway south of the existing IL 120 to alleviate congestion in the east-west direction from IL 59/US 12 to the west and I-94 to the east. The proposed route built a new four lane facility from IL 59 and US 12 to Grayslake, where it intersected with IL 83 at a service interchange. The new access-controlled route then connected with the existing divided IL 120 from Belvidere Road to I-94. Complimenting the new IL 120 Expressway, existing IL 83 was widened between existing IL 53 and the new IL 120 facility. A new connection between Lake Cook Road and the intersection of existing IL 53 and IL 83 was built as part of this scenario.

Table 68. ISS 200 Roadway Characteristics

System Scenario Assumptions	Road Name	ISS 200
Cross-section (# of lanes)	Existing IL 53 (I-90 to Lake Cook Rd)	6
	IL 53 Extension (Lake Cook Rd to IL 120)	N/A
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	4
	New IL 120 Expressway (New IL 53 to I-94)	6
Posted Speed (mph)	Existing IL 53 (I-90 to Lake Cook Rd)	55
	IL 53 Extension (Lake Cook Rd to IL 120)	N/A
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	65
	New IL 120 Expressway (New IL 53 to I-94)	65
Toll Option	Existing IL 53 (I-90 to Lake Cook Rd)	Free
	IL 53 Extension (Lake Cook Rd to IL 120)	N/A
	New IL 120 Expressway (IL 59/US 12 to New IL 53)	Tolled
	New IL 120 Expressway (New IL 53 to I-94)	Tolled
Interchanges	Existing IL 53 and Dundee Road	Full
	Existing IL 53 and US 12	Half (South)
	Existing IL 53 and Palatine Road	Full
	Existing IL 53 and US 14	Full

Table 68. ISS 200 Roadway Characteristics

System Scenario Assumptions	Road Name	ISS 200
	Existing IL 53 and Euclid	Full
	Existing IL 53 and Kirchoff Road	Half (South)
	Existing IL 53 and Algonquin Road	Full
	Existing IL 53 and I-90	Full
	Existing IL 53 and Lake Cook Road	Half (South)
	IL 120 Expressway and IL 59	Full
	IL 120 Expressway and Existing IL 120	Full
	IL 120 Expressway and N Fairfield Road	Full
	IL 120 Expressway and N Alleghany/Cty V68	Full
	IL 120 Expressway and IL 83	Full
	IL 120 Expressway and US 45	Full
	IL 120 Expressway and IL 21	Full
	IL 120 Expressway and I-94	Full

ISS 200 resulted in an additional 169 lane-miles of roadways compared to the 2050 No-Build Alternative. The new tolled facilities considered for the ISS 200 scenario provided greater accessibility to and provided improvement in travel performance primarily to the central parts of the Project study area to address east-west travel needs. System-wide travel performance for ISS 200 compared to the 2050 No-Build Alternative are summarized below.

Figure 45. ISS 200 Number of Lanes

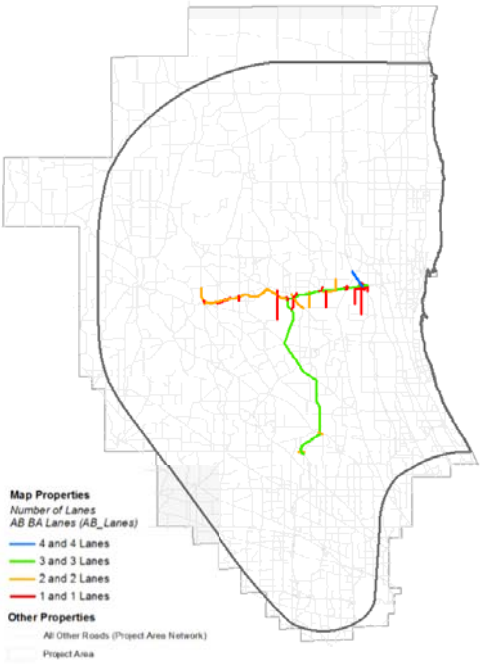


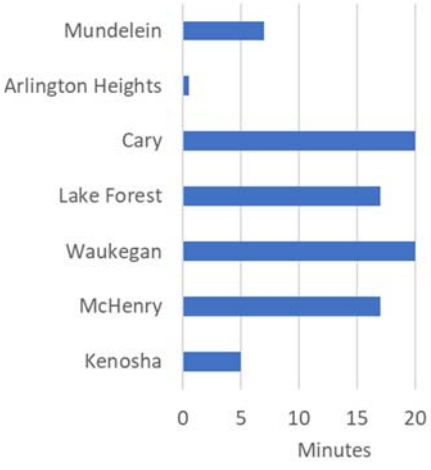
Table 69. ISS 200 Systemwide Performance Measures

Added lane miles	169
Reduction of VHD	-80,000
Reduction of congested VMT	131,000
Study area travel time saving in minutes	83
%Population with regional travel time saving	45%
%Employment with regional travel time saving	53%

Table 70. Change (Δ) System Performance Measures by Roadway Functional Classification

	ΔVMT	ΔVHT	ΔVHD	ΔCVMT
Freeway/Expressway	1,317,000	26,000	11,000	1,188,000
Principal Arterials	-555,000	-93,000	-69,000	-729,000
Minor Arterials	-364,000	-33,000	-24,000	-257,000
Collectors	-218,000	-25,000	-17,000	-152,000
Overall	-54,000	-141,000	-118,000	-169,000

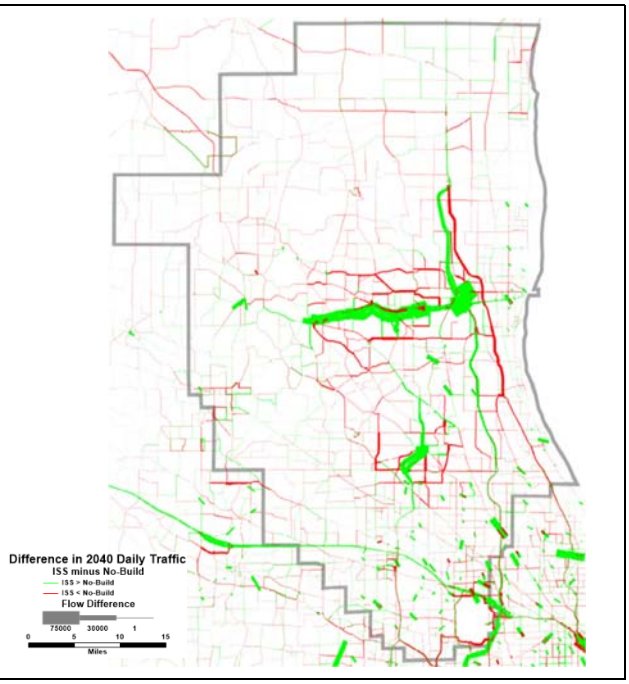
Figure 46. ISS 200 Travel Time Savings by Location



Implementing new access-controlled facilities would fundamentally change the flow of traffic in the TCA Project study area by absorbing vehicle traffic currently supported by the existing network onto a higher capacity facility. See ***Table 71***.

Table 71. ISS 200 Projected Traffic Redistribution

Route	Junction	ADT Diff	ADT %Diff
I-94	IL173	17,600	18%
	IL120	28,400	23%
	IL176	11,000	7%
	Lake Cook Rd	3,200	2%
US-45	IL173	-400	-4%
	IL120	-6,000	-12%
	IL176	1,000	3%
	I-90	-600	-3%
US-12	IL173	-800	-5%
	IL120	-600	-1%
	IL176	1,500	3%
	Lake Cook Rd	1,600	3%
US-41	IL173	-12,500	-20%
	IL120	-10,300	-15%
	IL176	-11,900	-14%
	Lake Cook Rd	-4,600	-5%



2.4.4 Initial System Scenarios - Existing Arterial Improvement Strategies

Existing arterial improvements scenarios did not propose any new corridor improvements but instead focused on enhancing capacity along the existing arterial network. Existing arterials scenarios were developed based on extensive stakeholder input and engineering analyses, and used arterials that provided regional focus and network connectivity to address TCA Draft Purpose and Need. In addition to widening and capacity enhancements, the arterial expansion scenarios included operational efficiency improvements such as grade separations at critical locations along major regional arterial routes. Five existing arterial expansion ISS were explored using an underlying regional arterial route as the backbone for each system scenario. In addition, an ISS of existing arterials included improving major 2-lane arterials to 4-lanes within the Project study area to address localized congestion and mobility issues. Unique variations for each alternative are described below:

- ISS 300 proposed to widen IL 59 between I-90 and IL 173 to six lanes serving north-south movements. It also proposed to widen to six lanes IL 120 and IL 60, and to four-lanes IL 173 to improve east-west connectivity between IL 59 and I-94.
- ISS 410 proposed to widen to six lanes US 12 between IL 31 and US 45, and IL 120 from IL 59 to I-94. It also proposed to widen to four lanes IL 176 between US 12 and IL 83, IL 83 from IL 176 and IL 173, and IL 173 between IL 83 and I-94.
- ISS 500 proposed to improve IL 83 between Lake Cook Road and IL 173, and IL 120 between IL 83 and I-94 by widening them to six lanes. IL 176 from US 12 to IL 83 and IL 173 from IL 83 to I-94 would be widened to four lanes.
- ISS 600 is a north-south alternative that would widen to six lanes existing IL 83 from IL 53 to US 45, US 45 between I -83 and IL 132, and IL 132 from US 45 to IL 83, and IL 83 to IL 173. The section of IL 83 between Rollins Road and IL 173 would be widened to four lanes.
- ISS 700 proposed the creation of a four-lane arterial network throughout the Project study area.

Travel demand model results for all arterial improvement ISS were compared to the 2050 No-Build Alternative to understand their performance with respect to the baseline. Exsisting arterial

improvement scenarios did not provide significant travel time savings when compared to the access-controlled alternatives. This was primarily because travel speeds on arterials were significantly lower than freeways, and because the presence of traffic signalscontributed to delay. The ratio of total travel time savings and added lane miles was calculated for each alternative.

Hence, it was recommended that a combination of ISS improvements resulting in two existing arterial improvement scenarios be carried forward for further consideration as Initial Range of Alternatives as part of the Alternative Development and Evaluation Process. They included the IL 59 corridor as one base alternative with complimentary arterial improvements that support efficient regional travel and address Draft Purpose and Need and the US 12 corridor as a base alternative with complimentary arterial improvements that support efficient regional travel and address Draft Purpose and Need. The complimentary arterial improvements overlapped both the IL 59 and US 12 alternatives and were identified based on an iterative process using travel performance evaluations. In addition, design refinements such as cross-section requirements and access management considerations along with multi-modal components such as transit and active transportation and socioeconomic considerations would have been addressed as part of the Initial Range of Alternatives Development and Evaluation Process.

Table 72. Efficiency Measures

Efficiency Measures	ISS 300	ISS 400	ISS 500	ISS 600	ISS 700
Added lane miles (ALM)	226	210	143	119	163
VHD reduction per ALM	-381	-532	-680	-892	-670
Congested VMT reduction per ALM	-996	-152	259	1,768	295
Study area travel time saving per ALM	0.04	-0.01	0.03	-0.10	-0.06
Population with regional travel time saving per ALM	1,846	2,099	3,280	3,955	3,023
Employment with regional travel time saving per ALM	1,477	1,647	2,421	3,160	2,399

Table 73. Peformance Measures

Performance Measures	ISS 300	ISS 400	ISS 500	ISS 600	ISS 700
Lane miles of construction	◒	◕	◕	●	◕
Reduction of VHD	◔	◒	◕	●	◕
Reduction of congested VMT	●	◒	○	○	○
Study area travel time saving index	◒	○	◒	○	○
Regional travel time saving index – population	◒	◒	◕	◕	◕
Regional travel time saving index - employment	◒	◒	◕	◕	◕
Overall Rating	◒	◒	◒	◒	◒

Key: ● = Highest; ○ = Lowest

2.4.4.1 ISS 300: IL 59 Network

ISS 300 included the IL 59 corridor as the backbone for this existing arterial improvement scenario. The scenario included widening IL 59 between I-90 and IL 173 to six lanes to support north-south travel demand complimented by widening existing IL 120 to six lanes between IL 59 and I-94 to improve east-west connectivity. In addition to the IL 59 and IL 120 capacity enhancements, improvement to IL 60 were considered to support travel demand needs to and from northwest to southeast portions of the study area.

Table 74. ISS 300 Roadway Characteristics

Route Name	Length	Project Limits	Cross-section	Free Flow Speed Range
IL 59	30 miles	I-90 to IL 173	6 lanes	25-55 mph
IL 60	10 miles	IL 120 to Townline Road	6 lanes	40-55 mph
US 45	5 miles	Townline Road to Half Day Road	6 lanes	35-50 mph
IL 22	3 miles	US 45 to IL 43	6 lanes	45-50 mph
IL 120	13 miles	IL 59 to I-94	6 lanes	35-55 mph
IL 173	7 miles	IL 59 to I-94	4 lanes	45-55 mph

Table 75. Railroad and Interchange Ramp Speeds

New I-94 Interchange Inventory		
Intersecting Road	Interchange	Ramp Speed
IL 120	Full	35 mph
IL 173	Full	35 mph
New Grade Separated Railroad Crossings Inventory		
IL 59	US 14	25 mph
IL 60	N Diamond Lake Road	40 mph
US 45	Butterfield Road	40 mph
IL 120	E Main Street	40 mph
IL 120	IL 83	35 mph

ISS 300 resulted in an additional 226 lane-miles of roadways compared to the 2050 No-Build Alternative. Capacity improvements considered for the ISS 300 scenario improved mobility and connectivity to the western portions of the Project study area. In addition, the complimentary improvements along IL 120 and IL 60 provided travel performance benefits to the central parts of the Project study area to address east-west travel needs.

Figure 47. ISS 300 Number of Lanes

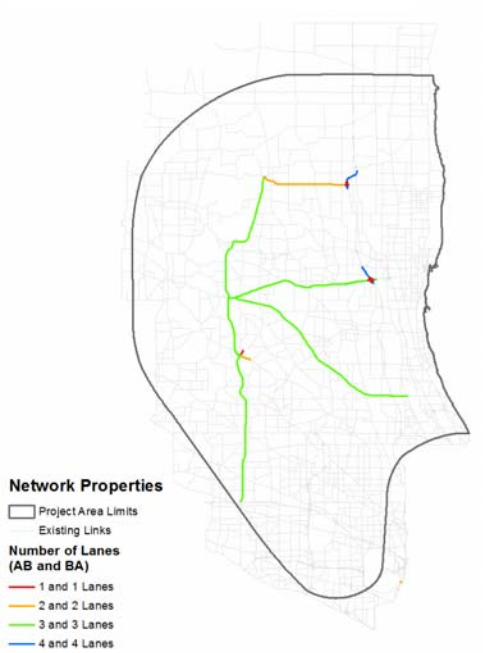


Table 76. Change (Δ) System Performance Measures by Roadway Functional Classification

	ΔVMT	**ΔVHT**	**ΔVHD**	**ΔCVMT**
Freeway/Expressway	177,000	5,000	3,000	707,000
Principal Arterials	-109,000	-58,000	-47,000	-457,000
Minor Arterials	-151,000	-24,000	-20,000	-191,000
Collectors	-138,000	-18,000	-12,000	-143,000
Overall	-262,000	-103,000	-86,000	-225,000

2.4.4.2 ISS 400: US 12/US 14 Network

ISS 400 included the US 12/US 14 corridor as the backbone for this existing arterial improvement scenario. The ISS 400 scenario included widening US 12 between IL 31 and US 45 to six lanes to support north-south travel demand complimented by widening existing IL 120 from IL 59 to I-94 to six lanes. Supporting the US 12 and IL 120 expansion, the scenario considered widening IL 176 between US 12 and IL 83, IL 83 from IL 176 and IL 173 to a four-lane cross-section. In addition, ISS 400 considered widening IL 173 from a planned 4-lane section, which is part of the *ON TO 2050 Plan* to a six-lane cross-section to support east-west travel demand in the Project study area.

Table 77. ISS 400 Roadway Characteristics

Route Name	**Length**	**Project Limits**	**Cross-section**	**Free Flow Speed**
US 12 Expansion	40 miles	IL 31 to US 45	6 lanes	40-55 mph
IL 120 Expansion	13 miles	IL 59 to I-94	6 lanes	35-55 mph
IL 173 Expansion	7 miles	IL 83 to I-94	4 lanes	40-55 mph
IL 83 Expansion	15 miles	IL 176 to IL 173	4 lanes	30-55 mph
IL 176 Expansion	7 miles	US 12 to IL 83	4 lanes	30-55 mph

Figure 48. ISS 400 Number of Lanes

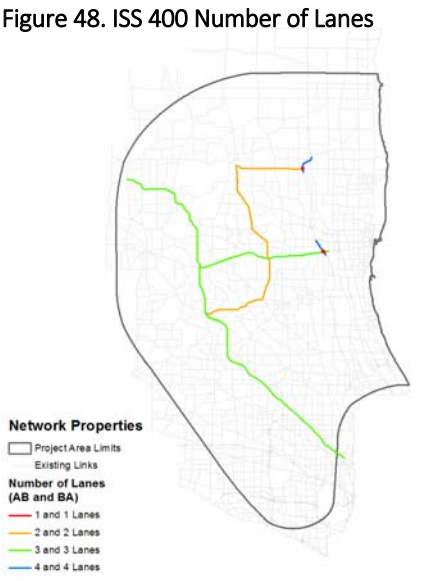


Table 78. Railroad and Interchange Ramp Speeds

New I-94 Interchange Inventory		
Intersecting Road	Interchange	Ramp Speed
IL 120	Full	35 mph
IL 173	Full	35 mph
New Grade Separated Railroad Crossings Inventory		
IL 120	E Main St	40 mph
IL 120	IL 83	35 mph

2.4.4.3 ISS 500: IL 83 Network

Alternative ISS 500 proposed to widen existing IL 83 from Lake Cook Road to IL 173. This section of roadway would become a six-lane arterial with some areas of IL 83 increasing by two lanes both ways from a two-lane roadway. IL 120 would have also been widened to a six-lane divided arterial between IL 83 and I-94. IL 176 and IL 173 would be widened to four lanes each. The free flow speeds of this scenario would remain the same as the No-Build Alternative.

Table 79. ISS 500 Roadway Characteristics

Route Name	Length	Project Limits	Cross-section	Free Flow Speed
IL 173 Expansion	7 miles	IL 83 to I-94	4 lanes	40-55 mph
IL 176 Expansion	7 miles	US 12 to IL 83	4 lanes	30-55 mph
IL 120 Expansion	6 miles	IL 83 to I-94	6 lanes	45-55 mph
IL83 Expansion	23 miles	Arlington Heights Road to IL 173	6 lanes	40-55 mph
Arlington Heights Rd Expansion	2 miles	Lake Cook Road to IL 83	6 lanes	35-45 mph
Lake Cook Road Expansion	2 miles	IL 53 to Arlington Heights Road	6 lanes	55 mph

Figure 49. ISS 500 Number of Lanes

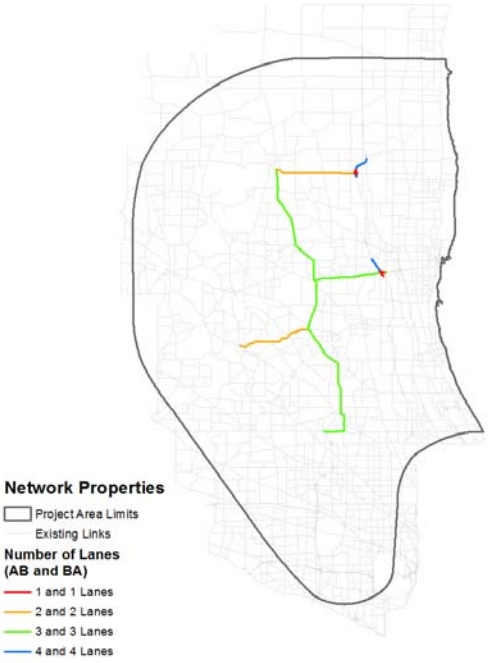


Table 80. Railroad and Interchange Ramp Speeds

New I-94 Interchange Inventory		
Intersecting Road	Interchange	Ramp Speed
IL 120	Full	35 mph
IL 173	Full	35 mph
New Grade Separated Railroad Crossings Inventory		
IL 83	IL 137	55 mph
IL 83	Rowena Road	55 mph
IL 60	N Diamond Lake Road	40 mph

2.4.4.1 ISS 600: US 45 Network

Alternative ISS 600 was a north-south improvement plan that widened the existing IL 83, US 45, and IL 132 corridors to six-lane roadways. This alternative provided a parallel route to I-94 for residents of eastern McHenry and western Lake counties. The improvement proposed to create a direct connection from existing IL 53 to IL 83 near Arlington Heights Road and to widen existing IL 83 to a six-lane roadway from IL 53 to US 45 and from IL 132 to IL 173. In addition, a section of IL 83 between Rollins Road and IL 132 would have been widened to a four-lane roadway, for a total of 14 miles of widening along the IL 83 corridor. Additional widenings were proposed on US 45 between IL 83 and IL 132, and IL 132 from US 45 to IL 83. An expanded full-service interchange at I-94 and IL 120 was also proposed in this alternative. The free flow speeds would remain the same as the No-Build Alternative.

Figure 50. ISS 600 Number of Lanes

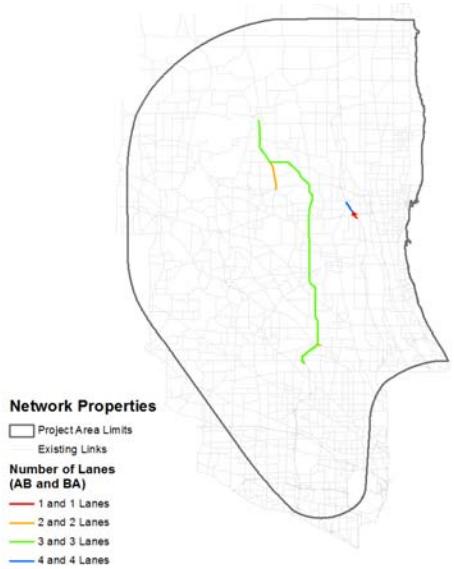


Table 81. ISS 600 Roadway Characteristics

Route Name	Length	Project Limits	Cross-section	Free Flow Speed
IL 83 Expansion/ Realignment	7 miles	IL 53 to US 45	6 lanes	45-55 mph
	3 miles	Rollins Road to IL 132	4 lanes	45 mph
	4 miles	IL 132 to IL 173	6 lanes	30-50 mph
IL 132 Expansion	5 miles	IL 83 to US 45	6 lanes	35-50 mph
US 45 Expansion	11 miles	IL 83 to IL 132	6 lanes	40-55 mph

Table 82. Interchange Ramp Speeds

New I-94 Interchange Inventory		
Intersecting Road	**Interchange**	**Ramp Speed**
IL 120	Full	35 mph

2.4.4.1 ISS 700: Four Lane Arterials Network

Alternative ISS 700 proposed the expansion of several arterial roadways within the Project study area from two-lane to four-lane roadways. These expansions would have filled gaps in the four-lane arterial grid throughout the Project study area, providing improved access for residents of eastern McHenry and western Lake counties to major roadways such as I-94 and IL 53 near Lake Cook Road. In addition to these roadway expansions, two I-94 service interchanges, one at IL 120 and the other at IL 173, would have been expanded from south service only to full-service interchanges. The free flow speeds of the expanded roadways in this scenario would have remained the same as in the No-Build Alternative.

Figure 51. ISS 700 Number of Lanes

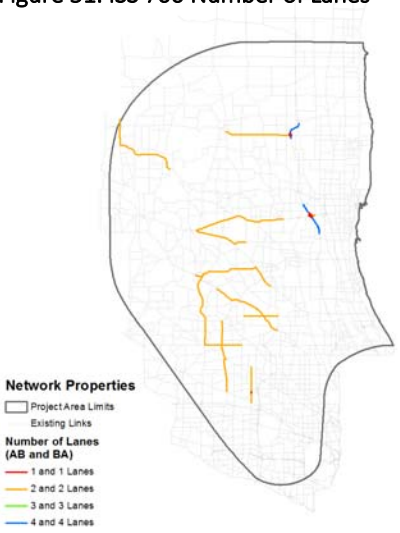


Table 83. Railroad and Interchange Ramp Speed

New I-94 Interchange Inventory		
Intersecting Road	Interchange	Ramp Speed
IL 120	Full	35 mph
IL 173	Full	35 mph
New Grade Separated Railroad Crossings Inventory		
IL 83/60	N Diamond Lake Road	40 mph

Table 84. ISS 700 Roadway Characteristics

Route Name	Length	Project Limits	Cross-section	Free Flow Speed
Plum Grove Road Expansion	4 miles	IL 62 to US 14	4 lanes	30-40 mph
Ela Road Expansion	7 miles	IL 62 to IL 22	4 lanes	30-45 mph
Lake Cook Road Expansion	4 miles	IL 59 to Quentin Road	4 lanes	30-50 mph
IL 59 Expansion	7 miles	Lake Cook Road to US 12	4 lanes	25-55 mph
IL 22 Expansion	3 miles	Quentin Road to IL 83	4 lanes	55 mph
Old McHenry Road Expansion	8 miles	US 12 to IL 53	4 lanes	30-45 mph
IL 60 Expansion	3 miles	Hawley Street to Townline Rd	4 lanes	40-50 mph
	4 miles	IL 120 to Peterson Road	4 lanes	50-55 mph
Hawley Street Expansion	7 miles	US 12 to IL 60	4 lanes	60-55 mph
Peterson Road Expansion and Realignment	1 mile	IL 60 to Alleghany Road	4 lanes	50 mph
IL 120 Expansion	10 miles	IL 60 to Hunt Club Road	4 lanes	35-55 mph
US 12 Expansion	7 miles	IL 31 to N State Park Road	4 lanes	45-55 mph
IL 31 Expansion	3 miles	US 12 to Richmond Road	4 lanes	50 mph
IL 173 Expansion	7 miles	IL 83 to I-94	4 lanes	40-55 mph

2.4.5 ISS Summary and Next Steps

The TCA Project Team evaluated eleven roadway Initial System Scenarios (ISS) based on systemwide performance measures documented above. The target of this preliminary evaluation was to identify combinations of improvements that could efficiently address the TCA Draft Purpose and Need. Qualified scenarios or combinations were carried forward to the next stage with additional refined design, modeling and analysis.

The eleven ISS were grouped under three system strategies and each group were evaluated separately. For each strategy group, at least one scenario was carried forward into the Initial Range of Alternatives (IRA) development and evaluation process.

- ISS 130 was recommended for New Access-Controlled Facilities System package of improvements
- Both combination strategies, ISS 110 and ISS 200, were recommended to be carried forward to help develop the most effective combination solution for the Initial Range of Alternatives. ISS 100 was recommended as is and ISS 200 was combined with ISS 400 to create the IL 120 Expressway Initial Range of Alternative.
- Two existing system strategies evaluated as part of the ISS process, ISS 300 (IL 59 as the base network) and ISS 400 (US 12 as the base network) supported by complementing corridors were recommended for the next stages of the Alternatives Development and Evaluation Process

The next stage of the Alternative Development and Evaluation Process was to refine the design, access and operational characteristics as part of the Initial Range of Alternatives process. This included more detailed consideration of cross-section, access management and tolling structure and multi-modal components such as transit, walking and biking.

A supporting mode choice module within the TCA travel demand model was under development to support the multi-modal performance evaluation as part of the Initial Range of Alternatives process. To assess the impact of induced demand, alternative specific socioeconomic assumptions that address change in land use and accessibility were also going to be developed with next steps of the Initial Range of Alternatives development and evaluation process.

The ISS that addressed the Draft Purpose and Need were carried forward for further development as the Initial Range of Alternatives to be Considered for the Project. See ***Table 85***.

Table 85. Initial Range of Alternatives Development

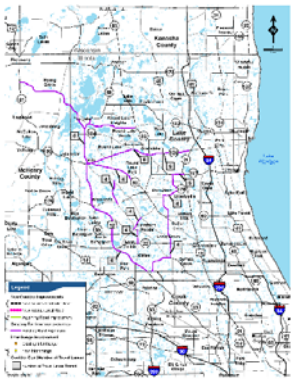
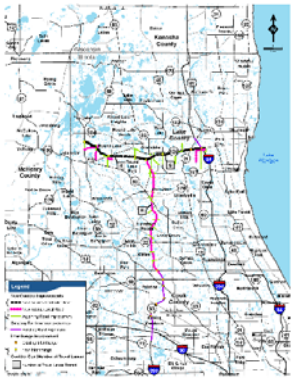
Initial System Scenario (ISS) Evaluated	Comparative Performance Highlights [a]	ISS Roadway Improvement Components to be Included with Initial Range of Alternatives	Initial Range of Alternatives (IRA)
ISS 300	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 996 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.	Based on the updated No-Build Projects, additional add lanes improvements on IL 59 north of Rollins Road, IL 173, IL 60 east of IL 83, and IL 83 north of IL 120 are not supported Expand IL 120 to 6 lanes from US 12 to I-94 Expand IL 59 to 6 lanes from I-90 to Rollins Road Expand IL 60 to 6 lanes from IL 120 to IL 83 Expand IL 176 from US 12 to IL 83 Expand US 12 to 6 lanes from IL 31 to Lake Cook Road Expand Old McHenry Road to 4-6 lanes from US 12 to IL 83	**IL 59 Network Expansion Alternative**
ISS 500	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 680 vehicle hours of delay in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.		
ISS 700	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 670 vehicle hours of in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.		
ISS 400	*Supports project need to reduce congestion on primary roads*. For each added lane mile, reduces 532 vehicle hours of delay in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.	Based on the updated No-Build Projects, additional add lanes improvements on IL 83 north of IL 120 are not supported Expand IL 120 to 6 lanes from US 12 to I-94. Expand IL 176 from US 12 to IL 83. Expand US 12 to 6 lanes from IL 31 to Lake Cook Road Expand US 45 to 6 lanes from IL 83 to IL 132 Expand Rollins Road, IL 176 and IL 132 as parallel routes to IL 120 Expand Butterfield Road as parallel route to US 45	**US 12 Network Expansion Alternative** 
ISS 600	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 892 vehicle hours of delay in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a moderate percent of the area residents and employees.		

Table 85. Initial Range of Alternatives Development

Initial System Scenario (ISS) Evaluated	Comparative Performance Highlights [a]	ISS Roadway Improvement Components to be Included with Initial Range of Alternatives	Initial Range of Alternatives (IRA)
ISS 100	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1174 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.	Expand existing IL 53 Expressway to 8 lanes (Higgins Road to Lake Cook Road) Provide new IL 120 Expressway (US 12 to I-94) and new IL 53 Extension (Lake Cook Road to IL 120) Improve existing roads at planned interchange locations along the IL 53 Extension and IL 120 Expressway	**IL 53/120 Extension (New Corridors) Alternative**
ISS 130	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1218 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		
ISS 100	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1174 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.	Expand existing IL 53 Expressway to 8 lanes (Higgins Road to Lake Cook Road) Provide new IL 120 Expressway (IL 53 Extension to I-94) and new IL 53 Extension (Lake Cook Road to IL 120) Expand existing IL 120 to 6 lanes from US 12 to new IL 53 Extension/IL 120 Expressway junction Improve existing roads at planned interchange locations along the IL 53 Extension and IL 120 Expressway	**IL 53 Extension/IL 120 Expressway to I-94 Alternative**
ISS 110	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 737 congested vehicle miles in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		

Table 85. Initial Range of Alternatives Development

Initial System Scenario (ISS) Evaluated	Comparative Performance Highlights [a]	ISS Roadway Improvement Components to be Included with Initial Range of Alternatives	Initial Range of Alternatives (IRA)
ISS 100	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 1174 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.	Provide new IL 120 Expressway (US 12 to I-94) Improve existing roads at planned interchange locations along the IL 120 Expressway Expand existing IL 53 Expressway to 8 lanes from Higgins Road to Lake Cook Road Provide a new arterial along the preserved IL 53 Extension corridor from (Lake Cook Road to IL 120)	**IL 120 Expressway (New Corridor) Alternative** 
ISS 140	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 955 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		
ISS 200	*Supports project need to reduce congestion on primary roads.* For each added lane mile, reduces 776 congested vehicle miles of travel in peak travel period. *Supports project need to improve access to regional destinations*. Provides notable travel time saving to a significant percent of the area residents and employees.		

[a] Range of identified moderate benefits = 20% to 33%; Range of identified significant benefits = 45% to 85%; Notable travel time saving = Travel time savings of more than 10% to identified regional destinations

2.5 Identified Initial Range of Alternatives to be Considered

This first step of the TCA Alternatives Development and Evaluation Process was structured to encourage consideration of a full range of multimodal transportation solutions which would address the TCA Draft Purpose and Need, and assess their overall environmental/socioeconomic impacts, transportation performance, and financial considerations, as compared to the No-Build Alternative. Based on analysis findings described in the preceding sections, the following Initial Range of Alternatives to be Considered were identified for consideration in the TCA Draft Environmental Impact Statement.

2.5.1 No-Build Alternative

The No-Build Alternative included currently planned and programmed transportation improvements in place by 2050. The No-Build Alternative would have been carried forward throughout the NEPA process to serve as the baseline for comparing the performance of the build alternatives to the effect of taking no action and ultimately could have been selected as the Preferred Alternative. See Sections 1.2.1.1 and 2.1.

2.5.2 Initial Build Alternatives

Five overall Initial Build Alternatives were identified for consideration, each representing a network of corridor improvements across the area's transportation system:

- **IL 59 Network Expansion Alternative (Existing Roadway Improvements)**, consisted of arterial widening improvements and selected new grade separations along portions of IL 59, US 12, IL 120, IL 176, IL 60, IL 83, existing IL 53, Lake Cook Road, Old McHenry Road and Arlington Heights Road.

Figure 52. IL 59 Network Expansion Alternative by Number of Lanes

Figure 53. IL 59 Network Expansion Alternative by Facility Type

- **US 12 Network Expansion Alternative (Existing Roadway Improvements)**, consisted of arterial widening improvements and selected new grade separations along portions of US 12, IL 60, US 45, existing IL 53, IL 83, IL 176, IL 137, Quentin Road, Midlothian Road, Rollins Road and Butterfield Road.

Figure 54. US 12 Network Expansion Alternative by

Figure 55. US 12 Network Expansion

- **IL 53/120 Extension (New Corridors) with Existing IL 53 Expressway Improvements**, consisted of a new IL 53 Extension from Lake Cook Road to IL 120 along with a new IL 120 Expressway from I-94 to US 12; these improvements supported widening of the existing IL 53 Expressway from Lake Cook Road to Higgins Road, with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new or improved system interchanges).

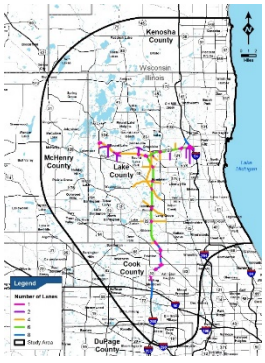


Figure 56. IL 53/120 Extension (New Corridors) Alternative by Number of Lanes

Figure 57. IL 53/120 Extension (New Corridors) Alternative by Facility Type

- **IL 53 Extension/IL 120 Expressway to I-94 Alternative (New Corridors and Existing Roadway Improvements)**, consisted of a new IL 53 Extension from Lake Cook Road to IL 120, a new partial IL 120 Expressway connecting to I-94, arterial widening improvements along IL 120 between IL 83 and US 12; these improvements supported widening of the existing IL 53 Expressway from Lake Cook Road to Higgins Road, with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new or improved system interchanges).

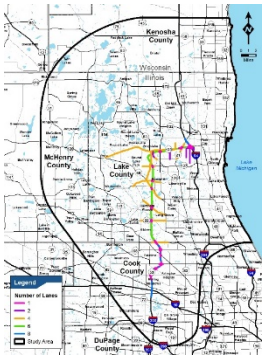


Figure 58. IL 53 Extension/IL 120 Expressway to I-94 Alternative by Number of Lanes

Figure 59. IL 53 Extension/IL 120 Expressway to I-94 Alternative by Facility Type

- **IL 120 Expressway (New Corridor) Alternative**, consisted of a new arterial roadway along the IL 53 Extension from Lake Cook Road to IL 120 along with a new IL 120 Expressway from I-94 to US 12; these improvements support widening of the existing IL 53 Expressway from Lake Cook Road to Higgins Road, with access to adjoining arterial roadways (via new signalized intersections) and adjoining expressways (via new or improved system interchanges).

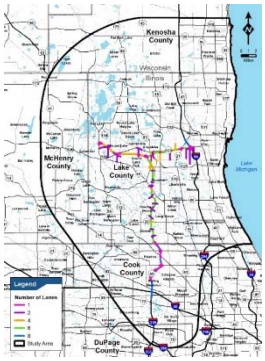


Figure 60. IL 120 Expressway (New Corridor) Alternative by Number of Lanes

Figure 61. IL 120 Expressway (New Corridor) Alternative by Facility Type

Preliminary Corridor Improvement Concepts were developed for each of the 12 existing and 3 new roadway corridors included in the five Initial Build Alternatives to be Considered, representing the type and general layout of corridor improvements. When combined with the planned multi-modal improvement features, these concepts would have served as the starting point for developing a range of multi-modal Initial Build Alternatives to be Considered.

Note, the Initial Range of Alternatives (No-Build and Initial Build Alternatives) would have been advanced for further development and evaluation as part of the TCA Environmental Impact Statement, as described by the Alternatives Development and Evaluation Process, had the Project not been suspended in July 2019.

Attachment I: References

References

Chicago Metropolitan Agency for Planning (CMAP). 2015. *Illinois Route 53/120 Corridor Land Use Strategy*.

Chicago Metropolitan Agency for Planning (CMAP). 2017. Draft – Emerging Transportation Technologies. August.

Illinois Department of Transportation. 1975. *Lake-Will (FAP 432) and Richmond-Waukegan (FAP 420) Freeway Draft Environmental Impact Statement.*

Illinois Department of Transportation. 1989. *FAP 432: Corridor Feasibility Study.*

Illinois Department of Transportation. 1996. *Technical Report on Social and Economic Studies - Existing Conditions: FAP 342 Environmental Impact Statement*.

Illinois Department of Transportation. 2015. *Blue Ribbon Advisory Committee Resolution and Summary Report* (BRAC).

Illinois Department of Transportation and Illinois Tollway. 2001. *Lake County Transportation Improvement Study Draft Environmental Impact Statement.*

Illinois Economic Policy Institute. 2017. *In Support of Route 53/120.*

Illinois Tollway. 2015a. *Draft Feasibility Analysis Report: Illinois Route 53/120*.

Illinois Tollway. 2015b. *Illinois Route 53/120: Finance Committee Feasibility Analysis*.

Lake County Department of Transportation. 2009. *Central Lake Thruway: Illinois Route 120 Corridor*.

Village of Grayslake. 2012. *Grayslake's Vision for a Low Profile Route 53/120*.

Village of Long Grove. 1993*. FAP 342 Alternatives.*

City of McHenry/Village of Johnsburg/McHenry County Department of Transportation. 2007. *Bull Valley Road/Miller Road/River Road/Chapel Hill Road Corridor Study*.

Illinois Department of Transportation. 1993. *U.S. Route 12 Freeway Proposal (Lake-Will Expressway North Study)*.

Illinois Department of Transportation. 1994. Strategic Regional Arterial (SRA) Design Concept Report and individual SRA Reports.

Illinois Department of Transportation. *U.S. Route 45 from IL Route 132 to IL Route 173 and Millburn Bypass Study.*

Illinois Department of Transportation. *IL Route 83/137 from IL Route 132 to east of U.S. Route 45*.

Illinois Department of Transportation. *IL Route 60/83 from IL Route 176 to south of IL Route 60 (Townline Rd.)*.

Illinois Department of Transportation. *IL Route 22 from Quentin Rd. to IL Route 83*.

Illinois Department of Transportation. *IL Route 131/Green Bay Rd. from Wisconsin state line to Sunset Ave.*

Illinois Department of Transportation. *IL Route 173 from IL Route 59 to US Route 41.*

Illinois Department of Transportation. *IL Route 176 at Nish Rd.*

Illinois Department of Transportation. *Barrington Rd. from Mundhank Rd. to IL Route 62.*

Illinois Department of Transportation. *IL Route 31 from IL Route 176 to IL Route 120.*

Illinois Department of Transportation and the Village of Barrington. 2013. *U.S. Route 14 Grade Separation at CN/EJ&E Railroad*.

McHenry County Department of Transportation and Village of Richmond. 2007. *Richmond U.S. Route 12 Bypass Feasibility Study*.

Chicago Area Transportation Study (CATS). 1992. *1991 Lake County Transportation Study*.

Chicago Metropolitan Agency for Planning (CMAP). 2018. *ON TO 2050 Comprehensive Regional Plan.* Accessed July 23, 2018.

Lake County Division of Transportation. 2014. *Lake County 2040 Transportation Plan*.

Lake County Division of Transportation. 2012. *Lake County Transportation Market Analysis*.

Lake County Division of Transportation. 2006. *State Highway Consensus Plan for Lake County*.

Metra. 2017. *Strategic Plan: On Track to Excellence*.

Pace. 2001. *Vision 2020: Blueprint for the Future.*

**Available municipal comprehensive plans will be reviewed along all corridors being considered for improvements.*

Transportation Research Board of the National Academics of Science (TRB). 2016. *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis (HCM).*

Illinois State Toll Highway Authority. 2019*. Design Section Engineer's Manual.*

Illinois State Toll Highway Authority. 2019*. INVEST Project Development Manual.*

Illinois Department of Transportation (IDOT). 2019. *Bureau of Design and Environment (BDE) Manual.*

American Association of State Highway and Transportation Officials (AASHTO). 2018. *A Policy on Geometric Design of Highways and Streets (2018* Green Book).

American Association of State Highway and Transportation Officials (AASHTO). 2008. *Using the Transportation Planning Process to Support the NEPA Process*. February. https://environment.transportation.org/flipbooks/practitioners_handbook/10_Using_Transp_Plan_Proc_Supp_NEPA_Proc/#1.

American Association of State Highway and Transportation Officials (AASHTO). 2016. *Managing the NEPA Process for Toll Lanes and Toll Roads.* August. https://environment.transportation.org/flipbooks/practitioners_handbook/03_Manag_NEPA_Proc_Toll_Lanes_Roads_Aug_16/#1.

Council on Environmental Quality. 1981. *Forty Most Asked Questions Concerning CEQ's NEPA Regulations.*

Federal Highway Administration (FHWA). *NEPA Transportation Decision Making*. https://www.environment.fhwa.dot.gov/nepa/trans_decisionmaking.aspx.

Federal Highway Administration (FHWA). *Draft FHWA/FTA Revised Environmental Review Process Guidance for Public Comment*. https://www.fhwa.dot.gov/map21/guidance/12mar_prop_env_proc_review_pc.cfm.

Federal Highway Administration (FHWA). *PlanWorks.* https://fhwaapps.fhwa.dot.gov/planworks/DecisionGuide/Step/25.

Federal Highway Administration (FHWA). 1990. *The Importance of Purpose and Need in Environmental Documents*. September 18. https://www.environment.fhwa.dot.gov/legislation/nepa/guidance_purpose_need.aspx.

Federal Highway Administration (FHWA). 1993. *The Development of Logical Study Termini*. November 5. https://www.environment.fhwa.dot.gov/legislation/nepa/guidance_Study_termini.aspx.

Federal Highway Administration (FHWA). 2016. *Guidebook for Developing Pedestrian and Bicycle Performance Measures*. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/performance_measures_guidebook/.

Federal Highway Administration (FHWA). 2017. *Flexibility in Highway Design*. https://www.fhwa.dot.gov/environment/publications/flexibility/.

Federal Highway Administration (FHWA). 2018a. *Context Sensitive Solutions*. https://www.fhwa.dot.gov/planning/css/.

Federal Highway Administration (FHWA). 2018b. *Guidebook for Measuring Multimodal Network Connectivity*. FHWA-HEP-18-032. February.

Transportation Research Board. 2010. *Measuring Transportation Network Performance*. NCHRP Report 664.

Transportation Research Board. 2015. *Effect of Public-Private Partnerships and Nontraditional Procurement Processes on Highway Planning, Environmental Review, and Collaborative Decision Making*.

Illinois Department of Transportation (IDOT) and Illinois Tollway. 2001. Lake County Transportation Project Draft Environmental Impact Statement. Available at https://www.illinoistollway.com/documents/20184/94512/00_LCTIP_Draft_EIS.pdf/43812954-b766-4d4c-abdf-96df1a06762c.

PACE. 2001. Vision 2020: The Blueprint for the Future. Available at http://www.pacebus.com/sub/vision2020/default.asp.

Regional Transportation Authority (RTA). 2017. Regional Transit Strategic Plan 2018-2023: Beginning the Discussion. Available at https://www.rtachicago.org/sites/default/files/documents/strategicprograms/strategicplan/IIT_2018-23_Final/InvestInTransit_BeginDiscuss_18-23.pdf.

Chicago Metropolitan Agency for Planning (CMAP). 2018. ON TO 2050. Available at https://www.cmap.illinois.gov/2050.

Attachment II:
Preliminary Corridor Improvement Concept Fact Sheets

FACTSHEET

US 12 (CORRIDOR 1)

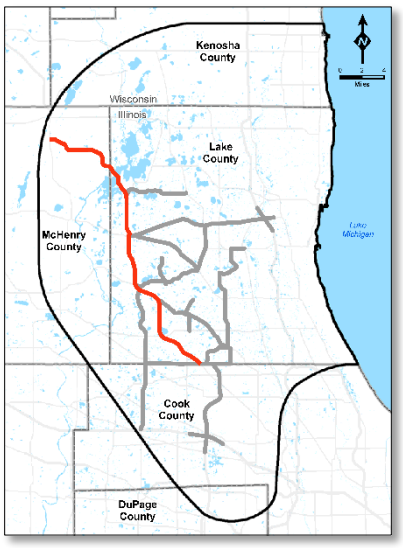
Corridor Limits:
Lake Cook Road to North Richmond Road

Corridor Length:
29.6 miles

Roadway Improvement:
Widen from 2-4 lanes to 6 lanes

Right of Way (ROW) Estimate (2019$)[1]:
$56 - $85 million

Cost Estimate (2019 $)[1]:
$670 - $1,150 million



CORRIDOR DESCRIPTION

US 12 (Rand Road) is identified as Corridor 1 and is a Strategic Regional Arterial (SRA 210) under IDOT jurisdiction. Corridor 1 covers 29.6 miles of US 12 from Lake Cook Road on the south to North Richmond Road on the north, traversing through the Villages of Deer Park, Fox Lake, Hawthorn Woods, Kildeer, Lake Zurich, Lakemoor, North Barrington, Palatine, Richmond, Spring Grove, Volo and Wauconda.

The scope of proposed improvements includes roadway widening and reconstruction, intersection and interchange improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior US 12 Corridor studies. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder-Identified Transportation Problems – heavy congestion and poor travel time reliability in the section between IL 120 and IL 53.

Roadway Improvements Tested with Early Traffic Studies – widen from 2-4 lanes to 6 lanes from Lake Cook Road to State Park Road; widen from 2 to 4 lanes from State Park Road to North Richmond Road.

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-evaluation – 23,000 to 50,000 vehicles per day; widen from 4 to 6 lanes from Lake Cook Road to north of IL 59 in Fox Lake.

Prior Studies Considered – US 12 Bypass Feasibility Study (Village of Richmond); Lake Will Expressway North Draft Environmental Impact Study (EIS) – US 12 Freeway (IDOT); Lake County Transportation Improvement Project (LCTIP) Draft EIS (IDOT); SRA 210 Report US 12 (Rand Road) – IL 31 to IL 58 (IDOT).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

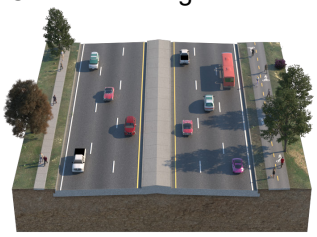
Corridor 1 (US 12)

Potential to revise improvement limits to exclude segment north of IL 59 based on initial travel modeling findings.

4-Lane Closed Drainage Arterial Facility

6-Lane Open Drainage Arterial Facility

6-Lane Closed Drainage Arterial Facility



Environmental Impacts	
Wetlands	37.7 acres
Surface Water	34 sites
T&E Species Records	3 records
4(f) Resources	9 sites
Displacements	121 properties
Cultural Resources	5 sites
High Risk Special Waste	5 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

IL 60 (CORRIDOR 2)

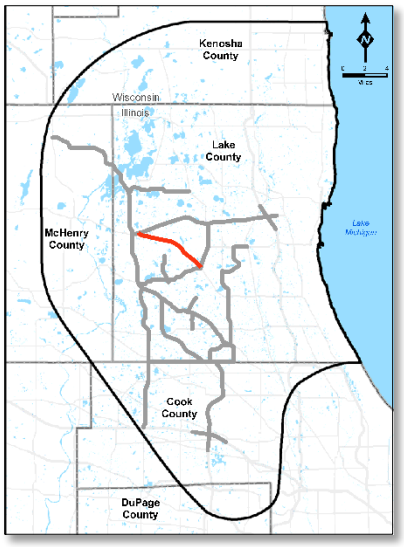
Corridor Limits:
IL 83 to IL 120 (Belvidere Road)

Corridor Length:
6.7 miles

Roadway Improvement:
Widen from 2 lanes to 4 lanes

Right of Way (ROW) Estimate (2019$)[1]:
$4 - $5 million

Cost Estimate (2019 $)[1]:
$100 - $170 million



CORRIDOR DESCRIPTION

IL 60 is identified as Corridor 2 and is a Principal Arterial under IDOT jurisdiction. Corridor 2 covers 6.7 miles from IL 83 on the south to IL 120 (Belvidere Road) on the north, traversing through the Villages of Mundelein, Round Lake, Round Lake Park and Volo.

The scope of proposed improvements includes roadway widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of the IL 60 Corridor. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder-Identified Transportation Problems – heavy congestion and poor travel time reliability on IL 60 between IL 120 and IL 21.

Roadway Improvements Tested with Early Traffic Studies – widen IL 60 from 2 lanes to 4 lanes between IL 83 and IL 120.

Planned Improvements in the TCA No-Build Alternative – widening IL 60/IL 83 from 2 lanes to 4 lanes between IL 176 and IL 60 (Townline Road.

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-evaluation – 12,000 to 20,000 vehicles per day; widen IL 60/IL 83 from 2 lanes to 4 lanes between IL 83 and Fairfield Road.

Prior Studies Considered – Lake County Transportation Improvement Project (LCTIP) Draft Environmental Impact Study (EIS) (IDOT).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

Corridor 2 (IL 60)

4-Lane Closed Drainage Arterial Facility

Potential to revise improvement limits to exclude segment west of Fairfield Road based on initial travel modeling findings.

Planned add lanes improvement in No-Build Alternative.

Environmental Impacts	
Wetlands	2.9 acres
Surface Water	7 sites
T&E Species Records	0 records
4(f) Resources	4 sites
Displacements	3 properties
Cultural Resources	1 site
High Risk Special Waste	1 site

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

US 45 (CORRIDOR 3)

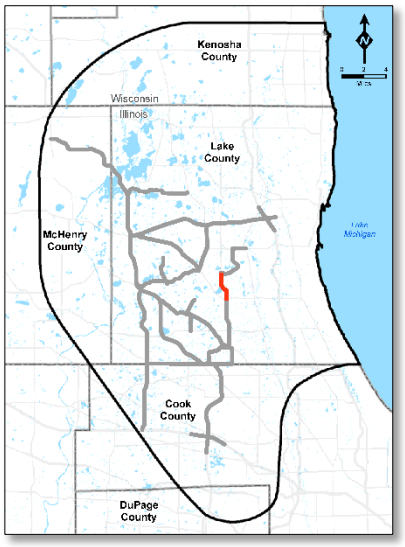
Corridor Limits:
IL 120 (Belvidere Road) to IL 83

Corridor Length:
2.8 miles

Roadway Improvement:
Widen from 4 lanes to 6 lanes

Right of Way (ROW) Estimate (2019$):
$22 - $33 million

Cost Estimate (2019 $):
$150 - $250 million



CORRIDOR DESCRIPTION

US 45 (Lake Street) is identified as Corridor 3 and is a Principal Arterial and under IDOT jurisdiction. Corridor 3 extends 2.8 miles from IL 83 on the south to IL 176 (Maple Avenue) on the north, traversing through the Village of Mundelein.

The scope of proposed improvements includes roadway widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior US 45 Corridor studies. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder-Identified Transportation Problems – heavy congestion and poor travel time reliability on US 45 in the section between IL 60 (Townline Road) and IL 176.

Roadway Improvements Tested with Early Traffic Studies – widen from 4 lanes to 6 lanes between IL 83 and IL 176 (Maple Avenue).

Planned Improvements in the TCA No-Build Alternative – add lanes improvement of US 45 from 2 lanes to 4 lanes between IL 132 and IL 173, US 45/IL 83 (Old Half Day Road) from IL 60 (Townline Road) to IL 22 (Half Day Road) and US 45 from IL 120 to Rollins Road.

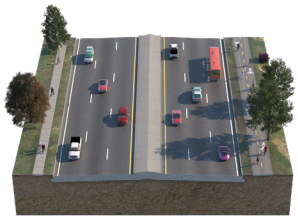
Projected Average Daily Traffic (year 2050) – 36,000 to 43,000 vehicles per day.

Prior Studies Considered – Lake County Transportation Improvement Project (LCTIP) Draft Environmental Impact Study (EIS) (IDOT).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

Corridor 3 (US 45)

6-Lane Closed Drainage Arterial Facility



Environmental Impacts	
Wetlands	0 acres
Surface Water	4 sites
T&E Species Records	0 records
4(f) Resources	1 site
Displacements	89 properties
Cultural Resources	1 site
High Risk Special Waste	2 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

OLD MCHENRY ROAD, MIDLOTHIAN ROAD, AND QUENTIN ROAD (CORRIDOR 4)

Corridor Limits:

Old McHenry Road – US 12 to IL 53
Midlothian Road – Gilmer Road to Old McHenry Road
Quentin Road – Old McHenry Road to IL 22

Corridor Length:

11 miles

Roadway Improvement:

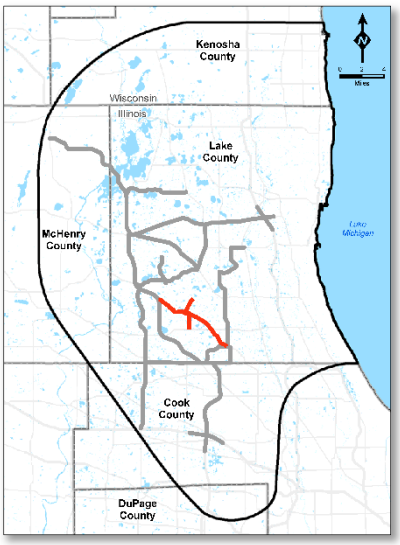
Widen from 2 lanes to 4 lanes

Right of Way (ROW) Estimate (2019$)[1]:

$15 - $22 million

Cost Estimate (2019 $)[1]:

$270 - $460 million



CORRIDOR DESCRIPTION

Corridor 4 transverses 11 miles through the Villages of Hawthorn Woods, Kildeer, Lake Zurich, Long Grove and North Barrington. The corridor consists of Old McHenry Road, Midlothian Road, and Quentin Road:

1. Old McHenry Road is a Minor Arterial under Lake County jurisdiction and covers 8 miles from US 12 on the west to IL 53 on the east.
2. Midlothian Road is a Minor Arterial under IDOT jurisdiction and extends 1.5 miles from Old McHenry Road north to Gilmer Road.
3. Quentin Road is a Minor Arterial under Lake County jurisdiction and extends 1.5 miles from Old IL 22 (Lake Zurich Road) north to Old McHenry Road.

The scope of proposed improvements includes roadway widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior Corridor 4 studies. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder Identified Transportation Solutions – arterial expansion on Old McHenry Road from US 12 to IL 53, grade separate Old McHenry Road and CN/EJE rail crossing.

Roadway Improvements Tested with Early Traffic Studies – widen Old McHenry Road from 2 to 6 lanes from US 12 to IL 53; widen from 2 to 4 lanes Midlothian Road from Old McHenry Road to Gilmer Road, and Quentin Road from Old McHenry Road to IL 22.

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-evaluation – 17,000 to 37,000 vehicles per day on Old McHenry Road, approximately 17,000 vehicles per day on Midlothian Road, and approximately 21,000 vehicles per day on Quentin Road; widen Old McHenry Road, Midlothian Road, and Quentin Road from 2 to 4 lanes.

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

Corridor 4 (Old McHenry Road, Midlothian Road and Quentin Road)

Proposed grade separation

6-Lane Closed Drainage Arterial Facility

4-Lane Closed Drainage Arterial Facility

Potential to revise proposed roadway layout to a 4-lane facility based on initial travel modeling findings.

Potential to consider bypass options to avoid impacts to downtown

Environmental Impacts	
Wetlands	10.4 acres
Surface Water	15 sites
T&E Species Records	0 records
4(f) Resources	9 sites
Displacements	48 properties
Cultural Resources	8 sites
High Risk Special Waste	1 site

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

IL 53 (CORRIDOR 6)

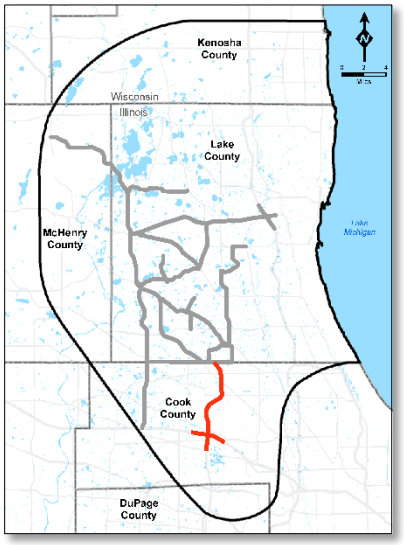
Corridor Limits:
Lake Cook Road to Higgins Road

Corridor Length:
8.4 miles

Roadway Improvements:
Widen from 6 lanes to 8 lanes; access improvements

Right of Way (ROW) Estimate (2019$):
$18 - $26 million

Cost Estimate (2019 $):
$780 - $1,340 million



CORRIDOR DESCRIPTION

IL 53 is identified as Corridor 6 and is classified as a Freeway/Expressway under IDOT jurisdiction. Corridor 6 covers 8.4 miles of IL 53 from Higgins Road on the south to Lake Cook Road on the north, traversing through the Villages of Arlington Heights, Palatine, Rolling Meadows, and Schaumburg. Corridor 6 also includes access improvements to I-90 from Meacham Road to west of Arlington Heights Road.

The scope of proposed improvements includes roadway widening and reconstruction, intersection and interchange improvements. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of IL 53. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability between Lake Cook Road and I-390.

Roadway Improvements Tested with Early Traffic Studies – widen IL 53 from 6 to 8 lanes from Lake Cook Road to Higgins Road; interchange improvements along I-90 from Meacham Road to west of Arlington Heights Road.

Projected Average Daily Traffic (year 2050) – approximately 113,000 vehicles per day.

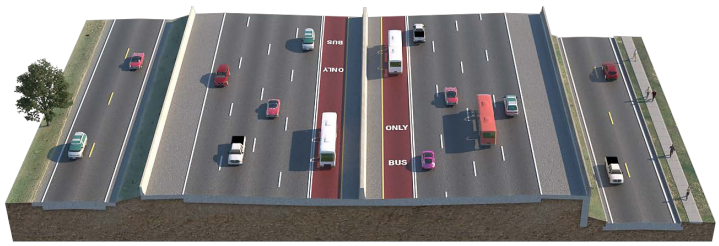
Prior Studies Considered – IL-53/I-90 interchange concepts; Lake Will Freeway Draft EIS.

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

Corridor 6 (IL 53)

Recommended in conjunction with improvements to Corridor 16 (IL 53 Extension)

8-Lane Access-Controlled Facility



Potential to consolidate and enhance access points by removing ramps along IL 53 and providing new access points along I-90 from Meacham Road to Wilke Road.

Potential layout options to improve traffic flow

Environmental Impacts

Wetlands	2.4 acres
Surface Water	19 sites
T&E Species Records	0 records
4(f) Resources	4 sites
Displacements	32 properties
Cultural Resources	0 sites
High Risk Special Waste	3 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

LAKE COOK ROAD, ARLINGTON HEIGHTS ROAD, IL 53, AND IL 83 (CORRIDOR 7)

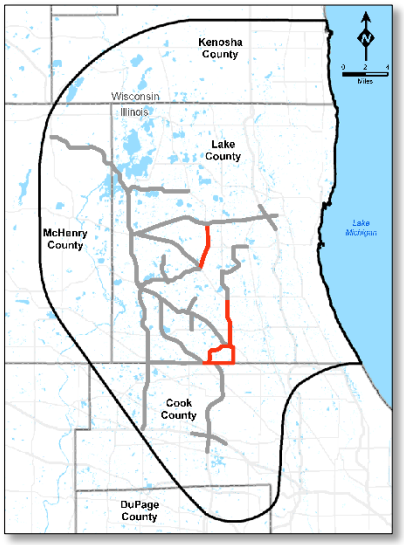
Corridor Limits:
Lake Cook Road – US 12 to Arlington Heights Road
Arlington Heights Road and IL 53 – Lake Cook Road to IL 83
IL 83 – IL 53 to US 45; IL 60 to IL 137

Corridor Length:
15.9 miles

Roadway Improvement:
Widen from 2-4 lanes to 4-6 lanes

Right of Way (ROW) Estimate (2019$)[1]:
$31 - $47 million

Cost Estimate (2019 $)[1]:
$410 - $710 million



CORRIDOR DESCRIPTION

Corridor 7 consists of four segments of roadway traversing through the Villages of Arlington Heights, Buffalo Grove, Grayslake, Long Grove, Mundelein, Palatine, and Vernon Hills: Lake Cook Road, Arlington Heights Road, IL 53, and IL 83 for a total of 15.9 miles:

1. Lake Cook Road is a Strategic Regional Arterial (SRA 108) under Cook County jurisdiction that extends 2.7 miles from US 12 on the west to Arlington Heights Road on the east.
2. Arlington Heights Road is a Minor Arterial under Lake County jurisdiction that extends 1.5 miles from Lake Cook Road on the south to IL 83 on the north.
3. IL 53 is a Minor Arterial under IDOT jurisdiction that extends 3.1 miles between Lake Cook Road on the south and IL 83 on the north.
4. IL 83 is a Principal Arterial under IDOT jurisdiction that extends 8.6 miles in total.

The scope of proposed improvements includes widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of the Corridor 7. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder Identified Transportation Solutions – arterial expansion on IL 83, IL 53 and Lake Cook Road.

Roadway Improvements Tested with Early Traffic Studies – widen Lake Cook Road from 4 to 6 lanes from US 12 to Arlington Heights Road; widen Arlington Heights Road from 4 to 6 lanes from Lake Cook Road to IL 83; widen IL 53 from 2 to 6 lanes from Lake Cook Road to Robert Parker Coffin Road and to 4 lanes from Robert Parker Coffin Road to IL 83; widen IL 83 from 4 to 6 lanes from IL 53 to US 45; widen IL 83 from 2 to 4 lanes from IL 60 to IL 137.

Planned Improvements in the TCA No-Build Alternative – add lane improvements on IL 60/IL 83 from IL 176 to IL 60 (Townline Road), IL 83 (Barren Boulevard) from Petite Lake Road to IL 120 (Belvidere Road), US 45/IL 83 (Old Half Day Road) from IL 60 (Townline Road) to IL 22 (Half Day Road), and IL 137 (Buckley Road) from IL 83 to Petersen Road.

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-evaluation – 44,000 to 48,000 vehicles per day (vpd) on Lake Cook Road, 14,000 to 52,000 vpd on IL 83, approximately 28,000 vpd on Arlington Heights Road, and approximately 28,000 vpd on IL 83; widen Lake Cook Road from 4 to 6 lanes from US 12 to Arlington Heights Road; widen IL 53 from 2 to 4 lanes from Lake Cook Road to IL 83; widen IL 83 from 4 to 6 lanes from IL 53 to US 45; widen IL 83 from 2 to 4 lanes from IL 60 to IL 137.

Prior Studies Considered – SRA 108 report evaluating Lake Cook Road from US 12 to US 41; Lake County Transportation Improvement Project (LCTIP) Draft EIS.

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

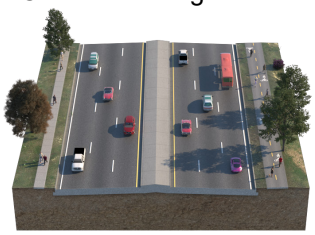
Corridor 7 (IL 83, IL 53, Lake Cook Road and Arlington Heights Road)

Planned grade separation assumed in No-Build Alternative. Options to provide additional grade separation to improve traffic operations.

Planned add lanes improvement included in No-Build Alternative

4-Lane Closed Drainage Arterial Facility

6-Lane Closed Drainage Arterial Facility



Planned add lanes improvement included in No-Build Alternative

MAJOR INTERSECTION

MAJOR INTERSECTION

MAJOR INTERSECTION

MAJOR INTERSECTION

MAJOR INTERSECTION

Environmental Impacts	
Wetlands	17 acres
Surface Water	24 sites
T&E Species Records	1 record
4(f) Resources	17 sites
Displacements	60 properties
Cultural Resources	4 sites
High Risk Special Waste	5 sites

Potential to exclude Arlington Heights Road improvements based on initial travel modeling findings.

Potential to consider bypass options to connect IL 53 to IL 83

Potential to revise proposed roadway layout on IL 53 to a 4-lane facility based on initial travel modeling findings.

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

LAKE COOK ROAD (CORRIDOR 8)

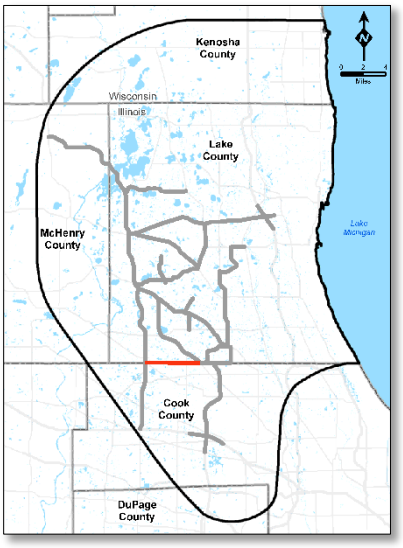
Corridor Limits:
Barrington Road to US 12

Corridor Length:
3.7 miles

Roadway Improvement:
Widen from 2 lanes to 4 lanes

Right of Way (ROW) Estimate (2019$):
$10 - $15 million

Cost Estimate (2019 $):
$70 - $120 million



CORRIDOR DESCRIPTION

West Lake Cook Road/Main Street is identified as Corridor 8 and is a Minor Arterial under IDOT jurisdiction. Corridor 8 extends 3.7 miles from Barrington Road on the west to US 12 on the east, traversing through the Villages of Barrington, Deer Park, and Palatine.

The scope of proposed improvements includes roadway, widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of Lake Cook Road. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder Identified Transportation Solutions – arterial expansion from Barrington Road to the North Central Service Railroad.

Roadway Improvements Tested with Early Traffic Studies – widen Lake Cook Road from 2 to 4 lanes from Barrington Road on the west to US 12 on the east.

Projected Average Daily Traffic (year 2050) – approximately 21,000 vehicles per day.

Prior Studies Considered – Village of Barrington's North-South Arterial Traffic Study; Village of Barrington's CN Railway Traffic Impact Study.

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

Corridor 8 (Lake Cook Road)

4-Lane Closed Drainage Arterial Facility

Potential to consider bypass options to avoid impacts to downtown

MAJOR INTERSECTION

MAJOR INTERSECTION

Environmental Impacts	
Wetlands	1.5 acres
Surface Water	4 sites
T&E Species Records	2 records
4(f) Resources	2 sites
Displacements	38 properties
Cultural Resources	6 sites
High Risk Special Waste	2 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

IL 59 AND BARRINGTON ROAD (CORRIDOR 9)

Corridor Limits:

Barrington Rd – I-90 to IL 59
IL 59 – Barrington Rd to US 12

Corridor Length:

13 miles

Roadway Improvement:

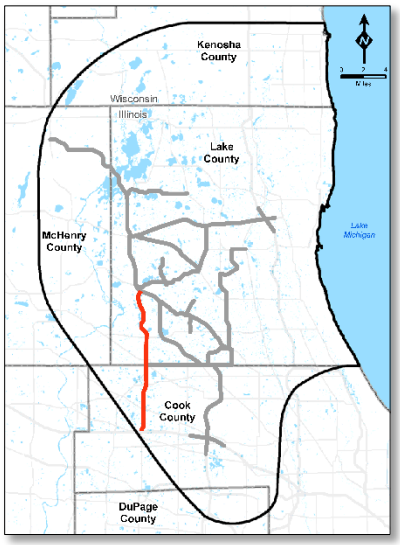
Widen from 2-4 lanes to 6 lanes

Right of Way (ROW) Estimate (2019$)[1]:

$54 - $80 million

Cost Estimate (2019 $)[1]:

$280 - $470 million



CORRIDOR DESCRIPTION

IL 59 and Barrington Road are identified as Corridor 9. Corridor 9 extends 13 miles from I-90 (Jane Adams Memorial Tollway) on the south to US 12 on the north, traversing through the Villages of Barrington, Barrington Hills, Hoffman Estates, Inverness, Lake Barrington, North Barrington, South Barrington, Tower Lakes, and Wauconda. IL 59 is a Strategic Regional Arterial (SRA 503) under IDOT jurisdiction and extends from Barrington Road to US 12. Barrington Road is a Strategic Regional Arterial (SRA 203) under IDOT jurisdiction from I-90 to IL 62 (Algonquin Road) and is a Minor Arterial under IDOT jurisdiction from IL 62 (Algonquin Road) to IL 59.

The scope of proposed improvements include roadway widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of Corridor 9. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability in the Village of Barrington due to freight and commuter rail traffic.

Roadway Improvements Tested with Early Traffic Studies – widen from 2 or 4 lanes to 6 lanes along the entire Barrington Road and IL 59 corridor.

Planned Improvements in the TCA No-Build Alternative – widening Barrington Road from 2 lanes to 4 lanes between IL 62 and Mundhank Road; widening Barrington Road from 2 lanes to 4 lanes from Central Road to Mundhank Road.

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-Evaluation – 19,000 to 26,000 vehicles per day on Barrington Road and 17,000 to 20,000 vehicles per day IL 59; widen from 2 lanes to 4 lanes on Barrington Road from IL 62 to IL 59 and IL 59 from Barrington Road to US 12.

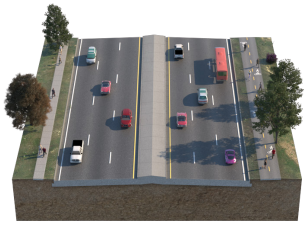
Prior Studies Considered – Village of Barrington's North-South Arterial Traffic Study; Village of Barrington's CN Railway Traffic Impact Study; SRA 203 report evaluating Barrington Road from IL 38 to IL 62; SRA 503 report evaluating IL 59 from IL 72 to US 12.

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

Corridor 9 (IL 59 and Barrington Road)

6-Lane Closed Drainage Arterial Facility



Potential to revise proposed roadway layout from IL 62 to US 12 to a 4-lane facility based on initial travel modeling findings.

Potential to consider grade separation and bypass options to avoid impacts to downtown

Potential to exclude improvements to Barrington Road south of IL 62 based on initial travel modeling findings.

Environmental Impacts

Wetlands	12.3 acres
Surface Water	16 sites
T&E Species Records	3 records
4(f) Resources	9 sites
Displacements	97 properties
Cultural Resources	17 sites
High Risk Special Waste	2 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

IL 120 (CORRIDOR 11)

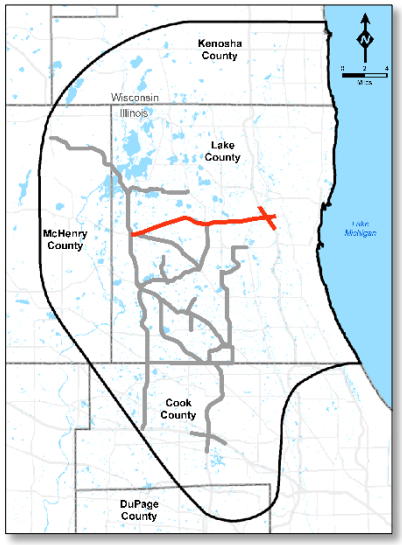
Corridor Limits:
US 12 to US 41

Corridor Length:
14 miles

Roadway Improvement:
Widen from 2-4 lanes to 6 lanes

Right of Way (ROW) Estimate (2019$)[1]:
$22 - $33 million

Cost Estimate (2019 $)[1]:
$230 - $390 million



CORRIDOR DESCRIPTION

IL 120 (Belvidere Road) is identified as Corridor 11 and is a Principal Arterial under IDOT jurisdiction. Corridor 11 extends 14 miles from US 12 on the west to US 41 on the east, traversing through the Villages of Grayslake, Gurnee, Hainesville, Lakemoor, Round Lake, Round Lake Park, and Volo.

The scope of proposed improvements includes roadway widening and reconstruction, intersection and interchange improvements, and new active transportation facilities. The analysis of Corridor 11 does not include any new alignments or changes in facility type. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of IL 120. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability in the section between US 12 and I-94.

Roadway Improvements Tested with Early Traffic Studies – widen IL 120 from 2-4 lanes to 6 lanes from US 12 to I-94 with intent to evaluate the IL 120 and I-94 interchange and extend further east as needed.

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-Evaluation – 18,000 to 50,000 vehicles per day; widen from 2 lanes to 4 lanes on IL 120 from US 12 to IL 83 and IL 59 from 2-4 lanes to 6 lanes from IL 83 to IL 21.

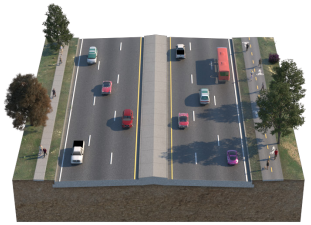
Prior Studies Considered – Central Lake Thruway feasibility study; Lake-Will Expressway North Draft Environmental Impact Study (EIS); Lake County Transportation Improvement Project (LCTIP) Draft EIS; SRA 508 report evaluating IL 120 from IL 47 to US 12.

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

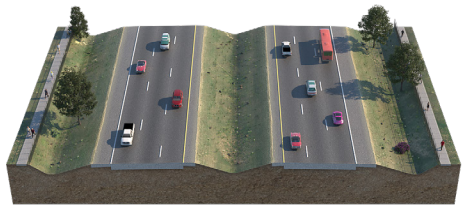
[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

Corridor 11 (IL 120 Arterial)

6-Lane Closed Drainage Arterial Facility



6-Lane Open Drainage Arterial Facility



Potential to revise proposed roadway layout from US 12 to IL 83 to a 4-lane facility based on initial travel modeling findings.

Planned grade separation included in No-Build Alternative. Options to provide additional grade separation to improve traffic operations.

Options enhance access along I-94

MAJOR INTERSECTION

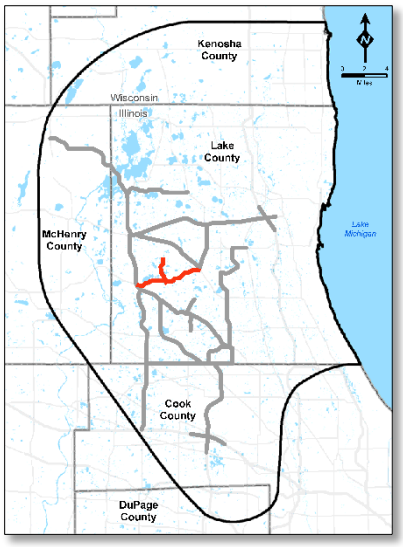
MAJOR INTERSECTION

Environmental Impacts	
Wetlands	8.9 acres
Surface Water	10 sites
T&E Species Records	8 records
4(f) Resources	8 sites
Displacements	49 properties
Cultural Resources	6 sites
High Risk Special Waste	2 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

IL 176 and Fairfield Road (Corridor 13)



Corridor Limits:
IL 176 – US 12 to IL 83
Fairfield Road – Ivanhoe Road to Gilmer Road

Corridor Length:
9.3 miles

Roadway Improvement:
Widen from 2 lanes to 4 lanes

Right of Way (ROW) Estimate (2019$)[1]:
$29 - $43 million

Cost Estimate (2019 $)[1]:
$190 - $320 million

Corridor Description

IL 176 and Fairfield Road make up Corridor 13 traversing through the Villages of Hawthorn Woods, Mundelein, and Wauconda. IL 176 is a Suburban Strategic Regional Arterial (SRA 509) under IDOT jurisdiction and extends 6.7 miles from US 12 on the west and IL 83 on the east. Fairfield Road is a Minor Arterial under Lake County Jurisdiction and extends 2.6 miles from West Ivanhoe Road on the south to Gilmer Road on the north.

The scope of proposed improvements includes roadway widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of Corridor 13. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder-Identified Transportation Solutions – arterial expansion on IL 176 and Fairfield Road.

Roadway Improvements Tested with Early Traffic Studies – widen IL 176 from 2 to 4 lanes from US 12 to IL 83 and widen Fairfield Road from 2 lanes to 4 lanes from Ivanhoe Road to Gilmer Road.

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-Evaluation – 13,000 to 18,000 vehicles per day on IL 76 and approximately 17,000 vehicles per day on Fairfield Road; widen IL 176 from 2 to 4 lanes from US 12 to Fairfield Road and widen Fairfield Road from 2 lanes to 4 lanes from Ivanhoe Road to Gilmer Road.

Prior Studies Considered – SRA 509 report evaluating IL 176 from US 12 to IL 83.

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

Corridor 13 (IL 176 and Fairfield Road)

4-Lane Closed Drainage Arterial Facility

Potential to exclude this segment of IL 176 from proposed improvements based on initial travel modeling findings.

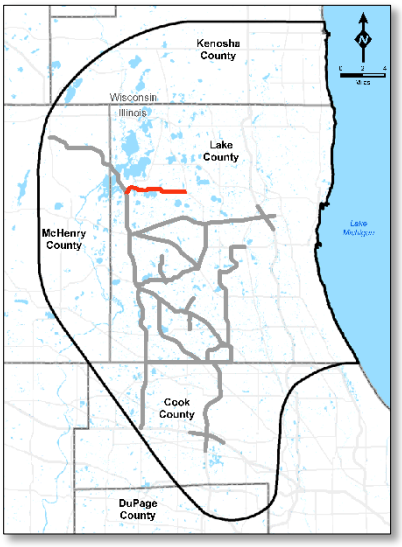
Bypass options should be considered to avoid major displacements in Tax Incremental Financing (TIF) district

Environmental Impacts	
Wetlands	4.9 acres
Surface Water	6 sites
T&E Species Records	11 records
4(f) Resources	5 sites
Displacements	76 properties
Cultural Resources	2 sites
High Risk Special Waste	1 site

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

IL 59 AND ROLLINS ROAD (CORRIDOR 14)



Corridor Limits:

IL 59 – US 12 to Rollins Road
Rollins Road – IL 59 to IL 83

Corridor Length:

6.3 miles

Roadway Improvement:

Widen from 2 lanes to 4 lanes from US 12 to Fairfield Road
Widen from 4 lanes to 6 lanes from Fairfield Road to IL 83

Right of Way (ROW) Estimate (2019$)[1]:

$24 - $36 million

Cost Estimate (2019 $)[1]:

$270 - $470 million

CORRIDOR DESCRIPTION

IL 59 and Rollins Road make up Corridor 14, traversing through the Villages of Fox Lake, Round Lake Beach, and Round Lake Heights. IL 59 is a Principal Arterial under IDOT jurisdiction and extends 1.1 miles from US 12 to Rollins Road. Rollins Road is a Minor Arterial under Lake County jurisdiction that extends 5.2 miles from IL 59 on the west to IL 83 on the east.

The scope of proposed improvements include roadway widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of Corridor 14. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Roadway Improvements Tested with Early Traffic Studies – widen from 2 lanes to 4 lanes on IL 59 and Rollins Road from US 12 to Fairfield Road and widen from 4 lanes to 6 lanes from Fairfield Road to IL 83.

Planned Improvements in the TCA No-Build Alternative – add lanes improvement on IL 83 (Barren Boulevard) from Petite Lake Road to IL 120 (Belvidere Road).

Projected Average Daily Traffic (year 2050) and Proposed Widening for Re-Evaluation – approximately 16,000 vehicles per day on IL 59 and 17,000 to 34,000 vehicles per day on Rollins Road; no proposed improvements to this corridor.

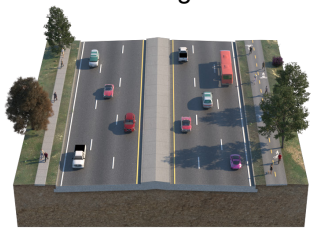
The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.

[1] Cost estimates are based on roadway layouts developed during early traffic studies. Refer to Section 3.4 in the Tri-County Access Systems Planning Report for anticipated changes in cost associated with corridor refinements.

Corridor 14 (IL 59 and Rollins Road)

4-Lane Closed Drainage Arterial Facility

6-Lane Closed Drainage Arterial Facility



PARTIAL SERVICE (Interstate – Arterial)

MAJOR INTERSECTION

MAJOR INTERSECTION

Potential to excluded Corridor 14 improvements based on initial travel demand modeling results.

Planned add lanes improvement included in No-Build Alternative.

Environmental Impacts	
Wetlands	4.3 acres
Surface Water	10 sites
T&E Species Records	1 record
4(f) Resources	2 sites
Displacements	90 properties
Cultural Resources	1 site
High Risk Special Waste	0 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

IL 176, Butterfield Road, and IL 137 (Corridor 15)

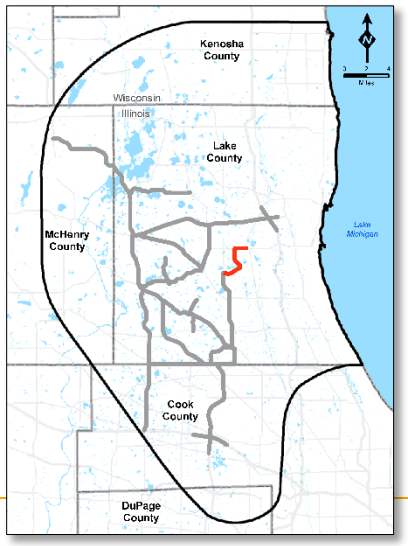
Corridor Limits:
IL 176 – US 45 to Butterfield Road
Butterfield Road – IL 176 to IL 137
IL 137 – Butterfield Road to IL 21

Corridor Length:
4.8 miles

Roadway Improvement:
Widen from 2 lanes to 4 lanes on IL 176
Widen from 4 lanes to 6 lanes on Butterfield Road and IL 137

Right of Way (ROW) Estimate (2019$):
$24 - $36 million

Cost Estimate (2019 $):
$130 - $210 million



Corridor Description

Corridor 15 consists of three segments of roadway for a total of 4.8 miles, traversing the Villages of Libertyville and Mundelein:

1. IL 176 (Maple Avenue) is a Minor Arterial under IDOT jurisdiction that extends for 1.7 miles from US 45 on the west to Butterfield Road on the east.
2. Butterfield Road is a Minor Arterial under Lake County jurisdiction that extends for 1.9 miles from IL 176 on the south to IL 137 on the north.
3. IL 137 (Peterson Road) is a Strategic Regional Arterial (SRA 211) under IDOT jurisdiction that extends for 1.2 miles from Butterfield Road to IL 21 (Milwaukee Avenue).

The scope of proposed improvements includes roadway widening and reconstruction, intersection improvements, and new active transportation facilities. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of Corridor 15. Currently planned improvements are considered to be in place as part of the TCA No-Build Alternative and are excluded from these additional proposed improvements.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability on IL 176 from US 45 to I-94 and IL 137 from IL 120 to I-94.

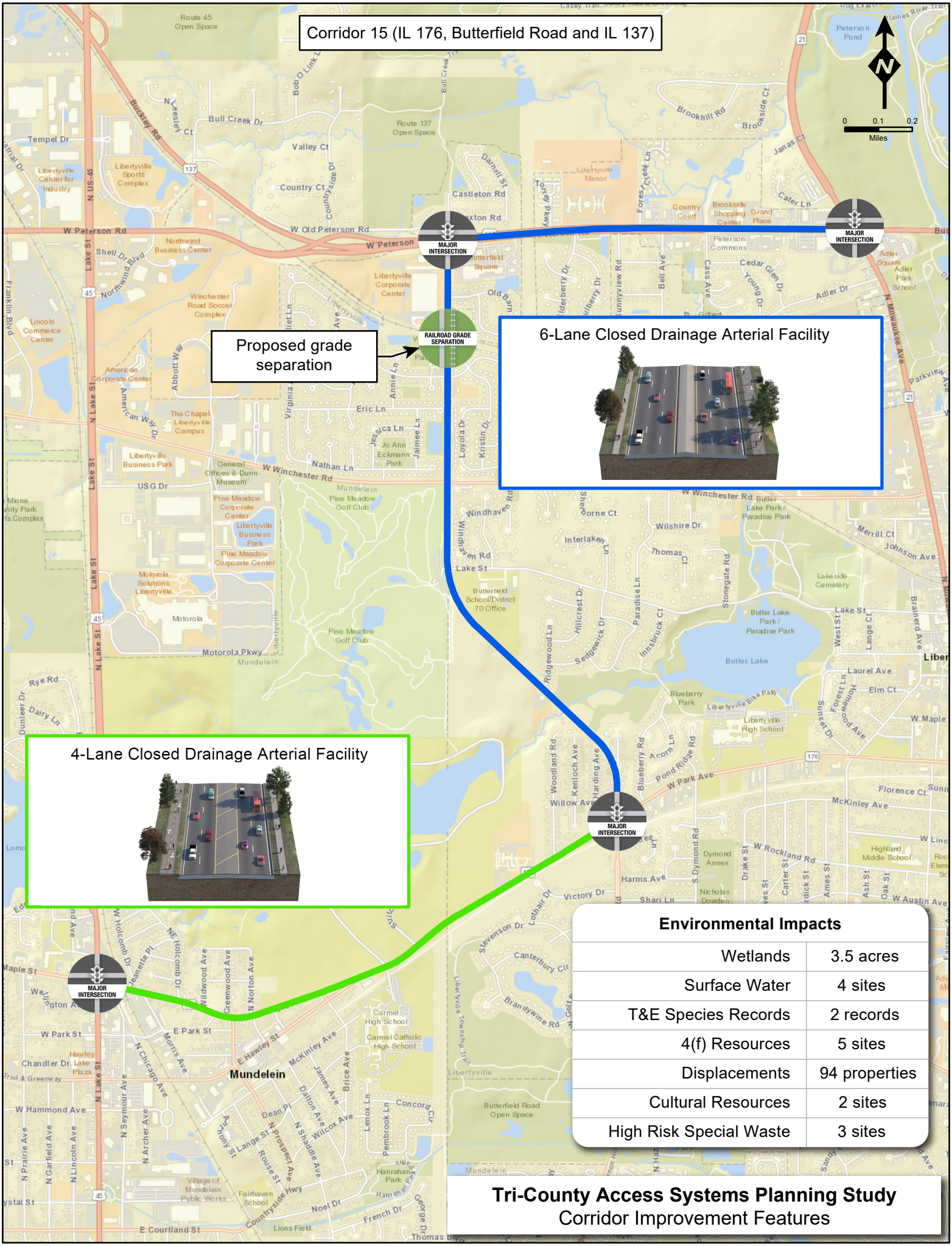
Roadway Improvements Tested with Early Traffic Studies – widen from 2 lanes to 4 lanes on 176 and widen from 4 lanes to 6 lanes along Butterfield Road and IL 137.

Planned Improvements in the TCA No-Build Alternative –add lanes improvement on IL 83 (Barren Boulevard) from Petite Lake Road to IL 120 (Belvidere Road) and on IL 137 (Buckley Road) from IL 83 to Petersen Road.

Projected Average Daily Traffic (year 2050) – approximately 17,000 vehicles per day on IL 176, 35,000 vehicles per day on Butterfield Road, and 39,000 vehicles per day on IL 137.

Prior Studies Considered – SRA 211 report evaluating IL 137 from IL 83 to Amstutz Highway and Lake County Transportation Improvement Project (LCTIP) Draft Environmental Impact Study (EIS).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where community bypasses and other design refinements should be considered with future studies.



Environmental Impacts	
Wetlands	3.5 acres
Surface Water	4 sites
T&E Species Records	2 records
4(f) Resources	5 sites
Displacements	94 properties
Cultural Resources	2 sites
High Risk Special Waste	3 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

TRI·COUNTY ACCESS | LAKE McHENRY COOK

NEW ALIGNMENT (CORRIDOR 16)

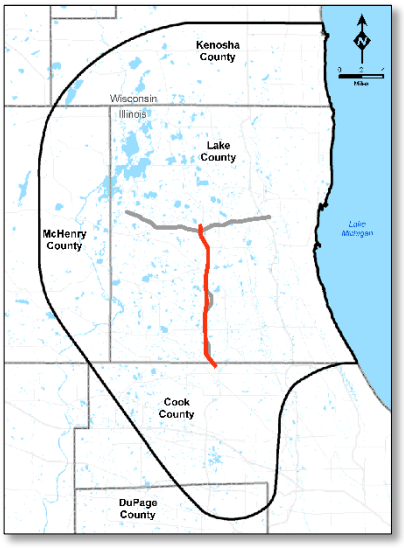
Corridor Limits:
Lake Cook Road to IL 120

Corridor Length:
12.8 miles

Roadway Improvements:
New alignment between Lake Cook Road and IL 120

Right of Way (ROW) Estimate (2019$):
$19 - $29 million

Cost Estimate (2019 $):
$1,090 - $1,900 million



CORRIDOR DESCRIPTION

Corridor 16 is a new roadway that covers 12.8 miles from Lake Cook Road on the south to IL 120 on the north, traversing through the Villages of Grayslake, Hawthorn Woods, Kildeer, Long Grove, Mundelein and Palatine.

The scope of proposed improvements includes a new roadway corridor from Lake Cook Road to IL 120. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of the Project Area. Transit elements will be combined with roadway improvements where reasonable based on coordination with transportation providers. Active transportation features will be implemented along new corridors based on stakeholder involvement and an analysis of existing and future active transportation networks. Off-system roadway improvements require evaluation and refinement in future studies.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability across existing arterial and local roads between Lake Cook Road and IL 120.

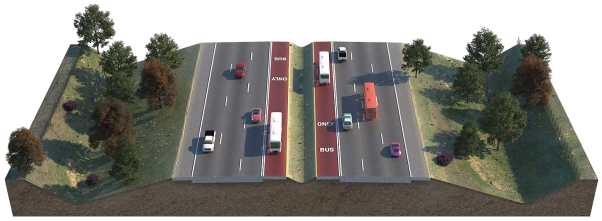
Roadway Improvements Tested with Early Traffic Studies – 6 Lane Access-Controlled facility (represented in the Corridor Improvement Features Exhibit); 6 Lane Arterial/Parkway facility (see Corridors 17 and 18 Fact Sheets)

Prior Studies Considered – Lake-Will (FAP 432) and Richmond-Waukegan (FAP 420) Freeway Draft Environmental Impact Statement (EIS) (IDOT); FAP 432: Corridor Feasibility Study (IDOT); FAP 342 Alternatives (Village of Long Grove); Lake County Transportation Improvement Project (LCTIP) Draft EIS (IDOT); Blue Ribbon Advisory Committee Resolution and Summary Report (BRAC) (Tollway); Grayslake's Vision for a Low Profile Route 53/120 (Village of Grayslake); Draft Feasibility Analysis Report: Illinois Route 53/120 (Tollway).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, highlights areas where alternative corridor location options were reviewed, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where layout refinements should be considered with future studies. The exhibit shows a representative layout for Corridor 16 as a 6 Lane Access-controlled facility. See the representative layout of Corridors 17 and 18 for a 6 Lane Arterial/ Parkway facility.

Corridor 16 (IL 53 Extension)

6-Lane Access-Controlled Facility



FULL SYSTEM (Interstate – Interstate)

FULL SERVICE (Interstate – Arterial)

PARTIAL SERVICE (Interstate – Arterial)

PARTIAL SERVICE (Interstate – Arterial)

RAILROAD GRADE SEPARATION

FULL SERVICE (Interstate – Arterial)

FULL SYSTEM (Interstate – Interstate)

Design opportunities to be investigated to mitigate potential community cohesion issues.

New Corridor location analysis area

0 0.5 1 Miles

Environmental Impacts

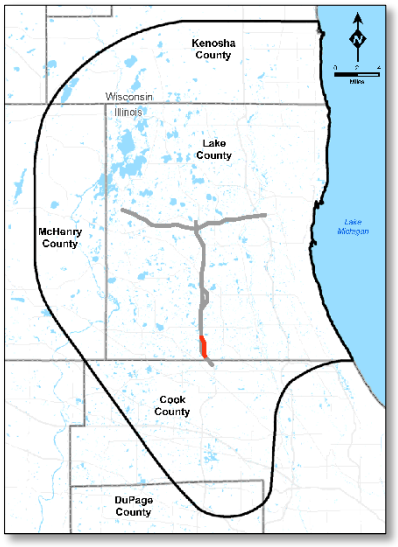
Wetlands	70.7 acres
Surface Water	28 sites
T&E Species Records	3 records
4(f) Resources	10 sites
Displacements	33 properties
Cultural Resources	11 sites
High Risk Special Waste	3 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

TRI·COUNTY ACCESS | LAKE McHENRY COOK

NEW ALIGNMENT (CORRIDOR 17)



Corridor Limits:
North of Lake Cook Road to Cuba Road

Corridor Length:
1.9 miles

Roadway Improvements:
New alignment between North of Lake Cook Road to Cuba Road

Right of Way (ROW) Estimate (2019$)1:
$7 - $10 million

Cost Estimate (2019 $):
$60 - $110 million

CORRIDOR DESCRIPTION

Corridor 17 provides a corridor facility type and location option to the section of Corridor 16 connecting Lake Cook Road and Cuba Road in Long Grove. The new roadway covers 1.9 miles from just north of Lake Cook Road on the south to Cuba Road on the north, traversing through the Villages of Kildeer and Long Grove.

The scope of proposed improvements includes a new roadway corridor from north of Lake Cook Road to Cuba Road. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of the Project Area. Transit elements will be combined with roadway improvements where reasonable based on coordination with transportation providers. Active transportation features will be implemented along new corridors based on stakeholder involvement and an analysis of existing and future active transportation networks. Corridor 17 connects with Corridor 16 to provide an alternate alignment option that better suites a lower speed arterial facility. Off-system roadway improvements require evaluation and refinement in future studies.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability across existing arterial and local roads between Lake Cook Road and IL 120.

Roadway Improvements Tested with Early Traffic Studies – 6 Lane Arterial/Parkway facility (represented in the Corridor Improvement Features Exhibit); 6 Lane Access-Controlled facility (see Corridors 17 and 18 Fact Sheets)

Prior Studies Considered – Lake-Will (FAP 432) and Richmond-Waukegan (FAP 420) Freeway Draft Environmental Impact Statement (EIS) (IDOT); FAP 432: Corridor Feasibility Study (IDOT); FAP 342 Alternatives (Village of Long Grove); Lake County Transportation Improvement Project (LCTIP) Draft EIS (IDOT); Blue Ribbon Advisory Committee Resolution and Summary Report (BRAC) (Tollway); Grayslake's Vision for a Low Profile Route 53/120 (Village of Grayslake); Draft Feasibility Analysis Report: Illinois Route 53/120 (Tollway).

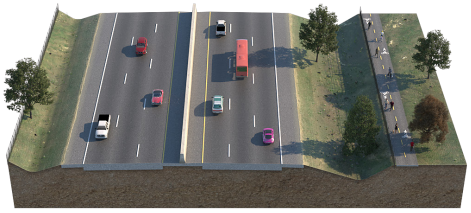
The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, highlights areas where alternative corridor location options were reviewed, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where layout refinements should be considered with future studies. The exhibit shows a representative layout for Corridor 16 as a 6 lane arterial/parkway facility. See the representative layout of Corridor 16 for a 6 lane Access-Controlled facility.

Corridor 17 (New Arterial Alignment)

Connect to Corridor 16 (IL 53 Extension)

MAJOR INTERSECTION

6-Lane Arterial/Parkway Facility



New Corridor location analysis area

Corridor 17 represents an alternative facility type (6-lane arterial/parkway) and alignment for the IL 53 Extension.

RAILROAD GRADE SEPARATION

Proposed roadway grade separation

Connect to Corridor 16 (IL 53 Extension)

Environmental Impacts	
Wetlands	14.9 acres
Surface Water	5 sites
T&E Species Records	0 records
4(f) Resources	2 sites
Displacements	7 properties
Cultural Resources	0 sites
High Risk Special Waste	0 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

NEW ALIGNMENT (CORRIDOR 18)

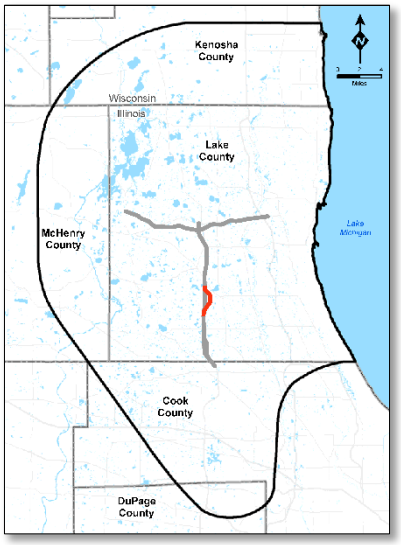
Corridor Limits:
South of Gilmer Road to Midlothian Road

Corridor Length:
2.8 miles

Roadway Improvements:
New alignment between south of Gilmer Road to Midlothian Road

Right of Way (ROW) Estimate (2019$)1:
$11 - $16 million

Cost Estimate (2019 $):
$150 - $260 million



CORRIDOR DESCRIPTION

Corridor 18 provides a corridor facility type and location option to the section of Corridor 16 connecting Gilmer Road and Midlothian Road in the Villages of Hawthorn Woods, Long Grove, and Mundelein. The new roadway covers 2.8 miles from just south of Gilmer Road on the south to Midlothian Road on the north.

The scope of proposed improvements includes a new roadway corridor from just south of Gilmer Road to Midlothian Road. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of the Project Area. Transit elements will be combined with roadway improvements where reasonable based on coordination with transportation providers. Active transportation features will be implemented along new corridors based on stakeholder involvement and an analysis of existing and future active transportation networks. Corridor 18 connects with Corridor 16 to provide an alternate alignment option that better suites a lower speed arterial facility. Off-system roadway improvements require evaluation and refinement in future studies.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability across existing arterial and local roads between Lake Cook Road and IL 120.

Roadway Improvements Tested with Early Traffic Studies – 6 Lane Arterial/Parkway facility (represented in the Corridor Improvement Features Exhibit); 6 Lane Access-Controlled facility (see Corridors 17 and 18 Fact Sheets)

Prior Studies Considered – Lake-Will (FAP 432) and Richmond-Waukegan (FAP 420) Freeway Draft Environmental Impact Statement (EIS) (IDOT); FAP 432: Corridor Feasibility Study (IDOT); FAP 342 Alternatives (Village of Long Grove); Lake County Transportation Improvement Project (LCTIP) Draft EIS (IDOT); Blue Ribbon Advisory Committee Resolution and Summary Report (BRAC) (Tollway); Grayslake's Vision for a Low Profile Route 53/120 (Village of Grayslake); Draft Feasibility Analysis Report: Illinois Route 53/120 (Tollway).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, highlights areas where alternative corridor location options were reviewed, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where layout refinements should be considered with future studies. The exhibit shows a representative layout for Corridor 16 as a 6 lane arterial/parkway facility. See the representative layout of Corridor 16 for a 6 lane Access-Controlled facility.

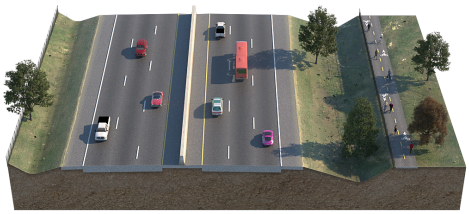
Corridor 18 (New Arterial Alignment)

Connect to Corridor 16 (IL 53 Extension)

MAJOR INTERSECTION

New Corridor location analysis area

6-Lane Arterial/Parkway Facility



RAILROAD GRADE SEPARATION

Proposed grade separation

MAJOR INTERSECTION

MAJOR INTERSECTION

Environmental Impacts	
Wetlands	11.4 acres
Surface Water	6 sites
T&E Species Records	1 record
4(f) Resources	1 site
Displacements	15 properties
Cultural Resources	1 site
High Risk Special Waste	0 sites

Corridor 17 represents an alternative facility type (6-lane arterial/parkway) and alignment for the IL 53 Extension.

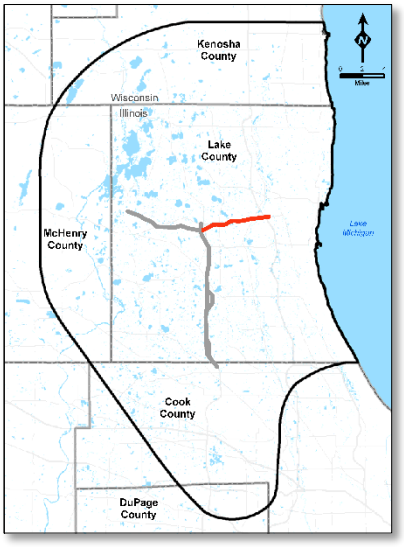
Connect to Corridor 16 (IL 53 Extension)

Tri-County Access Systems Planning Study
Corridor Improvement Features

TRI·COUNTY ACCESS | LAKE McHENRY COOK

FACTSHEET

NEW ALIGNMENT (CORRIDOR 20)



Corridor Limits:
West of IL 83 to east of I-94

Corridor Length:
7.2 miles

Roadway Improvements:
New alignment west of IL 83 to east of I-94

Right of Way (ROW) Estimate (2019$)1:
$8 - $12 million

Cost Estimate (2019 $):
$650 - $1,130 million

CORRIDOR DESCRIPTION

Corridor 20 is a new roadway that covers 7.2 miles from just west of IL 83 to just east of I-94, traversing through the Villages of Grayslake, Gurnee and Waukegan.

The scope of proposed improvements includes a new roadway corridor from west of IL 83 to just east of I-94. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of the Project Area. Transit elements will be combined with roadway improvements where reasonable based on coordination with transportation providers. Active transportation features will be implemented along new corridors based on stakeholder involvement and an analysis of existing and future active transportation networks.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability across existing IL 120 between US 12 and I-94.

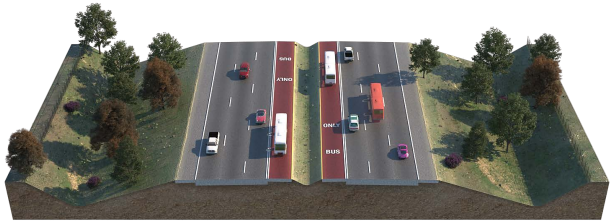
Roadway Improvements Tested with Early Traffic Studies – 6 Lane Access-Controlled facility.

Prior Studies Considered – Lake-Will (FAP 432) and Richmond-Waukegan (FAP 420) Freeway Draft Environmental Impact Statement (EIS) (IDOT); FAP 432: Corridor Feasibility Study (IDOT); FAP 342 Alternatives (Village of Long Grove); Lake County Transportation Improvement Project (LCTIP) Draft EIS (IDOT); Central Lake Thruway: Illinois Route 120 Corridor (LCDOT); Blue Ribbon Advisory Committee Resolution and Summary Report (BRAC) (Tollway); Grayslake's Vision for a Low Profile Route 53/120 (Village of Grayslake); Draft Feasibility Analysis Report: Illinois Route 53/120 (Tollway).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, highlights areas where alternative corridor location options were reviewed, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where layout refinements should be considered with future studies.

Corridor 20 (IL 120 Expressway - East Leg)

6-Lane Access-Controlled Facility



Functions as a full interchange when combined with the I-94 and IL 21 partial interchange to the north. Potential options to expand to a full access interchange.

New Corridor location analysis area

Corridor 20 will connect with Corridor 21 to provide an expressway from US 12 to I-94.

PARTIAL SERVICE (Interstate – Arterial)

FULL SERVICE (Interstate – Arterial)

PARTIAL SERVICE (Interstate – Arterial)

FULL SERVICE (Interstate – Arterial)

MAJOR INTERSECTION

RAILROAD GRADE SEPARATION

RAILROAD GRADE SEPARATION

FULL SYSTEM (Interstate – Interstate)

Environmental Impacts	
Wetlands	27 acres
Surface Water	7 sites
T&E Species Records	9 records
4(f) Resources	4 sites
Displacements	9 properties
Cultural Resources	7 sites
High Risk Special Waste	1 site

Tri-County Access Systems Planning Study
Corridor Improvement Features

FACTSHEET

NEW ALIGNMENT (CORRIDOR 21)

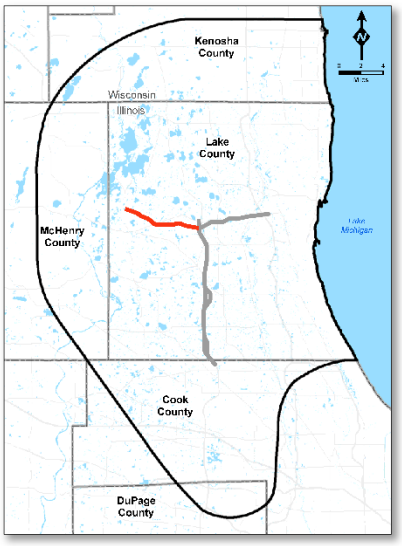
Corridor Limits:
US 12 to west of IL 83

Corridor Length:
7.2 miles

Roadway Improvements:
New alignment west of IL 83 to east of I-94

Right of Way (ROW) Estimate (2019$)1:
$27 - $40 million

Cost Estimate (2019 $):
$450 - $770 million



CORRIDOR DESCRIPTION

Corridor 20 is a new roadway that covers 7.2 miles from US 12 to west of IL 83, traversing through the Villages of Fox Lake, Grayslake, Hainesville, Round Lake, Round Lake Park, and Volo.

The scope of proposed improvements includes a new roadway corridor from US 12 to just west of IL 83. This scope was identified based on stakeholder input, early traffic studies, projected travel demand (year 2050), and prior studies of the Project Area. Transit elements will be combined with roadway improvements where reasonable based on coordination with transportation providers. Active transportation features will be implemented along new corridors based on stakeholder involvement and an analysis of existing and future active transportation networks.

Stakeholder Identified Transportation Problems – heavy congestion and poor travel time reliability across existing IL 120 between US 12 and I-94.

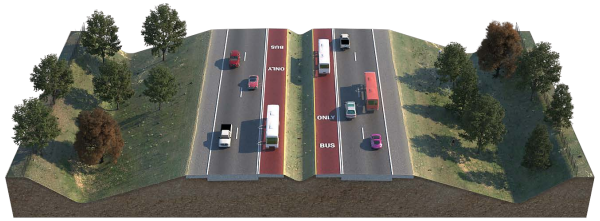
Roadway Improvements Tested with Early Traffic Studies – 4 Lane Access-Controlled facility.

Prior Studies Considered – Lake-Will (FAP 432) and Richmond-Waukegan (FAP 420) Freeway Draft Environmental Impact Statement (EIS) (IDOT); FAP 432: Corridor Feasibility Study (IDOT); FAP 342 Alternatives (Village of Long Grove); Lake County Transportation Improvement Project (LCTIP) Draft EIS (IDOT); Central Lake Thruway: Illinois Route 120 Corridor (LCDOT); Blue Ribbon Advisory Committee Resolution and Summary Report (BRAC) (Tollway); Grayslake's Vision for a Low Profile Route 53/120 (Village of Grayslake); Draft Feasibility Analysis Report: Illinois Route 53/120 (Tollway).

The Corridor Improvement Features Exhibit illustrates a conceptual layout of proposed improvements, highlights areas where alternative corridor location options were reviewed, provides an initial assessment of potential effects to sensitive environmental resources, and highlights key corridor features and areas where layout refinements should be considered with future studies.

Corridor 21 (IL 120 Expressway - West Leg)

4-Lane Access-Controlled Facility



New Corridor location analysis area

Corridor 20 will connect with Corridor 21 to provide an expressway from US 12 to I-94.

FULL SERVICE (Interstate – Arterial)

FULL SERVICE (Interstate – Arterial)

FULL SERVICE (Interstate – Arterial)

FULL SYSTEM (Interstate – Interstate)

0 0.25 0.5 Miles

Environmental Impacts

Wetlands	43.8 acres
Surface Water	15 sites
T&E Species Records	1 record
4(f) Resources	2 sites
Displacements	34 properties
Cultural Resources	4 sites
High Risk Special Waste	0 sites

Tri-County Access Systems Planning Study
Corridor Improvement Features

Attachment III: Programmatic-Level Cost Analyses of Preliminary Corridor Improvement Concepts

Programmatic-Level Cost Analyses of Preliminary Corridor Improvement Concepts

1.0 Introduction and Background

In 2017, the Illinois Tollway, in cooperation with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), commenced a study to evaluate transportation needs and alternative transportation solutions within the Tri-County Access (TCA) Project study area as part of the TCA Environmental Impact Statement (EIS). In July 2019, the TCA Project was suspended, and documentation of planning studies completed prior to the Project's suspension were consolidated into the *TCA Systems Planning Report.* This TCA *Preliminary Corridor Improvement Concepts Programmatic-Level Cost Analysis Memorandum* describes the programmatic-level cost analysis methodology and findings for the preliminary corridor improvements identified in the TCA *Systems Planning Report.*

Included in this memorandum:

- **Section 1:** Background on the TCA Systems Planning Study
- **Section 2:** A review of previously prepared cost analyses for the Illinois Route (IL) 53/120 corridors
- **Section 3:** The methodology used to develop programmatic-level cost estimates for the TCA Project
- **Section 4:** A high-level overview of the preliminary corridor improvement concepts and the proposed corridor improvement refinements to be considered with future studies
- **Section 5:** Summary of programmatic-level cost estimates identified for the preliminary corridor improvement concepts and the refinements

Alternative studies were structured as an iterative process that would consider a full range of multi-modal alternatives to address the TCA Project's Purpose and Need. An early step in this process included identifying and performing an initial evaluation of preliminary corridor improvement concepts, which – when combined and enhanced with complementary multi-modal features – would form complete Initial Build Alternatives for consideration alongside a No-Build Alternative.

Preliminary Corridor Improvement Concepts (Improvement Concepts) were the general types of improvements initially identified for consideration along existing and new transportation corridors. The Improvement Concepts were identified based on early findings of the TCA study area's travel demand characteristics and public input. They represent sketch level improvement cross-section treatments and representative layouts for each of the twelve existing roadway corridors and five new roadway corridors identified for improvement.

Planning level cost estimates were prepared for existing roadway expansion corridors (arterials) and new corridors (designed to tollway standards). Each of the corridors were developed to a sufficient level of detail to prepare planning level costs (construction, right-of-way [ROW], engineering, environmental mitigation).

Comparative planning-level estimates support alternative screening decisions and provide a programmatic level cost for establishing funding priorities. At this stage, the estimates included quantification of a limited number of construction elements and remaining values are assumed percentages of interrelated items, generated from historical project trends.

2.0 Previous Studies with Comparative Cost Models

The need for an improved transportation system in Lake County and its surrounding area has been the focus of years of planning and study. As early as the 1960s, regional plans identified the need for improved transportation linkages between Lake and McHenry counties and the rest of northeastern Illinois. Federal, state, and local agencies have been involved in various planning studies related to a potential extension of IL 53, along with an upgrade of the IL 120 corridor to provide that linkage. The prior studies and reports related to alternative transportation solutions to be considered with the TCA Project were gathered from regional planning agencies and transportation providers.

Relevant information and findings of prior studies were considered as part of the cost estimating process. Two recent studies served as reference for the TCA planning level cost estimates: (1) the Blue Ribbon Advisory Council (BRAC)[1] and (2) the Feasibility Analysis Report (FAR)[2]. Following is a brief summary of each report and the resulting cost estimates.

2.1 Blue Ribbon Advisory Council

The IL 53/120 corridor study, *Blue Ribbon Advisory Council (BRAC) Resolution and Summary Report,* was completed June 7, 2012. The BRAC Report summarized the estimated project costs based on the features of the study at that time, namely the IL 53 extension and IL 120 upgrades. Costs are provided below to give relative comparison of the categories, using Alignment 2, with low and high end of range. Assumptions included a construction timeframe of 2012 to 2020, with the estimate escalated to 2020 dollars (see Table 1). The BRAC used these cost estimates as a basis to discuss preliminary funding opportunities.

Table 1. Blue Ribbon Advisory Council (BRAC) Cost Estimates (2012, using 5% esc. to 2020)

	Category	**Low ($M)***	**High ($M)***
1	Roadway	$1,276	$1,378
1a	Roadway Items	$714	$771
1b	Bridges	$221	$238
1c	Retaining Walls	$14	$15
1d	Drainage	$73	$79
1e	Supplemental Environmental	$255	$275
2	Toll and ITS	$41	$44
3	Maintenance of Traffic (MOT)	$27	$30
4	Environmental and Noise	$88	$95
4a	Environmental Mitigation (4%)	$64	$69
4b	Noise Abatement	$24	$26
5	Engineering	$448	$484
6	Construction Contingency	$227	$245
7	Restoration Fund	$81	$81
8	Right-of-Way	$200	$350
	TOTAL:	**$2,388**	**$2,706**

**Alignment 2, Low and High estimates*

2.2 Feasibility Analysis Report

As a follow-up to the BRAC Study, the *Feasibility Analysis Report* (FAR) was published on October 23, 2015 and assessed costs for an IL 53/120 improvement[4]. This report expanded on all aspects of the

[1] Illinois Department of Transportation. 2012. Blue Ribbon Advisory Committee Resolution and Summary Report (BRAC).

[2] Illinois Tollway. 2015. Draft Feasibility Analysis Report: Illinois Route 53/120.

[3] Illinois Economic Policy Institute. 2017. In Support of Route 53/120.

[4] Illinois Tollway. 2015. Illinois Route 53/120: Finance Committee Feasibility Analysis.

BRAC Report, including the cost estimating methodology and results. The FAR project cost estimate was comparable to the BRAC estimate (see Table 2).

Table 2. Feasibility Analysis Report (FAR) Cost Estimates (2013, using 5% esc. to 2020)

	Category	Low ($M)*	High ($M)*
1	Roadway	$ 631	$ 655
2	Structures	$ 261	$ 362
3	Traffic Management & Tolling	$ 51	$ 74
4	Drainage	$ 148	$ 173
5	Environmental Mitigation	$ 115	$ 131
6	Contingency	$ 362	$ 418
	Construction Sub-total:	$ 1,550	$ 1,813
7	Right-of-Way	$ 225	$ 227
8	Engineering	$ 410	$ 463
9	Utility Relocations	$ 66	$ 66
10	Environmental Restoration & Stewardship fund	$ 81	$ 81
	TOTAL:	**$ 2,350**	**$ 2,650**

**Note that the estimate provides estimates for "Low" and "High" which are based on alternates to portions of the design (the alignment), and not based on ranges of unit costs or percentage-based items.*

3.0 Methodology to Develop Programmatic Cost Estimates

The Improvement Concepts were identified based on early findings of the TCA study area's travel demand characteristics and public input. The Improvement Concepts were developed as "sketch level engineering drawings" or engineering layouts over an aerial base in MicroStation. The sketch level improvements are a combination of cross-section treatments on new or existing alignments. The engineering level of development for this stage of the TCA Project was approximately 5 to 10 percent.

Planning level cost estimates were prepared for existing roadway expansion corridors (arterials) and new corridors (designed to tollway standards) as described in Section 4. Each of the corridors were developed to a sufficient level of detail to prepare planning level costs and identify potential right-of-way impacts and environmental mitigation requirements.

For each corridor, the sketch level engineering included an assessment of roadway and structural improvements for the corridor and intersecting facilities. In addition, for arterial improvements, facilities such as sidewalks and multi-use paths were assessed. These improvements provided the framework for developing a construction footprint that could be used to also assess environmental impacts and right-of-way needs.

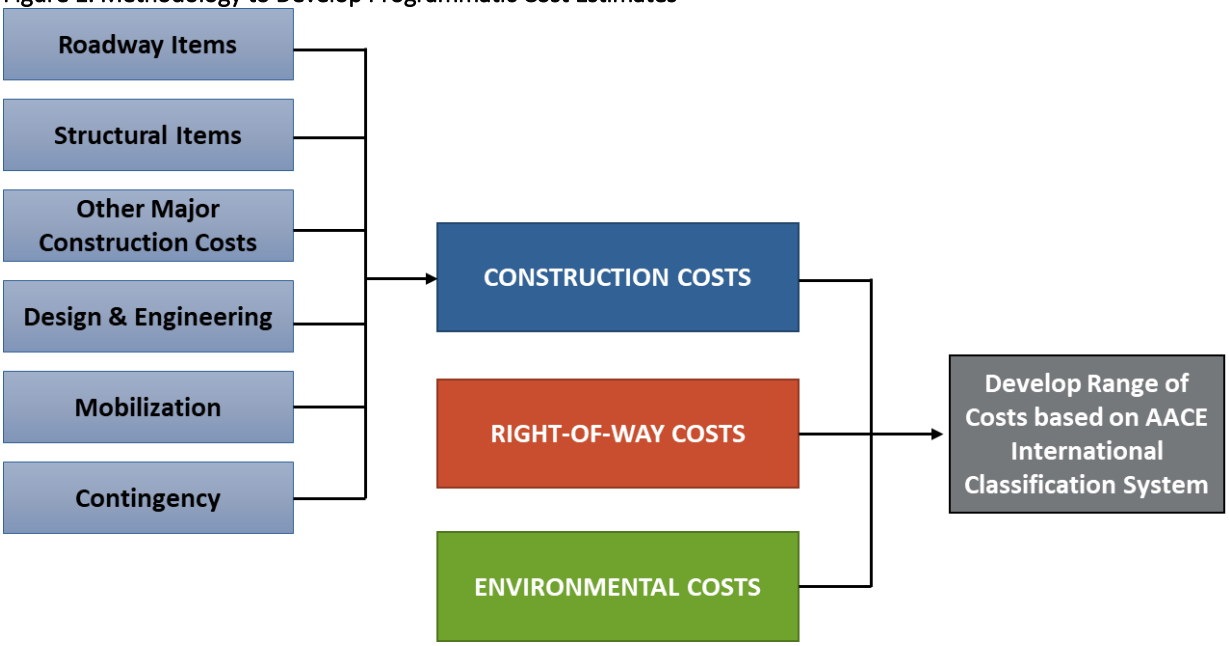
A cost model was developed that starts with developing quantities for major cost items such as roadway and structural items, and then applies percentages to other major construction costs. Estimated costs were prepared in 2019 dollars (the then current year). The estimates were prepared based on conceptual design layouts and representative cross-section treatments for roadway improvements including some supporting improvements to existing roadways. Given the very limited information regarding existing roadway infrastructure condition and re-use potential available, full reconstruction was assumed for all improvements.

The cost data types contributing to the major categories are:

- **Unit Cost Items:** Costs obtained for major roadway and structural items, based on preliminary quantities and historical bid data. These include roadway and structural cost elements.
- **Roadway and Structural Incidentals:** Additional percentages applied to roadway and structural elements to account for unknown items such as bad soils or change in materials that were not anticipated at time of estimate.

- **Percentage Items:** Cost items based on major construction costs that are typically derived from a percentage of roadway and structural costs. In addition, other costs were quantified based on percentages such as mobilization, construction contingency, and engineering.
- **Improvement Specific Cost Items:** Items such as traffic signals and tolling equipment, were quantified based on a specific corridor improvement.
- **Environmental and Right-of-Way Costs:** Wetland mitigation and right-of-way impacts were quantified and costed based on identified right-of-way needs for each of the corridors.

Figure 1. Methodology to Develop Programmatic Cost Estimates



3.1 Class 4 Estimate Process

Once a cost estimate has been developed, an accuracy range is applied, to account for the potential risks to a cost estimate based on the number of unknown factors. For the level of engineering development, a Class 4 estimate class, as defined by the Association for the Advancement of Cost Engineering (AACE), was used since it is specifically associated with feasibility study estimates. Class 4 cost estimates are generally prepared based on limited information and subsequently have wide accuracy ranges. These estimates are typically used for feasibility studies that consider concept evaluation, preliminary budget approval, detailed strategic planning, business development, alternative scheme analysis, project screening and determination of feasibility. It is assumed that the development of the engineering is approximately 10 percent. The Typical accuracy ranges for Class 4 cost estimates are -15 percent to -30 percent on the low side and +20 percent to +50 percent on the high side, depending on the technological complexity of the project, appropriate reference information and other risks (after inclusion of an appropriate contingency determination). Ranges could exceed those shown if there are unusual risks involved with the project.
For the TCA Project, the range in costs assessed to the various elements vary based on assessments by the TCA Team on the level of Project details/definition at this time.

- Construction Cost Model Elements including Engineering: -25 percent to +30 percent
- Environmental (Wetland Mitigation): -50 percent to +100 percent
- Right-of-Way: -20 percent to +20 percent

The remainder of the section describes the methodology to develop each of the three cost model components.

3.2 Construction Cost Model Elements

The construction cost model relies on quantity estimates for major unit cost items that have the greatest influence on construction cost and can reasonably be defined at this early stage of conceptual design. Roadway and structural items comprise most of these quantities.

Roadway Items

Roadway items are comprised of new pavements, pavement removals, and major construction items that are developed as a percentage of the pavement costs. Unit costs for pavement quantities vary by facility type. The roadway cost elements that were quantified or calculated as a percentage of other roadway items are listed in Table 3.

New pavement quantities are measured in CAD for all facility types. For the new roadway corridors, the mainline pavement, shoulders, ramps and barrier median were quantified. For the existing roadway expansion corridors, new pavement quantities were determined for arterial roadways, paved medians, multi-use paths, and sidewalks. Subbase quantities were auto-calculated from the pavement area. As the study process advances, unit costs may need to be adjusted according to more current construction pricing information. Pavement removal quantities were derived from the project limits of the proposed improvements. Complete reconstruction was considered.

Table 3. Roadway Cost Elements

Unit Description by Facility Type	Percent (%) or Cost	Unit
NEW CORRIDORS		
Pavement [Mainline + Ramp]	$ 80.00	SQ YD
WMA Stabilized Subbase	$ 12.00	SQ YD
Aggregate Subgrade	$ 15.00	SQ YD
Shoulder [Mainline + Ramp]	$ 50.00	SQ YD
Median Barrier	$100	LIN FT
EXISTING ROADWAY EXPANSION CORRIDORS		
HMA SC "C" N50 - 2" Depth	$75.00	TON
HMA BC IL-19.0 N50 - 10" Depth	$65.00	TON
AGG Base CSE B - 6" Depth	$26.00	TON
AGG Subgrade IMPR 12"	$15.00	SQ YD
CC&G (B-6.24, 4 EDGES)	$26-30	FOOT
Median	$6.50	SQ FT
OTHER PAVED FEATURES		
Shared Use Path (10' W x 6" HMA)	$36.00	SQ YD
Sidewalks (5' W x 5" PCC)	$6.00	SQ FT
Driveways (var W x 8" HMA)	$60.00	SQ YD
ROADWAY INCIDENTALS (Guardrail, Patching, Rip-Rap, etc.)	5%	% of Roadway
PAVEMENT REMOVALS	$6.00	SQ YD

Major Construction Costs

After the quantities have been captured for the roadway items, approximate costs for other major cost categories are developed as a percentage of the roadway pavement costs (see Table 4).

- **Earthwork** includes all cut and fill. The earthwork quantities may be calculated by automation (using Concept Station software) as engineering develops. But for this stage of the Project, a percentage of roadway pavement costs was used.
- **Landscaping** includes all plants, seed, sod and topsoil.
- **Erosion control** includes all temporary erosion control items such as temporary ditch checks.
- **Temporary roadway items** include temporary access, aggregate, pavement, fences, signs, sign posts, and other items. Does not include temporary drainage, striping, traffic signals, or lighting.

- **Removals** includes signs, fences, building and other items.
- **Special waste.**
- **Temporary traffic control** for new roadway, staging at the existing crossroads, presumably for grade separations and detours. For existing roadways, there may be a need to keep them open for commercial access. Could also do a one-way detour. This category includes all temporary tape, raised pavement markers, temporary barriers, and temporary signs.
- **Signing** includes all permanent sign panels, posts, removals, and relocations. Temporary signing is not included. See temporary roadway items.
- **Pavement markings** include all proposed markings, raised pavement markings, reflectors and removals. Temporary markings are included in temporary traffic control.
- **Trench backfill** calculated as a separate item due to high cost.
- **Utilities (Water).** This category includes new water lines, removals, temporary water items, etc. The need for watermain improvements does not necessarily coincide with roadway improvements, but it is a convenient time if trenching the pavement. This work is often done under separate contracts, or paid by other owners (e.g., water department or private utilities), but the sample projects did have sufficient watermain improvement aspects to generate an average cost.
- **Lighting** should be designed to meet "Dark Sky" requirements (to control light pollution) by using full cut-off roadway light fixtures with no-spillover luminaires and shielding. Only provide lighting at roundabouts and interchanges. This category includes poles, foundations, lights, removals and temporary lighting.
- **Drainage**. Storm and sanitary includes all storm and sanitary pipes, temporary drainage pipes, all storm and sanitary structures and temporary structures. Sanitary is typically owned and operated by the municipality separate from the roadway. Within urban areas such as along arterials with curb and gutters, closed drainage was assumed. Interstate facilities were assumed to have drainage systems. For both situations, detention areas would need to be assessed as part of future studies. The proposed right-of-way includes complete property takes to avoid partial remainders. It is anticipated that detention areas could potentially be placed in those areas and no additional right-of-way has been estimated at this time.
- **Roadway incidentals** account for pay items that are not being quantified, such as guardrail, rip-rap, and other minor items. A percentage of 5 percent was applied to the combined total from the pavement, removals, and major construction cost elements.

Table 4. Major Construction Cost Elements Developed as a Percentage of Roadway Pavement Costs

Item	Percent (%) or Cost	Cost Basis
Earthwork	24%	Roadway Pavement Cost
Landscaping	10%	Roadway Pavement Cost
Erosion Control	3%	Roadway Pavement Cost
Temporary Roadway Items	8%	Roadway Pavement Cost
Removals, Pavement, Drainage Features, Signs, etc.	8-12%	Roadway Pavement Cost
Special Waste	10%	Roadway Pavement Cost
Temporary Traffic Control	8-12%	Roadway Pavement Cost
Signing	1%	Roadway Pavement Cost
Pavement Markings (Including RPM, Reflectors)	4%	Roadway Pavement Cost
Trench Backfill	4%	Roadway Pavement Cost
Utilities (Water)	10%	Roadway Pavement Cost
Lighting	5%	Roadway Pavement Cost
Drainage (Storm and Sanitary)	35-40%	Roadway Pavement Cost

Structures

Structural cost elements are comprised of new bridges, bridge widenings, retaining walls and culverts. This category also includes noise walls; however, these had not yet been analyzed for the Project. The structural cost elements that were quantified or calculated as a percentage of other roadway items are listed in Table 5.

- **Bridges (New).** Since there were several different types of bridges considered for these improvements that have significantly different unit costs, a range of unit costs for each of the different bridge types were developed. New bridge costs were calculated based on the width of the rail corridor. Structure limits were estimated from the conceptual plan view information in MicroStation. In addition to bridges, costs were estimated for box culverts.
- **Bridge removals.** The average for bridge removal is $50 per square foot based on some recent removals and seems reasonable for most basic concrete bridge types. For heavy steel structures, such as through girder, it is recommended to estimate using $100 to $150 square foot.
- **Retaining walls.** Locations and approximate lengths of retaining walls were determined from the conceptual plan view information in MicroStation. The estimated construction cost was based on the plan length of each retaining wall and an average height (15 feet) assumed throughout the alternative. The type of retaining wall has not been considered at this time.
- **Structural incidentals.** These are developed as a percent of these costs and account for items such as guardrail, rip-rap, bad soils requiring additional foundational support, etc. To account for undetermined unmeasured quantities or variations in design, 15-20 percent of structural costs was used to estimate the structural incidentals.

Table 5. Structural Cost Elements

Structural Items	Percent (%) or Cost	Unit
Bridge Removal	$35-100	SQ FT
New Bridges	$160-$300	SQ FT
Bridge Widening	$110	SQ FT
Railroad Bridges (New Corridors)	$12,000	TRACK FT
Railroad Bridges (Existing Roadway Expansion Corridors)	$1,400	SQ FT
Railroad At-Grade Crossing to Grade Separation	$40,000,000	EACH
Box Culverts (New Corridors)	$150	SQ FT
Box Culverts (Existing Roadway Expansion Corridors)	$2,000	FOOT
Retaining Walls	$80-120	SF
Structure Incidentals	15%	% of Structures

The cost model accounts for most other items as a percentage of the roadway and structural cost elements. They are based on historical construction cost data from projects of a similar type. In addition, there are a few additional cost items related to items such as traffic signals and tolling equipment. Since the corridor options vary greatly, certain cost items applied only to specific corridors.

Lump Sum Items

There are several additional construction related items that can easily be quantified and costed for a specific corridor as noted in Table 6.

The current design and the Illinois Tollway's desire is to have all electronic tolling for the mainline and ramp plazas. Therefore, the cost model assumed this approach for all new access-controlled facilities. For the cost model, ITS infrastructure includes the following sub-cost elements: $20/FT for Fiber Optic Backbone; $911,000 for ITS/ETC Cost per Toll Plaza; and $2,670,000 per Toll Plaza (including required signage and lighting).

Table 6. Lump Sum Items

Items	Cost
Traffic Signals for Intersections	$350-$750k per location
Temporary Traffic Signals	$60k per location
Interchange Lighting	$2M per location
Underpass Lighting	$120k per location
Mainline Toll Point	$2.5M per location
ITS Infrastructure	$500k per mile
Expand Maintenance Facility	$2M per location
New Maintenance Facility	$20M per location

Design and Engineering

A range in engineering costs was applied based on the lead agency for a particular improvement. For Tollway led projects, the engineering costs are slightly higher since they include a Design Corridor Manager (DCM) and a Construction Corridor Manager (CCM).

Costs for professional services are included as a percentage of the total cost including construction, contingencies and right-of-way. Table 7 provides an overview of typical percentage ranges for the various design and engineering costs typically used by IDOT and the Tollway.

Table 7. Engineering Costs by Agency

Item	Percent or Cost	Cost Basis
FOR TOLLWAY SECTIONS:		
Master Planning (Phase I Engineering)	5%[a]	Total Construction Cost
DSE (Phase II Engineering)	6%[a]	Total Construction Cost
DCM (Phase II Engineering)	2.5%[a]	Total Construction Cost
CM (Phase III Engineering)	8%[a]	Total Construction Cost
CCM (Phase III Engineering)	3%[a]	Total Construction Cost
FOR IDOT SECTIONS:		
Phase I Engineering	4%	Total Construction Cost
Phase II Engineering	5%	Total Construction Cost
Phase III Engineering/CE	7%	Total Construction Cost

[a] *Percent of Costs provided by the Tollway for FAR (2015). Costs for final design (DSE), Construction Management (CM), and Corridor Construction Management (CCM) services were estimated as a percentage of total construction cost.*

Mobilization

Mobilization is developed as a percentage of roadway, structures, and lump sum items. The mobilization item is 8 percent applied to the total construction estimate to include miscellaneous items such as trainees, construction layout, field office and insurance.

Contingency

Contingency is developed as a percentage of roadway, structures and lump sum items. A contingency of 25 to 30 percent of the total construction cost was applied to the cost estimate to account for the many unknowns at this stage of the engineering development. Note that the contingency is not intended to cover anticipated inflation.

3.3 Right-of-Way Costs

The right-of-way (ROW) footprint for each of the corridors was established and potential ROW acquisitions determined by Tax ID Number (PIN). Potential acquisitions were then categorized based on zoning, use, property type, owner type as well as by location within specific municipalities. The areas of these potential acquisitions were identified by PIN and corridor. Adjacent land values were utilized to determine a value range for agency owned land, railroad property and land owned by utilities. The sale price/square feet of land were quantified and a mean square foot value was established per category and municipality to be expressed with an accuracy of +/- 20 percent.

The square foot values for the existing roadway expansion corridors were based on a representative sample from the new corridor analysis. For municipalities not included in the new corridor analysis, square foot values were estimated based on countywide data collected.

Damage to the remaining property due to proximity, severance damage, etc. was estimated at 10 percent for each property. Not all properties will experience any damage to the remainder but some damages will exceed the 10 percent. Due to the sample sizes, it was felt that 10 percent was a reasonable figure.

The analysis does not cover those parcels identified with potential demolition requirements. Nor did it cover soft costs associated with agency acquisitions. A corridor budgetary cost for these items are typically set by the Tollway program and would not be included within the actual acquisition parcel budgetary amounts.

3.4 Environmental Cost Assessment

Avoidance and minimization of environmental impacts was integrated early into the alternatives development and evaluation process. However, for some of the alternatives, there was no reasonable alternative to avoid a right-of-way impact.

The TCA Geographic Information System (GIS) database provided a means by which the environmental impacts of the preliminary corridor improvement concepts could be measured to quantify wetland impacts within the required right-of-way footprints. The range of mitigation for the impacts varies from a ratio of 1:1.5 to 1:2.0 depending on environmental analysis. A cost of $120k per acre was assumed for wetland mitigation.

4.0 Overview of Preliminary Corridor Improvement Concepts

Improvement Concepts were considered along existing and new transportation corridors. These Improvement Concepts were identified based on public input, findings of the system scenario development and evaluation, and early input from municipal officials along the improvement corridors. Each of the Improvement Concepts were costed using the methodology outlined in Section 3.

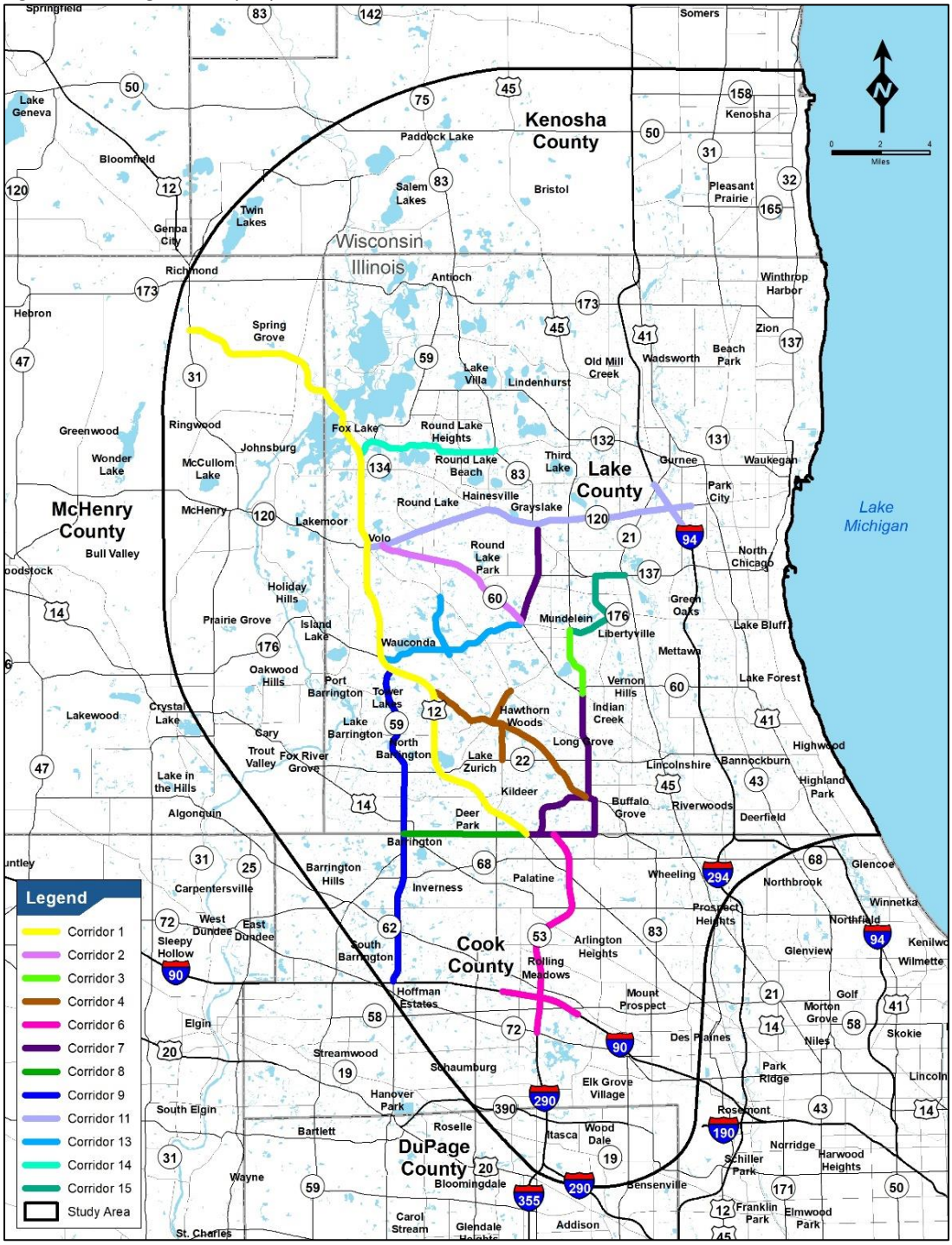
Due to the suspension of the TCA Project amid engineering development and evaluation, the TCA Team was unable to complete any design refinements to address modifications in transportation needs resulting from the Final Year 2050 traffic forecasts. As a result, in addition to describing the Improvement Concepts in this section, also noted are corridor refinements for future studies. These proposed modifications vary by corridor, but generally include reducing capacity, modifying cross-section treatments, adjusting improvement limits (project termini) and modifying access locations or treatment.

4.1 Existing Roadway Expansion Corridors

Fifteen existing roadway corridors were identified for expansion – that is, widening and where appropriate new grade separations to accommodate current and projected travel demand (see Figure 2). These corridors were identified based on Initial System Scenario findings and public input.

Each of the identified corridors represents a link on the existing roadway system where expansion improvements are needed to accommodate regional travel patterns and traffic forecasts. These individual existing roadway expansion improvements, when combined into a complete network of existing roadway improvements with complementary multi-modal improvement features, would form an Initial Build Alternative.

Figure 2. Existing Roadway Expansion Corridors



For each of the existing corridors, a representative cross-section treatment was applied that could be implemented in an urban setting (for example, in a community downtown area), suburban setting, or a rural setting. In addition, cross-section treatments were developed for Corridor 6 which examined widening along the existing IL 53 Expressway.

- Widening to four (4) travel lanes (two [2] in each direction) with complementary active transportation features such as sidewalks and bikeways.
- Widening to six (6) travel lanes (three [3] in each direction) with complementary active transportation features such as sidewalks and bikeways.

REPRESENTATIVE IMPROVEMENT LAYOUTS FOR EXISTING ROAD EXPANSION CORRIDORS

This section provides a summary of representative improvement layouts and concepts identified for consideration with each existing roadway expansion, illustrates select design options identified at various locations along the new corridors and provides a summary of corridor improvement refinements which should be considered with future studies. Detailed fact Sheets for each corridor are included in the *TCA Systems Planning Report*. They include a summary of stakeholder-identified transportation problems and prior studies, projected traffic, corridor improvement features including refinements to be considered with future studies, a summary of potential effects to sensitive environmental resources and programmatic-level costs.

Corridor 1 (US 12: Lake Cook Road to North Richmond Road)

Corridor 1 (US 12) passes through 11 communities - Richmond, Spring Grove, Fox Lake, Lakemoor, Volo, Wauconda, Hawthorn Woods, North Barrington, Lake Zurich, Kildeer and Deer Park. The scope of improvements tested between Lake Cook Road and State Park Road included widening to six (6) travel lanes (three [3] in each direction) and a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. The scope of improvements between State Park Road and North Richmond Road included widening to four (4) travel lanes (two [2] in each direction) to provide additional capacity. This scope was identified based on Draft Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating roadway widening north of IL 59.

Corridor 2 (IL 60: IL 83 to IL 120)

Corridor 2 (IL 60) passes through the communities of Volo, Round Lake, Round Lake Park and Mundelein. The scope of improvements tested between IL 120 and IL 83 included widening to four (4) travel lanes (two [2] in each direction) to provide additional capacity. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating roadway widening between Fairfield Road and IL 120.

Corridor 3 (US 45)

Corridor 3 (US 45) passes through the Village of Mundelein. The scope of improvements tested between IL 120 and IL 83 included widening to six (6) travel lanes (three [3] in each direction) and a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts.

Corridor 4 (Old McHenty Road, Midlothian Road and Quentin Road)

Corridor 4 consists of segments of three roadways (Old McHenry, Midlothian and Quentin Roads) and passes through six communities: North Barrington, Hawthorn Woods, Lake Zurich, Kildeer, Long Grove and Buffalo Grove. The scope of improvements tested included widening Old McHenry Road to six (6) travel lanes (three [3] in each direction) with a raised barrier median and widening Midlothian Road and Quentin Road to four (4) travel lanes (two [2] in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider reducing required widening on Old McHenry Road to four (4) travel lanes (two [2] in each direction).

Corridor 6 (IL 53 Expressway: Lake Cook Road to Higgins Road)

Corridor 6 (IL 53) passes through Schaumburg, Rolling Meadows, Palatine and Arlington Heights. This widening was determined to be required with Initial Build Alternatives which include Corridor 16 (a new IL 53 extension to IL 120). Proposed improvements to Corridor 6 include widening to eight (8) travel lanes (four [4] in each direction) and improving the I-90 at IL 53 system interchange along with adjoining interchanges along I-90 and IL 53. This scope was identified based on Draft Year 2050 traffic forecast and validated with Final Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Future studies should consider interchange design alternates in the vicinity of the I-90 at IL 53 system interchange to enhance traffic operations.

Corridor 7 (Lake Cook Road, Arlington Heights Road, IL 53 and IL 83)

Corridor 7 consists of five roadway segments (IL 53, IL 83, Lake Cook Road, Arlington Heights Road and IL 83) that pass through Long Grove, Vernon Hills, Buffalo Grove, Deer Park, Palatine, Arlington Heights, Mundelein and Grayslake. The scope of improvements tested included widening IL 53, IL 83, Lake Cook Road and a portion of IL 83 to six (6) Lake Cook Road to six (6) travel lanes (three [3] in each direction) with a raised barrier median, as well as widening another portion of IL 83 to four (4) travel lanes (two [2] in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider reduced roadway widening along parts of IL 53 and IL 83.

Corridor 8 (Lake Cook Road: Barrington Road to US 12)

Corridor 8 (Lake Cook Road) passes through the communities of Barrington, Deer Park and Palatine. The scope of improvements tested included widening Lake Cook Road to four (4) travel lanes (two [2] in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts.

Corridor 9 (IL 59 and Barrington Road)

Corridor 9 (IL 59 and Barrington Road) passes through South Barrington, Hoffman Estates, Barrington Hills, Inverness, Barrington, North Barrington, Lake Barrington, Tower Lakes and Wauconda. The scope of improvements tested included widening the corridor to six (6) travel lanes (three [3] in each direction) with a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. This scope was identified based on Draft Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating roadway widening south of IL 62, reducing roadway widening north of IL 62 and bypass design alternates in Barrington.

Corridor 11 (IL 120: US 12 to US 41 - Arterial Widening)

Corridor 11 (IL 120) passes through the communities of Lakemoor, Volo, Round Lake, Round Lake Park, Hainesville, Grayslake and Gurnee. The scope of improvements tested included widening the arterial corridor to six (6) travel lanes (three [3] in each direction) with a raised barrier median, providing additional required capacity and enhancing access management for improved traffic flow. This scope was identified based on Draft Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider reducing roadway widening along parts of IL 120.

Corridor 13 (IL 176 and Fairfield Road)

Corridor 13 consists of two roadway segments (IL 176 and Fairfield Road) and passes through the communities of Wauconda, Hawthorn Woods and Mundelein. The scope of improvements tested

included widening to four (4) travel lanes (two [2] in each direction) to provide additional required capacity. This scope was identified based on Draft Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating IL 176 widening east of Fairfield Road.

Corridor 14 (IL 59 and Rollins Road)

Corridor 14 consists of two roadway segments (IL 59 and Rollins Road) and passes through the communities of Fox Lake, Round Lake Heights, Round Lake Beach and Grayslake. The scope of improvements tested included widening IL 59 to four (4) travel lanes (two [2] in each direction) and widening Rollins Road to six (6) travel lanes (three [3] in each direction) with a raised barrier median, providing additional required capacity and enhancing access management. This scope was identified based on Draft Year 2050 traffic forecasts.

Corridor Improvement Refinements to be Considered with Future Studies. Based on Final Year 2050 traffic forecasts, future studies should consider eliminating widening along IL 59 and Rollins Road.

Corridor 15 (IL 176, Butterfield Road and IL 137)

Corridor 15 consists of three roadway segments (IL 176, Butterfield Road and IL 137), and passes through Mundelein, Libertyville and unincorporated portions of Lake County. The scope of improvements tested included widening IL 176 to four (4) travel lanes (two [2] in each direction) and widening Butterfield Road and IL 137 to six (6) travel lanes (three [3] in each direction) with a raised barrier median, providing additional required capacity and enhancing access management. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts.

4.2 New Roadway Corridors

Three new roadway corridor links were identified for consideration—that is, construction of new roadways to accommodate current and projected regional travel patterns and demand (see Figure 3). These consist of three new access-controlled corridor representative facility types and layouts.

- Corridor 16 – IL 53 Extension
- Corridor 20 – IL 120 Expressway to I-94
- Corridor 21 – IL 120 Expressway to US 12

In addition, two corridor facility type and location options were identified along the IL 53 Extension (Corridors 17 and 18).

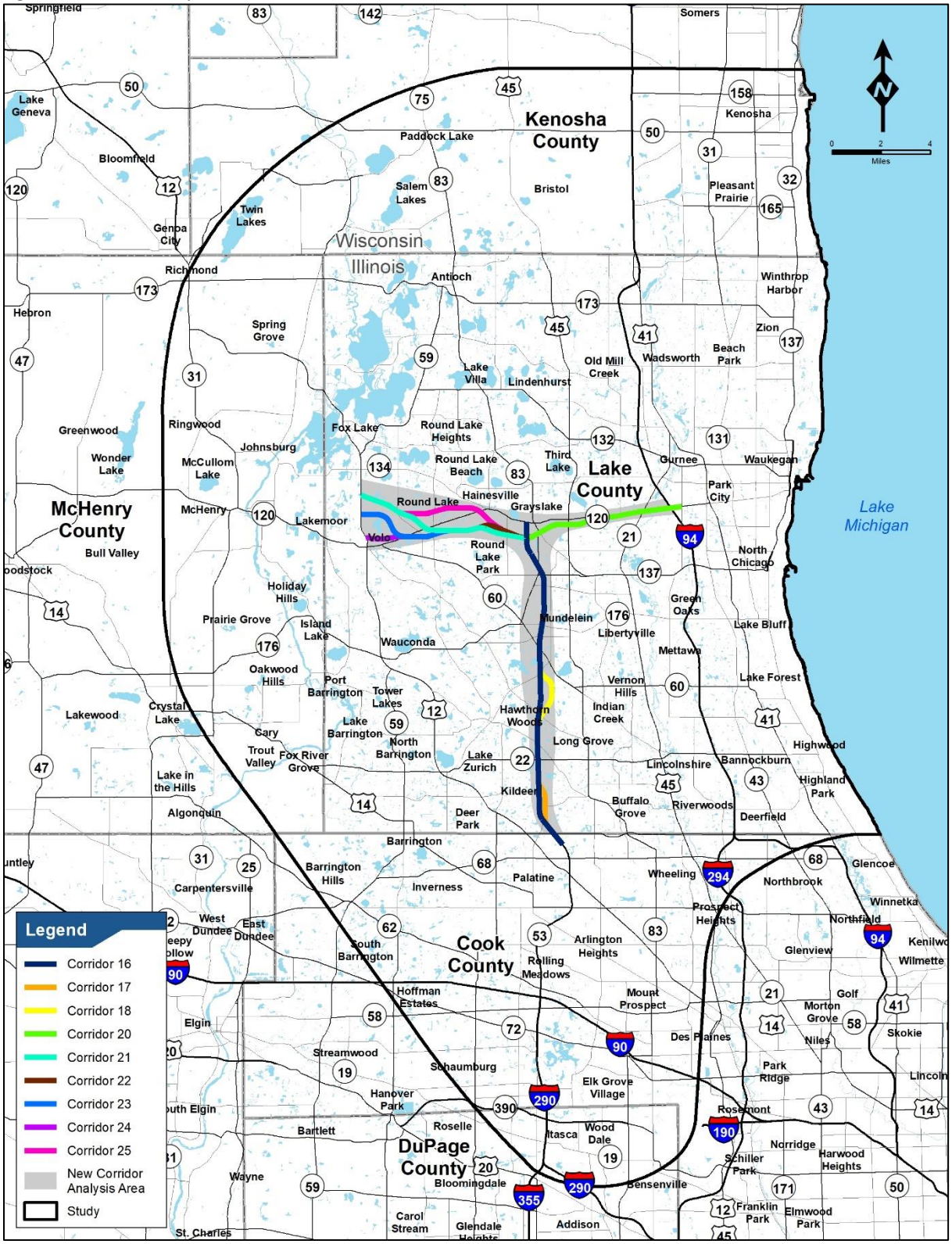
A series of corridor location options were also identified for the IL 120 Expressway to US 12 corridor (Corridors 22, 23, 24 and 25). Since these are within the same relative geographic location as Corridor 21, cost estimates were not prepared for each option.

At this initial stage, three illustrative cross-section treatments were identified for the new corridors:

- 6-lane access-controlled facility
- 4-lane access-controlled facility
- 6-lane new arterial/parkway facility

While active transportation features are illustrated alongside the new arterial/parkway facility, active transportation connections would also be accommodated along new access-controlled facilities, where appropriate. Based on the level of engineering development at the time the TCA Project was suspended, these active transportation features had not yet been established and are not included in the cost estimates for the new corridors.

Figure 3. New Roadway Corridors



Representative Improvement Layouts for New Corridors

This section provides a summary of representative improvement layouts and concepts identified for consideration with each new roadway corridor, illustrates select design options identified at various locations along the new corridors and provides a summary of corridor improvement refinements which

should be considered with future studies. Detailed fact Sheets for each corridor are included in the *TCA Systems Planning Report*. They include a summary of stakeholder-identified transportation problems and prior studies, projected traffic, corridor improvement features including refinements to be considered with future studies, a summary of potential effects to sensitive environmental resources and programmatic-level costs.

<u>Corridor 16</u> (IL 53 Extension: Lake Cook Road to IL 120)

Corridor 16 (new IL 53 Extension) extends northly from Lake Cook Road to IL 120, and passes through six communities: Palatine, Kildeer, Hawthorn Woods, Long Grove, Mundelein and Grayslake. The scope of improvements tested includes a new 6-lane access-controlled roadway with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new system interchanges). This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts.

Corridor 16 would need to be implemented in combination with Corridor 6 (IL 53 Expressway) and Corridor 20 (IL 120 Expressway to I-94), and optionally with Corridor 21 (IL 120 Expressway to US 12).

Whereas Corridor 16 is in the vicinity of established communities and sensitive environmental resources, a series of facility type and location options (Corridors 17 and 18) were identified along portions of this new corridor (see Figure 3). The Corridor 16 layout was used as the initial representative layout to evaluate existing environmental and socioeconomic conditions and potential impacts to adjoining resources.

Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (expressway or parkway), roadway elevation design options (at-grade or depressed roadway options), alignment options, interchange type design options and complementary off-system improvement design options (improving existing roadways near new interchange locations and transportation connections to adjoining communities) should be considered with any future studies of the IL 53 Extension. Figures 4 and 5 show the designs that were considered as part of the revised cost estimate.

Figure 4. IL 53 Extension in Mundelein Design Option

Figure 5. IL 53 Extension in Mundelein Design Option

Corridor 17 (IL 53 Extension Facility and Location Option: Lake Cook Road to Cuba Road)

Corridor 17 provides a corridor facility and location option to the section of Corridor 16 connecting Lake Cook Road and Cuba Road in Long Grove. The scope of improvements tested includes a new 6-lane arterial/parkway. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. This scope also reflects concepts considered with prior studies.

Corridor 17 could be considered for implementation as part of Initial Build Alternatives which include an IL 53 Extension.

Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (arterial or parkway), roadway elevation design options (at-grade or depressed roadway options), alignment options and complementary multi-modal connections to adjoining communities should be considered with any future studies of the IL 53 Arterial Extension.

Corridor 18 (IL 53 Extension Facility and Location Option: Gilmer Road to Midlothian Road)

Corridor 18 provides a corridor facility and location option to the section of Corridor 16 connecting Gilmer Road and Midlothian Road in Hawthorn Woods, Long Grove and Mundelein. The scope of improvements tested includes a new 6-lane arterial/parkway. This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts. This scope also reflects concepts considered with prior studies.

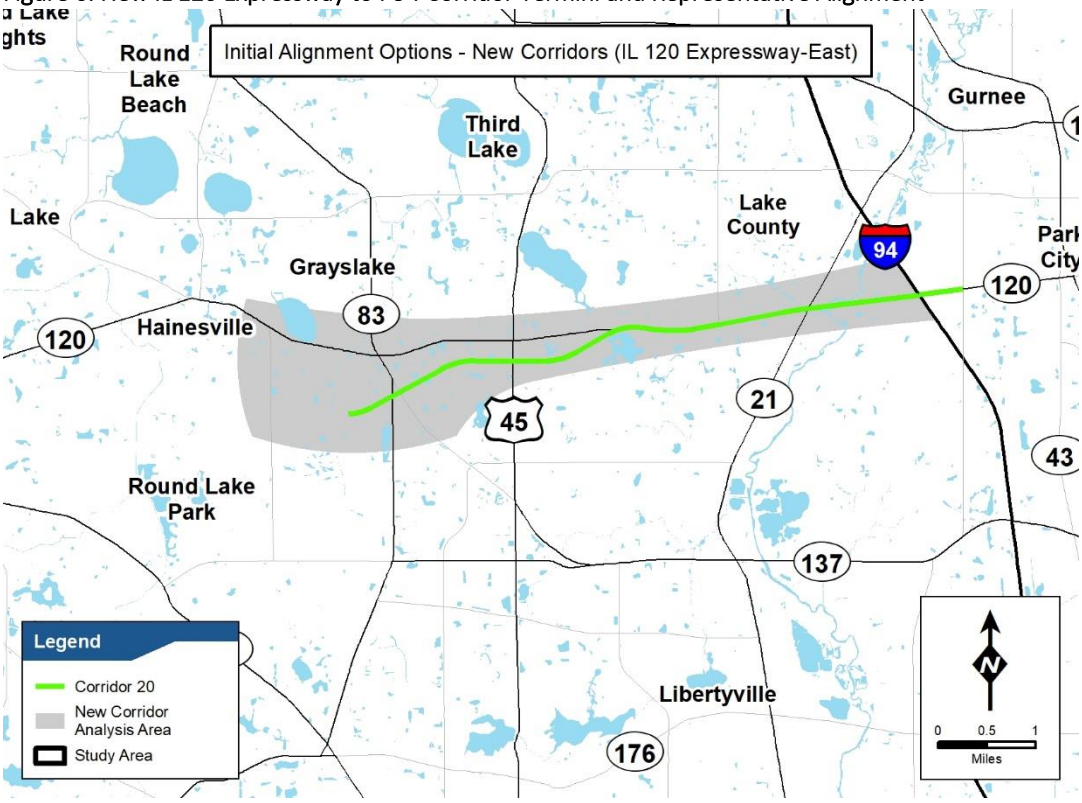
Corridor 18 could be considered for implementation as part of Initial Build Alternatives which include an IL 53 Extension.

Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (arterial or parkway), roadway elevation design options (at-grade or depressed roadway options), alignment options and complementary multi-modal connections to adjoining communities should be considered with any future studies of the IL 53 Arterial Extension.

Corridor 20 (IL 120 Expressway: IL 83 to I-94)

Corridor 20 is a new IL 120 Expressway extending from IL 83 through I-94 and passing through the communities of Grayslake, Gurnee and Waukegan. The scope of improvements tested includes a new 6-lane access-controlled roadway with access to adjoining arterial roadways (via new service interchanges) and adjoining expressways (via new system interchanges). This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts (see Figure 6). Corridor 20 would need to be implemented in combination with Corridor 21 (IL 120 Expressway to US 12) and/or with Corridor 16 (IL 53 Extension).

Figure 6. New IL 120 Expressway to I-94 Corridor Termini and Representative Alignment



Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (expressway or parkway), roadway elevation design options (at-grade or depressed roadway options), alignment options, interchange type design options and complementary off-system improvement design options (improving existing roadways near new interchange locations and transportation connections to adjoining communities) should be considered with any future studies of Corridor 20. A select initial design option identified along portions of Corridor 20 is illustrated in Figure 7.

Figure 7. IL 120 Expressway at I-94 Interchange Representative Layout

<u>Corridor 21</u> (IL 120 Expressway: US 12 to IL 83)

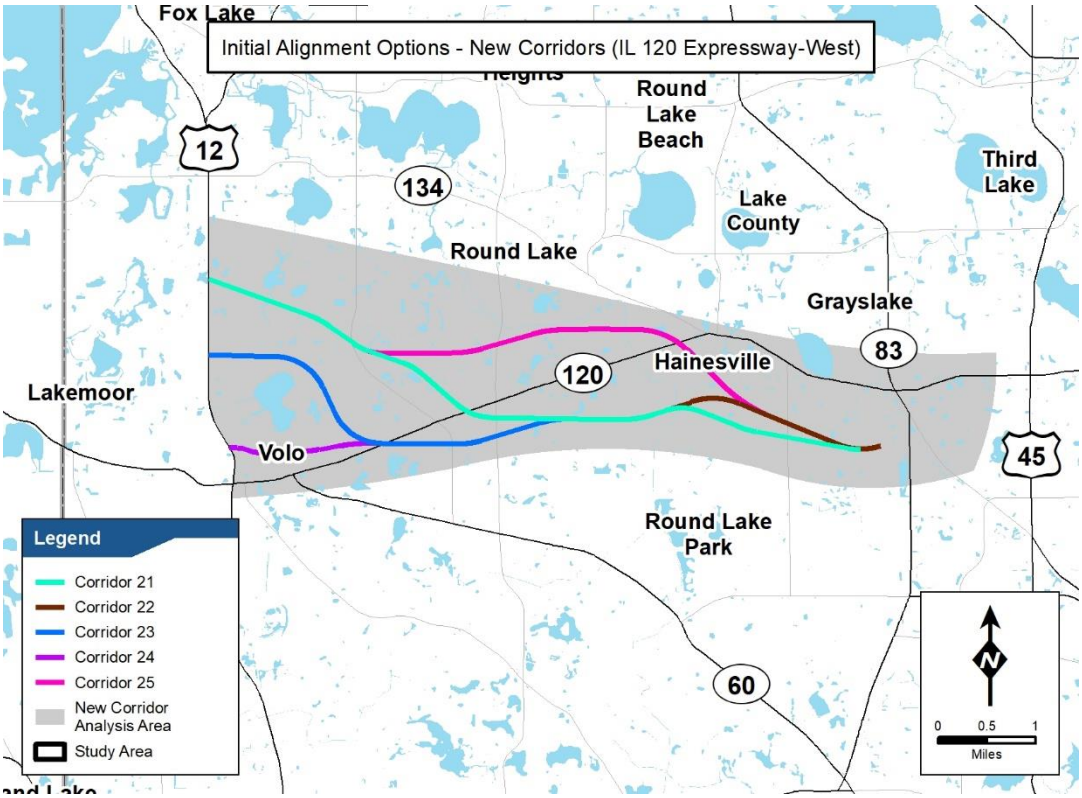
Corridor 21 is a new IL 120 Expressway extending from US 12 to IL 83 and passing through the communities of Volo, Round Lake, Round Lake Park, Hainesville and Grayslake. The scope of

improvements tested includes a new 4-lane access-controlled roadway with access to adjoining arterial roadways (via new service interchanges). This scope was identified based on Draft Year 2050 traffic forecasts and validated with Final Year 2050 traffic forecasts.

Corridor 21 would need to be implemented in combination with Corridor 20 (IL 120 Expressway to US 12) and optionally with Corridor 16 (IL 53 Extension).

Whereas Corridor 21 is in the vicinity of established communities and sensitive environmental resources, a series of corridor location options (Corridors 22, 23, 24 and 25) were identified along portions of this new corridor (see Figure 8). The Corridor 21 layout was used as the initial representative layout to evaluate existing environmental and socioeconomic conditions and potential impacts to adjoining resources.

Figure 8. New IL 120 Expressway to US 12 Corridor Termini and Representative Alignment



Corridor Improvement Refinements to be Considered with Future Studies. A range of potential facility type options (expressway or parkway), roadway elevation design options (at-grade or depressed roadway options), alignment options, interchange type design options and complementary off-system improvement design options (improving existing roadways near new interchange locations and transportation connections to adjoining communities) should be considered with any future studies of the IL 53 Extension.

5.0 Programmatic-Level Cost Estimates

For each Improvement Concept, the cost model was applied to determine an estimate of construction cost, right-of-way and environmental mitigation requirements. As described in Section 3, a range of costs was developed for each of these categories and then combined to develop the programmatic - level cost estimate. The detailed cost sheets for each Improvement Concept by corridor are provided in Attachment 1. In addition, cost estimates were also prepared for the Improvement Concepts based on the proposed refinements. The cost sheets are provided in Attachment 2. Table 8 provides a summary of

the programmatic cost estimates for each of the corridors. The corridor improvement refinements are also included in the table.

Table 8. Total Programmatic Cost Summary (Including Right-of-Way)

Description		Corridor Improvement Concepts		Concept Based on Proposed Refinements	
Corridor	Facility Type	Low Range ($M)	High Range ($M)	Low Range ($M)	High Range ($M)
1	Existing Roadway Expansion	$665	$1,149	$509	$877
2	Existing Roadway Expansion	$96	$165	$68	$118
3	Existing Roadway Expansion	$146	$248		
4	Existing Roadway Expansion	$264	$456	$236	$408
6	Existing Roadway Expansion	$772	$1,334		
7	Existing Roadway Expansion	$407	$701	$370	$641
8	Existing Roadway Expansion	$67	$114		
9	Existing Roadway Expansion	$274	$466	$218	$371
11	Existing Roadway Expansion	$222	$382	$186	$320
13	Existing Roadway Expansion	$183	$311	$138	$233
14	Existing Roadway Expansion	$270	$463	$0	$0
15	Existing Roadway Expansion	$123	$207		
16	New Corridor	$1,088	$1,886		
17	New Corridor	$57	$104		
18	New Corridor	$144	$253		
20	New Corridor	$649	$1,126		
21	New Corridor	$440	$763		

With the TCA Project suspended amid the engineering development process, there were some items that were not costed or could have been modified to reduce overall costs. It is recommended that future studies consider the following as part of their cost estimates:

- Potential re-use of existing roadways could modify some segments from complete reconstruction to widening.
- Alternate design layouts and treatments at intersections or interchanges that could affect overall impacts and costs.
- Items that would have been considered based on additional engineering and analyses: pump stations, noise barriers, new or expanded maintenance facilities, railroad relocations, major utility relocations.

For reference, the right-of-way costs were separated out of the overall programmatic costs and are provided in Table 9.

Table 9. Right-of-Way Costs Summary

Corridor	Corridor Improvement Concepts		Concept Based on Proposed Refinements	
	Low Range ($M)	High Range ($M)	Low Range ($M)	High Range ($M)
1	$56	$85	$42	$63
2	$4	$5	$2	$3
3	$22	$33		
4	$15	$22	$11	$16
6	$17	$26		
7	$31	$46	$22	$33
8	$10	$15		
9	$53	$80	$37	$56
11	$22	$33	$19	$28
13	$29	$43	$27	$40

Corridor	Corridor Improvement Concepts		Concept Based on Proposed Refinements	
	Low Range ($M)	High Range ($M)	Low Range ($M)	High Range ($M)
14	$24	$36	$0	$0
15	$24	$36		
16	$19	$29		
17	$6	$10		
18	$11	$16		
20	$8	$12		
21	$27	$40		

Attachment 1
Improvement Concepts Cost Sheets

Description		Programmatic-Level Cost Estimate		Land Acquisition Only	
CORRIDOR	**FACILITY TYPE**	**LOW RANGE ($M)**	**HIGH RANGE ($M)**	**LOW RANGE ($M)**	**HIGH RANGE ($M)**
Corridor l	Existing Roadway Expansion	$ 665.00	$ 1,149.00	$ 56.35	$ 84.52
Corridor 2	Existing Roadway Expansion	$ 96.00	$ 165.00	$ 3.55	$ 5.33
Corridor 3	Existing Roadway Expansion	$ 146.00	$ 248.00	$ 22.23	$ 33.34
Corridor 4	Existing Roadway Expansion	$ 264.00	$ 456.00	$ 14.70	$ 22.05
Corridor 6	Existing Roadway Expansion	$ 772.00	$ 1,334.00	$ 17.42	$ 26.12
Corridor 7	Existing Roadway Expansion	$ 407.00	$ 701.00	$ 30.95	$ 46.43
Corridor 8	Existing Roadway Expansion	$ 67.00	$ 114.00	$ 9.77	$ 14.65
Corridor 9	Existing Roadway Expansion	$ 274.00	$ 466.00	$ 53.45	$ 80.18
Corridor 11	Existing Roadway Expansion	$ 222.00	$ 382.00	$ 22.01	$ 33.01
Corridor 13	Existing Roadway Expansion	$ 183.00	$ 311.00	$ 28.63	$ 42.95
Corridor 14	Existing Roadway Expansion	$ 270.00	$ 463.00	$ 23.76	$ 35.64
Corridor 15	Existing Roadway Expansion	$ 123.00	$ 207.00	$ 23.75	$ 35.62
Corridor 16	New Corridor	$ 1,087.89	$ 1,885.67	$ 19.19	$ 28.78
Corridor 17	New Corridor	$ 57.00	$ 104.00	$ 6.40	$ 9.60
Corridor 18	New Corridor	$ 144.00	$ 253.00	$ 10.71	$ 16.06
Corridor 20	New Corridor	$ 649.33	$ 1,125.50	$ 7.88	$ 11.82
Corridor 21	New Corridor	$ 439.96	$ 762.59	$ 26.84	$ 40.26

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 1
Roadway Name: US 12, Lake Cook Road to North Richmond Road
Length: 29.6 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$ 65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$ 15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$ 65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$ 15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$ 75.00	TON	187,079	$ 14,030,900.80
	HMA BC IL-19.0 N50 - 10" DEPTH	$ 65.00	TON	935,393	$ 60,800,570.13
	AGG BASE CSE B - 6" DEPTH	$ 26.00	TON	570,701	$ 14,838,234.38
	AGG SUBGRADE IMPR 12"	$ 15.00	SQ YD	1,670,345	$ 25,055,180.00
	SHARED USE PATH (10' W x 6" HMA)	$ 36.00	SQ YD	82,454	$ 2,968,344.00
	SIDEWALKS (5' W x 5" PCC)	$ 6.00	SQ FT	555,735	$ 3,334,410.00
	CC&G (B-6.24, 4 EDGES)	$ 26.00	FOOT	306,090	$ 7,958,340.00
	MEDIAN	$ 6.50	SQ FT	2,037,024	$ 13,240,656.00
	DRIVEWAYS (var W x 8" HMA)	$ 60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		7111332
D	**Pavement Removals**				
	Pavement Removals	$ 6.00	syd	1,095,747	6574479
	SUBTOTAL- ROADWAY				**$ 155,912,446.31**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 37,418,987.11
	LANDSCAPING	10%	*of Roadway*		$ 15,591,244.63
	EROSION CONTROL	3%	*of Roadway*		$ 4,677,373.39
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 12,472,995.70
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 12,472,995.70
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 15,591,244.63
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 12,472,995.70
	SIGNING	1%	*of Roadway*		$ 1,559,124.46
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 6,236,497.85
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 6,236,497.85
	STORM AND SANITARY	35%	*of Roadway*		$ 54,569,356.21
	UTILITIES (WATER)	10%	*of Roadway*		$ 15,591,244.63
	LIGHTING	5%	*of Roadway*		$ 7,795,622.32
	SUBTOTAL- ROADWAY				**$ 358,598,626.51**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT	160,685	$ 5,623,960
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	244,946	$ 39,191,360
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	466	$ 46,600
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		12729288
	SUBTOTALS- STRUCTURES				**$ 97,591,208**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	31	$ 11,160,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 467,349,835**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 37,387,987
	SUBTOTAL CONSTRUCTION				**$ 504,737,821**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 40,379,026
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 126,184,455
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 671,301,303***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 134,260,261	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 805,561,563**	**$604,171,172**	**$1,047,230,032**

ROW					
Partial Acquisitons				$ 20,395,748	
Relocations				$ 34,440,000	
Billboards				$ 15,600,000	**Low Range** / **High Range**
TOTAL ROW				**$ 70,435,748**	**$56,348,598** / **$84,522,898**

ENVIRONMENTAL					
Wetland mitigation Costs	$120,000	ACRE	56.52	$ 6,782,890	
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 1,695,723	
SUBTOTAL ENVIRONMENTAL				$ 8,478,613	**Low Range** / **High Range**
TOTAL ENVIRONMENTAL				**$ 8,478,613**	**$4,239,306** / **$16,957,226**

		Low Range	High Range
TOTAL PROJECT COST	**$ 884,475,924**	**$665,000,000**	**$1,149,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 2
Roadway Name: IL 60, IL 83 to IL 120
Length: 6.7 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	30,360	$ 2,277,005
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	151,800	$ 9,867,021
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	92,616	$ 2,408,023
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	271,072	$ 4,066,080
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	40,020	$ 1,440,720
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	216,285	$ 1,297,710
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	72,438	$ 1,883,388
	MEDIAN	$6.50	SQ FT	636,768	$ 4,138,992
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		1368947
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	135,536	813216
	SUBTOTAL- ROADWAY				**$ 29,561,101**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 7,094,664
	LANDSCAPING	10%	*of Roadway*		$ 2,956,110
	EROSION CONTROL	3%	*of Roadway*		$ 886,833
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 2,364,888
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 2,364,888.12
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 2,956,110
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 2,364,888
	SIGNING	1%	*of Roadway*		$ 295,611
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 1,182,444
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 1,182,444
	STORM AND SANITARY	35%	*of Roadway*		$ 10,346,386
	UTILITIES (WATER)	10%	*of Roadway*		$ 2,956,110
	LIGHTING	5%	*of Roadway*		$ 1,478,055
	SUBTOTAL- ROADWAY				**$ 67,990,533**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	-	$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	-	$ -
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		0
	SUBTOTALS- STRUCTURES				**$ -**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	7	$ 2,520,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 70,510,533**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 5,640,843
SUBTOTAL CONSTRUCTION					**$ 76,151,376**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 6,092,110
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 19,037,844
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 101,281,330***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 20,256,266	
			Low Range / **High Range**
TOTAL CONSTRUCTION WITH DESIGN		**$ 121,537,596**	**$91,153,197** / **$157,998,875**
ROW			
Partial Acquisitons		$ 3,597,529	
Relocations		$ 840,000	
Billboards			**Low Range** / **High Range**
TOTAL ROW		**$ 4,437,529**	**$3,550,023** / **$5,325,035**
ENVIRONMENTAL			
Wetland mitigation Costs	$120,000 ACRE 4.31	$ 517,701	
ENVIRONMENTAL CONTINGENCY	*25% of ENV*	$ 129,425	
SUBTOTAL ENVIRONMENTAL		$ 647,127	**Low Range** / **High Range**
TOTAL ENVIRONMENTAL		**$ 647,127**	**$323,563** / **$1,294,253**
			Low Range / **High Range**
TOTAL PROJECT COST		**$ 126,622,252**	**$96,000,000** / **$165,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 3
Roadway Name: US 45, IL 120 (Belvidere Road) to IL 83
Length: 2.8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION				
ROADWAY (NEW PAVEMENTS)				
A **FREEWAY - PCC**				
PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B **ARTERIAL - PCC**				
PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or				
C **ARTERIAL - HMA**				
HMA SC "C" N50 - 2" DEPTH	$75.00	TON	24,224	$ 1,816,830
HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	121,122	$ 7,872,932
AGG BASE CSE B - 6" DEPTH	$26.00	TON	73,899	$ 1,921,370
AGG SUBGRADE IMPR 12"	$15.00	SQ YD	216,289	$ 3,244,340
SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	15,374	$ 553,464
SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	77,425	$ 464,550
CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	32,464	$ 844,064
MEDIAN	$6.50	SQ FT	275,616	$ 1,791,504
DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		925453
D **Pavement Removals**				
Pavement Removals	$6.00	syd	144,265	865590
SUBTOTAL- ROADWAY				**$ 20,300,097**
BASED ON PERCENTAGE OF ROADWAY				
EARTHWORK	24%	*of Roadway*		$ 4,872,023
LANDSCAPING	10%	*of Roadway*		$ 2,030,010
EROSION CONTROL	3%	*of Roadway*		$ 609,003
TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 1,624,008
REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 1,624,007.76
SPECIAL WASTE, ETC	10%	*of Roadway*		$ 2,030,010
TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 1,624,008
SIGNING	1%	*of Roadway*		$ 203,001
PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 812,004
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
TRENCH BACKFILL	4%	*of Roadway*		$ 812,004
STORM AND SANITARY	35%	*of Roadway*		$ 7,105,034
UTILITIES (WATER)	10%	*of Roadway*		$ 2,030,010
LIGHTING	5%	*of Roadway*		$ 1,015,005
SUBTOTAL- ROADWAY				**$ 46,690,223**
STRUCTURES				
BRIDGE REMOVAL	$35	SQ FT	-	$ -
BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
NEW BRIDGES	$160	SQ FT	-	$ -
BRIDGE WIDENING	$110	SQ FT		$ -
RAILROAD BRIDGES	$1,400	SQ FT		$ -
RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
BOX CULVERTS	$2,000	FOOT		$ -
RETAINING WALLS	$100	SF	-	$ -
NOISE WALLS	$45	SF		$ -
STRUCTURE INCIDENTALS	*15%*	*of Structs*		6000000
SUBTOTALS- STRUCTURES				**$ 46,000,000**
MISC ITEMS PAID BY LUMP-SUM				
TRAFFIC SIGNALS	$360,000	LUMP SUM	8	$ 2,880,000
TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL				**$ 95,570,223**
MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 7,645,618
SUBTOTAL CONSTRUCTION				**$ 103,215,841**
LOW BIDDER ADJUSTMENT FACTOR	8%			$ 8,257,267
CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 25,803,960
TOTAL CONSTRUCTION			*CARRIED FORWARD:*	***$ 137,277,068***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 27,455,414	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 164,732,482**	**$123,549,362**	**$214,152,227**

ROW						
Partial Acquisitons				$ 2,865,572		
Relocations				$ 24,920,000		
Billboards				$ -	**Low Range**	**High Range**
TOTAL ROW				**$ 27,785,572**	**$22,228,458**	**$33,342,686**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	0.01	$ 1,572		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 393		
SUBTOTAL ENVIRONMENTAL				$ 1,966	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL				**$ 1,966**	**$983**	**$3,931**

	Low Range	High Range
TOTAL PROJECT COST **$ 192,520,020**	**$146,000,000**	**$248,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 4
Roadway Name: Old McHenry Road, Midlothian Road, and Quentin Road
Length: 11 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	70,264	$ 5,269,813
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	351,321	$ 22,835,855
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	214,348	$ 5,573,036
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	627,359	$ 9,410,380
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	53,509	$ 1,926,324
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	284,400	$ 1,706,400
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	113,446	$ 2,949,596
	MEDIAN	$6.50	SQ FT	1,007,424	$ 6,548,256
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2810983
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	253,453	1520717
	SUBTOTAL- ROADWAY				**$ 60,551,361**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 14,532,327
	LANDSCAPING	10%	*of Roadway*		$ 6,055,136
	EROSION CONTROL	3%	*of Roadway*		$ 1,816,541
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 4,844,109
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 4,844,108.87
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 6,055,136
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 4,844,109
	SIGNING	1%	*of Roadway*		$ 605,514
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 2,422,054
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 2,422,054
	STORM AND SANITARY	35%	*of Roadway*		$ 21,192,976
	UTILITIES (WATER)	10%	*of Roadway*		$ 6,055,136
	LIGHTING	5%	*of Roadway*		$ 3,027,568
	SUBTOTAL- ROADWAY				**$ 139,268,130**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT	4,996	$ 174,855
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	12,366	$ 1,978,560
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	1,094	$ 109,400
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		6339422
	SUBTOTALS- STRUCTURES				**$ 48,602,238**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	10	$ 3,600,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 191,470,367**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 15,317,629
	SUBTOTAL CONSTRUCTION				**$ 206,787,997**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 16,543,040
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 51,696,999
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 275,028,036***

ENGINEERING	

Tri-County Access
COST ESTIMATE

Corridor No: 4
Roadway Name: Old McHenry Road, Midlothian Road, and Quentin Road
Length: 11 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
DESIGN AND CONSTRUCTION ENGINEERING	20%	of Constr.		$ 55,005,607

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 330,033,643**	**$247,525,232**	**$429,043,736**

ROW						
Partial Acquisitons				$ 4,938,639		
Relocations				$ 13,440,000		
Billboards				$ -	Low Range	High Range
TOTAL ROW				**$ 18,378,639**	**$14,702,911**	**$22,054,367**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	15.61	$ 1,872,617		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 468,154		
SUBTOTAL ENVIRONMENTAL				$ 2,340,771	Low Range	High Range
TOTAL ENVIRONMENTAL				**$ 2,340,771**	**$1,170,386**	**$4,681,542**

		Low Range	High Range
TOTAL PROJECT COST	**$ 350,753,053**	**$264,000,000**	**$456,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 6
Roadway Name: IL 53, Lake Cook Road to Higgins Road
Length: 8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL ($2019)
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD	1,330,602	$ 86,489,148
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	1,330,602	$ 19,959,034
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	50,268	$ 3,770,066
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	251,338	$ 16,336,951
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	153,346	$ 3,986,994
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	448,817	$ 6,732,260
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	7,939	$ 285,804
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	-	$ -
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	140,282	$ 3,647,332
	MEDIAN	$6.50	SQ FT	1,351,680	$ 8,785,920
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2177266
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	1,096,108	6576648
	SUBTOTAL- ROADWAY				**$ 158,747,423**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 38,099,382
	LANDSCAPING	10%	*of Roadway*		$ 15,874,742
	EROSION CONTROL	3%	*of Roadway*		$ 4,762,423
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 12,699,794
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 12,699,793.85
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 15,874,742
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 12,699,794
	SIGNING	1%	*of Roadway*		$ 1,587,474
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 6,349,897
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 6,349,897
	STORM AND SANITARY	35%	*of Roadway*		$ 55,561,598
	UTILITIES (WATER)	10%	*of Roadway*		$ 15,874,742
	LIGHTING	5%	*of Roadway*		$ 7,937,371
	SUBTOTAL- ROADWAY				**$ 365,119,073**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	622,049	$ 21,771,719
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	1,009,820	$ 161,571,200
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	49,545	$ 4,954,500
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		28244613
	SUBTOTALS- STRUCTURES				**$ 216,542,032**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	4	$ 1,440,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 583,101,105**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 46,648,088
SUBTOTAL CONSTRUCTION					**$ 629,749,194**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 50,379,935
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 157,437,298
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 837,566,428***

ENGINEERING	

Tri-County Access
COST ESTIMATE

Corridor No: 6
Roadway Name: IL 53, Lake Cook Road to Higgins Road
Length: 8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL ($2019)
	DESIGN AND CONSTRUCTION ENGINEERING	20%	of Constr.		$ 167,513,286

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 1,005,079,713**	**$753,809,785**	**$1,306,603,627**

ROW							
	Partial Acquisitons				$ 12,359,378		
	Relocations				$ 8,960,000		
	Billboards				$ 450,000	**Low Range**	**High Range**
TOTAL ROW					**$ 21,769,378**	**$17,415,502**	**$26,123,254**

ENVIRONMENTAL							
	Wetland mitigation Costs	$120,000	ACRE	3.64	$ 437,388		
	ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 109,347		
	SUBTOTAL ENVIRONMENTAL				$ 546,736	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL					**$ 546,736**	**$273,368**	**$1,093,471**

		Low Range	High Range
TOTAL PROJECT COST	**$ 1,027,395,827**	**$772,000,000**	**$1,334,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 7
Roadway Name: Lake Cook Rd, Arlington Heights Rd, IL 53, and IL 83
Length: 15.9 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD	0	$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	-	$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	111,489	$ 8,361,685
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	557,446	$ 36,233,967
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	340,108	$ 8,842,813
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	995,439	$ 14,931,580
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	85,022	$ 3,060,792
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	395,610	$ 2,373,660
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	112,460	$ 2,923,960
	MEDIAN	$6.50	SQ FT	1,685,376	$ 10,954,944
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		4384170
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	564,414	3386482
	SUBTOTAL- ROADWAY				**$ 95,454,054**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 22,908,973
	LANDSCAPING	10%	*of Roadway*		$ 9,545,405
	EROSION CONTROL	3%	*of Roadway*		$ 2,863,622
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 7,636,324
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 7,636,324.33
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 9,545,405
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 7,636,324
	SIGNING	1%	*of Roadway*		$ 954,541
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 3,818,162
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 3,818,162
	STORM AND SANITARY	35%	*of Roadway*		$ 33,408,919
	UTILITIES (WATER)	10%	*of Roadway*		$ 9,545,405
	LIGHTING	5%	*of Roadway*		$ 4,772,703
	SUBTOTAL- ROADWAY				**$ 219,544,325**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	167,765	$ 5,871,778
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	295,882	$ 47,341,120
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		7981935
	SUBTOTALS- STRUCTURES				**$ 61,194,833**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	22	$ 7,920,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 288,659,158**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 23,092,733
SUBTOTAL CONSTRUCTION					**$ 311,751,890**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 24,940,151
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 77,937,973
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 414,630,014***

ENGINEERING	

Tri-County Access
COST ESTIMATE

Corridor No: 7
Roadway Name: Lake Cook Rd, Arlington Heights Rd, IL 53, and IL 83
Length: 15.9 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

ITEM		UNIT PRICE	UNIT	QUANTITY	TOTAL
	DESIGN AND CONSTRUCTION ENGINEERING	20%	of Constr.		$ 82,926,003

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 497,556,017**	**$373,167,013**	**$646,822,822**

ROW							
	Partial Acquisitons				$ 20,935,173		
	Relocations				$ 17,080,000		
	Billboards				$ 675,000	**Low Range**	**High Range**
TOTAL ROW					**$ 38,690,173**	**$30,952,138**	**$46,428,208**

ENVIRONMENTAL							
	Wetland mitigation Costs	$120,000	ACRE	25.49	$ 3,059,192		
	ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 764,798		
	SUBTOTAL ENVIRONMENTAL				$ 3,823,990	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL					**$ 3,823,990**	**$1,911,995**	**$7,647,980**

		Low Range	High Range
TOTAL PROJECT COST	**$ 540,070,180**	**$407,000,000**	**$701,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 8
Roadway Name: Lake Cook Road, Barrington Road to US 12
Length: 3.7 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	19,635	$ 1,472,632
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	98,175	$ 6,381,405
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	59,899	$ 1,557,367
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	175,313	$ 2,629,700
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	16,592	$ 597,312
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	135,240	$ 811,440
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	45,346	$ 1,178,996
	MEDIAN	$6.50	SQ FT	380,160	$ 2,471,040
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		854995
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	87,657	525940
	SUBTOTAL- ROADWAY				**$ 18,480,827**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 4,435,398
	LANDSCAPING	10%	*of Roadway*		$ 1,848,083
	EROSION CONTROL	3%	*of Roadway*		$ 554,425
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 1,478,466
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 1,478,466.14
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 1,848,083
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 1,478,466
	SIGNING	1%	*of Roadway*		$ 184,808
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 739,233
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 739,233
	STORM AND SANITARY	35%	*of Roadway*		$ 6,468,289
	UTILITIES (WATER)	10%	*of Roadway*		$ 1,848,083
	LIGHTING	5%	*of Roadway*		$ 924,041
	SUBTOTAL- ROADWAY				**$ 42,505,901**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	-	$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	-	$ -
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		0
	SUBTOTALS- STRUCTURES				**$ -**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	4	$ 1,440,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 43,945,901**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 3,515,672
	SUBTOTAL CONSTRUCTION				**$ 47,461,574**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 3,796,926
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 11,865,393
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 63,123,893***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 12,624,779	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 75,748,671**	**$56,811,504**	**$98,473,273**

ROW						
Partial Acquisitons					$ 1,566,846	
Relocations					$ 10,640,000	
Billboards					$ -	Low Range / High Range
TOTAL ROW					**$ 12,206,846**	**$9,765,477** / **$14,648,215**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	2.29		$ 274,742	
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*			$ 68,685	
SUBTOTAL ENVIRONMENTAL					$ 343,427	Low Range / High Range
TOTAL ENVIRONMENTAL					**$ 343,427**	**$171,714** / **$686,855**

		Low Range	High Range
TOTAL PROJECT COST	**$ 88,298,945**	**$67,000,000**	**$114,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 9
Roadway Name: IL 59 AND BARRINGTON ROAD
Length: 13 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL	
CONSTRUCTION						
ROADWAY (NEW PAVEMENTS)						
A	**FREEWAY - PCC**					
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -	
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -	
B	**ARTERIAL - PCC**					
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -	
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -	
or						
C	**ARTERIAL - HMA**					
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	81,493	$ 6,111,974	
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	407,465	$ 26,485,222	
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	248,602	$ 6,463,655	
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	727,616	$ 10,914,240	
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	61,920	$ 2,229,120	
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	357,855	$ 2,147,130	
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	134,252	$ 3,490,552	
	MEDIAN	$6.50	SQ FT	1,248,192	$ 8,113,248	
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -	
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		3297757	
D	**Pavement Removals**					
	Pavement Removals	$6.00	syd	264,054	1584325	
	SUBTOTAL- ROADWAY				**$ 70,837,225**	
BASED ON PERCENTAGE OF ROADWAY						
	EARTHWORK	24%	*of Roadway*		$ 17,000,934	
	LANDSCAPING	10%	*of Roadway*		$ 7,083,722	
	EROSION CONTROL	3%	*of Roadway*		$ 2,125,117	
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 5,666,978	
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 5,666,977.96	
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 7,083,722	
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 5,666,978	
	SIGNING	1%	*of Roadway*		$ 708,372	
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 2,833,489	
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)						
	TRENCH BACKFILL	4%	*of Roadway*		$ 2,833,489	
	STORM AND SANITARY	35%	*of Roadway*		$ 24,793,029	
	UTILITIES (WATER)	10%	*of Roadway*		$ 7,083,722	
	LIGHTING	5%	*of Roadway*		$ 3,541,861	
	SUBTOTAL- ROADWAY				**$ 162,925,616**	
STRUCTURES						
	BRIDGE REMOVAL	$35	SQ FT	-	$ -	
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -	
	NEW BRIDGES	$160	SQ FT	-	$ -	
	BRIDGE WIDENING	$110	SQ FT		$ -	
	RAILROAD BRIDGES	$1,400	SQ FT		$ -	
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -	
	BOX CULVERTS	$2,000	FOOT		$ -	
	RETAINING WALLS	$100	SF	-	$ -	
	NOISE WALLS	$45	SF		$ -	
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		0	
	SUBTOTALS- STRUCTURES				**$ -**	
MISC ITEMS PAID BY LUMP-SUM						
	TRAFFIC SIGNALS	$360,000	LUMP SUM	18	$ 6,480,000	
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -	
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -	
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -	
SUBTOTAL					**$ 169,405,616**	
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 13,552,449	
SUBTOTAL CONSTRUCTION					**$ 182,958,066**	
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 14,636,645	
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 45,739,516	
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 243,334,227***	

ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20%	of Constr.	$ 48,666,845	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 292,001,073**	**$219,000,805**	**$379,601,395**

ROW					
Partial Acquisitons				$ 39,655,727	
Relocations				$ 27,160,000	
Billboards				$ -	Low Range / High Range
TOTAL ROW				**$ 66,815,727**	**$53,452,582 / $80,178,872**

ENVIRONMENTAL					
Wetland mitigation Costs	$120,000	ACRE	18.50	$ 2,219,625	
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 554,906	
SUBTOTAL ENVIRONMENTAL				$ 2,774,532	Low Range / High Range
TOTAL ENVIRONMENTAL				**$ 2,774,532**	**$1,387,266 / $5,549,063**

	Low Range	High Range
TOTAL PROJECT COST	**$ 361,591,332**	**$274,000,000**	**$466,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 11
Roadway Name: IL 120, US 12 to US 41
Length: 14 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	76,004	$ 5,700,274
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	380,018	$ 24,701,186
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	231,856	$ 6,028,266
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	678,604	$ 10,179,060
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	44,010	$ 1,584,360
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	225,580	$ 1,353,480
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	123,148	$ 3,201,848
	MEDIAN	$6.50	SQ FT	959,904	$ 6,239,376
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2949392
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	300,525	1803148
	SUBTOTAL- ROADWAY				**$ 63,740,389**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 15,297,693
	LANDSCAPING	10%	*of Roadway*		$ 6,374,039
	EROSION CONTROL	3%	*of Roadway*		$ 1,912,212
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 5,099,231
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 5,099,231.12
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 6,374,039
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 5,099,231
	SIGNING	1%	*of Roadway*		$ 637,404
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 2,549,616
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 2,549,616
	STORM AND SANITARY	35%	*of Roadway*		$ 22,309,136
	UTILITIES (WATER)	10%	*of Roadway*		$ 6,374,039
	LIGHTING	5%	*of Roadway*		$ 3,187,019
	SUBTOTAL- ROADWAY				**$ 146,602,895**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	3,197	$ 111,879
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	7,218	$ 1,154,880
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		190014
	SUBTOTALS- STRUCTURES				**$ 1,456,773**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	16	$ 5,760,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 153,819,667**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 12,305,573
SUBTOTAL CONSTRUCTION					**$ 166,125,241**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 13,290,019
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 41,531,310
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 220,946,570***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 44,189,314	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 265,135,884**	**$198,851,913**	**$344,676,650**

ROW						
Partial Acquisitons				$ 13,338,821		
Relocations				$ 13,720,000		
Billboards				$ 450,000	**Low Range**	**High Range**
TOTAL ROW				**$ 27,508,821**	**$22,007,057**	**$33,010,585**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	13.41	$ 1,609,588		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 402,397		
SUBTOTAL ENVIRONMENTAL				$ 2,011,985	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL				**$ 2,011,985**	**$1,005,993**	**$4,023,971**

		Low Range	High Range
TOTAL PROJECT COST	**$ 294,656,691**	**$222,000,000**	**$382,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 13
Roadway Name: IL 176 – US 12 to IL 83
Fairfield Road – Ivanhoe Road to Gilmer Road
Length: 9.3 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	52,198	$ 3,914,837
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	260,989	$ 16,964,293
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	159,234	$ 4,140,095
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	466,052	$ 6,990,780
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	38,320	$ 1,379,520
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	230,530	$ 1,383,180
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	99,172	$ 2,578,472
	MEDIAN	$6.50	SQ FT	855,360	$ 5,559,840
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2145551
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	271,864	1631182
	SUBTOTAL- ROADWAY				**$ 46,687,750**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 11,205,060
	LANDSCAPING	10%	*of Roadway*		$ 4,668,775
	EROSION CONTROL	3%	*of Roadway*		$ 1,400,632
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 3,735,020
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 3,735,019.98
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 4,668,775
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 3,735,020
	SIGNING	1%	*of Roadway*		$ 466,877
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 1,867,510
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 1,867,510
	STORM AND SANITARY	35%	*of Roadway*		$ 16,340,712
	UTILITIES (WATER)	10%	*of Roadway*		$ 4,668,775
	LIGHTING	5%	*of Roadway*		$ 2,334,387
	SUBTOTAL- ROADWAY				**$ 107,381,824**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	24,200	$ 846,985
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	41,485	$ 6,637,600
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		1122688
	SUBTOTALS- STRUCTURES				**$ 8,607,273**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	7	$ 2,520,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 118,509,098**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 9,480,728
SUBTOTAL CONSTRUCTION					**$ 127,989,825**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 10,239,186
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 31,997,456
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 170,226,468***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 34,045,294	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 204,271,761**	**$153,203,821**	**$265,553,290**

ROW						
Partial Acquisitons					$ 14,286,883	
Relocations					$ 21,280,000	
Billboards					$ 225,000	Low Range / High Range
TOTAL ROW					**$ 35,791,883**	**$28,633,506** / **$42,950,260**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	7.35		$ 882,061	
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*			$ 220,515	
SUBTOTAL ENVIRONMENTAL					$ 1,102,577	Low Range / High Range
TOTAL ENVIRONMENTAL					**$ 1,102,577**	**$551,288** / **$2,205,153**

	Low Range	High Range
TOTAL PROJECT COST	**$ 241,166,221**	**$183,000,000**	**$311,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 14
Roadway Name: IL 59 – US 12 to Rollins Road
Rollins Road – IL 59 to IL 83
Length: 6.3 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	44,275	$ 3,320,610
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	221,374	$ 14,389,308
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	135,064	$ 3,511,676
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	395,311	$ 5,929,660
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	24,898	$ 896,328
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	151,570	$ 909,420
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	62,268	$ 1,618,968
	MEDIAN	$6.50	SQ FT	551,232	$ 3,583,008
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		1707949
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	291,092	1746554
	SUBTOTAL- ROADWAY				**$ 37,613,482**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 9,027,236
	LANDSCAPING	10%	*of Roadway*		$ 3,761,348
	EROSION CONTROL	3%	*of Roadway*		$ 1,128,404
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 3,009,079
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 3,009,078.53
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 3,761,348
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 3,009,079
	SIGNING	1%	*of Roadway*		$ 376,135
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 1,504,539
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 1,504,539
	STORM AND SANITARY	35%	*of Roadway*		$ 13,164,719
	UTILITIES (WATER)	10%	*of Roadway*		$ 3,761,348
	LIGHTING	5%	*of Roadway*		$ 1,880,674
	SUBTOTAL- ROADWAY				**$ 86,511,008**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	24,877	$ 870,706
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	33,784	$ 5,405,440
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	2	$ 80,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		12941422
	SUBTOTALS- STRUCTURES				**$ 99,217,568**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	11	$ 3,960,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 189,688,575**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 15,175,086
SUBTOTAL CONSTRUCTION					**$ 204,863,661**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 16,389,093
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 51,215,915
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 272,468,670***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 54,493,734	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 326,962,404**	**$245,221,803**	**$425,051,125**

ROW						
Partial Acquisitons					$ 4,503,929	
Relocations					$ 25,200,000	
Billboards					$ -	Low Range / High Range
TOTAL ROW					**$ 29,703,929**	**$23,763,143** / **$35,644,715**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	6.40		$ 768,351	
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*			$ 192,088	
SUBTOTAL ENVIRONMENTAL					$ 960,438	Low Range / High Range
TOTAL ENVIRONMENTAL					**$ 960,438**	**$480,219** / **$1,920,877**

	Low Range	High Range
TOTAL PROJECT COST	**$270,000,000**	**$463,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 15
Roadway Name: IL 176, BUTTERFIELD ROAD, AND IL 137
Length: 4.8 miles

Cost Year 2019
Comp by: SP 9/25/2019
Chk by: MEG 10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	35,564	$ 2,667,336
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	177,822	$ 11,558,456
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	108,493	$ 2,820,814
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	317,540	$ 4,763,100
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	22,042	$ 793,512
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	128,100	$ 768,600
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	55,390	$ 1,440,140
	MEDIAN	$6.50	SQ FT	500,544	$ 3,253,536
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		1403275
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	197,525	1185149
	SUBTOTAL- ROADWAY				**$ 30,653,918**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 7,356,940
	LANDSCAPING	10%	*of Roadway*		$ 3,065,392
	EROSION CONTROL	3%	*of Roadway*		$ 919,618
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 2,452,313
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 2,452,313.41
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 3,065,392
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 2,452,313
	SIGNING	1%	*of Roadway*		$ 306,539
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 1,226,157
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 1,226,157
	STORM AND SANITARY	35%	*of Roadway*		$ 10,728,871
	UTILITIES (WATER)	10%	*of Roadway*		$ 3,065,392
	LIGHTING	5%	*of Roadway*		$ 1,532,696
	SUBTOTAL- ROADWAY				**$ 70,504,011**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT	7,591	$ 265,701
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	12,204	$ 1,952,640
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	1,063	$ 106,300
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		348696
	SUBTOTALS- STRUCTURES				**$ 2,673,337**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	7	$ 2,520,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 75,697,348**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 6,055,788
	SUBTOTAL CONSTRUCTION				**$ 81,753,136**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 6,540,251
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 20,438,284
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 108,731,671***

						Low Range	High Range
ENGINEERING							
	DESIGN AND CONSTRUCTION ENGINEERING	20%	of Constr.		$ 21,746,334		
TOTAL CONSTRUCTION WITH DESIGN					**$ 130,478,005**	**$97,858,504**	**$169,621,406**
ROW							
	Partial Acquisitons				$ 3,363,881		
	Relocations				$ 26,320,000		
	Billboards				$ -	Low Range	High Range
TOTAL ROW					**$ 29,683,881**	**$23,747,105**	**$35,620,657**
ENVIRONMENTAL							
	Wetland mitigation Costs	$120,000	ACRE	5.32	$ 638,512		
	ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 159,628		
	SUBTOTAL ENVIRONMENTAL				$ 798,140	Low Range	High Range
TOTAL ENVIRONMENTAL					**$ 798,140**	**$399,070**	**$1,596,279**
						Low Range	High Range
TOTAL PROJECT COST					**$ 160,960,025**	**$123,000,000**	**$207,000,000**

Corridor No: 16 | Cost Year: 2016 and 2019
Roadway Section Name: IL 53 Extension | Comp by: SP
Lake Cook Road to IL 120 | 9/25/2019
Length: 8.4 miles | Chk by: MEG
IDOT or ISTHA: IDOT | 10/2/2019
2016 adjusted to 2019 at 3% annual Inflation, Compounds to: 1.09

Tri-County Access COST ESTIMATE

ROADWAY

	ITEM	UNIT	QUANTITIES	2016 COSTS	2016 TOTAL	2019 TOTAL
PAVEMENT						
measured:	Pavement [Mainline+Ramp]	SQ YD	711,619	$ 80.00	$ 56,929,493	**$ 62,208,394**
calculated:	WMA Stabilized Subbase	SQ YD	711,619	$ 12.00	$ 8,539,424	**$ 9,331,259**
calculated:	Aggregate Subgrade	SQ YD	711,619	$ 15.00	$ 10,674,280	**$ 11,664,074**
measured:	Shoulder [Mainline+Ramp]		479,027	$ 50.00	$ 23,951,333	**$ 26,172,269**
measured:	Crossroad Pavement	SQ YD	506,500	$ 50.00	$ 25,325,000	**$ 27,673,311**
measured:	Multi-Use Path	SQ FT		$ 6.00	$ -	**$ -**
measured:	Curb and Gutter	FOOT		$ 30.00	$ -	**$ -**
measured:	Median Barrier	FOOT	71,854	$ 100.00	$ 7,185,400	**$ 7,851,681**
measured:	Sidewalk	SQ FT		$ 6.00	$ -	**$ -**
measured:	Medians	SQ FT		$ 6.50	$ -	**$ -**
measured:	Driveways	SQ YD				**$ -**
				SUB-TOTAL ROADWAY:	$ 132,604,931	**$ 144,900,988**
add %	ROADWAY INCIDENTALS	%		5.00%	$ 6,630,247	**$ 7,245,049**
				SUB-TOTAL ROADWAY:	**$ 139,235,177**	**$ 152,146,037**
EARTHWORK						
x	<<Check if calculated by %*ROADWAY		*By %:*	24.00%	$ 33,416,443	**$ 36,515,049**
measured:	*Remove Unsuitable Material*	CU YD	xx	$ 50.00		**$ -**
measured:	*Earthwork: Earth Ex*	CU YD	xx	$ 12.00		**$ -**
			SUB-TOTAL:		**$ 33,416,443**	**$ 36,515,049**
LANDSCAPING						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	$ 13,923,518	**$ 15,214,604**
measured:	*Landscaping - Topsoil & seeding*	SQ YD	xx	$ 2.50		**$ -**
Add on:	Trees, for screening	LSUM	1			**$ -**
			SUB-TOTAL:		**$ 13,923,518**	**$ 15,214,604**
EROSION CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	3.00%	$ 4,177,055	**$ 4,564,381**
measured:	*Erosion Control- Blankets & seeding*	SQ YD	xx	$ 1.00		**$ -**
			SUB-TOTAL:		**$ 4,177,055**	**$ 4,564,381**
TEMPORARY ITEMS (ACCESS, AGG, PVMT, ETC)						
x	<<Check if calculated by %*ROADWAY		*By %:*	8.00%	**$ 11,138,814**	**$ 12,171,683**
REMOVALS						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 16,708,221	**$ 18,257,524**
measured:	*Clearing and Grubbing*	ACRE	xx	$ 1,200.00		**$ -**
measured:	*Pavement Removal*	SQ YD	xx	$ 8.00		**$ -**
measured:	*Paved Shoulder Removal*	SQ YD	xx	$ 6.00		**$ -**
measured:	*Median Barrier Wall Removal*	FOOT	xx	$ 50.00		**$ -**
			SUB-TOTAL:		**$ 16,708,221**	**$ 18,257,524**
DRAINAGE STORM AND SANITARY)						
x	<<Check if calculated by %*ROADWAY		*By %:*	40.00%	$ 55,694,071	**$ 60,858,415**
measured:	*Drainage Open System (Depr/At Gr)*	MILE		$ 460,000.00		**$ -**
measured:	*Drainage Closed System*	MILE		$ 820,000.00		**$ -**
Add on:	Pump Station	EACH		$ 5,000,000.00	$ -	**$ -**
			SUB-TOTAL:		**$ 55,694,071**	**$ 60,858,415**
MINOR UTILITIES (ADJUSTMENTS IN CONSTRUCTION)						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 13,923,518**	**$ 15,214,604**
SPECIAL WASTE						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 13,923,518**	**$ 15,214,604**
TEMPORARY TRAFFIC CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 16,708,221	**$ 18,257,524**
measured:	*Greenfield Areas (MOT)*		%	1%		**$ -**
measured:	*Brownfield Areas (MOT)*		%	4%		**$ -**
Add on:	Railroad Shoofly	TRACK FT		$ 600.00	$ -	**$ -**
			SUB-TOTAL:		**$ 16,708,221**	**$ 18,257,524**
SIGNING						
x	<<Check if calculated by %*ROADWAY		*By %:*	1.00%	**$ 1,392,352**	**$ 1,521,460**
PAVEMENT MARKINGS						
x	<<Check if calculated by %*ROADWAY		*By %:*	4.00%	**$ 5,569,407**	**$ 6,085,841**
	<<< SUBTOTAL ROADWAY >>>			**SUB-TOTAL:**	**$ 325,810,315**	**$ 367,998,016**

STRUCTURES

measured:	Bridge Removal (typ)	SQ FT		$ 50.00	$ -	**$ -**
measured:	Bridge Removal (non-typ)	SQ FT		$ 100.00	$ -	**$ -**
measured:	Roadway Bridge (SLAB)	SQ FT	1,069,730	$ 220.00	$ 235,340,600	**$ 257,163,028**
measured:	Roadway Bridge (PPC Deck Beam)	SQ FT		$ 200.00	$ -	**$ -**
measured:	Elevated Mainline Land Bridge (Steel)	SQ FT		$ 180.00	$ -	**$ -**

measured:	Roadway Bridge (Steel-mid span)	SQ FT		$ 300.00	$ -	$	-
measured:	RAILROAD Bridge (thru girder)	Track FT		$ 12,000.00	$ -	$	-
counted:	RR Crossing-Grade Separation	EACH	1	$ 40,000,000	$ 40,000,000	$	**43,709,080**
	Roadway Mainline Bridge Widening	SQ FT		not used		$	-
	Bridge Deck Replacement	SQ FT		not used		$	-
measured:	Box Culverts - Major Water Crossings (2)	SQ FT		$ 150.00	$ -	$	-
Calculated	Retaining Wall (Up)	SQ FT		$ 120.00	$ -	$	-
Calculated	Retaining Wall (Down)	SQ FT	15,074	$ 80.00	$ 1,205,920	$	**1,317,741**
	Dewatering: Area (1)+(2)	SQ FT		not used		$	-
				SUB-TOTAL STRUCTURES:	$ 276,546,520	$	**302,189,849**
add %	ROADWAY INCIDENTALS		%	20.00%	$ 55,309,304	$	**60,437,970**
	<<< SUBTOTAL STRUCTURES >>>			**SUB-TOTAL:**	**$ 331,855,824**	$	**362,627,819**

ELECTRICAL & TOLLING ITEMS

LIGHTING

x	<<Check if calculated by %*ROADWAY		*By %:*	5.00%		$	-
measured:	*Mainline Lighting*	FOOT				$	-
Add on:	Interchange Lighting	EACH	5	$ 2,000,000.00	$ 10,000,000	$	**10,927,270**
Add on:	Underpass Lighting	EACH	8	$ 120,000.00	$ 960,000	$	**1,049,018**
				SUB-TOTAL:	**$ 10,960,000**	$	**11,976,288**

TRAFFIC SIGNALS

measured:	Signalized Intersect. (1 new minor)	EACH	0	$ 350,000.00	$ -	$	-
measured:	Signalized Intersection (R&R, w/Temps!)	EACH	0	$ 400,000.00	$ -	$	-
measured:	Signalized Interchange (2 new ramp signals)	EACH	0	$ 750,000.00	$ -	$	-
				SUB-TOTAL:	**$ -**	$	-

TOLLING/ ITS/ FACILITIES

measured:	Mainline Toll Point	EACH	2	$ 2,500,000.00	$ 5,000,000	$	5,463,635
measured:	ITS Infrastructure	MILE	13.6	$ 500,000.00	$ 6,800,000	$	7,430,544
measured:	Expand Maintenance Facility	EACH	0	$ 2,000,000.00	$ -	$	-
measured:	New Maintenance Facility	EACH	1	$ 20,000,000.00	$ 20,000,000	$	**21,854,540**
	I-94 TOLLING					$	-
Add on:	I-94 Ramp Toll Plaza Removal	EACH		$ 675,000.00	$ -	$	-
Add on:	I-94 Mainline Toll Plaza Removal	EACH		$ 2,112,000.00	$ -	$	-
Add on:	I-94 New Ramp Toll Plaza	EACH		$ 1,393,000.00	$ -	$	-
Add on:	I-94 New Mainline Toll Plaza	EACH		$ 11,362,000.00	$ -	$	-
Add on:	I-94 New Ramp Toll Plaza at IL 120/I-94	EACH		$ 820,000.00	$ -	$	-
				TOLLING/ ITS/ FACILITIES	**$ 31,800,000**	$	**34,748,719**
				<<< SUBTOTAL ELECTRICAL AND TOLLING ITEMS >>>	**$ 42,760,000**	$	**46,725,007**

<<< SUBTOTAL: ROAD + STRUCTS + ELECTRICAL >>>	**$ 700,426,139**	$	**777,350,841**

Mobilization	%	6%	$ 42,025,568	$	45,922,473
Add on: if Tollway: add Quality Control Program (6%) &* Add-ons (2%)	%	8%	$ 56,034,091	$	62,188,067
Add on: if IDOT add: trainee, constr layout, etc	%	2%			
<<< SUBTOTAL: WITH MOB >>>			**$ 798,485,798**	$	**885,461,382**
Construction Contingency	%	25%	$ 199,621,450	$	**218,131,748**
Add on: Low bid adjustment	%	5%	$ 39,924,290	$	**43,626,350**
<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>			**$ 1,038,031,537**	$	**1,147,219,479**

ENGINEERING

		select				
		ISTHA	IDOT			
Master Planning (Ph I Engineering)	% of Const+ROW	5%	4%	$ 41,521,261	$	**45,371,404**
DSE (Ph II Engineering)	% of Const+ROW	6%	5%	$ 62,281,892	$	**68,057,105**
DCM (Ph II Engineering)	% of Const+ROW	3%	0%	$ 25,950,788	$	**28,357,127**
CM (Ph III Engineering)	% of Const only	8%	7%	$ 83,042,523	$	**90,742,807**
CCM (Ph III Engineering)	% of Const only	3%	0%	$ 31,140,946	$	**34,028,553**
			SUB-TOTAL:	**$ 243,937,411**	$	**266,556,996**

			Low Range	High Range
<<< TOTAL CONSTRUCTION WITH DESIGN>>>	**$ 1,281,968,949**	$ **1,413,776,474**	**$1,060,332,356**	**############**

ENVIRONMENTAL

Wetland/Waters Mitigation	$110,000	ACRE	106	$ 11,671,077	$	**12,753,301**	**Low Range**	**High Range**
			SUB-TOTAL:	**$ 11,671,077**	$	**12,753,301**	**$6,376,650**	**$25,506,602**

RIGHT-OF-WAY

Partial Acquisitons	$ 14,664,640	$	15,984,458	
Relocations	$ 7,339,927	$	8,000,520	
Billboards	$ -	$	-	**Low Range** / **High Range**
<<< SUBTOTAL ROW>>>	**$ 22,004,567**	$	**23,984,978**	**$19,187,982** / **$28,781,974**

			Low Range	High Range
<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 1,315,644,593**	$ **1,450,514,753**	**$1,087,886,065**	**############**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 17
Roadway Name: Arterial Option - subsection of Corridor 16 alignment
North of Lake Cook Rd to Cuba Rd
Length: 1.9 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	8,278	$ 620,827
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	41,388	$ 2,690,251
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	25,252	$ 656,549
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	73,908	$ 1,108,620
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD		$ -
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT		$ -
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	8,079	$ 210,054
	MEDIAN	$6.50	SQ FT	215,424	$ 1,400,256
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		334328
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd		0
	SUBTOTAL- ROADWAY				**$ 7,020,886**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 1,685,013
	LANDSCAPING	10%	*of Roadway*		$ 702,089
	EROSION CONTROL	3%	*of Roadway*		$ 210,627
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 561,671
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 561,670.86
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 702,089
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 561,671
	SIGNING	1%	*of Roadway*		$ 70,209
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 280,835
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 280,835
	STORM AND SANITARY	35%	*of Roadway*		$ 2,457,310
	UTILITIES (WATER)	10%	*of Roadway*		$ 702,089
	LIGHTING	5%	*of Roadway*		$ 351,044
	SUBTOTAL- ROADWAY				**$ 16,148,037**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT		$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	104,851	$ 16,776,160
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF		$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		2516424
	SUBTOTALS- STRUCTURES				**$ 19,292,584**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	1	$ 360,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 35,800,621**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 2,864,050
	SUBTOTAL CONSTRUCTION				**$ 38,664,671**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 3,093,174
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 9,666,168
TOTAL CONSTRUCTION *("BID ESTIMATE")*					**$ 51,424,012**
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 51,424,012***

ENGINEERING			
	DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 10,284,802

Tri-County Access
COST ESTIMATE

Corridor No: 17
Roadway Name: Arterial Option - subsection of Corridor 16 alignment
North of Lake Cook Rd to Cuba Rd
Length: 1.9 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL	Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN				**$ 61,708,815**	**$46,281,611**	**$80,221,459**
ROW						
Partial Acquisitons				$ 4,768,778		
Relocations				$ 3,231,836		
Billboards				$ -		
TOTAL ROW				**$ 8,000,614**	**$6,400,491**	**$9,600,737**
ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	22.28	$ 2,673,488		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 668,372		
SUBTOTAL ENVIRONMENTAL				$ 3,341,860	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL				**$ 6,683,720**	**$3,341,860**	**$13,367,440**
TOTAL PROJECT COST				**$ 76,393,149**	**$57,000,000**	**$104,000,000**

Table A-1. Corridor 1 Cost Estimate Summary
Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 18
Roadway Name: Arterial Option - subsection of Corridor 16 alignment
South of Gilmer Road to Midlothian Road
Length: 12.8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	19,636	$ 1,472,722
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	98,181	$ 6,381,794
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	59,902	$ 1,557,462
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	175,324	$ 2,629,860
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD		$ -
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT		$ -
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	14,221	$ 369,746
	MEDIAN	$6.50	SQ FT	316,800	$ 2,059,200
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		723539
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd		0
	SUBTOTAL- ROADWAY				**$ 15,194,322**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 3,646,637
	LANDSCAPING	10%	*of Roadway*		$ 1,519,432
	EROSION CONTROL	3%	*of Roadway*		$ 455,830
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 1,215,546
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 1,215,545.75
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 1,519,432
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 1,215,546
	SIGNING	1%	*of Roadway*		$ 151,943
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 607,773
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 607,773
	STORM AND SANITARY	35%	*of Roadway*		$ 5,318,013
	UTILITIES (WATER)	10%	*of Roadway*		$ 1,519,432
	LIGHTING	5%	*of Roadway*		$ 759,716
	SUBTOTAL- ROADWAY				**$ 34,946,940**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT		$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	104,851	$ 16,776,160
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF		$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		8516424
	SUBTOTALS- STRUCTURES				**$ 65,292,584**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	2	$ 720,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 100,959,524**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 8,076,762
	SUBTOTAL CONSTRUCTION				**$ 109,036,286**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 8,722,903
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 27,259,072
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 145,018,261***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20%	of Constr.	$ 29,003,652

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 174,021,913**	**$130,516,435**	**$226,228,487**

ROW

Tri-County Access
COST ESTIMATE

Corridor No: 18
Roadway Name: Arterial Option - subsection of Corridor 16 alignment
South of Gilmer Road to Midlothian Road
Length: 12.8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

ITEM		UNIT PRICE	UNIT	QUANTITY	TOTAL		
	Partial Acquisitons				$ 2,965,194		
	Relocations				$ 10,419,416		
	Billboards				$ -	Low Range	High Range
TOTAL ROW					**$ 13,384,610**	**$10,707,688**	**$16,061,532**

ENVIRONMENTAL							
	Wetland mitigation Costs	$120,000	ACRE	17.11	$ 2,052,921		
	ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 513,230		
	SUBTOTAL ENVIRONMENTAL				$ 2,566,151	Low Range	High Range
TOTAL ENVIRONMENTAL					**$ 5,132,303**	**$2,566,151**	**$10,264,605**

		Low Range	High Range
TOTAL PROJECT COST	**$ 192,538,825**	**$144,000,000**	**$253,000,000**

Corridor No: 20
Roadway Section Name: New E-W Alignment - East leg
West of IL 83 to east of I-94
Length: 7.2 miles

Cost Year 2016 and 2019
Comp by: SP
9/25/2019
Chk by: MEG
IDOT or ISTHA: IDOT
10/2/2019

Tri-County Access

2016 adjusted to 2019 at 3% annual Inflation, Compounds to: 1.09

	ITEM	UNIT	QUANTITIES	2016 COSTS	TOTAL	2019 COST
ROADWAY		**Unit**				
PAVEMENT						
measured:	Pavement [Mainline+Ramp]	SQ YD	578,197	$ 80.00	$ 46,255,787	**$ 50,544,947**
calculated:	WMA Stabilized Subbase	SQ YD	578,197	$ 12.00	$ 6,938,368	**$ 7,581,742**
calculated:	Aggregate Subgrade	SQ YD	578,197	$ 15.00	$ 8,672,960	**$ 9,477,178**
measured:	Shoulder [Mainline+Ramp]	SQ YD	252,393	$ 50.00	$ 12,619,667	**$ 13,789,850**
measured:	Crossroad Pavement	SQ YD	185,835	$ 50.00	$ 9,291,733	**$ 10,153,328**
measured:	Multi-Use Path	SQ FT		$ 6.00	$ -	$ -
measured:	Curb and Gutter	FOOT		$ 30.00	$ -	$ -
measured:	Median Barrier	FOOT	37,859	$ 100.00	$ 3,785,900	**$ 4,136,955**
measured:	Sidewalk	SQ FT		$ 6.00	$ -	$ -
measured:	Medians	SQ FT		$ 6.50	$ -	$ -
measured:	Driveways	SQ YD				$ -
				SUB-TOTAL ROADWAY:	$ 87,564,415	**$ 95,684,000**
add %	ROADWAY INCIDENTALS		%	5.00%	$ 4,378,221	**$ 4,784,200**
				SUB-TOTAL ROADWAY:	**$ 91,942,635**	**$ 100,468,200**
EARTHWORK						
x	<<Check if calculated by %*ROADWAY		*By %:*	24.00%	$ 22,066,232	**$ 24,112,368**
measured:	*Remove Unsuitable Material*	CU YD	xx	$ 50.00		$ -
measured:	*Earthwork: Earth Ex*	CU YD	xx	$ 12.00		$ -
				SUB-TOTAL:	**$ 22,066,232**	**$ 24,112,368**
LANDSCAPING						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	$ 9,194,264	**$ 10,046,820**
measured:	*Landscaping - Topsoil & seeding*	SQ YD	xx	$ 2.50		$ -
Add on:	Trees, for screening	LSUM	1			$ -
				SUB-TOTAL:	**$ 9,194,264**	**$ 10,046,820**
EROSION CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	3.00%	$ 2,758,279	**$ 3,014,046**
measured:	*Erosion Control- Blankets & seeding*	SQ YD	xx	$ 1.00		$ -
				SUB-TOTAL:	**$ 2,758,279**	**$ 3,014,046**
TEMPORARY ITEMS (ACCESS, AGG, PVMT, ETC)						
x	<<Check if calculated by %*ROADWAY		*By %:*	8.00%	**$ 7,355,411**	**$ 8,037,456**
REMOVALS						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 11,033,116	**$ 12,056,184**
measured:	*Clearing and Grubbing*	ACRE	xx	$ 1,200.00		$ -
measured:	*Pavement Removal*	SQ YD	xx	$ 8.00		$ -
measured:	*Paved Shoulder Removal*	SQ YD	xx	$ 6.00		$ -
measured:	*Median Barrier Wall Removal*	FOOT	xx	$ 50.00		$ -
				SUB-TOTAL:	**$ 11,033,116**	**$ 12,056,184**
DRAINAGE STORM AND SANITARY)						
x	<<Check if calculated by %*ROADWAY		*By %:*	40.00%	$ 36,777,054	**$ 40,187,280**
measured:	*Drainage Open System (Depr/At Gr)*	MILE		$ 460,000.00		$ -
measured:	*Drainage Closed System*	MILE		$ 820,000.00		$ -
Add on:	Pump Station	EACH		$ 5,000,000.00	$ -	$ -
				SUB-TOTAL:	**$ 36,777,054**	**$ 40,187,280**
MINOR UTILITIES (ADJUSTMENTS IN CONSTRUCTION)						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 9,194,264**	**$ 10,046,820**
SPECIAL WASTE						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 9,194,264**	**$ 10,046,820**
TEMPORARY TRAFFIC CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 11,033,116	**$ 12,056,184**
measured:	*Greenfield Areas (MOT)*		%	1%		$ -
measured:	*Brownfield Areas (MOT)*		%	4%		$ -
Add on:	Railroad Shoofly	TRACK FT		$ 600.00	$ -	$ -
				SUB-TOTAL:	**$ 11,033,116**	**$ 12,056,184**
SIGNING						
x	<<Check if calculated by %*ROADWAY		*By %:*	1.00%	**$ 919,426**	**$ 1,004,682**
PAVEMENT MARKINGS						
x	<<Check if calculated by %*ROADWAY		*By %:*	4.00%	**$ 3,677,705**	**$ 4,018,728**
	<<< SUBTOTAL ROADWAY >>>			**SUB-TOTAL:**	**$ 215,145,767**	**$ 235,095,588**
STRUCTURES						
measured:	Bridge Removal (typ)	SQ FT		$ 50.00	$ -	$ -
measured:	Bridge Removal (non-typ)	SQ FT		$ 100.00	$ -	$ -
measured:	Roadway Bridge (SLAB)	SQ FT	497,062	$ 220.00	$ 109,353,640	**$ 119,493,675**
measured:	Roadway Bridge (PPC Deck Beam)	SQ FT		$ 200.00	$ -	$ -
measured:	Elevated Mainline Land Bridge (Steel)	SQ FT		$ 180.00	$ -	$ -
measured:	Roadway Bridge (Steel-mid span)	SQ FT		$ 300.00	$ -	$ -
measured:	RAILROAD Bridge (thru girder)	Track FT		$ 12,000.00	$ -	$ -
counted:	RR Crossing-Grade Separation	EACH	2	$ 40,000,000	$ 80,000,000	**$ 87,418,160**
	Roadway Mainline Bridge Widening	SQ FT		not used		$ -
	Bridge Deck Replacement	SQ FT		not used		$ -
measured:	Box Culverts - Major Water Crossings (2)	SQ FT		$ 150.00	$ -	$ -
Calculated	Retaining Wall (Up)	SQ FT		$ 120.00	$ -	$ -
Calculated	Retaining Wall (Down)	SQ FT	15,820	$ 80.00	$ 1,265,600	**$ 1,382,955**
	Dewatering: Area (1)+(2)	SQ FT		not used		$ -
				SUB-TOTAL STRUCTURES:	$ 190,619,240	**$ 208,294,790**
add %	ROADWAY INCIDENTALS		%	20.00%	$ 38,123,848	**$ 41,658,958**
	<<< SUBTOTAL STRUCTURES >>>			**SUB-TOTAL:**	**$ 228,743,088**	**$ 249,953,748**

	ITEM	UNIT	QUANTITIES	2016 COSTS	TOTAL	2019 COST
ELECTRICAL & TOLLING ITEMS						
LIGHTING						
x	<<Check if calculated by %*ROADWAY		*By %:*	5.00%		$ -
measured:	*Mainline Lighting*	FOOT				$ -
Add on:	Interchange Lighting	EACH	4	$ 2,000,000.00	$ 8,000,000	**$ 8,741,816**
Add on:	Underpass Lighting	EACH	2	$ 120,000.00	$ 240,000	**$ 262,254**
			LIGHTING	**SUB-TOTAL:**	**$ 8,240,000**	**$ 9,004,070**
TRAFFIC SIGNALS						
measured:	Signalized Intersect. (1 new minor)	EACH	0	$ 350,000.00	$ -	$ -
measured:	Signalized Intersection (R&R, w/Temps!)	EACH	0	$ 400,000.00	$ -	$ -
measured:	Signalized Interchange (2 new ramp signals)	EACH	0	$ 750,000.00	$ -	$ -
			TRAFFIC SIGNALS	**SUB-TOTAL:**	**$ -**	**$ -**
TOLLING/ ITS/ FACILITIES						
measured:	Mainline Toll Point	EACH	1	$ 2,500,000.00	$ 2,500,000	**$ 2,731,818**
measured:	ITS Infrastructure	MILE	7.17	$ 500,000.00	$ 3,585,000	**$ 3,917,426**
measured:	Expand Maintenance Facility	EACH	0	$ 2,000,000.00	$ -	**$ -**
measured:	New Maintenance Facility	EACH	1	$ 20,000,000.00	$ 20,000,000	**$ 21,854,540**
	I-94 TOLLING					$ -
Add on:	I-94 Ramp Toll Plaza Removal	EACH		$ 675,000.00	$ -	**$ -**
Add on:	I-94 Mainline Toll Plaza Removal	EACH		$ 2,112,000.00	$ -	**$ -**
Add on:	I-94 New Ramp Toll Plaza	EACH		$ 1,393,000.00	$ -	**$ -**
Add on:	I-94 New Mainline Toll Plaza	EACH		$ 11,362,000.00	$ -	**$ -**
Add on:	I-94 New Ramp Toll Plaza at IL 120/I-94	EACH		$ 820,000.00	$ -	**$ -**
				TOLLING/ ITS/ FACILITIES	**$ 26,085,000**	**$ 28,503,784**
				<<< SUBTOTAL ELECTRICAL AND TOLLING ITEMS >>>	**$ 34,325,000**	**$ 37,507,854**
				<<< SUBTOTAL: ROAD + STRUCTS + ELECTRICAL >>>	$ 478,213,855	$ 522,557,191
Mobilization			%	6%	$ 28,692,831	**$ 31,353,431**
Add on:	if Tollway: add Quality Control Program (6%) &* Add-ons (2%)		%	8%		**$ -**
Add on:	if IDOT add: trainee, constr layout, etc		%	2%	$ 9,564,277	**$ 10,451,144**
				<<< SUBTOTAL: WITH MOB >>>	**$ 516,470,963**	**$ 564,361,766**
Construction Contingency			%	25%	$ 129,117,741	$ 141,090,441.56
Add on:	Low bid adjustment		%	5%	$ 25,823,548	$ 28,218,088.31
				<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 671,412,252**	**$ 733,670,296** (tot1)

ENGINEERING		*select* ISTHA	*select* IDOT			
Master Planning (Ph I Engineering)	% of Const+ROW	5%	4%	$ 26,856,490.09	$ 29,346,812	
DSE (Ph II Engineering)	% of Const+ROW	6%	5%	$ 33,570,612.61	$ 36,683,515	
DCM (Ph II Engineering)	% of Const+ROW	3%	0%	$ -	$ -	
CM (Ph III Engineering)	% of Const only	8%	7%	$ 46,998,858	$ 51,356,921	
CCM (Ph III Engineering)	% of Const only	3%	0%	$ -	$ -	
			SUB-TOTAL:	**$ 107,425,960**	**$ 117,387,247**	

				Low Range	High Range
<<< TOTAL CONSTRUCTION WITH DESIGN>>>	**$ 778,838,213**	**$ 851,057,543**	**$638,293,158**	**$1,106,374,807**

ENVIRONMENTAL								
Wetland/Waters Mitigation	$110,000	ACRE	40	$ 4,450,655	**$ 4,863,351**	**Low Range**	**High Range**
			SUB-TOTAL:	**$ 4,450,655**	**$ 4,863,351**	**$2,431,676**	**$9,726,702**

RIGHT-OF-WAY				
Partial Acquisitons	$ 7,213,440	$ 7,862,650		
Relocations	$ 1,617,134	$ 1,762,676		
Billboards	$ 206,422	$ 225,000	**Low Range**	**High Range**
<<< SUBTOTAL ROW>>>	**$ 9,036,996**	**$ 9,850,326**	**$7,880,261**	**$11,820,391**

			Low Range	High Range
<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 792,325,864**	**$ 865,771,221**	**$649,328,415**	**$1,125,502,587**

Corridor No: 21
Roadway Section Name: New E-W Alignment, west leg
US 12 to west of IL 83
Length: 7.8 miles

Cost Year 2016 and 2019
Comp by: SP
9/25/2019
Chk by: MEG
IDOT or ISTHA: IDOT
10/2/2019

Tri-County Access

2016 adjusted to 2019 at 3% annual Inflation, Compounds to: 1.09

	ITEM	UNIT	QUANTITIES	2016 COSTS	2016 TOTAL	2019 TOTAL
ROADWAY						
PAVEMENT						
measured:	Pavement [Mainline+Ramp]	SQ YD	303,995	$ 80.00	$ 24,319,618	**$ 26,574,703**
calculated:	WMA Stabilized Subbase	SQ YD	303,995	$ 12.00	$ 3,647,943	**$ 3,986,205**
calculated:	Aggregate Subgrade	SQ YD	303,995	$ 15.00	$ 4,559,928	**$ 4,982,757**
measured:	Shoulder [Mainline+Ramp]	SQ YD	275,027	$ 50.00	$ 13,751,333	**$ 15,026,453**
measured:	Crossroad Pavement	SQ YD	106,137	$ 50.00	$ 5,306,867	**$ 5,798,956**
measured:	Multi-Use Path	SQ FT		$ 6.00	$ -	$ -
measured:	Curb and Gutter	FOOT		$ 30.00	$ -	$ -
measured:	Median Barrier	FOOT	41,254	$ 100.00	$ 4,125,400	**$ 4,507,936**
measured:	Sidewalk	SQ FT		$ 6.00	$ -	$ -
measured:	Medians	SQ FT		$ 6.50	$ -	$ -
measured:	Driveways	SQ YD				$ -
				SUB-TOTAL ROADWAY:	$ 55,711,089	**$ 60,877,011**
add %	ROADWAY INCIDENTALS	%		5.00%	$ 2,785,554	**$ 3,043,851**
				SUB-TOTAL ROADWAY:	**$ 58,496,643**	**$ 63,920,862**
EARTHWORK						
x	<<Check if calculated by %*ROADWAY			*By %:* 24.00%	$ 14,039,194	**$ 15,341,007**
measured:	*Remove Unsuitable Material*	CU YD	xx	$ 50.00		$ -
measured:	*Earthwork: Earth Ex*	CU YD	xx	$ 12.00		$ -
				SUB-TOTAL:	**$ 14,039,194**	**$ 15,341,007**
LANDSCAPING						
x	<<Check if calculated by %*ROADWAY			*By %:* 10.00%	$ 5,849,664	**$ 6,392,086**
measured:	*Landscaping - Topsoil & seeding*	SQ YD	xx	$ 2.50		$ -
Add on:	Trees, for screening	LSUM	1			$ -
				SUB-TOTAL:	**$ 5,849,664**	**$ 6,392,086**
EROSION CONTROL						
x	<<Check if calculated by %*ROADWAY			*By %:* 3.00%	$ 1,754,899	**$ 1,917,626**
measured:	*Erosion Control- Blankets & seeding*	SQ YD	xx	$ 1.00		$ -
				SUB-TOTAL:	**$ 1,754,899**	**$ 1,917,626**
TEMPORARY ITEMS (ACCESS, AGG, PVMT, ETC)						
x	<<Check if calculated by %*ROADWAY			*By %:* 8.00%	**$ 4,679,731**	**$ 5,113,669**
REMOVALS						
x	<<Check if calculated by %*ROADWAY			*By %:* 12.00%	$ 7,019,597	**$ 7,670,503**
measured:	*Clearing and Grubbing*	ACRE	xx	$ 1,200.00		$ -
measured:	*Pavement Removal*	SQ YD	xx	$ 8.00		$ -
measured:	*Paved Shoulder Removal*	SQ YD	xx	$ 6.00		$ -
measured:	*Median Barrier Wall Removal*	FOOT	xx	$ 50.00		$ -
				SUB-TOTAL:	**$ 7,019,597**	**$ 7,670,503**
DRAINAGE STORM AND SANITARY)						
x	<<Check if calculated by %*ROADWAY			*By %:* 40.00%	$ 23,398,657	**$ 25,568,345**
measured:	*Drainage Open System (Depr/At Gr)*	MILE		$ 460,000.00		$ -
measured:	*Drainage Closed System*	MILE		$ 820,000.00		$ -
Add on:	Pump Station	EACH		$ 5,000,000.00	$ -	$ -
				SUB-TOTAL:	**$ 23,398,657**	**$ 25,568,345**
MINOR UTILITIES (ADJUSTMENTS IN CONSTRUCTION)						
x	<<Check if calculated by %*ROADWAY			*By %:* 10.00%	**$ 5,849,664**	**$ 6,392,086**
SPECIAL WASTE						
x	<<Check if calculated by %*ROADWAY			*By %:* 10.00%	**$ 5,849,664**	**$ 6,392,086**
TEMPORARY TRAFFIC CONTROL						
x	<<Check if calculated by %*ROADWAY			*By %:* 12.00%	$ 7,019,597	**$ 7,670,503**
measured:	*Greenfield Areas (MOT)*			% 1%		$ -
measured:	*Brownfield Areas (MOT)*			% 4%		$ -
Add on:	Railroad Shoofly	TRACK FT		$ 600.00	$ -	$ -
				SUB-TOTAL:	**$ 7,019,597**	**$ 7,670,503**
SIGNING						
x	<<Check if calculated by %*ROADWAY			*By %:* 1.00%	**$ 584,966**	**$ 639,209**
PAVEMENT MARKINGS						
x	<<Check if calculated by %*ROADWAY			*By %:* 4.00%	**$ 2,339,866**	**$ 2,556,834**
	<<< SUBTOTAL ROADWAY >>>			**SUB-TOTAL:**	**$ 136,882,145**	**$ 149,574,816**
STRUCTURES						
measured:	Bridge Removal (typ)	SQ FT		$ 50.00	$ -	$ -
measured:	Bridge Removal (non-typ)	SQ FT		$ 100.00	$ -	$ -
measured:	Roadway Bridge (SLAB)	SQ FT	497,062	$ 220.00	$ 109,353,640	**$ 119,493,675**
measured:	Roadway Bridge (PPC Deck Beam)	SQ FT		$ 200.00	$ -	$ -
measured:	Elevated Mainline Land Bridge (Steel)	SQ FT		$ 180.00	$ -	$ -
measured:	Roadway Bridge (Steel-mid span)	SQ FT		$ 300.00	$ -	$ -
measured:	RAILROAD Bridge (thru girder)	Track FT		$ 12,000.00	$ -	$ -

	ITEM	UNIT	QUANTITIES	2016 COSTS	2016 TOTAL	2019 TOTAL
counted:	RR Crossing-Grade Separation	EACH		$ 40,000,000	$ -	**$ -**
	Roadway Mainline Bridge Widening	SQ FT		not used		**$ -**
	Bridge Deck Replacement	SQ FT		not used		**$ -**
measured:	Box Culverts - Major Water Crossings (2)	SQ FT		$ 150.00	$ -	**$ -**
Calculated	Retaining Wall (Up)	SQ FT		$ 120.00	$ -	**$ -**
Calculated	Retaining Wall (Down)	SQ FT	15,820	$ 80.00	$ 1,265,600	**$ 1,382,955**
	Dewatering: Area (1)+(2)	SQ FT		not used		**$ -**
				SUB-TOTAL STRUCTURES:	$ 110,619,240	**$ 120,876,630**
add %	ROADWAY INCIDENTALS		%	20.00%	$ 22,123,848	**$ 24,175,326**
	<<< SUBTOTAL STRUCTURES >>>			**SUB-TOTAL:**	**$ 132,743,088**	**$ 145,051,956**

ELECTRICAL & TOLLING ITEMS

LIGHTING

x	<<Check if calculated by %*ROADWAY		*By %:*	5.00%	$ 2,924,832	**$ 3,196,043**
measured:	*Mainline Lighting*	FOOT				**$ -**
Add on:	Interchange Lighting	EACH	4	$ 2,000,000.00	$ 8,000,000	**$ 8,741,816**
Add on:	Underpass Lighting	EACH	3	$ 120,000.00	$ 360,000	**$ 393,382**
			LIGHTING	**SUB-TOTAL:**	**$ 11,284,832**	**$ 12,331,241**

TRAFFIC SIGNALS

measured:	Signalized Intersect. (1 new minor)	EACH	0	$ 350,000.00	$ -	**$ -**
measured:	Signalized Intersection (R&R, w/Temps!)	EACH	0	$ 400,000.00	$ -	**$ -**
measured:	Signalized Interchange (2 new ramp signals)	EACH	0	$ 750,000.00	$ -	**$ -**
			TRAFFIC SIGNALS	**SUB-TOTAL:**	**$ -**	**$ -**

TOLLING/ ITS/ FACILITIES

measured:	Mainline Toll Point	EACH	1	$ 2,500,000	$ 2,500,000	**$ 2,731,818**
measured:	ITS Infrastructure	MILE	13.6	$ 500,000	$ 6,800,000	**$ 7,430,544**
measured:	Expand Maintenance Facility	EACH	0	$ 2,000,000	$ -	**$ -**
measured:	New Maintenance Facility	EACH	0	$ 20,000,000	$ -	**$ -**
	I-94 TOLLING					**$ -**
Add on:	I-94 Ramp Toll Plaza Removal	EACH		$ 675,000	$ -	**$ -**
Add on:	I-94 Mainline Toll Plaza Removal	EACH		$ 2,112,000	$ -	**$ -**
Add on:	I-94 New Ramp Toll Plaza	EACH		$ 1,393,000	$ -	**$ -**
Add on:	I-94 New Mainline Toll Plaza	EACH		$ 11,362,000	$ -	**$ -**
Add on:	I-94 New Ramp Toll Plaza at IL 120/I-94	EACH		$ 820,000	$ -	**$ -**
				TOLLING/ ITS/ FACILITIES	**$ 9,300,000**	**$ 10,162,361**
				<<< SUBTOTAL ELECTRICAL AND TOLLING ITEMS >>>	**$ 20,584,832**	**$ 22,493,602**
				<<< SUBTOTAL: ROAD + STRUCTS + ELECTRICAL >>>	$ 290,210,066	$ 317,120,374

Mobilization	%	6%	$ 17,412,604	**$ 19,027,222**
Add on: if Tollway: add Quality Control Program (6%) &* Add-ons (2%)	%	8%	$ 23,216,805	**$ 25,369,630**
Add on: if IDOT add: trainee, constr layout, etc	%	2%		**$ -**
	<<< SUBTOTAL: WITH MOB >>>		**$ 330,839,475**	**$ 361,517,227**

Construction Contingency	%	25%	$ 82,709,869	**$ 90,379,307**
Add on: Low bid adjustment	%	5%	$ 16,541,974	**$ 18,075,861**
	<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>		**$ 430,091,317**	**$ 469,972,395**

ENGINEERING

		select ISTHA	*select* IDOT			
Master Planning (Ph I Engineering)	% of Const+ROW	5%	4%	$ 17,203,652.69	**$ 18,798,896**	
DSE (Ph II Engineering)	% of Const+ROW	6%	5%	$ 21,504,565.86	**$ 23,498,620**	
DCM (Ph II Engineering)	% of Const+ROW	3%	0%	$ -	**$ -**	
CM (Ph III Engineering)	% of Const only	8%	7%	$ 30,106,392	**$ 32,898,068**	
CCM (Ph III Engineering)	% of Const only	3%	0%	$ -	**$ -**	
			SUB-TOTAL:	**$ 68,814,611**	**$ 75,195,583**	

			Low Range	**High Range**
<<< TOTAL CONSTRUCTION WITH DESIGN>>>	**$ 498,905,928**	**$ 545,167,978**	**$408,875,984**	**$708,718,371**

ENVIRONMENTAL

Wetland/Waters Mitigation	$110,000	ACRE	66	$ 7,221,756	**$ 7,891,408**	**Low Range**	**High Range**
			SUB-TOTAL:	**$ 7,221,756**	**$ 7,891,408**	**$3,945,704**	**$15,782,815**

RIGHT-OF-WAY

Partial Acquisitons	$ 12,791,134	**$ 13,942,336**		
Relocations	$ 17,988,727	**$ 19,607,712**		
Billboards	$ -	**$ -**	**Low Range**	**High Range**
<<< SUBTOTAL ROW>>>	**$ 30,779,861**	**$ 33,550,048**	**$26,840,038**	**$40,260,058**

			Low Range	**High Range**
<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 536,907,544**	**$ 586,609,434**	**$439,957,075**	**$762,592,264**

Attachment 2
Proposed Refinements Cost Sheets

Description			Programmatic-Level Cost Estimate		Land Acquisition Only			
CORRIDOR	FACILITY TYPE	Revised	LOW RANGE ($m)	HIGH RANGE ($m)	LOW RANGE ($m)	HIGH RANGE ($m)		
Corridor I	existing roadway expansion	yes	$509	$877	$42	$63	$467	$814
Corridor 2	existing roadway expansion	yes	$68	$118	$2	$3	$66	$115
Corridor 3	existing roadway expansion	no	$146	$248	$22	$33	$124	$215
Corridor 4	existing roadway expansion	yes	$236	$408	$11	$16	$225	$392
Corridor 6	existing roadway expansion	no	$772	$1,334	$17	$26	$755	$1,308
Corridor 7	existing roadway expansion	yes	$370	$641	$22	$33	$348	$608
Corridor 8	existing roadway expansion	no	$67	$114	$10	$15	$57	$99
Corridor 9	existing roadway expansion	yes	$218	$371	$37	$56	$181	$315
Corridor 11	existing roadway expansion	yes	$186	$320	$19	$28	$167	$292
Corridor 13	existing roadway expansion	yes	$138	$233	$27	$40	$111	$193
Corridor 14	existing roadway expansion	yes	$0	$0	$0	$0	$0	$0
Corridor 15	existing roadway expansion	no	$123	$207	$24	$36	$99	$171
Corridor 16	new corridor	no	$1,088	$1,886	$19	$29	$1,069	$1,857
Corridor 17	new corridor	no	$57	$104	$6	$10	$51	$94
Corridor 18	new corridor	no	$144	$253	$11	$16	$133	$237
Corridor 20	new corridor	no	$649	$1,126	$8	$12	$641	$1,114
Corridor 21	new corridor	no	$440	$763	$27	$40	$413	$722

Table B-1. Corridor 1 Cost Estimate Summary

Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 1 - Potential Corridor Refinements
Roadway Name: US 12, Lake Cook Road to Kings Road
Length: 20 miles

Cost Year 2019
Comp by: SP 9/25/2019
Chk by: MEG 10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	144,495	$ 10,837,109
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	722,474	$ 46,960,805
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	440,795	$ 11,460,673
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	1,290,132	$ 19,351,980
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	57,000	$ 2,052,000
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	430,000	$ 2,580,000
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	211,200	$ 5,491,200
	MEDIAN	$6.50	SQ FT	2,037,024	$ 13,240,656
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		5598721
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	846,327	5077960
	SUBTOTAL- ROADWAY				**$ 122,651,103**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 29,436,265
	LANDSCAPING	10%	*of Roadway*		$ 12,265,110
	EROSION CONTROL	3%	*of Roadway*		$ 3,679,533
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 9,812,088
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 9,812,088.23
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 12,265,110
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 9,812,088
	SIGNING	1%	*of Roadway*		$ 1,226,511
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 4,906,044
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 4,906,044
	STORM AND SANITARY	35%	*of Roadway*		$ 42,927,886
	UTILITIES (WATER)	10%	*of Roadway*		$ 12,265,110
	LIGHTING	5%	*of Roadway*		$ 6,132,555
	SUBTOTAL- ROADWAY				**$ 282,097,537**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	68,257	$ 2,389,011
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	104,051	$ 16,648,160
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	466	$ 46,600
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		8862566
	SUBTOTALS- STRUCTURES				**$ 67,946,337**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	25	$ 9,000,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 359,043,873**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 28,723,510
SUBTOTAL CONSTRUCTION					**$ 387,767,383**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 31,021,391
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 96,941,846
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 515,730,619***

			Low Range	High Range
ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 103,146,124		
TOTAL CONSTRUCTION WITH DESIGN		**$ 618,876,743**	**$464,157,558**	**$804,539,766**

						Low Range	High Range
ROW							
		Full Build					
	Partial Acquisitons	$ 20,395,748	% Reduction compared to Full Build				
	Relocations	$ 34,440,000					
	Billboards	$ 15,600,000					
TOTAL ROW		$ 70,435,748	26%		52,312,630	**$41,850,104**	**$62,775,156**

						Low Range	High Range
ENVIRONMENTAL							
	Wetland mitigation Costs	$120,000	ACRE	30	$ 3,620,730		
	ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 905,183		
SUBTOTAL ENVIRONMENTAL					$ 4,525,913	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL					**$ 4,525,913**	**$2,262,956**	**$9,051,826**

		Low Range	High Range
TOTAL PROJECT COST	**$ 675,715,286**	**$509,000,000**	**$877,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 2 - Potential Corridor Refinements
Roadway Name: IL 60, IL 83 to Fairfield Road
Length: 8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	19,191	$ 1,439,290
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	95,953	$ 6,236,922
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	58,543	$ 1,522,106
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	171,344	$ 2,570,160
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	20,346	$ 732,456
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	113,040	$ 678,240
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	87,648	$ 2,278,848
	MEDIAN	$6.50	SQ FT	636,768	$ 4,138,992
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		979851
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	85,672	514032
	SUBTOTAL- ROADWAY				**$ 21,090,896**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 5,061,815
	LANDSCAPING	10%	*of Roadway*		$ 2,109,090
	EROSION CONTROL	3%	*of Roadway*		$ 632,727
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 1,687,272
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 1,687,271.66
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 2,109,090
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 1,687,272
	SIGNING	1%	*of Roadway*		$ 210,909
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 843,636
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 843,636
	STORM AND SANITARY	35%	*of Roadway*		$ 7,381,814
	UTILITIES (WATER)	10%	*of Roadway*		$ 2,109,090
	LIGHTING	5%	*of Roadway*		$ 1,054,545
	SUBTOTAL- ROADWAY				**$ 48,509,060**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT	-	$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	-	$ -
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		0
	SUBTOTALS- STRUCTURES				**$ -**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	5	$ 1,800,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 50,309,060**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 4,024,725
	SUBTOTAL CONSTRUCTION				**$ 54,333,785**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 4,346,703
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 13,583,446
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 72,263,934***

ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.		$ 14,452,787	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 86,716,721**	**$65,037,541**	**$112,731,737**

ROW	Full Build	% Reduction compared to Full Build		Low Range	High Range
Partial Acquisitons	$ 3,597,529				
Relocations	$ 840,000				
Billboards					
TOTAL ROW	$ 4,437,529	37.29%	2,782,617	**$2,226,094**	**$3,339,140**

ENVIRONMENTAL							
Wetland mitigation Costs	$120,000	ACRE	3.42	$ 410,661			
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 102,665			
SUBTOTAL ENVIRONMENTAL				$ 513,326	Low Range	High Range	
TOTAL ENVIRONMENTAL				**$ 513,326**	**$256,663**	**$1,026,652**	

		Low Range	High Range
TOTAL PROJECT COST	**$ 90,012,664**	**$68,000,000**	**$118,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 4 - Potential Corridor Refinements
Roadway Name: Old McHenry Road, Midlothian Road, and Quentin Road
Length: 11 miles

Cost Year 2019
Comp by: SP 9/25/2019
Chk by: MEG 10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	58,846	$ 4,413,483
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	294,232	$ 19,125,094
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	179,517	$ 4,667,434
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	525,415	$ 7,881,220
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	53,509	$ 1,926,324
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	284,400	$ 1,706,400
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	112,000	$ 2,912,000
	MEDIAN	$6.50	SQ FT	1,007,424	$ 6,548,256
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2459011
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	212,268	1273605
	SUBTOTAL- ROADWAY				**$ 52,912,826**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 12,699,078
	LANDSCAPING	10%	*of Roadway*		$ 5,291,283
	EROSION CONTROL	3%	*of Roadway*		$ 1,587,385
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 4,233,026
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 4,233,026.11
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 5,291,283
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 4,233,026
	SIGNING	1%	*of Roadway*		$ 529,128
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 2,116,513
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 2,116,513
	STORM AND SANITARY	35%	*of Roadway*		$ 18,519,489
	UTILITIES (WATER)	10%	*of Roadway*		$ 5,291,283
	LIGHTING	5%	*of Roadway*		$ 2,645,641
	SUBTOTAL- ROADWAY				**$ 121,699,501**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	3,414	$ 119,497
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	8,451	$ 1,352,160
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	1,094	$ 109,400
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		6237159
	SUBTOTALS- STRUCTURES				**$ 47,818,216**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	10	$ 3,600,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 173,117,716**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 13,849,417
	SUBTOTAL CONSTRUCTION				**$ 186,967,134**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 14,957,371
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 46,741,783
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 248,666,288***

			Low Range	High Range
ENGINEERING				
	DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 49,733,258	
TOTAL CONSTRUCTION WITH DESIGN		**$ 298,399,545**	**$223,799,659**	**$387,919,409**

					Low Range	High Range
ROW						
		Full Build	% Reduction compared to Full Build			
	Partial Acquisitons	$ 4,938,639				
	Relocations	$ 13,440,000				
	Billboards					
TOTAL ROW		$ 18,378,639	25.71%	13,652,632	**$10,922,106**	**$16,383,158**

						Low Range	High Range
ENVIRONMENTAL							
	Wetland mitigation Costs	$120,000	ACRE	11.44	$ 1,373,252		
	ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 343,313		
	SUBTOTAL ENVIRONMENTAL				$ 1,716,565	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL					**$ 1,716,565**	**$858,283**	**$3,433,131**

		Low Range	High Range
TOTAL PROJECT COST	**$ 313,768,743**	**$236,000,000**	**$408,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 7 - Potential Corridor Refinements
Roadway Name: Lake Cook Rd, IL 53, and IL 83
Length: 15 miles

Cost Year 2019
Comp by: SP 9/25/2019
Chk by: MEG 10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	100,592	$ 7,544,376
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	502,958	$ 32,692,296
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	306,865	$ 7,978,477
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	898,140	$ 13,472,100
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	78,200	$ 2,815,200
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	356,750	$ 2,140,500
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	154,000	$ 4,004,000
	MEDIAN	$6.50	SQ FT	1,685,376	$ 10,954,944
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		4080095
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	509,245	3055472
	SUBTOTAL- ROADWAY				**$ 88,737,460**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 21,296,990
	LANDSCAPING	10%	*of Roadway*		$ 8,873,746
	EROSION CONTROL	3%	*of Roadway*		$ 2,662,124
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 7,098,997
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 7,098,996.79
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 8,873,746
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 7,098,997
	SIGNING	1%	*of Roadway*		$ 887,375
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 3,549,498
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 3,549,498
	STORM AND SANITARY	35%	*of Roadway*		$ 31,058,111
	UTILITIES (WATER)	10%	*of Roadway*		$ 8,873,746
	LIGHTING	5%	*of Roadway*		$ 4,436,873
	SUBTOTAL- ROADWAY				**$ 204,096,158**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	155,115	$ 5,429,016
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	273,571	$ 43,771,360
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		7380056
	SUBTOTALS- STRUCTURES				**$ 56,580,433**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	20	$ 7,200,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 267,876,591**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 21,430,127
SUBTOTAL CONSTRUCTION					**$ 289,306,718**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 23,144,537
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 72,326,680
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 384,777,935***

			Low Range	High Range
ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 76,955,587		
TOTAL CONSTRUCTION WITH DESIGN		**$ 461,733,522**	**$346,300,142**	**$600,253,579**

					Low Range	High Range
ROW						
		Full Build	% Reduction compared to Full Build			
Partial Acquisitons	$	20,935,173				
Relocations	$	17,080,000				
Billboards	$	675,000				
TOTAL ROW	$	38,690,173	29.72%	27,193,036	**$21,754,429**	**$32,631,643**

					Low Range	High Range
ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	25.49	$ 3,059,192		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 764,798		
SUBTOTAL ENVIRONMENTAL				$ 3,823,990	**$1,911,995**	**$7,647,980**
TOTAL ENVIRONMENTAL				**$ 3,823,990**		

		Low Range	High Range
TOTAL PROJECT COST	**$ 492,750,548**	**$370,000,000**	**$641,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 9 - Potential Corridor Refinements
Roadway Name: IL 59 AND BARRINGTON ROAD
Length: 11 miles

Cost Year 2019
Comp by: SP 9/25/2019
Chk by: MEG 10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	61,334	$ 4,600,053
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	306,670	$ 19,933,562
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	187,105	$ 4,864,738
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	547,625	$ 8,214,380
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	61,920	$ 2,229,120
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	357,855	$ 2,147,130
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	140,000	$ 3,640,000
	MEDIAN	$6.50	SQ FT	1,248,192	$ 8,113,248
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2687112
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	198,735	1192410
	SUBTOTAL- ROADWAY				**$ 57,621,753**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 13,829,221
	LANDSCAPING	10%	*of Roadway*		$ 5,762,175
	EROSION CONTROL	3%	*of Roadway*		$ 1,728,653
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 4,609,740
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 4,609,740.23
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 5,762,175
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 4,609,740
	SIGNING	1%	*of Roadway*		$ 576,218
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 2,304,870
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 2,304,870
	STORM AND SANITARY	35%	*of Roadway*		$ 20,167,614
	UTILITIES (WATER)	10%	*of Roadway*		$ 5,762,175
	LIGHTING	5%	*of Roadway*		$ 2,881,088
	SUBTOTAL- ROADWAY				**$ 132,530,032**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	-	$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	-	$ -
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		0
	SUBTOTALS- STRUCTURES				**$ -**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	18	$ 6,480,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 139,010,032**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 11,120,803
	SUBTOTAL CONSTRUCTION				**$ 150,130,834**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 12,010,467
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 37,532,709
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 199,674,009***

			Low Range	High Range
ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 39,934,802		
TOTAL CONSTRUCTION WITH DESIGN		**$ 239,608,811**	**$179,706,608**	**$311,491,455**

					Low Range	High Range
ROW						
		Full Build	% Reduction compared to Full Build			
Partial Acquisitons	$	39,655,727				
Relocations	$	27,160,000				
Billboards						
TOTAL ROW	$	66,815,727	30.38%	46,519,009	**$37,215,207**	**$55,822,811**

					Low Range	High Range
ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	11	$ 1,275,423		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 318,856		
SUBTOTAL ENVIRONMENTAL				$ 1,594,279	**$797,140**	**$3,188,558**
TOTAL ENVIRONMENTAL				**$ 1,594,279**		

		Low Range	High Range
TOTAL PROJECT COST	**$ 287,722,099**	**$218,000,000**	**$371,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 11 - Potential Corridor Refinements
Roadway Name: IL 120, US 12 to IL21
Length: 11 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	60,112	$ 4,508,381
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	300,559	$ 19,536,317
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	183,377	$ 4,767,792
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	536,712	$ 8,050,680
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	44,010	$ 1,584,360
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	225,580	$ 1,353,480
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	114,000	$ 2,964,000
	MEDIAN	$6.50	SQ FT	959,904	$ 6,239,376
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2450219
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	237,687	1426120
	SUBTOTAL- ROADWAY				**$ 52,880,725**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 12,691,374
	LANDSCAPING	10%	*of Roadway*		$ 5,288,072
	EROSION CONTROL	3%	*of Roadway*		$ 1,586,422
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 4,230,458
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 4,230,457.99
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 5,288,072
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 4,230,458
	SIGNING	1%	*of Roadway*		$ 528,807
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 2,115,229
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 2,115,229
	STORM AND SANITARY	35%	*of Roadway*		$ 18,508,254
	UTILITIES (WATER)	10%	*of Roadway*		$ 5,288,072
	LIGHTING	5%	*of Roadway*		$ 2,644,036
	SUBTOTAL- ROADWAY				**$ 121,625,667**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	2,444	$ 85,529
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	5,518	$ 882,880
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		$ 145,261
	SUBTOTALS- STRUCTURES				**$ 1,113,670**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	16	$ 5,760,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 128,499,338**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 10,279,947
SUBTOTAL CONSTRUCTION					**$ 138,779,285**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 11,102,343
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 34,694,821
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 184,576,449***

			Low Range	High Range
ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 36,915,290		
TOTAL CONSTRUCTION WITH DESIGN		**$ 221,491,738**	**$166,118,804**	**$287,939,260**

	Full Build	% Reduction compared to Full Build		Low Range	High Range
ROW					
Partial Acquisitons	$13,338,821				
Relocations	$13,720,000				
Billboards	$450,000				
TOTAL ROW	$27,508,821	15.85%	**$ 23,147,833**	**$18,518,266**	**$27,777,400**

					Low Range	High Range
ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	11.44	$ 1,372,602		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 343,150		
SUBTOTAL ENVIRONMENTAL				$ 1,715,752	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL				**$ 1,715,752**	**$857,876**	**$3,431,504**

			Low Range	High Range
TOTAL PROJECT COST		**$ 246,355,324**	**$186,000,000**	**$320,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 13 - Potential Corridor Refinements
Roadway Name: IL 176 – US 12 to Fairfield Road
Fairfield Road – Ivanhoe Road to Gilmer Road
Length: 6 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	35,067	$ 2,630,040
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	175,336	$ 11,396,840
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	106,976	$ 2,781,372
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	313,100	$ 4,696,500
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	21,300	$ 766,800
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	142,500	$ 855,000
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	62,000	$ 1,612,000
	MEDIAN	$6.50	SQ FT	855,360	$ 5,559,840
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		1514920
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	182,642	1095850
	SUBTOTAL- ROADWAY				**$ 32,909,161**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 7,898,199
	LANDSCAPING	10%	*of Roadway*		$ 3,290,916
	EROSION CONTROL	3%	*of Roadway*		$ 987,275
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 2,632,733
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 2,632,732.90
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 3,290,916
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 2,632,733
	SIGNING	1%	*of Roadway*		$ 329,092
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 1,316,366
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 1,316,366
	STORM AND SANITARY	35%	*of Roadway*		$ 11,518,206
	UTILITIES (WATER)	10%	*of Roadway*		$ 3,290,916
	LIGHTING	5%	*of Roadway*		$ 1,645,458
	SUBTOTAL- ROADWAY				**$ 75,691,071**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT	22,733	$ 795,658
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	38,971	$ 6,235,360
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		1054653
	SUBTOTALS- STRUCTURES				**$ 8,085,671**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	4	$ 1,440,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 85,216,741**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 6,817,339
	SUBTOTAL CONSTRUCTION				**$ 92,034,081**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 7,362,726
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 23,008,520
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 122,405,327***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 24,481,065	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 146,886,393**	**$110,164,795**	**$190,952,311**

ROW	Full Build	% Reduction compared to Full Build		Low Range	High Range
Partial Acquisitons	$14,286,883				
Relocations	$21,280,000				
Billboards	$225,000				
TOTAL ROW	$35,791,883	5.87%	**$ 33,690,212**	**$26,952,170**	**$40,428,254**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	3	$ 412,767		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 103,192		
SUBTOTAL ENVIRONMENTAL				$ 515,959	Low Range	High Range
TOTAL ENVIRONMENTAL				**$ 515,959**	**$257,979**	**$1,031,918**

		Low Range	High Range
TOTAL PROJECT COST	**$ 181,092,564**	**$138,000,000**	**$233,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 14 - Potential Corridor Refinements
Roadway Name: IL 59 – US 12 to Rollins Road
Rollins Road – IL 59 to IL 83
Length: 0 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON		$ -
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON		$ -
	AGG BASE CSE B - 6" DEPTH	$26.00	TON		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD		$ -
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT		$ -
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT		$ -
	MEDIAN	$6.50	SQ FT		$ -
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		0
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd		0
	SUBTOTAL- ROADWAY				**$ -**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ -
	LANDSCAPING	10%	*of Roadway*		$ -
	EROSION CONTROL	3%	*of Roadway*		$ -
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ -
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ -
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ -
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ -
	SIGNING	1%	*of Roadway*		$ -
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ -
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ -
	STORM AND SANITARY	35%	*of Roadway*		$ -
	UTILITIES (WATER)	10%	*of Roadway*		$ -
	LIGHTING	5%	*of Roadway*		$ -
	SUBTOTAL- ROADWAY				**$ -**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT		$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT		$ -
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF		$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		0
	SUBTOTALS- STRUCTURES				**$ -**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM		$ -
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ -**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ -
SUBTOTAL CONSTRUCTION					**$ -**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ -
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ -
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ -***

			Low Range	High Range
ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ -		
TOTAL CONSTRUCTION WITH DESIGN		**$ -**	**$0**	**$0**
ROW				
Partial Acquisitons				
Relocations				
Billboards			Low Range	High Range
TOTAL ROW		**$ -**	**$0**	**$0**
ENVIRONMENTAL				
Wetland mitigation Costs	$120,000 ACRE	$ -		
ENVIRONMENTAL CONTINGENCY	*25% of ENV*	$ -		
SUBTOTAL ENVIRONMENTAL		$ -	Low Range	High Range
TOTAL ENVIRONMENTAL		**$ -**	**$0**	**$0**
			Low Range	High Range
TOTAL PROJECT COST		**$ -**	**$0**	**$0**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 3 - NO Corridor Refinements
Roadway Name: US 45, IL 120 (Belvidere Road) to IL 83
Length: 2.8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	24,224	$ 1,816,830
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	121,122	$ 7,872,932
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	73,899	$ 1,921,370
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	216,289	$ 3,244,340
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	15,374	$ 553,464
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	77,425	$ 464,550
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	32,464	$ 844,064
	MEDIAN	$6.50	SQ FT	275,616	$ 1,791,504
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		925453
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	144,265	865590
	SUBTOTAL- ROADWAY				**$ 20,300,097**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 4,872,023
	LANDSCAPING	10%	*of Roadway*		$ 2,030,010
	EROSION CONTROL	3%	*of Roadway*		$ 609,003
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 1,624,008
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 1,624,007.76
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 2,030,010
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 1,624,008
	SIGNING	1%	*of Roadway*		$ 203,001
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 812,004
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 812,004
	STORM AND SANITARY	35%	*of Roadway*		$ 7,105,034
	UTILITIES (WATER)	10%	*of Roadway*		$ 2,030,010
	LIGHTING	5%	*of Roadway*		$ 1,015,005
	SUBTOTAL- ROADWAY				**$ 46,690,223**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	-	$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	-	$ -
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		6000000
	SUBTOTALS- STRUCTURES				**$ 46,000,000**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	8	$ 2,880,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 95,570,223**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 7,645,618
SUBTOTAL CONSTRUCTION					**$ 103,215,841**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 8,257,267
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 25,803,960
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 137,277,068***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$	27,455,414

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 164,732,482**	**$123,549,362**	**$214,152,227**

ROW							
Partial Acquisitons					$ 2,865,572		
Relocations					$ 24,920,000		
Billboards					$ -	**Low Range**	**High Range**
TOTAL ROW					**$ 27,785,572**	**$22,228,458**	**$33,342,686**

ENVIRONMENTAL							
Wetland mitigation Costs	$120,000	ACRE	0.01	$ 1,572			
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 393			
SUBTOTAL ENVIRONMENTAL				$ 1,966	**Low Range**	**High Range**	
TOTAL ENVIRONMENTAL				**$ 1,966**	**$983**	**$3,931**	

	Low Range	High Range
TOTAL PROJECT COST	**$ 192,520,020**	**$146,000,000**	**$248,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 8 - NO Corridor Refinements
Roadway Name: Lake Cook Road, Barrington Road to US 12
Length: 3.7 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	19,635	$ 1,472,632
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	98,175	$ 6,381,405
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	59,899	$ 1,557,367
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	175,313	$ 2,629,700
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	16,592	$ 597,312
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	135,240	$ 811,440
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	45,346	$ 1,178,996
	MEDIAN	$6.50	SQ FT	380,160	$ 2,471,040
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		854995
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	87,657	525940
	SUBTOTAL- ROADWAY				**$ 18,480,827**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 4,435,398
	LANDSCAPING	10%	*of Roadway*		$ 1,848,083
	EROSION CONTROL	3%	*of Roadway*		$ 554,425
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 1,478,466
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 1,478,466.14
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 1,848,083
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 1,478,466
	SIGNING	1%	*of Roadway*		$ 184,808
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 739,233
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 739,233
	STORM AND SANITARY	35%	*of Roadway*		$ 6,468,289
	UTILITIES (WATER)	10%	*of Roadway*		$ 1,848,083
	LIGHTING	5%	*of Roadway*		$ 924,041
	SUBTOTAL- ROADWAY				**$ 42,505,901**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT	-	$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	-	$ -
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	-	$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		0
	SUBTOTALS- STRUCTURES				**$ -**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	4	$ 1,440,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 43,945,901**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 3,515,672
SUBTOTAL CONSTRUCTION					**$ 47,461,574**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 3,796,926
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 11,865,393
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 63,123,893***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 12,624,779	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 75,748,671**	**$56,811,504**	**$98,473,273**

ROW						
Partial Acquisitons				$ 1,566,846		
Relocations				$ 10,640,000		
Billboards				$ -	Low Range	High Range
TOTAL ROW				**$ 12,206,846**	**$9,765,477**	**$14,648,215**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	2.29	$ 274,742		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 68,685		
SUBTOTAL ENVIRONMENTAL				$ 343,427	Low Range	High Range
TOTAL ENVIRONMENTAL				**$ 343,427**	**$171,714**	**$686,855**

		Low Range	High Range
TOTAL PROJECT COST	**$ 88,298,945**	**$67,000,000**	**$114,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 6 - NO Corridor Refinements
Roadway Name: IL 53, Lake Cook Road to Higgins Road
Length: 8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL ($2019)
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD	1,330,602	$ 86,489,148
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	1,330,602	$ 19,959,034
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	50,268	$ 3,770,066
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	251,338	$ 16,336,951
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	153,346	$ 3,986,994
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	448,817	$ 6,732,260
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	7,939	$ 285,804
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	-	$ -
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	140,282	$ 3,647,332
	MEDIAN	$6.50	SQ FT	1,351,680	$ 8,785,920
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		2177266
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	1,096,108	6576648
	SUBTOTAL- ROADWAY				**$ 158,747,423**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 38,099,382
	LANDSCAPING	10%	*of Roadway*		$ 15,874,742
	EROSION CONTROL	3%	*of Roadway*		$ 4,762,423
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 12,699,794
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 12,699,793.85
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 15,874,742
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 12,699,794
	SIGNING	1%	*of Roadway*		$ 1,587,474
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 6,349,897
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 6,349,897
	STORM AND SANITARY	35%	*of Roadway*		$ 55,561,598
	UTILITIES (WATER)	10%	*of Roadway*		$ 15,874,742
	LIGHTING	5%	*of Roadway*		$ 7,937,371
	SUBTOTAL- ROADWAY				**$ 365,119,073**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT	622,049	$ 21,771,719
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	1,009,820	$ 161,571,200
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	49,545	$ 4,954,500
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		28244613
	SUBTOTALS- STRUCTURES				**$ 216,542,032**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	4	$ 1,440,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 583,101,105**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 46,648,088
	SUBTOTAL CONSTRUCTION				**$ 629,749,194**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 50,379,935
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 157,437,298
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 837,566,428***

ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20%	of Constr.	$ 167,513,286	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 1,005,079,713**	**$753,809,785**	**$1,306,603,627**

ROW						
Partial Acquisitons				$ 12,359,378		
Relocations				$ 8,960,000		
Billboards				$ 450,000	**Low Range**	**High Range**
TOTAL ROW				**$ 21,769,378**	**$17,415,502**	**$26,123,254**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	3.64	$ 437,388		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 109,347		
SUBTOTAL ENVIRONMENTAL				$ 546,736	**Low Range**	**High Range**
TOTAL ENVIRONMENTAL				**$ 546,736**	**$273,368**	**$1,093,471**

		Low Range	High Range
TOTAL PROJECT COST	**$ 1,027,395,827**	**$772,000,000**	**$1,334,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 15 - NO Corridor Refinements
Roadway Name: IL 176, BUTTERFIELD ROAD, AND IL 137
Length: 4.8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	35,564	$ 2,667,336
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	177,822	$ 11,558,456
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	108,493	$ 2,820,814
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	317,540	$ 4,763,100
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD	22,042	$ 793,512
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT	128,100	$ 768,600
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	55,390	$ 1,440,140
	MEDIAN	$6.50	SQ FT	500,544	$ 3,253,536
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		1403275
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd	197,525	1185149
	SUBTOTAL- ROADWAY				**$ 30,653,918**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 7,356,940
	LANDSCAPING	10%	*of Roadway*		$ 3,065,392
	EROSION CONTROL	3%	*of Roadway*		$ 919,618
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 2,452,313
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 2,452,313.41
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 3,065,392
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 2,452,313
	SIGNING	1%	*of Roadway*		$ 306,539
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 1,226,157
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 1,226,157
	STORM AND SANITARY	35%	*of Roadway*		$ 10,728,871
	UTILITIES (WATER)	10%	*of Roadway*		$ 3,065,392
	LIGHTING	5%	*of Roadway*		$ 1,532,696
	SUBTOTAL- ROADWAY				**$ 70,504,011**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT	7,591	$ 265,701
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	12,204	$ 1,952,640
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF	1,063	$ 106,300
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		348696
	SUBTOTALS- STRUCTURES				**$ 2,673,337**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	7	$ 2,520,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 75,697,348**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 6,055,788
	SUBTOTAL CONSTRUCTION				**$ 81,753,136**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 6,540,251
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 20,438,284
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 108,731,671***

			Low Range	High Range
ENGINEERING				
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 21,746,334		
TOTAL CONSTRUCTION WITH DESIGN		**$ 130,478,005**	**$97,858,504**	**$169,621,406**
ROW				
Partial Acquisitons		$ 3,363,881		
Relocations		$ 26,320,000		
Billboards		$ -	Low Range	High Range
TOTAL ROW		**$ 29,683,881**	**$23,747,105**	**$35,620,657**
ENVIRONMENTAL				
Wetland mitigation Costs	$120,000 ACRE 5.32	$ 638,512		
ENVIRONMENTAL CONTINGENCY	*25% of ENV*	$ 159,628		
SUBTOTAL ENVIRONMENTAL		$ 798,140	Low Range	High Range
TOTAL ENVIRONMENTAL		**$ 798,140**	**$399,070**	**$1,596,279**
			Low Range	High Range
TOTAL PROJECT COST		**$ 160,960,025**	**$123,000,000**	**$207,000,000**

Corridor No: 16 - NO Corridor Refinements
Roadway Section Name: IL 53 Extension
Lake Cook Road to IL 120
Length: 8.4 miles

Cost Year 2016 and 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

Tri-County Access COST ESTIMATE

IDOT or ISTHA: IDOT
2016 adjusted to 2019 at 3% annual Inflation, Compounds to: 1.09

	ITEM	UNIT	QUANTITIES	2016 COSTS	2016 TOTAL	2019 TOTAL
ROADWAY						
PAVEMENT						
measured:	Pavement [Mainline+Ramp]	SQ YD	711,619	$ 80.00	$ 56,929,493	**$ 62,208,394**
calculated:	WMA Stabilized Subbase	SQ YD	711,619	$ 12.00	$ 8,539,424	**$ 9,331,259**
calculated:	Aggregate Subgrade	SQ YD	711,619	$ 15.00	$ 10,674,280	**$ 11,664,074**
measured:	Shoulder [Mainline+Ramp]	t	479,027	$ 50.00	$ 23,951,333	**$ 26,172,269**
measured:	Crossroad Pavement	SQ YD	506,500	$ 50.00	$ 25,325,000	**$ 27,673,311**
measured:	Multi-Use Path	SQ FT		$ 6.00	$ -	$ -
measured:	Curb and Gutter	FOOT		$ 30.00	$ -	$ -
measured:	Median Barrier	FOOT	71,854	$ 100.00	$ 7,185,400	**$ 7,851,681**
measured:	Sidewalk	SQ FT		$ 6.00	$ -	$ -
measured:	Medians	SQ FT		$ 6.50	$ -	$ -
measured:	Driveways	SQ YD				$ -
				SUB-TOTAL ROADWAY:	$ 132,604,931	**$ 144,900,988**
add %	ROADWAY INCIDENTALS	%		5.00%	$ 6,630,247	**$ 7,245,049**
				SUB-TOTAL ROADWAY:	**$ 139,235,177**	**$ 152,146,037**
EARTHWORK						
x	<<Check if calculated by %*ROADWAY		*By %:*	24.00%	$ 33,416,443	**$ 36,515,049**
measured:	*Remove Unsuitable Material*	CU YD	xx	$ 50.00		$ -
measured:	*Earthwork: Earth Ex*	CU YD	xx	$ 12.00		$ -
			SUB-TOTAL:		**$ 33,416,443**	**$ 36,515,049**
LANDSCAPING						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	$ 13,923,518	**$ 15,214,604**
measured:	*Landscaping - Topsoil & seeding*	SQ YD	xx	$ 2.50		$ -
Add on:	Trees, for screening	LSUM	1			$ -
			SUB-TOTAL:		**$ 13,923,518**	**$ 15,214,604**
EROSION CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	3.00%	$ 4,177,055	**$ 4,564,381**
measured:	*Erosion Control- Blankets & seeding*	SQ YD	xx	$ 1.00		$ -
			SUB-TOTAL:		**$ 4,177,055**	**$ 4,564,381**
TEMPORARY ITEMS (ACCESS, AGG, PVMT, ETC)						
x	<<Check if calculated by %*ROADWAY		*By %:*	8.00%	**$ 11,138,814**	**$ 12,171,683**
REMOVALS						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 16,708,221	**$ 18,257,524**
measured:	*Clearing and Grubbing*	ACRE	xx	$ 1,200.00		$ -
measured:	*Pavement Removal*	SQ YD	xx	$ 8.00		$ -
measured:	*Paved Shoulder Removal*	SQ YD	xx	$ 6.00		$ -
measured:	*Median Barrier Wall Removal*	FOOT	xx	$ 50.00		$ -
			SUB-TOTAL:		**$ 16,708,221**	**$ 18,257,524**
DRAINAGE STORM AND SANITARY)						
x	<<Check if calculated by %*ROADWAY		*By %:*	40.00%	$ 55,694,071	**$ 60,858,415**
measured:	*Drainage Open System (Depr/At Gr)*	MILE		$ 460,000.00		$ -
measured:	*Drainage Closed System*	MILE		$ 820,000.00		$ -
Add on:	Pump Station	EACH		$ 5,000,000.00	$ -	$ -
			SUB-TOTAL:		**$ 55,694,071**	**$ 60,858,415**
MINOR UTILITIES (ADJUSTMENTS IN CONSTRUCTION)						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 13,923,518**	**$ 15,214,604**
SPECIAL WASTE						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 13,923,518**	**$ 15,214,604**
TEMPORARY TRAFFIC CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 16,708,221	**$ 18,257,524**
measured:	*Greenfield Areas (MOT)*		%	1%		$ -
measured:	*Brownfield Areas (MOT)*		%	4%		$ -
Add on:	Railroad Shoofly	TRACK FT		$ 600.00	$ -	$ -
			SUB-TOTAL:		**$ 16,708,221**	**$ 18,257,524**
SIGNING						
x	<<Check if calculated by %*ROADWAY		*By %:*	1.00%	**$ 1,392,352**	**$ 1,521,460**
PAVEMENT MARKINGS						
x	<<Check if calculated by %*ROADWAY		*By %:*	4.00%	**$ 5,569,407**	**$ 6,085,841**
	<<< SUBTOTAL ROADWAY >>>			**SUB-TOTAL:**	**$ 325,810,315**	**$ 367,998,016**
STRUCTURES						
measured:	Bridge Removal (typ)	SQ FT		$ 50.00	$ -	$ -
measured:	Bridge Removal (non-typ)	SQ FT		$ 100.00	$ -	$ -
measured:	Roadway Bridge (SLAB)	SQ FT	1,069,730	$ 220.00	$ 235,340,600	**$ 257,163,028**
measured:	Roadway Bridge (PPC Deck Beam)	SQ FT		$ 200.00	$ -	$ -
measured:	Elevated Mainline Land Bridge (Steel)	SQ FT		$ 180.00	$ -	$ -

measured:	Roadway Bridge (Steel-mid span)	SQ FT		$ 300.00	$ -	$	-
measured:	RAILROAD Bridge (thru girder)	Track FT		$ 12,000.00	$ -	$	-
counted:	RR Crossing-Grade Separation	EACH	1	$ 40,000,000	$ 40,000,000	$	**43,709,080**
	Roadway Mainline Bridge Widening	SQ FT		not used		$	-
	Bridge Deck Replacement	SQ FT		not used		$	-
measured:	Box Culverts - Major Water Crossings (2)	SQ FT		$ 150.00	$ -	$	-
Calculated	Retaining Wall (Up)	SQ FT		$ 120.00	$ -	$	-
Calculated	Retaining Wall (Down)	SQ FT	15,074	$ 80.00	$ 1,205,920	$	**1,317,741**
	Dewatering: Area (1)+(2)	SQ FT		not used		$	-
				SUB-TOTAL STRUCTURES:	$ 276,546,520	$	**302,189,849**
add %	ROADWAY INCIDENTALS		%	20.00%	$ 55,309,304	$	**60,437,970**
	<<< SUBTOTAL STRUCTURES >>>			**SUB-TOTAL:**	**$ 331,855,824**	$	**362,627,819**

ELECTRICAL & TOLLING ITEMS

LIGHTING

x	<<Check if calculated by %*ROADWAY		*By %:*	5.00%		$	-
measured:	*Mainline Lighting*	FOOT				$	-
Add on:	Interchange Lighting	EACH	5	$ 2,000,000.00	$ 10,000,000	$	**10,927,270**
Add on:	Underpass Lighting	EACH	8	$ 120,000.00	$ 960,000	$	**1,049,018**
				SUB-TOTAL:	**$ 10,960,000**	$	**11,976,288**

TRAFFIC SIGNALS

measured:	Signalized Intersect. (1 new minor)	EACH	0	$ 350,000.00	$ -	$	-
measured:	Signalized Intersection (R&R, w/Temps!)	EACH	0	$ 400,000.00	$ -	$	-
measured:	Signalized Interchange (2 new ramp signals)	EACH	0	$ 750,000.00	$ -	$	-
				SUB-TOTAL:	**$ -**	$	-

TOLLING/ ITS/ FACILITIES

measured:	Mainline Toll Point	EACH	2	$ 2,500,000.00	$ 5,000,000	$	5,463,635
measured:	ITS Infrastructure	MILE	13.6	$ 500,000.00	$ 6,800,000	$	7,430,544
measured:	Expand Maintenance Facility	EACH	0	$ 2,000,000.00	$ -	$	-
measured:	New Maintenance Facility	EACH	1	$ 20,000,000.00	$ 20,000,000	$	**21,854,540**
	I-94 TOLLING					$	-
Add on:	I-94 Ramp Toll Plaza Removal	EACH		$ 675,000.00	$ -	$	-
Add on:	I-94 Mainline Toll Plaza Removal	EACH		$ 2,112,000.00	$ -	$	-
Add on:	I-94 New Ramp Toll Plaza	EACH		$ 1,393,000.00	$ -	$	-
Add on:	I-94 New Mainline Toll Plaza	EACH		$ 11,362,000.00	$ -	$	-
Add on:	I-94 New Ramp Toll Plaza at IL 120/I-94	EACH		$ 820,000.00	$ -	$	-
				TOLLING/ ITS/ FACILITIES	**$ 31,800,000**	$	**34,748,719**
				<<< SUBTOTAL ELECTRICAL AND TOLLING ITEMS >>>	**$ 42,760,000**	$	**46,725,007**

	<<< SUBTOTAL: ROAD + STRUCTS + ELECTRICAL >>>	**$ 700,426,139**	$	**777,350,841**
Mobilization	%	6%	$ 42,025,568.32	$ 45,922,473
Add on: if Tollway: add Quality Control Program (6%) &* Add-ons (2%)	%	8%	$ 56,034,091.09	$ 62,188,067
Add on: if IDOT add: trainee, constr layout, etc	%	2%		
	<<< SUBTOTAL: WITH MOB >>>	**$ 798,485,798**	$	**885,461,382**
Construction Contingency	%	25%	$ 199,621,450	$ **218,131,748**
Add on: Low bid adjustment	%	5%	$ 39,924,290	$ **43,626,350**
	<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 1,038,031,537**	$	**1,147,219,479**

ENGINEERING

		select				
		ISTHA	IDOT			
Master Planning (Ph I Engineering)	% of Const+ROW	5%	4%	$ 41,521,261	$	**45,371,404**
DSE (Ph II Engineering)	% of Const+ROW	6%	5%	$ 62,281,892	$	**68,057,105**
DCM (Ph II Engineering)	% of Const+ROW	3%	0%	$ 25,950,788	$	**28,357,127**
CM (Ph III Engineering)	% of Const only	8%	7%	$ 83,042,523	$	**90,742,807**
CCM (Ph III Engineering)	% of Const only	3%	0%	$ 31,140,946	$	**34,028,553**
			SUB-TOTAL:	**$ 243,937,411**	$	**266,556,996**

					Low Range	High Range
	<<< TOTAL CONSTRUCTION WITH DESIGN>>>	**$ 1,281,968,949**	$	**1,413,776,474**	**$1,060,332,356**	**$1,837,909,417**

ENVIRONMENTAL

Wetland/Waters Mitigation	$110,000	ACRE	106	$ 11,671,077	$	**12,753,301**	**Low Range**	**High Range**
			SUB-TOTAL:	**$ 11,671,077**	$	**12,753,301**	**$6,376,650**	**$25,506,602**

RIGHT-OF-WAY

Partial Acquisitons	$	14,664,640	$	15,984,458
Relocations	$	7,339,927	$	8,000,520
Billboards	$	-	$	-
<<< SUBTOTAL ROW>>>	**$**	**22,004,567**	$	**23,984,978**

			Low Range	High Range
<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 1,315,644,593**	$ **1,450,514,753**	**$1,087,886,065**	**$1,885,669,179**

Table B-1. Corridor 1 Cost Estimate Summary

Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 17 - NO Corridor Refinements
Roadway Name: Arterial Option - subsection of Corridor 16 alignment
North of Lake Cook Rd to Cuba Rd
Length: 1.9 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
ROADWAY (NEW PAVEMENTS)					
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	8,278	$ 620,827
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	41,388	$ 2,690,251
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	25,252	$ 656,549
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	73,908	$ 1,108,620
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD		$ -
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT		$ -
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	8,079	$ 210,054
	MEDIAN	$6.50	SQ FT	215,424	$ 1,400,256
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		334328
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd		0
	SUBTOTAL- ROADWAY				**$ 7,020,886**
BASED ON PERCENTAGE OF ROADWAY					
	EARTHWORK	24%	*of Roadway*		$ 1,685,013
	LANDSCAPING	10%	*of Roadway*		$ 702,089
	EROSION CONTROL	3%	*of Roadway*		$ 210,627
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 561,671
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 561,670.86
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 702,089
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 561,671
	SIGNING	1%	*of Roadway*		$ 70,209
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 280,835
BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)					
	TRENCH BACKFILL	4%	*of Roadway*		$ 280,835
	STORM AND SANITARY	35%	*of Roadway*		$ 2,457,310
	UTILITIES (WATER)	10%	*of Roadway*		$ 702,089
	LIGHTING	5%	*of Roadway*		$ 351,044
	SUBTOTAL- ROADWAY				**$ 16,148,037**
STRUCTURES					
	BRIDGE REMOVAL	$35	SQ FT		$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	104,851	$ 16,776,160
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH		$ -
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF		$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		2516424
	SUBTOTALS- STRUCTURES				**$ 19,292,584**
MISC ITEMS PAID BY LUMP-SUM					
	TRAFFIC SIGNALS	$360,000	LUMP SUM	1	$ 360,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
SUBTOTAL					**$ 35,800,621**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 2,864,050
SUBTOTAL CONSTRUCTION					**$ 38,664,671**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 3,093,174
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 9,666,168
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 51,424,012***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 10,284,802	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 61,708,815**	**$46,281,611**	**$80,221,459**

ROW						
Partial Acquisitons				$ 4,768,778		
Relocations				$ 3,231,836		
Billboards				$ -	Low Range	High Range
TOTAL ROW				**$ 8,000,614**	**$6,400,491**	**$9,600,737**

ENVIRONMENTAL						
Wetland mitigation Costs	$120,000	ACRE	22.28	$ 2,673,488		
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 668,372		
SUBTOTAL ENVIRONMENTAL				$ 3,341,860	Low Range	High Range
TOTAL ENVIRONMENTAL				**$ 6,683,720**	**$3,341,860**	**$13,367,440**

		Low Range	High Range
TOTAL PROJECT COST	**$ 76,393,149**	**$57,000,000**	**$104,000,000**

Table B-1. Corridor 1 Cost Estimate Summary
Revised Preliminary Corridor Improvement Concept

Tri-County Access
COST ESTIMATE

Corridor No: 18 - NO Corridor Refinements
Roadway Name: Arterial Option - subsection of Corridor 16 alignment
South of Gilmer Road to Midlothian Road
Length: 12.8 miles

Cost Year 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

	ITEM	UNIT PRICE	UNIT	QUANTITY	TOTAL
CONSTRUCTION					
	ROADWAY (NEW PAVEMENTS)				
A	**FREEWAY - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
B	**ARTERIAL - PCC**				
	PCC PAVEMENT (JOINTED), assumed 10" D	$65.00	SQ YD		$ -
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD		$ -
or					
C	**ARTERIAL - HMA**				
	HMA SC "C" N50 - 2" DEPTH	$75.00	TON	19,636	$ 1,472,722
	HMA BC IL-19.0 N50 - 10" DEPTH	$65.00	TON	98,181	$ 6,381,794
	AGG BASE CSE B - 6" DEPTH	$26.00	TON	59,902	$ 1,557,462
	AGG SUBGRADE IMPR 12"	$15.00	SQ YD	175,324	$ 2,629,860
	SHARED USE PATH (10' W x 6" HMA)	$36.00	SQ YD		$ -
	SIDEWALKS (5' W x 5" PCC)	$6.00	SQ FT		$ -
	CC&G (B-6.24, 4 EDGES)	$26.00	FOOT	14,221	$ 369,746
	MEDIAN	$6.50	SQ FT	316,800	$ 2,059,200
	DRIVEWAYS (var W x 8" HMA)	$60.00	SQ YD		$ -
	ROADWAY INCIDENTALS (guardrail, patching, rip-rap, etc)	*5%*	*of Roadway*		723539
D	**Pavement Removals**				
	Pavement Removals	$6.00	syd		0
	SUBTOTAL- ROADWAY				**$ 15,194,322**
	BASED ON PERCENTAGE OF ROADWAY				
	EARTHWORK	24%	*of Roadway*		$ 3,646,637
	LANDSCAPING	10%	*of Roadway*		$ 1,519,432
	EROSION CONTROL	3%	*of Roadway*		$ 455,830
	TEMPORARY: (ACCESS, AGG, PVMT, FENCES, ETC)	8%	*of Roadway*		$ 1,215,546
	REMOVALS :PAVEMENT, ETC	8%	*of Roadway*		$ 1,215,545.75
	SPECIAL WASTE, ETC	10%	*of Roadway*		$ 1,519,432
	TEMPORARY TRAFFIC CONTROL	8%	*of Roadway*		$ 1,215,546
	SIGNING	1%	*of Roadway*		$ 151,943
	PAVEMENT MARKINGS (INCLUDES: RPM, REFLECTORS)	4%	*of Roadway*		$ 607,773
	BASED ON PERCENTAGE OF ROADWAY (NOT NECESSARILY DEPENDENT ON ROADWAY)				
	TRENCH BACKFILL	4%	*of Roadway*		$ 607,773
	STORM AND SANITARY	35%	*of Roadway*		$ 5,318,013
	UTILITIES (WATER)	10%	*of Roadway*		$ 1,519,432
	LIGHTING	5%	*of Roadway*		$ 759,716
	SUBTOTAL- ROADWAY				**$ 34,946,940**
	STRUCTURES				
	BRIDGE REMOVAL	$35	SQ FT		$ -
	BRIDGE REMOVAL (OVER WATER)	$45	SQ FT		$ -
	NEW BRIDGES	$160	SQ FT	104,851	$ 16,776,160
	BRIDGE WIDENING	$110	SQ FT		$ -
	RAILROAD BRIDGES	$1,400	SQ FT		$ -
	RR: AT-GRADE X-ING TO GRADE SEPARATION	$40,000,000	EACH	1	$ 40,000,000
	BOX CULVERTS	$2,000	FOOT		$ -
	RETAINING WALLS	$100	SF		$ -
	NOISE WALLS	$45	SF		$ -
	STRUCTURE INCIDENTALS	*15%*	*of Structs*		8516424
	SUBTOTALS- STRUCTURES				**$ 65,292,584**
	MISC ITEMS PAID BY LUMP-SUM				
	TRAFFIC SIGNALS	$360,000	LUMP SUM	2	$ 720,000
	TRAFFIC SIGNALS- TEMPORARY	$60,000	LUMP SUM		$ -
	CELL TOWER RELOCATION	$300,000	LUMP SUM		$ -
	BILLBOARD RELOCATION	$1,000,000	LUMP SUM		$ -
	SUBTOTAL				**$ 100,959,524**
	MOBILIZATION (INCLUDES, FIELD OFFICE, LAYOUT, ETC)	8%			$ 8,076,762
	SUBTOTAL CONSTRUCTION				**$ 109,036,286**
	LOW BIDDER ADJUSTMENT FACTOR	8%			$ 8,722,903
	CONTINGENCIES - OVERALL CONSTRUCTION	25%			$ 27,259,072
TOTAL CONSTRUCTION				*CARRIED FORWARD:*	***$ 145,018,261***

ENGINEERING			
DESIGN AND CONSTRUCTION ENGINEERING	20% of Constr.	$ 29,003,652	

		Low Range	High Range
TOTAL CONSTRUCTION WITH DESIGN	**$ 174,021,913**	**$130,516,435**	**$226,228,487**

ROW					
Partial Acquisitons				$ 2,965,194	
Relocations				$ 10,419,416	
Billboards				$ -	Low Range / High Range
TOTAL ROW				**$ 13,384,610**	**$10,707,688 / $16,061,532**

ENVIRONMENTAL					
Wetland mitigation Costs	$120,000	ACRE	17.11	$ 2,052,921	
ENVIRONMENTAL CONTINGENCY	*25%*	*of ENV*		$ 513,230	
SUBTOTAL ENVIRONMENTAL				$ 2,566,151	Low Range / High Range
TOTAL ENVIRONMENTAL				**$ 5,132,303**	**$2,566,151 / $10,264,605**

	Low Range	High Range
TOTAL PROJECT COST	**$144,000,000**	**$253,000,000**

Corridor No: **20 - NO Corridor Refinements** | Cost Year: 2016 and 2019

Roadway Section Name: New E-W Alignment - East leg | Comp by: SP

West of IL 83 to east of I-94 | 9/25/2019

Length: 7.2 miles | Chk by: MEG

IDOT or ISTHA: IDOT | 10/2/2019

2016 adjusted to 2019 at 3% annual Inflation, Compounds to: 1.09

Tri-County Access COST ESTIMATE

ROADWAY

	ITEM	UNIT	QUANTITIES	2016 COSTS	TOTAL	2019 COST
		Unit				
PAVEMENT						
measured:	Pavement [Mainline+Ramp]	SQ YD	578,197	$ 80.00	$ 46,255,787	**$ 50,544,947**
calculated:	WMA Stabilized Subbase	SQ YD	578,197	$ 12.00	$ 6,938,368	**$ 7,581,742**
calculated:	Aggregate Subgrade	SQ YD	578,197	$ 15.00	$ 8,672,960	**$ 9,477,178**
measured:	Shoulder [Mainline+Ramp]	SQ YD	252,393	$ 50.00	$ 12,619,667	**$ 13,789,850**
measured:	Crossroad Pavement	SQ YD	185,835	$ 50.00	$ 9,291,733	**$ 10,153,328**
measured:	Multi-Use Path	SQ FT		$ 6.00	$ -	$ -
measured:	Curb and Gutter	FOOT		$ 30.00	$ -	$ -
measured:	Median Barrier	FOOT	37,859	$ 100.00	$ 3,785,900	**$ 4,136,955**
measured:	Sidewalk	SQ FT		$ 6.00	$ -	$ -
measured:	Medians	SQ FT		$ 6.50	$ -	$ -
measured:	Driveways	SQ YD				$ -
				SUB-TOTAL ROADWAY:	$ 87,564,415	**$ 95,684,000**
add %	ROADWAY INCIDENTALS		%	5.00%	$ 4,378,221	**$ 4,784,200**
				SUB-TOTAL ROADWAY:	**$ 91,942,635**	**$ 100,468,200**
EARTHWORK						
x	<<Check if calculated by %*ROADWAY		*By %:*	24.00%	$ 22,066,232	**$ 24,112,368**
measured:	*Remove Unsuitable Material*	CU YD	xx	$ 50.00		$ -
measured:	*Earthwork: Earth Ex*	CU YD	xx	$ 12.00		$ -
			SUB-TOTAL:		**$ 22,066,232**	**$ 24,112,368**
LANDSCAPING						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	$ 9,194,264	**$ 10,046,820**
measured:	*Landscaping - Topsoil & seeding*	SQ YD	xx	$ 2.50		$ -
Add on:	Trees, for screening	LSUM	1			$ -
			SUB-TOTAL:		**$ 9,194,264**	**$ 10,046,820**
EROSION CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	3.00%	$ 2,758,279	**$ 3,014,046**
measured:	*Erosion Control- Blankets & seeding*	SQ YD	xx	$ 1.00		$ -
			SUB-TOTAL:		**$ 2,758,279**	**$ 3,014,046**
TEMPORARY ITEMS (ACCESS, AGG, PVMT, ETC)						
x	<<Check if calculated by %*ROADWAY		*By %:*	8.00%	**$ 7,355,411**	**$ 8,037,456**
REMOVALS						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 11,033,116	**$ 12,056,184**
measured:	*Clearing and Grubbing*	ACRE	xx	$ 1,200.00		$ -
measured:	*Pavement Removal*	SQ YD	xx	$ 8.00		$ -
measured:	*Paved Shoulder Removal*	SQ YD	xx	$ 6.00		$ -
measured:	*Median Barrier Wall Removal*	FOOT	xx	$ 50.00		$ -
			SUB-TOTAL:		**$ 11,033,116**	**$ 12,056,184**
DRAINAGE STORM AND SANITARY)						
x	<<Check if calculated by %*ROADWAY		*By %:*	40.00%	$ 36,777,054	**$ 40,187,280**
measured:	*Drainage Open System (Depr/At Gr)*	MILE		$ 460,000.00		$ -
measured:	*Drainage Closed System*	MILE		$ 820,000.00		$ -
Add on:	Pump Station	EACH		$ 5,000,000.00	$ -	$ -
			SUB-TOTAL:		**$ 36,777,054**	**$ 40,187,280**
MINOR UTILITIES (ADJUSTMENTS IN CONSTRUCTION)						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 9,194,264**	**$ 10,046,820**
SPECIAL WASTE						
x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 9,194,264**	**$ 10,046,820**
TEMPORARY TRAFFIC CONTROL						
x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 11,033,116	**$ 12,056,184**
measured:	*Greenfield Areas (MOT)*		%	1%		$ -
measured:	*Brownfield Areas (MOT)*		%	4%		$ -
Add on:	Railroad Shoofly	TRACK FT		$ 600.00	$ -	$ -
			SUB-TOTAL:		**$ 11,033,116**	**$ 12,056,184**
SIGNING						
x	<<Check if calculated by %*ROADWAY		*By %:*	1.00%	**$ 919,426**	**$ 1,004,682**
PAVEMENT MARKINGS						
x	<<Check if calculated by %*ROADWAY		*By %:*	4.00%	**$ 3,677,705**	**$ 4,018,728**
	<<< SUBTOTAL ROADWAY >>>			**SUB-TOTAL:**	**$ 215,145,767**	**$ 235,095,588**

STRUCTURES

measured:	Bridge Removal (typ)	SQ FT		$ 50.00	$ -	$ -
measured:	Bridge Removal (non-typ)	SQ FT		$ 100.00	$ -	$ -
measured:	Roadway Bridge (SLAB)	SQ FT	497,062	$ 220.00	$ 109,353,640	**$ 119,493,675**
measured:	Roadway Bridge (PPC Deck Beam)	SQ FT		$ 200.00	$ -	$ -
measured:	Elevated Mainline Land Bridge (Steel)	SQ FT		$ 180.00	$ -	$ -
measured:	Roadway Bridge (Steel-mid span)	SQ FT		$ 300.00	$ -	$ -
measured:	RAILROAD Bridge (thru girder)	Track FT		$ 12,000.00	$ -	$ -
counted:	RR Crossing-Grade Separation	EACH	2	$ 40,000,000	$ 80,000,000	**$ 87,418,160**
	Roadway Mainline Bridge Widening	SQ FT		not used		$ -
	Bridge Deck Replacement	SQ FT		not used		$ -
measured:	Box Culverts - Major Water Crossings (2)	SQ FT		$ 150.00	$ -	$ -
Calculated	Retaining Wall (Up)	SQ FT		$ 120.00	$ -	$ -
Calculated	Retaining Wall (Down)	SQ FT	15,820	$ 80.00	$ 1,265,600	**$ 1,382,955**
	Dewatering: Area (1)+(2)	SQ FT		not used		$ -
				SUB-TOTAL STRUCTURES:	$ 190,619,240	**$ 208,294,790**
add %	ROADWAY INCIDENTALS		%	20.00%	$ 38,123,848	**$ 41,658,958**
	<<< SUBTOTAL STRUCTURES >>>			**SUB-TOTAL:**	**$ 228,743,088**	**$ 249,953,748**

ELECTRICAL & TOLLING ITEMS

LIGHTING

COST ESTIMATE		ITEM	UNIT	QUANTITIES	2016 COSTS	TOTAL	2019 COST
	x	<<Check if calculated by %*ROADWAY		*By %:*	5.00%		$ -
measured:		*Mainline Lighting*	FOOT				$ -
Add on:		Interchange Lighting	EACH	4	$ 2,000,000.00	$ 8,000,000	**$ 8,741,816**
Add on:		Underpass Lighting	EACH	2	$ 120,000.00	$ 240,000	**$ 262,254**
				LIGHTING	**SUB-TOTAL:**	**$ 8,240,000**	**$ 9,004,070**
TRAFFIC SIGNALS							
measured:		Signalized Intersect. (1 new minor)	EACH	0	$ 350,000.00	$ -	$ -
measured:		Signalized Intersection (R&R, w/Temps!)	EACH	0	$ 400,000.00	$ -	$ -
measured:		Signalized Interchange (2 new ramp signals)	EACH	0	$ 750,000.00	$ -	$ -
				TRAFFIC SIGNALS	**SUB-TOTAL:**	**$ -**	**$ -**
TOLLING/ ITS/ FACILITIES							
measured:		Mainline Toll Point	EACH	1	$ 2,500,000.00	$ 2,500,000	**$ 2,731,818**
measured:		ITS Infrastructure	MILE	7.17	$ 500,000.00	$ 3,585,000	**$ 3,917,426**
measured:		Expand Maintenance Facility	EACH	0	$ 2,000,000.00	$ -	$ -
measured:		New Maintenance Facility	EACH	1	$ 20,000,000.00	$ 20,000,000	**$ 21,854,540**
		I-94 TOLLING					$ -
Add on:		I-94 Ramp Toll Plaza Removal	EACH		$ 675,000.00	$ -	$ -
Add on:		I-94 Mainline Toll Plaza Removal	EACH		$ 2,112,000.00	$ -	$ -
Add on:		I-94 New Ramp Toll Plaza	EACH		$ 1,393,000.00	$ -	$ -
Add on:		I-94 New Mainline Toll Plaza	EACH		$ 11,362,000.00	$ -	$ -
Add on:		I-94 New Ramp Toll Plaza at IL 120/I-94	EACH		$ 820,000.00	$ -	$ -
					TOLLING/ ITS/ FACILITIES	**$ 26,085,000**	**$ 28,503,784**
					<<< SUBTOTAL ELECTRICAL AND TOLLING ITEMS >>>	**$ 34,325,000**	**$ 37,507,854**
					<<< SUBTOTAL: ROAD + STRUCTS + ELECTRICAL >>>	$ 478,213,855	**$ 522,557,191**
Mobilization				%	6%	$ 28,692,831	**$ 31,353,431**
Add on:		if Tollway: add Quality Control Program (6%) &* Add-ons (2%)		%	8%		$ -
Add on:		if IDOT add: trainee, constr layout, etc		%	2%	$ 9,564,277	**$ 10,451,144**
					<<< SUBTOTAL: WITH MOB >>>	**$ 516,470,963**	**$ 553,910,622.41**
Construction Contingency				%	25%	$ 129,117,741	$ 141,090,442
Add on:		Low bid adjustment		%	5%	$ 25,823,548	$ 28,218,088
					<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 671,412,252**	**$ 723,219,152.28** (tot1)

ENGINEERING

		select ISTHA	*select* IDOT			
Master Planning (Ph I Engineering)	% of Const+ROW	5%	4%	$ 26,856,490.09	$ 29,346,812	
DSE (Ph II Engineering)	% of Const+ROW	6%	5%	$ 33,570,612.61	$ 36,683,515	
DCM (Ph II Engineering)	% of Const+ROW	3%	0%	$ -	$ -	
CM (Ph III Engineering)	% of Const only	8%	7%	$ 46,998,858	$ 51,356,921	
CCM (Ph III Engineering)	% of Const only	3%	0%	$ -	$ -	
			SUB-TOTAL:	**$ 107,425,960**	**$ 117,387,247**	

						Low Range	High Range
				<<< TOTAL CONSTRUCTION WITH DESIGN>>>	**$ 778,838,213**	**$ 851,057,543**	**$638,293,158**	**$1,106,374,807**

ENVIRONMENTAL

							Low Range	High Range
Wetland/Waters Mitigation	$110,000	ACRE	40	$ 4,450,655	**$ 4,863,351**		**$2,431,676**	**$9,726,702**
			SUB-TOTAL:	**$ 4,450,655**	**$ 4,863,351**		**$2,431,676**	**$9,726,702**

RIGHT-OF-WAY

						Low Range	High Range
Partial Acquisitons				$ 7,213,440	$ 7,862,650		
Relocations				$ 1,617,134	$ 1,762,676		
Billboards				$ 206,422	$ 225,000	**$7,880,261**	**$11,820,391**
			<<< SUBTOTAL ROW>>>	**$ 9,036,996**	**$ 9,850,326**		

						Low Range	High Range
			<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 792,325,864**	**$ 865,771,221**	**$649,328,415**	**$1,125,502,587**

Corridor No: 21 - NO Corridor Refinements
Roadway Section Name: New E-W Alignment, west leg
US 12 to west of IL 83
Length: 7.8 miles

Cost Year 2016 and 2019
Comp by: SP
9/25/2019
Chk by: MEG
10/2/2019

IDOT or ISTHA: IDOT

2016 adjusted to 2019 at 3% annual Inflation, Compounds to: 1.09

Tri-County Access COST ESTIMATE

ROADWAY

PAVEMENT

	ITEM	UNIT	QUANTITIES	2016 COSTS	2016 TOTAL	2019 TOTAL
measured:	Pavement [Mainline+Ramp]	SQ YD	303,995	$ 80.00	$ 24,319,618	**$ 26,574,703**
calculated:	WMA Stabilized Subbase	SQ YD	303,995	$ 12.00	$ 3,647,943	**$ 3,986,205**
calculated:	Aggregate Subgrade	SQ YD	303,995	$ 15.00	$ 4,559,928	**$ 4,982,757**
measured:	Shoulder [Mainline+Ramp]	SQ YD	275,027	$ 50.00	$ 13,751,333	**$ 15,026,453**
measured:	Crossroad Pavement	SQ YD	106,137	$ 50.00	$ 5,306,867	**$ 5,798,956**
measured:	Multi-Use Path	SQ FT		$ 6.00	$ -	$ -
measured:	Curb and Gutter	FOOT		$ 30.00	$ -	$ -
measured:	Median Barrier	FOOT	41,254	$ 100.00	$ 4,125,400	**$ 4,507,936**
measured:	Sidewalk	SQ FT		$ 6.00	$ -	$ -
measured:	Medians	SQ FT		$ 6.50	$ -	$ -
measured:	Driveways	SQ YD				$ -
				SUB-TOTAL ROADWAY:	$ 55,711,089	**$ 60,877,011**
add %	ROADWAY INCIDENTALS		%	5.00%	$ 2,785,554	**$ 3,043,851**
				SUB-TOTAL ROADWAY:	**$ 58,496,643**	**$ 63,920,862**

EARTHWORK

x	<<Check if calculated by %*ROADWAY		*By %:*	24.00%	$ 14,039,194	**$ 15,341,007**
measured:	*Remove Unsuitable Material*	CU YD	xx	$ 50.00		$ -
measured:	*Earthwork: Earth Ex*	CU YD	xx	$ 12.00		$ -
			SUB-TOTAL:		**$ 14,039,194**	**$ 15,341,007**

LANDSCAPING

x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	$ 5,849,664	**$ 6,392,086**
measured:	*Landscaping - Topsoil & seeding*	SQ YD	xx	$ 2.50		$ -
Add on:	Trees, for screening	LSUM	1			$ -
			SUB-TOTAL:		**$ 5,849,664**	**$ 6,392,086**

EROSION CONTROL

x	<<Check if calculated by %*ROADWAY		*By %:*	3.00%	$ 1,754,899	**$ 1,917,626**
measured:	*Erosion Control- Blankets & seeding*	SQ YD	xx	$ 1.00		$ -
			SUB-TOTAL:		**$ 1,754,899**	**$ 1,917,626**

TEMPORARY ITEMS (ACCESS, AGG, PVMT, ETC)

x	<<Check if calculated by %*ROADWAY		*By %:*	8.00%	**$ 4,679,731**	**$ 5,113,669**

REMOVALS

x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 7,019,597	**$ 7,670,503**
measured:	*Clearing and Grubbing*	ACRE	xx	$ 1,200.00		$ -
measured:	*Pavement Removal*	SQ YD	xx	$ 8.00		$ -
measured:	*Paved Shoulder Removal*	SQ YD	xx	$ 6.00		$ -
measured:	*Median Barrier Wall Removal*	FOOT	xx	$ 50.00		$ -
			SUB-TOTAL:		**$ 7,019,597**	**$ 7,670,503**

DRAINAGE STORM AND SANITARY)

x	<<Check if calculated by %*ROADWAY		*By %:*	40.00%	$ 23,398,657	**$ 25,568,345**
measured:	*Drainage Open System (Depr/At Gr)*	MILE		$ 460,000.00		$ -
measured:	*Drainage Closed System*	MILE		$ 820,000.00		$ -
Add on:	Pump Station	EACH		$ 5,000,000.00	$ -	$ -
			SUB-TOTAL:		**$ 23,398,657**	**$ 25,568,345**

MINOR UTILITIES (ADJUSTMENTS IN CONSTRUCTION)

x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 5,849,664**	**$ 6,392,086**

SPECIAL WASTE

x	<<Check if calculated by %*ROADWAY		*By %:*	10.00%	**$ 5,849,664**	**$ 6,392,086**

TEMPORARY TRAFFIC CONTROL

x	<<Check if calculated by %*ROADWAY		*By %:*	12.00%	$ 7,019,597	**$ 7,670,503**
measured:	*Greenfield Areas (MOT)*		%	1%		$ -
measured:	*Brownfield Areas (MOT)*		%	4%		$ -
Add on:	Railroad Shoofly	TRACK FT		$ 600.00	$ -	$ -
			SUB-TOTAL:		**$ 7,019,597**	**$ 7,670,503**

SIGNING

x	<<Check if calculated by %*ROADWAY		*By %:*	1.00%	**$ 584,966**	**$ 639,209**

PAVEMENT MARKINGS

x	<<Check if calculated by %*ROADWAY		*By %:*	4.00%	**$ 2,339,866**	**$ 2,556,834**

<<< SUBTOTAL ROADWAY >>> **SUB-TOTAL:** **$ 136,882,145** **$ 149,574,816**

STRUCTURES

measured:	Bridge Removal (typ)	SQ FT		$ 50.00	$ -	$ -
measured:	Bridge Removal (non-typ)	SQ FT		$ 100.00	$ -	$ -
measured:	Roadway Bridge (SLAB)	SQ FT	497,062	$ 220.00	$ 109,353,640	**$ 119,493,675**
measured:	Roadway Bridge (PPC Deck Beam)	SQ FT		$ 200.00	$ -	$ -
measured:	Elevated Mainline Land Bridge (Steel)	SQ FT		$ 180.00	$ -	$ -
measured:	Roadway Bridge (Steel-mid span)	SQ FT		$ 300.00	$ -	$ -
measured:	RAILROAD Bridge (thru girder)	Track FT		$ 12,000.00	$ -	$ -
counted:	RR Crossing-Grade Separation	EACH		$ 40,000,000	$ -	$ -
	Roadway Mainline Bridge Widening	SQ FT		not used		$ -

COST ESTIMATE

	ITEM	UNIT	QUANTITIES	2016 COSTS	2016 TOTAL	2019 TOTAL
	Bridge Deck Replacement	SQ FT		not used		$ -
measured:	Box Culverts - Major Water Crossings (2)	SQ FT		$ 150.00	$ -	$ -
Calculated	Retaining Wall (Up)	SQ FT		$ 120.00	$ -	$ -
Calculated	Retaining Wall (Down)	SQ FT	15,820	$ 80.00	$ 1,265,600	**$ 1,382,955**
	Dewatering: Area (1)+(2)	SQ FT		not used		$ -
				SUB-TOTAL STRUCTURES:	$ 110,619,240	**$ 120,876,630**
add %	ROADWAY INCIDENTALS		%	20.00%	$ 22,123,848	**$ 24,175,326**
	<<< SUBTOTAL STRUCTURES >>>			**SUB-TOTAL:**	**$ 132,743,088**	**$ 145,051,956**

ELECTRICAL & TOLLING ITEMS

LIGHTING

x	<<Check if calculated by %*ROADWAY		*By %:*	5.00%	$ 2,924,832	**$ 3,196,043**
measured:	*Mainline Lighting*	FOOT				$ -
Add on:	Interchange Lighting	EACH	4	$ 2,000,000.00	$ 8,000,000	**$ 8,741,816**
Add on:	Underpass Lighting	EACH	3	$ 120,000.00	$ 360,000	**$ 393,382**
			LIGHTING	**SUB-TOTAL:**	**$ 11,284,832**	**$ 12,331,241**

TRAFFIC SIGNALS

measured:	Signalized Intersect. (1 new minor)	EACH	0	$ 350,000.00	$ -	$ -
measured:	Signalized Intersection (R&R, w/Temps!)	EACH	0	$ 400,000.00	$ -	$ -
measured:	Signalized Interchange (2 new ramp signals)	EACH	0	$ 750,000.00	$ -	$ -
			TRAFFIC SIGNALS	**SUB-TOTAL:**	**$ -**	$ -

TOLLING/ ITS/ FACILITIES

measured:	Mainline Toll Point	EACH	1	$ 2,500,000	$ 2,500,000	**$ 2,731,818**
measured:	ITS Infrastructure	MILE	13.6	$ 500,000	$ 6,800,000	**$ 7,430,544**
measured:	Expand Maintenance Facility	EACH	0	$ 2,000,000	$ -	$ -
measured:	New Maintenance Facility	EACH	0	$ 20,000,000	$ -	$ -
	I-94 TOLLING					$ -
Add on:	I-94 Ramp Toll Plaza Removal	EACH		$ 675,000	$ -	$ -
Add on:	I-94 Mainline Toll Plaza Removal	EACH		$ 2,112,000	$ -	$ -
Add on:	I-94 New Ramp Toll Plaza	EACH		$ 1,393,000	$ -	$ -
Add on:	I-94 New Mainline Toll Plaza	EACH		$ 11,362,000	$ -	$ -
Add on:	I-94 New Ramp Toll Plaza at IL 120/I-94	EACH		$ 820,000	$ -	$ -
				TOLLING/ ITS/ FACILITIES	**$ 9,300,000**	**$ 10,162,361**
				<<< SUBTOTAL ELECTRICAL AND TOLLING ITEMS >>>	**$ 20,584,832**	**$ 22,493,602**

<<< SUBTOTAL: ROAD + STRUCTS + ELECTRICAL >>>	$ 290,210,066	$ 317,120,374		
Mobilization	%	6%	$ 17,412,604	**$ 19,027,222**
Add on: if Tollway: add Quality Control Program (6%) &* Add-ons (2%)	%	8%	$ 23,216,805	$ 25,369,630
Add on: if IDOT add: trainee, constr layout, etc	%	2%		$ -
<<< SUBTOTAL: WITH MOB >>>	**$ 330,839,475**	**$ 361,517,227**		
Construction Contingency	%	25%	$ 82,709,869	**$ 90,379,307**
Add on: Low bid adjustment	%	5%	$ 16,541,974	**$ 18,075,861**
<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 430,091,317**	**$ 469,972,395**		

ENGINEERING

		select ISTHA	*select* IDOT		
Master Planning (Ph I Engineering)	% of Const+ROW	5%	4%	$ 17,203,652.69	**$ 18,798,896**
DSE (Ph II Engineering)	% of Const+ROW	6%	5%	$ 21,504,565.86	**$ 23,498,620**
DCM (Ph II Engineering)	% of Const+ROW	3%	0%	$ -	$ -
CM (Ph III Engineering)	% of Const only	8%	7%	$ 30,106,392	**$ 32,898,068**
CCM (Ph III Engineering)	% of Const only	3%	0%	$ -	$ -
			SUB-TOTAL:	**$ 68,814,611**	**$ 75,195,583**

			Low Range	High Range
<<< TOTAL CONSTRUCTION WITH DESIGN>>>	**$ 498,905,928**	**$ 545,167,978**	**$408,875,984**	**$708,718,371**

ENVIRONMENTAL

Wetland/Waters Mitigation	$110,000	ACRE	66	$ 7,221,756	**$ 7,871,714**	**Low Range**	**High Range**
			SUB-TOTAL:	**$ 7,221,756**	**$ 7,871,714**	**$3,935,857**	**$15,743,428**

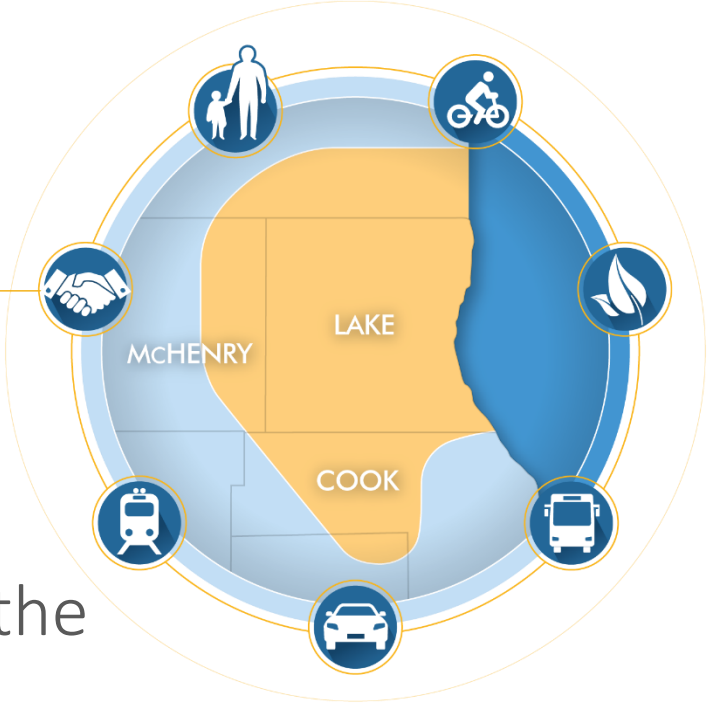
RIGHT-OF-WAY

Partial Acquisitons	$ 12,791,134	**$ 13,942,336**		
Relocations	$ 17,988,727	**$ 19,607,712**		
Billboards	$ -	$ -	**Low Range**	**High Range**
<<< SUBTOTAL ROW>>>	**$ 30,779,861**	**$ 33,550,048**	**$26,840,038**	**$40,260,058**

			Low Range	High Range
<<< TOTAL CONSTRUCTION: WITH CONTINGENCY>>>	**$ 536,907,544**	**$ 586,589,740**	**$439,942,305**	**$762,566,662**

Appendix F

Natural and Socioeconomic Resource Methodologies for the System Alternatives Evaluation Memorandums



TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Natural and Socioeconomic Resource Methodologies for the System Alternatives Evaluation

January 2020
Version 2.0

Illinois Tollway

U.S. Department of Transportation
Federal Highway Administration

Illinois Department of Transportation

Environmental and Socioeconomic Resource Methodologies for System Alternative Evaluation

PREPARED FOR: Illinois Tollway

PREPARED BY: Jacobs

PROJECT NUMBER: 4266

Overview

The Tri-County Access Project, led by the Illinois Tollway in collaboration with the Federal Highway Administration (FHWA) and the Illinois Department of Transportation (IDOT), is a study of alternative transportation solutions for the Project study area (see Figure 1). The study will include preparation of an Environmental Impact Statement (EIS), which will identify the purpose and need for the Project, analyze a full and reasonable range of alternatives (including a No-Build Alternative), and document potential impacts to natural and socioeconomic resources.

The Project alternatives will be developed and evaluated in two stages: the systems alternative phase and the build alternative phase. Both the Illinois Tollway and IDOT have environmental policies and procedures, as well as separate agreements with regulatory agencies such as the Illinois Department of Natural Resources. While these policies and procedures are often consistent, they do differ in some ways. Additionally, as this Project is applying the NEPA process across a larger geographic area than is typically the case for transportation projects in Illinois, the existing policies and procedures do not necessarily fit the context of the project. For these reasons and because it is unknown which agency would be the implementing agency should a build alternative be selected, as an initial step in the environmental evaluation of the alternatives, methodologies have been developed for identifying and analyzing the natural and socioeconomic resources of the system alternatives.

These methodologies are documented in the following memorandums. These memorandums outline the parameters, tools, and criteria for assessing and comparing potential impacts of the system alternatives. As the project progresses, additional methodologies will be developed for the build alternatives, which are expected to involve alternative refinements and more detailed studies.

The *Project area*, as shown on Figure 1, is the overall area within which transportation problems and their potential solutions will be investigated. The Project area encompasses approximately 850 square miles in Lake County, northern Cook County, and eastern McHenry County, as well as small portions of DuPage and Kane Counties in Illinois. It also includes approximately 175 square miles in Kenosha County and a small portion of Walworth County in Wisconsin. Within the Project area, an "*analysis area*," or the area used to identify and assess potential impacts for a particular resource for the system alternatives evaluation, is defined in each resource memorandum. The Project area is generally larger than the analysis area and is not specific to a resource topic. Each analysis area is defined based upon requirements that support evaluation of the specific natural or socioeconomic resource.

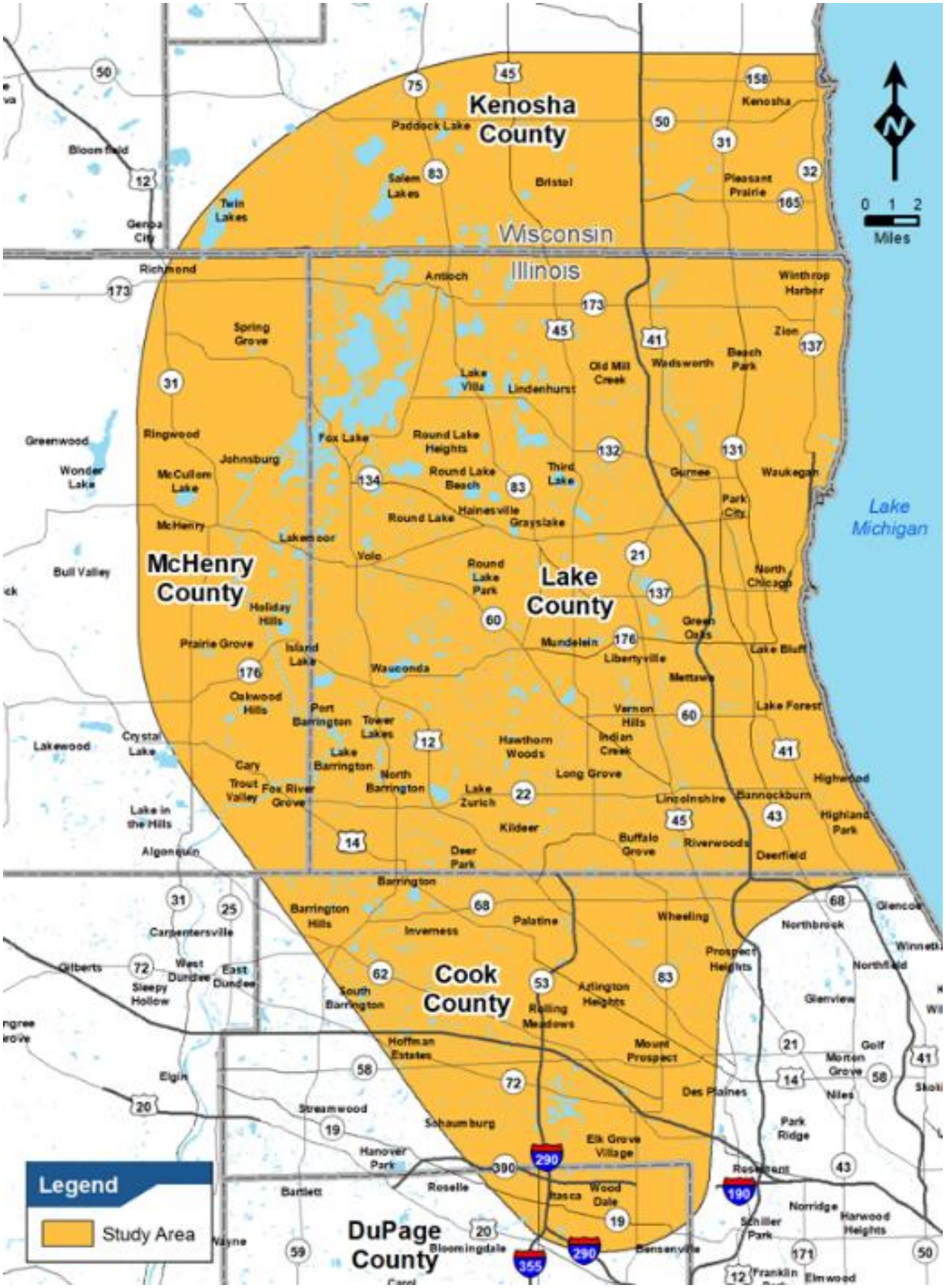


Figure 1. Project Study Area

System Alternative Evaluation Methodology

The methodologies for evaluating social and economic resources (i.e., land use compatibility, community cohesion, etc.) and for evaluating natural and cultural resources (including air quality, noise, floodplains, wetlands, water resources, etc.) are included as individual technical memorandums. The following components provide an introduction to the proposed analysis.

The identification of the system alternatives is the initial step of the Project's alternative development process and the basis for the proposed methodologies evaluation and comparison. A broad range of system alternatives (i.e., general location and improvement type) will be developed to address the project purpose and need. Initially, the system alternatives will be standalone modal alternatives, such as independent transit, roadway, or transportation system management (TSM) alternatives. Depending on their performance and impacts, these independent modal alternatives may be combined into packages of improvements that include more than one mode or may continue to be developed independently as standalone alternatives.

A footprint will be developed for each of the system alternatives. Footprints used in the system alternatives evaluation are expected to be based on templates that consider the travel modes, general corridors, facility types, working alignments, number of lanes/rails, and representative interchanges or intersections. The footprints will be developed to an appropriate level of detail during the screening process for the assessment of natural and socioeconomic impacts. Traffic analyses will also be completed to identify and evaluate the system alternatives. Separate memorandums detailing the alternatives development process and traffic studies are being prepared under a separate cover.

Each technical memorandum within this compendium includes a definition of the resource analysis area to be studied and the proposed methodology for identifying and comparing the system alternatives for that particular resource topic. The resources to be evaluated are identified in the List of Technical Memorandums section below. The memorandums describe the data to be collected, tools, criteria, and the review and decision process for the evaluation. At this level of analysis, the data collection and assessment will generally be based on available data sources and mapping.

Subsequent Build Alternative Phase

The system alternatives will be evaluated and screened to a reasonable range of alternatives to be carried forward as part of the EIS. These alternatives will be known as the build alternatives. The build alternatives will be developed and evaluated to a greater level of detail than the system alternatives and will include detailed engineering, rather than templates. Compared to the published information that will be used for the evaluation of the system alternatives, the build alternatives will use field studies and modeling to determine environmental impacts. New methodology memorandums will be prepared for the build alternatives to account for this greater level of detail. Each technical memorandum included in this compendium provides a preview of the more detailed analysis expected at the build alternative stage.

List of Technical Memorandums

TM1 Community Resources Methodology

TM2 Land Use Methodology

TM3 Agricultural Resources Methodology

TM4 Cultural Resources Methodology

TM5 Air Quality Methodology

TM6 Traffic Noise Methodology

TM7 Special Waste Methodology

TM8 Section 4(f) Methodology

TM9 Visual and Aesthetics Methodology

TM10 Biological Resources and Threatened and Endangered Species Methodology

TM11 Water Quality Methodology

TM12 Floodplains Methodology

TM13 Wetlands and Waters of the U.S. Methodology

Community Resources Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Jacobs
PROJECT NUMBER:	4266

Topic

This technical memorandum outlines the methodology that will be used to assess and compare community impacts during the system alternatives evaluation phase of the Tri-County Access (TCA) Project. It identifies the community impacts that will be considered, the sources of information and the tools needed to analyze impacts, the parameters and criteria that will guide how the data are used, the review/decision process, and the output data for assessing impacts.

The evaluation of community resource impacts will provide meaningful information to differentiate and screen the system alternatives. The following community resource impacts will be analyzed:

- Minority and low-income population impacts
- Right-of-way and tax loss impacts
- Residential and business displacements
- Public facilities and services impacts
- Property access impacts
- Community cohesion/barrier effects

Following the evaluation of the system alternatives, several alternatives (known as the build alternatives) will be retained for more detailed evaluation. The community resource analysis will be expanded with greater detail during the build alternative evaluation (see Build Alternative Phase Description section for more detail).

Analysis Area

The analysis area within which resources and impacts will be evaluated is as follows:

- For assessing impacts to populations (demographics), two parameters will be used: (1) Information from the U.S. Census will be collected to understand and characterize all populations in the TCA Project study area, and (2) U.S. Census Tracts that border the proposed corridors making up each system alternative will be used to identify impacts on low-income and minority populations in the analysis area.
- For assessing displacements, community resources (for example, civic buildings, schools, and health care facilities) and property access changes, the corridor footprint (with no additional offset beyond the corridor footprint) will be used to calculate impacts.
- For assessing potential barrier effects, an approximate 1-mile analysis area (0.5 mile in each direction) from limited-access and arterial corridor centerlines will be used to evaluate the extent of such impact to community facilities and services.

Methodology

Data Needed/To Be Collected

The TCA Team will collect the following types of information:

- **U.S. Census Information.** Demographic datasets are available from Census.gov, with links to Lake County Geographic Information System (GIS) Census geography shapefiles.
- **Parcel Data.** Parcel data will be compiled from the respective county assessor data and from information assembled in previous Illinois Route 53 (IL 53) corridor studies.
- **Building Impacts.** Data from the GIS and Cook County GIS databases are available from their respective websites. For McHenry County, an inquiry will need to be made to see if their GIS data are available. If the data are not available, aerial imagery combined with field checks will be used to locate and digitize buildings.
- **Community Facilities.** Specific community facility data to be collected include, but are not limited to, the following:
  - Schools and colleges (public and private)
  - Religious facilities
  - Cemeteries
  - Health care facilities and hospitals
  - Civic buildings (for example, libraries, fire/police departments, municipal offices, courts)
  - Public utilities (for example, electric substation, transmission towers)
  - Public transportation (for example, Metra rail stations, Metra rail lines, Pace bus routes)

  This data will be compiled from several sources, including the Lake County, Cook County, and Chicago Metropolitan Agency for Planning (CMAP) GIS databases; and the Illinois Geospatial Clearinghouse.
- **Aerial Imagery.** Aerial imagery (for example, from Google Earth) will be used to verify the presence of buildings or facilities identified in the GIS information.
- **Field verification.** Some field verification may be necessary to confirm locations of buildings and public facilities or to investigate changes that may have occurred since input of information into GIS.
- **Public input.** Community information or data may be supplemented or refined through the TCA Project process and public involvement activities, including Stakeholder Participation Group meetings or other opportunities.

Recommended Methodology and Tools

Using the information listed in the Data Needed/To Be Collected section, the following categories of concern will be measured within the GIS database for each system alternative:

- **Environmental Justice Populations.** U.S. Census information will be analyzed and summarized at the county and community levels to characterize the TCA Project study area. Impacts to low-income and minority populations (for environmental justice issues) will be assessed for each system alternative. Impacts will be evaluated for U.S. Census Tracts that border each system alternative (the analysis area).
- **Right-of-Way/Tax Implications.** An inventory of parcels anticipated to be required for each system alternative will be used to provide a comparative measure of right-of-way requirements (which will serve as a proxy for potential tax implications). Estimating right-of-way requirements will be determined by calculating property requirements of each system alternative. Distinctions will be

made by property type using CMAP's land use GIS data layer (residential, commercial, farm, and public lands).

- **Building Impacts.** Potential building displacements will be quantified for each alternative. Information that will be evaluated will include: (1) impacts to businesses (commercial and industrial); and (2) impacts to residences. A qualitative assessment regarding proximity of improvements to buildings will be made for each alternative and is intended to serve as a proxy for potential building setback violations that could result from proposed improvements shifting closer to remaining buildings.

  Potential business and residential building impacts will be cross-referenced with cultural resources information (collected and evaluated as described in *Cultural Resources Methodology Technical Memorandum No. 4*) to determine whether any of the potential displacements are listed or eligible to be listed as historic.

  Potential business and residential building impacts will be cross-referenced with agricultural resource information (collected and evaluated as described in *Agricultural Resources Methodology Technical Memorandum No. 3*) to understand and characterize the types of potential displacements.

- **Community Facility Impacts.** Potential impacts to community facilities and services will be quantified for each alternative. Impacts evaluated will include whether displacement would occur, whether full or partial property acquisition would be required, and if potential access change or parking impact would result.

- **Property Access Change.** A qualitative assessment of potential access impacts to properties adjacent to proposed system alternatives will be determined. These impacts could result from roadway changes, such as introducing access control, adding roadway medians, driveway impacts, and parking impacts. This range of potential impacts for each alternative will be placed on a scale for comparison.

- **Community Cohesion/Barrier Effects.** Potential for dividing or isolating communities or neighborhoods will be assessed based on analysis of potential change in travel patterns (including, for example, potential separation of residential areas from community facilities, interruption to arterial and secondary routes, and change or impact to pedestrian and bicycle travel patterns). The range of potential impacts for an alternative will be designated on comparison scale of poor to good.

Parameters and Criteria

Guidance documents for defining and identifying community impact considerations include the following:

- Federal Highway Administration Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*. 1987.
- Illinois Tollway, *Environmental Studies Manual*. 2017.
- Illinois Department of Transportation (IDOT) *Bureau of Design and Environmental Manual* (BDE) Chapter 25, Environmental Impact Statements, 2018.
- IDOT BDE *Community Impact Assessment Manual*, 2007.
- IDOT BDE Chapter 19, Public Involvement Guidelines, 19-5 Context Sensitive Solutions, 2017.

Review and Decision Process

Prior to calculating the impacts of each system alternative, the GIS database will be refined to ensure the most current, best available data are used. Impacts will be quantified for each system alternative by overlaying the corridors on each specific resource mapping element. Tabular spreadsheet outputs will

be generated through this process. The TCA Team will use this information to evaluate and compare potential resource impacts resulting from the alternatives, with the intent to eliminate alternatives with disproportionately high resource impacts. The potential to mitigate impacts to community resources through design modifications will be coordinated with the TCA Team.

Output Format

Results will be summarized in tables and text summary for evaluation purposes. Tables TM1-1 through TM1-4 are examples of potential data output variables.

Table TM1-1. System Alternatives Community Impact Summary

	No-Build Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**
Right-of-Way Required (acres)				
Residential (acres)				
Commercial (acres)				
Farm (acres)				
Public Land (acres)				
Displacements				
Residential (No.)				
Residential Displacements that are Potentially Historic (No.)				
Residential Displacements that are Farmstead Residences (No.)				
Commercial (No.)				
Commercial Displacements that are Potentially Historic (No.)				
Environmental Justice				
Minority and/or Low-Income Population Affected? (Y/N)				
Community Facilities				
Properties affected (No.)				
Full Property Acquisition/Displacement (No.)				
Partial Property Acquisition (No.)				
Access Changes (low-high)				
Barrier Effects (low-high)				

Table TM1-2. System Alternative Displacements

	No-Build Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**
Residences (No.)				
• Community A				
• Community B				
• Community C				
Commercial (No.)				
• Community A				
• Community B				
• Community C				

Table TM1-3. System Alternative Environmental Justice Impacts Summary

	No-Build Alternative	Alternative 1	Alternative 2	Alternative 3
Minority and/or Low-Income Population Affected? (Y/N)				
• Community A				
• Community B				
• Community C				

Table TM1-4. Impacts on Public Facilities and Services

	No-Build Alternative	Alternative 1	Alternative 2	Alternative 3
Community Facilities (Qualitative Description)				
• Community A				
• Community B				
• Community C				

Build Alternative Phase Description

After the system alternatives evaluation phase of the Study, and once the build alternatives to be carried forward for detailed analysis in the Environmental Impact Statement have been selected, a more comprehensive community impact analysis will be conducted. This will include more detailed evaluation and comparison of the build alternatives. This comprehensive evaluation will include community/neighborhood impacts; community cohesion; travel patterns and access; environmental justice, Title VI, and other protected groups; public facilities and services impacts; property acquisition, displacements/relocations (business and residential); and tax revenue changes.

Land Use Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	SB Friedman Development Advisors
PROJECT NUMBER:	4266

Topic

This technical memorandum outlines the methodology to be used to assess land use compatibility at the system alternatives evaluation stage of the Tri-County Access Project. The TCA Team will evaluate each of the system alternative corridors and their respective compatibility with the land use goals of corridor-bordering communities. While the land use compatibility analysis is expected to be a qualitative evaluation of the likely impacts related to proposed system alternatives, the land use analysis will build on the socioeconomic modeling and real estate modeling conducted for the No-Build Alternative, as outlined in the *Socioeconomic Forecast and Allocation Methodology Memorandum* provided under separate cover.

Analysis Area

The size of the analysis area for land use differs depending on the type of transportation facility evaluated. These analysis areas have been identified based on the TCA Team's analysis of regional land use development patterns along transportation improvements and represent the extents at which impacts related to transportation improvements are most concentrated:

- A 2-mile analysis area from the centerline of limited-access highways that are being newly constructed or improved.
- A 0.5-mile analysis area from the centerline of corridors that are arterial roadways (corridors in which the improvement would consist of adding travel lanes), intersections, and transit stations (for example, bus rapid transit or rail).

Methodology

Data Needed/To Be Collected

The TCA Team will collect data from the following sources:

- No-Build model data outputs, as outlined in the *Socioeconomic Forecast and Allocation Methodology Technical Memorandum*, including:
  - Population and employment
  - Chicago Metropolitan Agency for Planning control totals for the region and Lake County
  - Real estate forecast by land use for Lake County
- Maps and descriptions of system alternatives from the TCA Team and access/travel time changes for specific alternatives
- Developable parcels in Lake County, with focus on the analysis area (using comprehensive plans and other planning documents of each community)

- Community future land use plans/zoning (using comprehensive plans of each community), with focus on the analysis area
- Intermodal freight terminals in Lake County, if any, using Chicago Metropolitan Agency for Planning data

Recommended Methodology and Tools

The socioeconomic analysis of the No-Build Alternative will serve as the baseline against which system alternatives will be evaluated on a qualitative basis. The TCA Team will review community land use plans to determine each proposed system alternative's compatibility with those plans and will include a qualitative evaluation of potential land development effects resulting from the location of each proposed system alternative. Each system alternative will be assigned one of three general categories from a land use compatibility perspective:

- Low likelihood of compatibility with existing community land use plans
- Moderate likelihood of compatibility with existing community land use plans
- High likelihood of compatibility with existing community land use plans

For each category of compatibility (low, moderate, and high), land use development potential and locations of new development will be qualitatively assessed. Land use development potential and locations of new development is likely to vary from community land use plans based on the following factors:

- Location of transportation improvements
- Type of improvement, such as additional of lane(s) or intersection improvement
- Travel time changes
- Site suitability and real estate location factors

Parameters and Criteria

The TCA Team will identify the locations of new development by each land use type using the following resources:

- Community plans and zoning
- Open space, environmentally sensitive lands, and preservation goals
- Site suitability and real estate market factors for each land use type
- Transportation access and travel time changes of each system alternative

Review and Decision Process

The TCA Team will develop real estate forecast models in Microsoft Excel for the No-Build Alternative and reconcile results with historic regional trends, recent shifts in real estate markets that diverge from historic trends, community aspirations of development intensity (as derived from zoning data), and knowledge of key development sites. The spatial distribution of available land and associated zoning will be evaluated alongside site suitability and transportation access factors. Based on the relative real estate market suitability and transportation improvements of each system alternative, areas that have greater potential for development/land use change will be identified. The TCA Team will compare these changes in land use to the most recent community plans for development.

Output Format

The TCA Team will provide the following outputs for the system alternatives land use evaluation:

- Maps of likely distribution of major new clusters of employment-generating uses and areas of the analysis area with the most population growth.

- Summaries in maps or tables of whether systemwide alternative would be consistent with existing community plans, or areas where there could be potential conflicts
- Summary table of compatibility by land use type relative to the baseline alternative (No-Build Alternative); findings will be presented in qualitative terms (for example, more/less compatibility/conflict with community plans; high/moderate/low development)
- Briefing document explaining methodology and results

Build Alternative Phase Description

For the build alternatives carried forward, the TCA Team will conduct a more comprehensive analysis of future real estate potential. The modeling approach, which is outlined in greater detail in the *Socioeconomic Forecast and Allocation Methodology Technical Memorandum*, specifically incorporates interaction between real estate markets and the travel demand model outputs to forecast the potential impacts of alternate transportation plans. The output of the analysis at the Census Block level will allow the TCA Team to generate socioeconomic outputs for the larger Study area. More detailed local parcel-level analysis of future real estate potential will also be generated based on Census Block-level forecasts. This more detailed analysis will be based on localized development knowledge, community plans, transportation access, and adjacent land uses. The TCA Team will prepare site- or parcel-level land use outputs and generate maps to display them, allowing communities along the proposed corridor to understand the potential economic development impacts for the No-Build Alternative and build alternatives carried forward for further analysis.

Agricultural Resources Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Knight Engineers and Architects
PROJECT NUMBER:	4266

Topic

The purpose of this technical memorandum is to identify the procedures to be used in conducting the impact analysis of agricultural resources, including impacts on prime or unique agricultural lands, during the system alternatives evaluation of the Tri-County Access (TCA) Project. The analysis of potential agricultural resource impacts will use quantitative measures as much as possible to enable direct comparisons between system alternatives and to highlight relative advantages and disadvantages. The TCA Team will use qualitative measures when quantitative measures or data are unavailable.

Analysis Area

The analysis area the agricultural resource evaluation is defined as follows:

- For assessing impacts (including farmland acreage, prime or important farmland) and displacements, the corridor footprint of each system alternative (with no additional offset beyond the corridor footprint) will be used.
- For issues related to farm severance, a 400-foot offset beyond the corridor footprint of each system alternative (200 feet from the edge of the footprint in each direction) will be used. This additional area will allow consideration of indirect or secondary impacts (for example, severance, access, farm remnants/economic viability) beyond the limits of the system alternative footprint.

Methodology

Data Needed/To Be Collected

The TCA Geographic Information System (GIS) Web Map will incorporate the data listed in this section. The TCA Team will use the GIS data in concert with other published information (for example, the U.S. Census of Agriculture) to identify and quantify the following attributes:

- **Illinois Landcover.** This type of information represents a broad overview of Illinois land utilization, yielding data on land in cultivation (in various percentage categories, contrasted with agri-urban, commercial, and other categories). This data will come from the U.S. Geological Survey Land Cover Database. Aerial images from sources such as such as Google Earth (https://www.google.com/earth/) and topographic maps from the U.S. Geological Survey (https://www.usgs.gov/products/maps/topo-maps) will also be used.
- **Agricultural Land Use.** This type of information represents existing locations of agricultural acreage. It includes identification of agricultural areas within and outside of the boundaries of incorporated municipalities and outside of the 1.5-mile municipal planning boundaries. Data will come from the most currently available 2010 Lake County GIS Database of existing land use (shapefile) that includes agriculture as one land use/land cover in general land use zones (not parcels) and the 2013 Chicago Metropolitan Agency for Planning land use inventory, which is parcel-based (shapefile) (https://datahub.cmap.illinois.gov/dataset/land-use-inventory-for-northeast-illinois-2013).

- **Land Parcels.** Parcel information will be used to identify individual farm units and to assess farm severance impacts. These data are available from county government databases.
- **Illinois Heritage Farms (Centennial, Bicentennial, and Sesquicentennial).** These data are available at the county level by name from the Illinois Department of Agriculture (IDOA) and will be entered into the GIS database from listings available at https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/CentennialSesquicentennial/Pages/default.aspx. The Project GIS database can then be cross-referenced to Lake County GIS data to determine geographic locations of these properties.
- **Illinois Farm Programs.** Illinois has three other farm programs: Organic Certification and Accredited Agent, Organic Cost Share, and Specialty Cost Grants. This information may provide the TCA Team with locations of certified organic farms, which is necessary because there is potential operational impact to organic farms as a result of herbicide and pesticide applications related to new transportation facilities. This information is available from IDOA (https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/Pages/default.aspx). The TCA Team will need to make an inquiry to determine if geospatial data are available.
- **Farmstead Locations (for example, farmhouses [residential], outbuildings).** The information is needed to address potential displacements. Building footprint data are available from the Lake County GIS database.
- **Soil Types and Locations, Acreage, and Land Capability Classification.** This information will identify soils and locations available through the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey Geographic Database, available at https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm, and the Geospatial Data Gateway (https://datagateway.nrcs.usda.gov/).
- **Prime and Unique Farmland.** Prime and unique farmland is defined in Section 1540 (c) (1) of the Farmland Protection Policy Act, or local governments and the Illinois Secretary of Agriculture may define farmland of statewide or local importance. Preliminary indication is that farmlands of statewide or local importance are available as a list that could be entered into the Project GIS database. If an existing GIS file of this information is available, it will be used.
- **USDA Natural Agricultural Statistics Service, Census of Agriculture**. This information, available at https://www.agcensus.usda.gov/, provides a complete count of United States farms and ranches and the people who operate them. This list is updated every 5 years. The TCA Team will collect statistics from this source to evaluate land use, ownership, operator characteristics, production practices, income, and expenditures.
- **Field Verification.** Some field verification may be necessary to confirm the presence of farms and agricultural information identified in the GIS.

Recommended Methodology and Tools

The information identified above will be collected and compiled within the GIS database. Five categories of concern will be measured within the GIS database for each system alternative, using the corridor footprint:

- Farmland acreage (determined from Illinois land cover and agricultural land use data) impacts will be calculated for each system alternative.
- Prime and unique farmland acreage (determined from NRCS soils data) will be quantified for each system alternative.
- Impacts to heritage farms (centennial, bicentennial, sesquicentennial) will be quantified as a subset of farm impacts.

- Farmstead residences and outbuildings (from GIS building footprint data) will be quantified and assessed for displacement potential. Outbuildings potentially affected will be determined qualitatively.
- General trends relating to farmland severance will be evaluated and could include:
  - Severance of parcels and related severance effects of access and economic viability created by remainder parcels will be qualitatively assessed.
  - Farm-access issues (a measure of landlocking, where a parcel becomes inaccessible by public road, existing easement, or proposed access road) will be qualitatively assessed using aerial mapping to determine where access points would intersect each system alternative corridor footprint.
  - Economic viability (which refers to remainder parcels below a threshold size [3 acres or less] that cannot be practically or economically farmed from an operational viewpoint) will be identified from parcel data and quantified.

Parameters and Criteria

Legal Authority and Applicable Regulations
The following federal and state legal authorities regulate or influence the policies and procedures on farmland conversions:

- Federal Regulations
  - Farmland Protection Policy Act of 1981, United States Code Title 7 §§ 4201-4209 (FPPA)
  - Farmland Protection Policy Act, Code of Federal Regulations Title 7 Part 65
- State Regulations
  - The Farmland Preservation Act, 505 Illinois Compiled Statute (ILCS) 75/1 et seq.
  - Farmland Preservation Act, 8 Ill. Admin. Code 700
  - State Executive Order No. 4 (1980), Preservation of Illinois Farmland
  - Agricultural Areas Conservation and Protection Act of 1980 505 ILCS 5

Guidance and Reference Documents
- The Illinois Tollway's *Environmental Studies Manual*, Section 6.9, March 2017, pp. 82 – 87 (provides requirements for the evaluation of agricultural resources)
- The Illinois Department of Transportation's *Bureau of Design and Environmental Manual*, Chapter 26 (Special Environmental Analyses) Section 26-10 Evaluations of Farmland Conversion Impacts
- *Illinois LESA System: Land Evaluation and Site Assessment* (revised August 2001) methodology for agricultural resource evaluation process
- USDA-NRCS, *Prime Farmlands/Important Farmlands – Correlated Mapping Units in Illinois*, 1991, revised 1999
- USDA-NRCS, *Soil Survey Manual,* USDA Handbook No. 18, March 2017

Review and Decision Process

As previously discussed, the agricultural evaluation will be based on the following measures:

- Farmland acres and number of farms
- Numbers of farmstead residence structures with impact and whether outbuildings are affected
- Acreage of prime/unique/important farmland
- Number of heritage farms

- Indicators of impact issues of access, severance, and economic viability

Before calculating the impacts for each system alternative, the TCA Team will refine the GIS database to ensure that the most current, best available data are used. Where further clarification is needed, the TCA Team will conduct a field verification survey to confirm the presence of specific resources. Impacts will be quantified by overlaying the relevant GIS data layers. The TCA Team will measure and assess outbuildings and access qualitatively.

Output Format

The TCA Team will organize the output in a tabular, matrix, or spreadsheet format for evaluation purposes. Table TM3-1 is an example of potential data output variables.

Table TM3-1. System Alternative Impacts to Agricultural Resources

	No-Build Alternative	Alternative 1	Alternative 2	Alternative 3
Farmland (acres)				
Total				
Prime/Unique				
State/Local Important				
Number of Farms				
Total				
Heritage				
Farm Structures				
Number of Farmstead Residences Affected				
Other Farm Outbuildings Affected? (Yes or No)				
Severance of Parcel				
Severance[a] (Length)				
Access[b] (Number of Inaccessible Parcels)				
Economic Viability[c] (Number of Remainder Parcels 3 Acres or Less)				

[a] Severance will be identified where a parcel is divided and will be quantified by measurement of length, then aggregated for the entire corridor for use in comparisons.

[b] Access will be evaluated as a qualitative yes/no measure of landlocking, where a parcel becomes inaccessible by public road, existing easement, or proposed access road.

[c] Economic viability (remnant parcels too small to be economically or practically farmed) will be represented by the number of remainder parcels of 3 acres or less.

Build Alternative Phase Description

The evaluation of the system alternatives will conclude with the selection of several alternatives to be carried forward in the Environmental Impact Statement analysis, known as the build alternatives. At that time, a more comprehensive agricultural analysis will be conducted. The TCA Team will update outdated or superseded data, if necessary. Field verification will likely be justified at this point. The TCA Team will conduct a more detailed agricultural impact evaluation, including analysis of all factors identified in the Land Evaluation and Site Assessment (LESA) analysis (which is required for the 1006 forms) to assess the remaining proposed alternatives' conversion of farmland to nonfarmland use. The agricultural impact evaluation/compliance tool, or LESA, was developed by the NRCS and was adapted for use in Illinois by IDOA. NRCS and IDOA both use LESA to evaluate agricultural impacts during their respective coordination processes, which for this Project will be conducted during the build alternatives phase.

Cultural Resources Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Midwest Archaeological Research Services (MARS)
PROJECT NUMBER:	4226

Topic

This methodology technical memorandum pertains to the acquisition and review of cultural resource data (including historic and archaeological) for the system alternatives evaluation phase of the Tri-County Access (TCA) Project. The cultural resource data will be gathered from available existing database sources and from limited field verification activities. These data will be used to evaluate the potential impacts of the system alternatives upon cultural resources. Furthermore, the assessment described in this technical memorandum will inform resource agencies and other involved parties of potential impacts, and it will inform future decisions regarding appropriate steps to address the potential impacts.

Analysis Area

The analysis area for historic and archeological resources includes a 0.25-mile offset from the proposed system alternative centerline.

Methodology

Data Needed/To Be Collected

TCA Team historians and archaeologists will collect, assemble, and review a variety of documents, files, and maps on cultural resources in the system alternatives Study area. These data will pertain to the historic and prehistoric resources within the analysis area of each system alternative.

The cultural resources (including historic and archaeological) that will be examined in this study follow the U.S. Department of the Interior National Park Service (NPS) Categories of Historic Properties associated with the National Historic Preservation Act of 1966. These categories include buildings, structures, objects, sites, and districts, described as follows:

- A **building,** as defined by the NPS, means: a building, such as a house, barn, church, hotel, or similar construction, created principally to shelter any form of human activity. “Building” may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn. Examples of buildings include administration building, carriage house, church, city or town hall, courthouse, detached kitchen, barn, privy, dormitory, fort, garage, hotel, house, library, mall building, office building, post office, school, shed, social hall, stable, store, theatre, and train station.
- The term **structure,** as defined by the NPS, is used to distinguish from buildings those functional constructions generally made for purposes other than creating human shelter. Examples of structures include aircraft, apiary, automobile, bandstand, boat and ship bridge, cairn, canal, carousel, corncrib, dam, earthwork, fence, gazebo, grain elevator, highway, irrigation system, highway, irrigation system, kiln, lighthouse, railroad grade, silo, trolley car, and windmill.
- The term **object,** as defined by the NPS, is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply

constructed. Although an object may be movable by nature or design, it is associated with a specific setting or environment. Examples of objects include boundary marker, monument, milepost, fountain, sculpture, and statuary.

- A **site,** as defined by the NPS, is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure. Examples of sites include battlefield, campsite, cemeteries significant for information potential or historic association, ceremonial site, designed landscape, habitation site, natural feature (such as a rock formation) having cultural significance, petroglyph, rock carving, rock shelter, ruins of a building or structure, shipwreck, trail, and village site.
- A **district,** as defined by the NPS, possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. Examples of districts include business districts, canal systems, groups of habitation sites, college campuses, estates and farms with large acreage/numerous properties, industrial complexes, irrigation systems, residential area, rural villages, transportation networks, and rural historic districts.

Historic Resources

Known historic resources within the analysis area of each system alternative will be identified by accessing databases with this information for Illinois and Wisconsin, if needed. The Historic and Architectural Resources Geographic Information System (HARGIS), maintained by the Illinois State Historic Preservation Officer (IL SHPO) depicts historic properties that are listed on the National Register of Historic Places (NRHP), properties that are potentially eligible for the NRHP, and historic districts within Illinois. The Wisconsin Site Files (if needed), maintained by the Wisconsin Historic Society, will be used for known historic properties in Wisconsin. A search of locally designated historic resources will be completed through a review of available lists at county and municipal planning and/or zoning offices. Because resources identified in these databases are sometimes demolished or moved, or their eligibility for listing on the NRHP never established, the presence, location, condition, and integrity of the resources identified through these publicly available databases will be field verified.

Archaeological Resources

Recorded archaeological sites within the analysis area of each system alternative will be identified through use of databases with this information for Illinois and Wisconsin, if needed. The TCA Team will use archaeological site files for Illinois (Illinois Inventory of Archaeological Sites), which are now maintained by the Illinois Department of Natural Resources, and the Wisconsin Site Files (if needed). The list of potential historic archaeological site types is discussed in the Historic Resources section of this technical memorandum. A variety of potential prehistoric archaeological site types have already been identified in this region of the Midwest, including habitation (camp/village), resource procurement, mound, burial, isolated find, and unknown.

Recommended Methodology and Tools

The following steps will be completed for the historic data collection:

1. Data will be gathered on all historic buildings and districts listed on HARGIS and the Wisconsin Site Files (if needed) within the analysis area of each system alternative. Historic site boundaries for properties listed on HARGIS will include buildings and associated outbuildings. Historic site boundaries from the Wisconsin Site Files (if needed) will be based upon the site file database recorded site boundaries.
2. The presence, location, condition, and integrity of the resources identified from the databases that fall within the analysis area of each system alternative will be field verified. This process

involves historians driving along the routes of proposed system alternatives to observe the current status of properties and districts and taking photographs from the public right-of-way. The photographs will be linked to the GIS database.

The review of all historic buildings, structures, objects, and districts that fall within the analysis area of each system alternative will be completed by a 36 CFR 61 qualified architectural historian.

The following steps will be completed for the archeological data collection:

1. The TCA Team will create a series of overlays pertaining to the analysis area of each system alternative to illustrate areas containing a high probability for prehistoric cultural resources. These data will be collected from the Illinois Inventory of Archaeological Sites.
2. Data will be gathered on all recorded historic and prehistoric archaeological sites in the analysis area of each system alternative. Historic site boundaries will be based upon the site file database recorded site boundaries.

Parameters and Criteria

The TCA Team will create a table to document the status of historic buildings, structures, objects, districts, and recorded archaeological sites that fall within the analysis area of each system alternative. Some of these cultural resources may already have a NRHP status. The potential status for any identified cultural resource is: Not Eligible for Inclusion on the NRHP, Eligible for Inclusion on the NRHP, and Not Reviewed. The TCA Team will only be listing the current status and will not be determining eligibility for these cultural resources at this stage of the Project.

The cultural resources for this Project will be identified in accordance with Section 106 of the National Historic Preservation Act of 1966.

Review and Decision Process

TCA Team historians and archaeologists will review the data sets gathered for the cultural resources within the analysis areas and determine how each alternative would directly affect historic and archaeological resources. The TCA Team will make recommendations based on which alternatives would have the greatest and least level of impact on the cultural resources identified within the analysis areas. Upon approval from the Illinois Tollway and in coordination with the Illinois Department of Transportation, the Federal Highway Administration will review and verify the recommendations and findings with the IL SHPO.

Output Format

Historic Resources

Data sets collected from the database review will be compiled into tables for further studies. GIS maps will be created that show the location of historic buildings, structures, objects, or districts that fall within the analysis areas.

Archaeological Resources

Data sets collected from the Illinois Inventory of Archaeological Sites and the Wisconsin Site Files (if needed) will be complied into tables for further study. Maps will be created showing the location of recorded historic and prehistoric archaeological sites. These maps will contain sensitive cultural material, and the Illinois and Wisconsin State Historic Preservation Officers prohibit data about the location of archaeological sites from being disseminated to the public. Accordingly, all such documents and maps will be labeled as confidential and will not be subject to public disclosure. They will be for internal use only.

Build Alternative Phase Description

Once the build alternatives are identified, the TCA Team will augment the data gathered during the systems alternatives phase with additional data gathering and field investigations. A historic resources reconnaissance survey will be completed, documenting and evaluating all buildings (that were not part of previous studies) that could be potentially affected within the build alternative phase. For each build alternative, data will be gathered on buildings that fall within the analysis area of each build alternative. Field investigations will be completed once these data have been gathered and the TCA Team will take photographs of the buildings from the public right-of-way. Data from each property will be collected on a historic property data collection form, including the buildings present, structures present, the architectural style, and the estimated age of the buildings (based on plats). These data forms will be used by the TCA Team when writing the technical memorandum and are not required by the IL SHPO.

In coordination with the Illinois Tollway, FHWA, Illinois Department of Transportation, IL SHPO, and Wisconsin SHPO (if needed), the TCA Team would need to conduct Phase I archaeological survey (field investigations) on previously unsurveyed land within the direct impact area of the Preferred Alternative to document unknown cultural resources. Based on this Phase 1 survey, the TCA Team would recommend if further work is necessary to define and understand potential direct impacts to historic buildings and archaeological sites. Upon approval from the Illinois Tollway and in coordination with the Illinois Department of Transportation, FHWA will review and verify the recommendations and findings with the SHPO to determine if any additional archaeological investigations are required.

The following additional work could be required to fully assess the Project's potential impact on cultural resources, depending on the results of earlier cultural resources investigations:

1. Phase I archaeological reconnaissance surveys
2. Phase II archaeological investigations
3. Phase III data recovery and mitigation (subsequent to approval of a Memorandum of Agreement)
4. Eligibility documentation for affected sites, buildings, and structures
5. Historic American Buildings Survey/Historic American Engineering Record

In the event that any of these higher-level, more intensive archaeological investigations are recommended, or in the event that federal or state regulations require them, the TCA Team would proceed as directed by the Illinois Tollway.

Air Quality Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Jacobs
PROJECT NUMBER:	4266

Topic

The potential air quality impacts of the Tri-County Access (TCA) Project must be considered as part of the National Environmental Policy Act process. The purpose of this methodology technical memorandum is to provide procedures and key assumptions that will be used to assess air quality impacts for the system alternatives evaluation. Improving the operational efficiency of transportation systems, including overall reduction in congestion and improved travel times in the analysis area, generally reduces air quality impacts. The air quality analysis for the system alternatives will focus on changes in congestion and travel times and those changes' effects on criteria air pollutant emissions.

Analysis Area

The air quality analysis area will largely be defined as the regional air shed. To the extent that local level parameters are discussed, the analysis area may vary by pollutant because some criteria air pollutants have impacts at a local level while others are considered to be regional pollutants.

Methodology

The federal Clean Air Act of 1990 (CAA) and its amendments establish U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Standards (NAAQS) for six criteria pollutants to protect the public from health hazards associated with air pollution (https://www.epa.gov/criteria-air-pollutants). The six criteria pollutants are carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM, including PM_{10} and $PM_{2.5}$),[1] and sulfur dioxide (SO_2). The NAAQS for these criteria pollutants were established based on known human health effects and measurable, health-related threshold values.

The system alternative analysis area is located within the Chicago metropolitan area, which is in violation of the 8-hour O_3 NAAQS and is a maintenance area for $PM_{2.5}$ (https://www.epa.gov/green-book). Cook County is classified as a moderate nonattainment area for the 2008 8-hour O_3 standard, but it has not been classified for the 2015 8-hour O_3 standard. The Illinois Environmental Protection Agency has developed a state implementation plan (SIP) to reduce emissions of O_3 precursors (http://www.epa.illinois.gov/topics/air-quality/planning-reporting/nox/index) and implements programs such as the vehicle inspection and maintenance program in an effort to re-attain the NAAQS for O_3. A map of the Chicago Metropolitan Agency for Planning (CMAP) nonattainment areas is included as Figure TM5-1.

Travel modeling conducted at the system alternatives level will include relevant outputs such as vehicle miles traveled (VMT), fleet mix, impacts on congestion and level of service, and hours of delay/idling time. The travel forecast will also include travel performance data for the No-Build Alternative, which will serve as a base case to compare the system alternatives.

[1] $PM_{2.5}$= particulate matter 2.5 micrometers or smaller; PM_{10} = particulate matter 10 micrometers or smaller

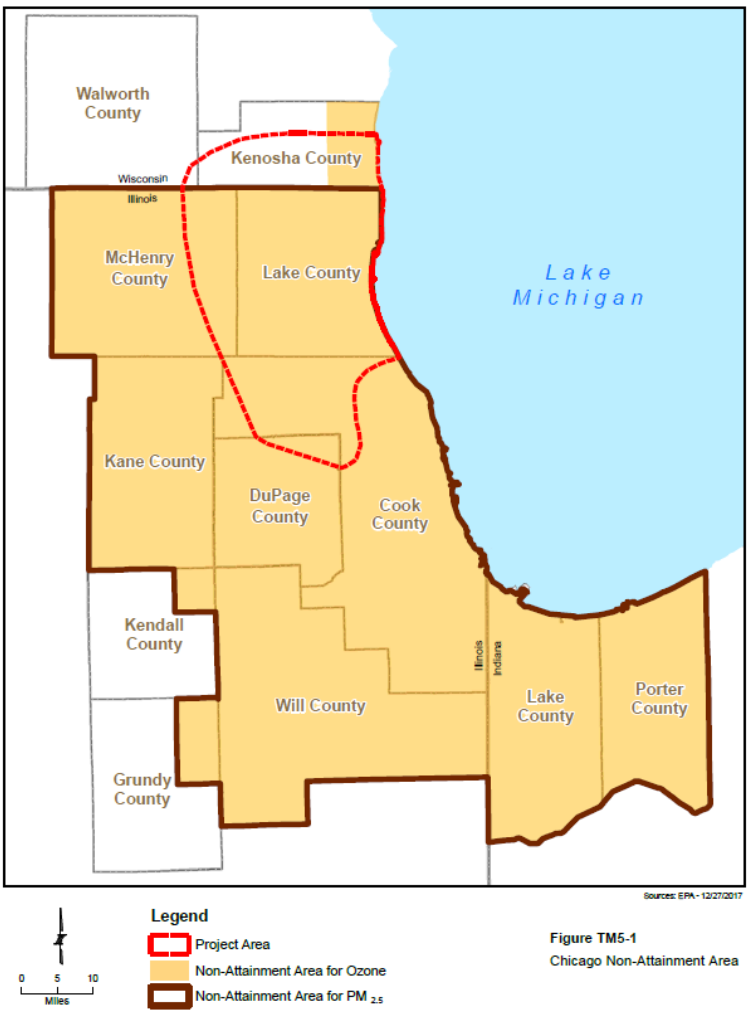


Figure TM5-1
Chicago Non-Attainment Area

Travel model outputs for the system alternatives will typically identify congested VMT and hours of delay. Both of these outputs are a proxy for estimating changes in air pollutant emissions. The Motor Vehicle Emissions Simulator (MOVES) emissions tables from the CMAP GO TO 2040 air quality model will be used to obtain typical vehicle emissions.[2] The highest level of air pollutant emissions often occurs at stop-and-go speeds of 0 to 25 miles per hour, and these emission factors will be applied to the changes in VMT or hours of delay to calculate the overall changes in air pollutant emissions for each system alternative.

The analysis will include an assessment of the changes in calculated air pollutant emission for each system alternative and their relative effects on criteria air pollutant impact at the local and regional levels.

Mobile Source Air Toxics (MSATs) will be modeled for the build alternatives, but adjacent receptors that are sensitive to MSATs (for example, schools) will identified and tabulated for the system alternatives.

Differences in greenhouse gas emissions analyses are typically identifiable at a regional scale. As the intent of this phase of Project development is to compare the broad system alternatives to one another for screening purposes, and it is not expected that greenhouse gas emissions will aid in the screening process, consideration of greenhouse gasses will occur during the evaluation of the build alternatives.

Data Needed/To Be Collected

Based on the proposed methodology, the basic data needs are as follows:

1. Travel model output for each system alternative, showing changes in congestion or time saved/added
2. Travel model output for the No-Build Alternative
3. Criteria pollutant concentrations for the analysis area
4. EPA MOVES emissions factors used for the GO TO 2040 Regional Transportation Plan

[2] CMAP's ON TO 2050 is in progress and is not anticipated to be adopted until October 2018. As such, CMAP's GO TO 2040 will be used for the system alternatives evaluation, because it is already available, and the IL 53/120 Illinois Tollway Project demonstrated conformity.

5. Locations of schools, parks, and other receptors that may be sensitive to MSATs

Recommended Methodology and Tools

The traffic modeling output, combined with air pollutant emissions factors from GO TO 2040, will be used to create tables showing a relative comparison of air quality impacts of the system alternatives.

Parameters and Criteria

The parameters and criteria for the system alternatives analysis will indicate number of vehicles along the system alternatives and level of congestion. As a general rule, fewer vehicles or less congestion yield improved air quality.

Review and Decision Process

At the system alternatives level, the changes in congestion will be used as an indicator of air quality impacts. The TCA Team will use traffic model output to create worksheets, then use the CMAP air pollutant emission factors to create a summary of the estimated air quality impacts of each system alternative.

Output Format

The TCA Team will generate tables that show the changes in emissions for each criteria air pollutant at the local and regional levels for each system alternative. These tables will be used to compare the system alternatives' abilities to reduce criteria air pollutant emissions.

Build Alternative Phase Description

The Federal Highway Administration (FHWA) publication *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987) suggests procedures for evaluating air quality impacts associated with transportation projects and provides guidance on completing regional and project-level air quality evaluations. The EPA's transportation conformity rule, published in 2012, establishes the criteria and procedures for determining whether projects conform to the SIP.

All state governments are required to develop a SIP, which explains how to comply with the requirements of the federal CAA, as amended. The CAA requires transportation plans, programs, and projects that are developed, funded, or approved by FHWA to demonstrate that their activities conform to the SIP. Transportation conformity requirements apply to any transportation-related criteria pollutants for which the analysis area has been designated a nonattainment or maintenance area. Under Section 176(c) of the CAA, a transportation project is said to conform to the provisions and purposes of the SIP if the project, both alone and in combination with other planned projects, does not:

- Cause or contribute to new air quality violations of the NAAQS
- Worsen existing violations of the NAAQS
- Delay timely attainment of the NAAQS or required interim milestones.

The TCA Project will conform to CMAP's regional transportation plan. The TCA Team will coordinate with CMAP during the build alternatives evaluation process to help ensure the analysis is consistent with conformity standards.

The build alternatives and the No-Build Alternative will be evaluated based on modeled design values for required pollutants (currently CO, PM, O_3, and MSATs). An assessment of greenhouse gas emissions will also be considered for the build alternatives in compliance with current guidance at the time the build alternatives are identified. The design value for the selected roadway sections, intersections, and interchanges will include the relevant modeled concentration plus the background concentration, with the total concentration compared to the NAAQS for the required pollutant and averaging time.

The TCA Team will compare modeled concentrations of applicable pollutants for the finalist alternatives to the corresponding NAAQS and will generate tables comparing the modeled concentration for each pollutant and the averaging period. The summary of results will include maps of modeled concentrations and receptor grids. These maps will also identify sensitive receptors near the Study and potential impacts on environmental justice areas.

References

Federal Highway Administration (FHWA). 1987. *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*.

Illinois State Geological Survey (ISGS). 2014. *A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects*.

Illinois Environmental Protection Agency (EPA). 2018.

U.S. Environmental Protection Agency (EPA). 2018. *Criteria Air Pollutants*. Available at https://www.epa.gov/criteria-air-pollutants.

U.S. Environmental Protection Agency (EPA). 2018. *Nonattainment Areas for Criteria Pollutants (Green Book)*. Available at https://www.epa.gov/green-book.

Traffic Noise Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Huff & Huff, A Subsidiary of GZA
PROJECT NUMBER:	4266

Topic

Traffic noise impacts resulting from the proposed Tri-County Access (TCA) Project will be considered as part of the National Environmental Policy Act (NEPA) process. The purpose of this technical memorandum is to outline the methodology that will be used to assess potential traffic noise impacts associated with the system alternatives.

Analysis Area

Each system alternative evaluation will have a separate traffic noise analysis area based on its route. Initial traffic noise screening typically occurs for lands within 500 feet of the edge of a roadway alternative's pavement and within 750 feet of the edge of a transit alternative. Roadway traffic noise generally does not cause impacts at distances greater than 500 feet from heavily traveled roadways, while the Federal Transit Administration's (FTA) *Noise Manual* (2006) prescribes a screening distance of 750 feet for commuter rail mainlines to unobstructed locations. For this reason, the noise analysis area for each system alternative will be the receptors within 500 feet of the edge of roadway pavement and the receptors within 750 feet of the edge of the rail mainline.

Methodology

Potential traffic and transit noise Project impacts will be determined by quantifying the number of potentially affected noise receptors within the noise analysis area for each system alternative. Should additional detail regarding potential noise impacts be needed to assist in the screening process, an optional second level of noise impact assessment could be implemented. This Level 2 Assessment would use the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) and/or FTA noise modeling procedures to assess potential noise impacts. Level 1 and Level 2 Assessment methodologies are described in this section.

Level 1 Assessment

Data Needed/to Be Collected

The following data are required for the Level 1 Assessment:

- Edge of roadway pavement and edge of rail mainline for the system alternatives
- Geographic Information System (GIS) data showing residential and commercial buildings/structures within the noise analysis area
- GIS data or site visit identification of other sensitive receptors (for example, schools, churches, hospitals, nursing homes) within the noise analysis area

Additional data will be needed to identify noise receptors within the noise analysis area:

- Aerial photography
- Land use plans from local agencies
- Property parcel information from the county assessors

Recommended Methodology and Tools

The TCA Team will first establish a noise analysis area for each alternative, as described in this technical memorandum. The TCA Team will use desktop tools and site visits to develop the system alternatives traffic noise assessment. Once the system alternatives have been identified, the TCA Team will assemble a GIS database of sensitive receptors within the noise analysis area, including, for example, residential and commercial buildings/structures, schools, churches, hospitals, and nursing homes. GIS will then be used to assess aerial photography, parcel data (as available from county assessors), and zoning and/or land use (as available from municipalities and counties) as needed to locate additional noise receptors within the noise assessment distances that were not already identified in GIS. If necessary, a site visit will occur to confirm the location of noise receptors.

Parameters and Criteria

Several policies and regulations dictate noise analysis procedures for roadway and transit projects in Illinois:

- FHWA traffic noise regulations, as directed by NEPA, are contained in Title 23 Code of Federal Regulations (CFR) Part 772. FHWA's June 2010 policy and procedures document *Highway Traffic Noise: Analysis and Abatement Guidance* supplements the regulations of 23 CFR 772. The federal regulations give flexibility to each state's Department of Transportation to create specific procedures for evaluating traffic noise, under the general regulation of 23 CFR 772.
- The Illinois DOT (IDOT) traffic noise policy is located in Chapter 26-6 of the IDOT *Bureau of Design and Environmental Manual*, with a supplementing procedural document, *Highway Traffic Noise Assessment Manual* (2017).
- The Illinois Tollway is leading the preliminary design and environmental documentation phase of the Tri-County Access Project. The Illinois Tollway's traffic noise policy is contained in its *Traffic Noise Study and Abatement Policy*, which generally follows FHWA regulations from 23 CFR 772.
- Rail and/or bus transit may also be studied for this Project. Rail and/or bus transit noise analyses must follow the guidance provided in FTA's *Transit Noise and Vibration Impact Assessment* (FTA-VA-90-1003-06, May 2006), which complies with FTA's environmental impact regulations contained in 23 CFR 771.

The two state-level roadway traffic noise policies in Illinois belong to IDOT and the Illinois Tollway. Nearly all traffic noise analyses completed in Illinois are conducted in conjunction with one (or both) of these agencies, including smaller local roadway projects.

At this stage of the analysis, the agency that will design and construct the Project is still unknown. IDOT and the Illinois Tollway have separate, and slightly different, traffic noise policies, though both are rooted in FHWA's noise regulations contained in Title 23 CFR Part 772 and the agency's *Highway Traffic Noise: Analysis and Abatement Guidance* document. The two noise policies have similar procedures for noise impact identification, but there could be differences in abatement analysis results. Because noise modeling will not be conducted and noise abatement is not being evaluated at the system alternatives phase, the Level 1 Assessment methodology developed for use at the system alternatives phase is consistent with both IDOT and Illinois Tollway's policies.

For the system alternatives that may include rail and/or bus transit, procedures from FTA's *Noise and Vibration Manual* (FTA Manual) will be used for the system alternatives noise analysis. FHWA

procedures and the most current version of the FHWA TNM may be used, if applicable for highway/transit projects.

The Level 1 Assessment will identify all receptors (representative and represented[1]) within the noise analysis areas for each system alternative. Additionally, as part of the Level 1 assessment, the TCA Team will tabulate all receptors within 200 feet of each system alternative as an estimate of receptors that could be located within a noise barrier's shadow zone, which is the area behind a noise barrier where benefits from such a barrier are typically observed. Receptors will also be tabulated according to the adjacent alternative's improvement type (new alignment or improvements to existing facilities) to characterize potential noise impact types that could be found for each alternative.[2]

The Level 1 Assessment for roadway system alternatives will identify:

1. Noise receptors within 200 feet (the shadow zone) of the edge of pavement of each system alternative, which will be tabulated to illustrate receptors that could benefit from a potential noise barrier (if the area is found to be affected).[3] The total receptors within 200 feet of the edge of pavement will also be classified by the adjacent alternative's improvement type (new alignment or improvements to existing facilities).
2. Noise receptors within 500 feet of the edge of pavement of each system alternative, which will be tabulated to show receptors within the roadway noise analysis area that will be studied for impacts and, if affected, studied for noise abatement. The total receptors within 500 feet of the edge of pavement will also be classified by the adjacent alternative's improvement type (new alignment or improvements to existing facilities).

The Level 1 Assessment for transit system alternatives will identify:

1. Noise receptors within 200 feet (the shadow zone) of the edge of the rail mainline of each system alternative, which will be tabulated to illustrate receptors that could benefit from a potential noise barrier (if the area is found to be affected).[4] The total receptors within 200 feet of the edge of rail mainline will also be classified by the adjacent alternative's improvement type (new alignment or improvements to existing facilities).
2. Noise receptors within 750 feet of the edge of the rail mainline of each system alternative, which will be tabulated to show receptors within the transit noise analysis area that will be studied for impacts and, if affected, studied for noise abatement. The total receptors within 750 feet of the edge of rail mainline will also be classified by the adjacent alternative's improvement type (new alignment or improvements to existing facilities).

Receptors will be identified by existing land use and FHWA Activity Category/FTA Land Use Category using aerial photography, county assessor data, and site visits. Undeveloped lands that have a building permit will be assessed if building permit data are readily available to the TCA Team.

---

[1] A *representative* receptor is the worst-case noise location within a common noise environment (CNE). A CNE is a group of noise receptors with similar noise sources and levels, traffic volumes, traffic mix and speed, and topographic features. *Represented* receptors are all remaining noise receptors in the CNE that are not the representative receptor and are studied for noise abatement if a traffic noise impact is found at the representative (worst-case) noise location.

[2] For example, receptors adjacent to a new alignment alternative (where no roadway currently exists) are more likely to have "substantial noise increase" noise impacts than receptors adjacent to an existing alignment.

[3] Noise abatement will be studied only for build alternatives (in the next project phase) and only where noise impacts are identified.

[4] Noise abatement will be studied only for build alternatives (in the next project phase) and only where noise impacts are identified.

Review and Decision Process
For each system alternative, the Level 1 Assessment decision-making output will be the number of receptors within 200 feet and 500 feet of the edge of pavement of the roadway system alternatives, and within 200 feet and 750 feet of the edge of the rail mainline of the transit components. The total tabulated receptors for each system alternative will be parsed so receptors are not double-counted (notably, where roadway and transit noise share the same receptor, the receptor will only be counted once, regardless of travel mode). The TCA Team will compare system alternatives to determine which has more noise receptors. This may later translate to potential noise impacts depending upon the results of detailed noise modeling for build alternatives.

Level 2 Assessment

The results of the Level 1 Assessment may be enough to conclude the system alternatives analysis. However, if additional noise screening analyses are needed after several cycles of system alternatives screening, the Level 2 Assessment may be completed for the system alternatives.

Data Needed/To Be Collected
Traffic noise levels are modeled using specific design data, such as facility vertical and horizontal elevations and detailed traffic projections. The system alternatives could be all roadway-based, but they may have some demand management, operational management, or transit-based components. It is anticipated that the following alternative data will be available for use in the Level 2 Assessment:

- Edge of roadway pavement and edge of the rail mainline for the system alternatives
- Representative alignment (horizontal and vertical elevation data)
- GIS data showing residential and commercial buildings/structures within the noise analysis area
- GIS data or site visit identification of other sensitive receptors (for example, schools, churches, hospitals, nursing homes) within the noise analysis area.
- Peak hour of travel traffic data
- Estimated truck percentages
- Number of travel lanes
- Typical sections of alternative proposed
- Estimated rail and transit traffic, including day/night splits

The TCA Team does not anticipate that ambient noise levels or noise monitoring will be required for the system alternatives analysis unless this information is requested by agencies or the public. Additionally, it is not anticipated that traffic or location data from intersecting or adjacent roadways or railroads will be included in the system alternatives noise analysis.

Recommended Methodology and Tools
Using the receptor information developed in the Level 1 Assessment as a basis, the TCA Team will use the required version of the FHWA TNM to predict noise levels for the roadway system alternatives with simplified noise modeling, while the FTA procedures for a General Noise Assessment will be used to predict noise levels for the transit components of the system alternatives.

Parameters and Criteria
Using the FHWA TNM to predict noise levels for the roadway system alternatives is consistent with both IDOT and Illinois Tollway's policies.

For the system alternatives that may include rail and/or bus transit, procedures from the FTA Manual will be used for the system alternatives noise analysis.

The system alternatives evaluation parameters for roadway traffic noise and transit noise are discussed in this section.

Roadway Traffic Noise Assessment for System Alternatives. The goal for the Level 2 Assessment is to identify where roadway traffic noise levels could approach, meet, or exceed the FHWA Noise Abatement Criteria (NAC) or where a system alternative could substantially increase noise compared to the existing condition.

The TCA Team will conduct simplified modeling using the required version of the FHWA TNM to determine potential noise exposure at varying distances from each system alternative. For each section of roadway with similar traffic and design, noise distance modeling points will be placed at 25-foot intervals from the edge of each system alternative, at the system alternative's elevation, and on each side of the road. These distance modeling points will be used to estimate noise exposure contours at varying distances from the edge of each alternative.

Roadway traffic noise impacts are determined in two ways:

1. The first way to determine roadway traffic noise impacts is to identify where roadway traffic noise levels could approach, meet, or exceed the FHWA NAC.

   The FHWA NAC for Activity Categories B and C is 67 dB(A),[5] and for Category E is 72 dB(A). Both IDOT and Illinois Tollway traffic noise policies define "approach" as a noise level 1 decibel (dB) less than the NAC, making the "potential impact" distance from each system alternative at noise levels of 66 dB(A) (for lands in Activity Categories B/C) and 71 dB(A) (for lands in Activity Category E). Depending on the activity categories present, noise contours will be developed at 66 dB(A) and/or 71 dB(A), given the results of the "distance modeling points" noise modeling.[6]

   As discussed in the Level 1 assessment section, the TCA Team will identify noise receptors representing existing land uses within 500 feet of the edge of each system alternative using aerial photography, county assessor data, and site visits. The receptors will be identified by land use and FHWA activity category. Undeveloped lands that have a building permit will be assessed if building permit data are readily available to the TCA Team.

   The noise receptors located within the 66 dB(A) or 71 dB(A) noise contours will then be tabulated by system alternative. For example, all noise receptors classified as Activity Categories B and C that fall within the 66 dB(A) noise contour for System Alternative 1 and all noise receptors classified as Activity Category E that fall within the 71 dB(A) noise contour for System Alternative 1 will be tabulated.

2. The second way to determine roadway traffic noise impacts is to identify where a system alternative could substantially increase noise compared to the existing condition. This analysis will be conducted for receptors where the Project's traffic noise will not approach, meet, or exceed the FHWA NAC.

   Both IDOT and Illinois Tollway traffic noise policies cite that a substantial noise increase occurs when a project would increase traffic noise by 15 dB(A) or more over existing noise levels. Existing noise levels will be estimated using Table 5-7 of the FTA Manual, which includes noise estimates for highway and rail, as well as by population density. Noise contours will be developed using distance

[5] A-weighted decibels adjust sound frequencies to approximate human hearing and are the standard unit of measurement for environmental noise.

[6] The modeled noise levels and resulting noise contours for the system alternatives will be estimates used for comparison purposes only. Discrete noise receptors with specific site and location data will be modeled for the build alternatives phase of the Project, as described later in this technical memorandum. Traffic noise impacts will only be identified for the discrete noise receptors modeled as part of the later build alternatives phase noise analysis.

modeling points to determine how far from the edge of pavement for each system alternative predicted noise levels would exceed the existing noise levels by 15 dB(A) or more. For example, if the existing noise level for one section of a system alternative is 45 dB(A), the noise contour to identify substantial noise increases would be 60 dB(A). It is anticipated that potential "substantial increase" impacts would likely be contained to areas proposed for new alignment or receptors located more than 400 feet from the edge of existing roadways.

After the two roadway traffic noise analyses described above are completed, there will be two resulting data sets for each system alternative:

1. A set of noise receptors that could potentially be affected by noise as a result of approaching, meeting, or exceeding the NAC
2. A set of noise receptors that could potentially be affected by noise as a result of a substantial noise increase over the existing condition.

The two sets of potentially affected receptors will then be parsed to ensure there are no duplicates. If a noise receptor is identified as having potential impacts using both methods of analysis, the impact will only be counted once. The two tabulation sets will be combined for each system alternative, resulting in one number of potentially affected noise receptors for each system alternative. The TCA Team will use this information in the review and decision-making process.

Transit Noise Assessment for System Alternatives. The system alternatives may include rail or bus transit components or be standalone alternatives that will be assessed for noise. The goal for the transit traffic noise assessment for the system alternatives is to identify where transit noise levels could approach, meet, or exceed the FTA Noise Impact Criteria (NIC) for transit components of each system alternatives.

The TCA Team will follow FTA's General Noise Assessment procedure to determine potential noise exposure at varying distances from each transit component of the system alternatives.

The TCA Team will determine the distance to the NIC for each transit corridor section with similar traffic and design. These distances will be used to estimate noise exposure contours at varying locations along each system alternative.

The NIC for FTA projects are determined using Figure 3-1 and Table 3-1 of the FTA Manual. The NIC will be determined using the "moderate impact" exposure level. Existing noise exposure, as used in the NIC determination, will be estimated using Table 5-7 of the FTA Manual. It is assumed that all adjacent noise receptors will be categorized either as FTA Land Use Category 2 or 3.

The TCA Team will develop noise contours for each corresponding NIC identified, given the results of the distance-to-NIC noise modeling.[7]

Noise receptors representing existing land uses will be identified within a defined distance from the edge of each system alternative using aerial photography, county assessor data, and site visits. The TCA Team will use Table 4-1 of the FTA Manual to determine screening distance from the edge of rail mainline for each alternative and will identify receptors by FTA Land Use Category.

The TCA Team will then tabulate the noise receptors located within the identified NIC noise contours by system alternative. Each system alternative will have a resulting tabulated number of noise receptors located within the noise contours, which will be used for the review and decision-making process.

[7] The modeled noise levels and resulting noise contours for the system alternatives will be estimates used for comparison purposes only. Discrete noise receptors with specific site and location data will be modeled for the build alternatives phase of the project, as described later in this technical memorandum. Transit noise impacts will only be identified for the discrete noise receptors modeled as part of the later build alternatives noise analysis.

Other Types of Noise Assessment for System Alternatives. If it is determined that one or more of the system alternatives cannot be adequately assessed using either the roadway or transit noise assessment procedures described previously, an alternate methodology will be identified in collaboration with the Illinois Tollway.

Review and Decision Process

The output from the Level 2 Assessment for roadway and transit components of the system alternatives will be the number of receptors within the noise contour for their respective NAC or NIC. The total tabulated receptors for each system alternative will be parsed to ensure that receptors are not double-counted (notably, where both roadway and transit noise might impact the same receptor, such as receptor would only be counted as an impact once, regardless of travel mode). The TCA Team will compare the system alternatives to determine which alternatives have higher potential noise impacts.

Output Format

Table TM6-1 is an example of how the noise data used for a Level 1 Assessment of system alternatives will be summarized. This table lists each noise receptor within a specified distance of the edge of the proposed system alternative.

Table TM6-1. System Alternative Level 1 Assessment Noise Impacts

System Alternative	Receptors Potentially Affected by Roadway Noise				Receptors Potentially Affected by Transit Noise				Total Receptors Potentially Affected by Noise
	Receptors within the 200-foot shadow zone (number)		Receptors within the 500-foot study area (number)		Receptors within the 200-foot shadow zone (number)		Receptors within the 750-foot study area (number)		
No-Build Alternative	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	
Alternative 1	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	
Alternative 2	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	
Alternative 3	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	*New Alignment Receptors*	*Existing Facility Receptors*	

The noise data from an optional Level 2 Assessment of the system alternatives are summarized in example Table TM6-2, which summarizes impacts to noise receptors.

Table TM6-2. System Alternative Level 2 Assessment Noise Impacts

System Alternative	Receptors Potentially Affected by Roadway Noise	Receptors Potentially Affected by Transit Noise	Total Receptors Potentially Affected by Noise
No-Build Alternative			

Alternative 1			
Alternative 2			
Alternative 3			

The TCA Team will summarize the traffic noise assessment for the system alternatives in a technical memorandum, which is anticipated to be subject to FHWA, IDOT, and Illinois Tollway review and approval. The final environmental documentation for the Project will summarize the technical memorandum information.

Build Alternative Phase Description

As discussed in this technical memorandum, IDOT and Illinois Tollway's noise policies have similar guidance for identifying noise receptors and determining noise impacts but have slight differences in determining appropriate noise abatement strategies. During the system alternatives phase, noise modeling will not be conducted nor will noise abatement measures be considered. These activities will occur during the build alternatives phase when noise levels caused by the project will be determined through noise monitoring and modeling, and noise abatement strategies will be evaluated and identified. As such, at the build alternatives phase, the appropriate noise policy or policies used to guide these analyses will need to be identified. Whose noise policy to use for traffic noise analysis will be chosen closer to the build alternatives phase. If a rail and/or bus transit component of any build alternative is identified, that transit build alternative will be assessed for noise using the FTA Noise Impact Assessment Spreadsheet, following FTA Manual procedures. All transit build alternatives will first need to be screened for noise using the model's General Assessment model and then its Detailed Assessment, if warranted.

The traffic noise assessment for any build alternatives will be summarized in a separate technical memorandum, with pertinent information to be summarized in the Project's environmental documentation.

References

Federal Highway Administration (FHWA). 2010. *Highway Traffic Noise: Analysis and Abatement Guidance.* June.

Federal Transit Administration (FTA). 2006. *Noise Manual.*

Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. May.

Illinois Department of Transportation (IDOT). 2017. *Highway Traffic Noise Assessment Manual*.

Illinois Department of Transportation (IDOT). 2018. *Bureau of Design and Environmental Manual*. Springfield, Illinois. Published September 2010. Revised January 2018.

Special Waste Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Jacobs
PROJECT NUMBER:	4266

Topic

Roadway projects require property screening and assessments to determine whether activities in the proposed construction corridor may encounter potential soil or groundwater contamination from current or past historical uses of the affected properties. Per the Illinois Tollway's *Environmental Studies Manual* (dated March 2015), there is the potential to encounter soils on project sites that have been affected by historical releases. As stated in the *Environmental Studies Manual,* the Illinois Tollway's goal is to identify potential property impacts prior to acquisition and construction, to the extent possible. The identification of properties with potential contamination, known as potentially impacted properties (PIPs) or "special waste" sites, helps to protect workers during construction, properly manage soil during construction, and ultimately avoid construction delays, cost overruns, and unnecessary liabilities. For purposes of this technical memorandum, the term special waste environmental assessment will be used to describe the process for identifying and evaluating special waste sites during the roadway planning process. This information will also be used in the early phases of the system alternatives evaluation process for this Tri-County Access (TCA) Project.

This technical memorandum describes the first steps of a broad and flexible site screening process that is designed to meet the substantive environmental screening needs of the Illinois Tollway, the Illinois Department of Transportation (IDOT), and the Federal Highway Administration (FHWA) for this regional transportation Study. Per FHWA interim and supplemental guidance memorandums (dated 1988, 1997, and 1998), the keys to dealing with contaminated sites are early identification and assessment of potential property acquisitions; early coordination with federal, state, and local agencies; and early determination of measures to address impacts. This technical memorandum describes the recommended methodology to achieve these general objectives and to assess potential special waste sites in the analysis area as part of the system alternatives evaluation phase of the TCA Project.

The special waste environmental assessment process for a large, multiyear effort like this TCA Project is an iterative and phased approach. It begins with the identification, assessment, and prioritization of special waste sites during the system alternatives evaluation phase. Future steps may include more detailed site assessments, including potential sampling prior to construction, that may be directed by the Illinois Tollway and/or IDOT when the Project approaches key milestones such as property acquisitions, detailed engineering designs, bidding/procurement, and construction. The special waste environmental assessment process described in this technical memorandum includes the strategic-level evaluation of potential special waste sites that will inform the system alternatives evaluation phase of the environmental process, but it will also provide a foundation for more detailed assessments in the future.

Analysis Area

The analysis area for the special waste site screening focuses on identifying properties with documented releases to the environment within a 1-mile-wide section of land along the system alternative routes (0.5 mile in each direction from the approximate centerline of each system alternative). Environmental

impacts at these special waste sites can potentially affect the system alternatives evaluation. Therefore, a 1-mile-wide section of land will be evaluated using the database search methodology described in this technical memorandum to identify documented environmental releases.

Methodology

Data Needed/To Be Collected

The data and information needed to complete a special waste assessment generally includes any information that helps determine whether the properties of interest in the analysis area could potentially contain recognized environmental conditions (RECs), based on the professional judgement of the TCA Team members conducting the assessment. The American Society for Testing and Materials International (ASTM) *E-1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* defines RECs. The Illinois Tollway and IDOT special waste screening processes both refer to the ASTM 1527 I Environmental Site Assessment (ESA) standard and use portions of it as the foundation for identifying potential issues (RECs) that might adversely affect the properties adjacent to or intersecting a roadway project.

According to ASTM 1527, a REC is defined as:

> "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions."

As a frame of reference, *de minimis* conditions are conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. In other words, conditions determined to be *de minimis* are not RECs.

For the system alternatives evaluation phase, the identification of RECs in the analysis area will focus on identifying the most serious sites of potential contamination that have the potential to present fatal-flaw type conditions that could trigger site avoidance or significant roadway design modifications, beyond the normal procedures for addressing special waste contamination at roadway projects (for example, landfills EPA Superfund Sites. For the purposes of this evaluation, these most serious documented release sites will be called Priority High-Risk sites.

Priority High-Risk sites are differentiated from typical contamination release sites for purposes of this technical memorandum by a qualitative evaluation of the size and type of environmental releases identified in a limited subset of environmental databases.[1] Generally speaking, databases, available agency files, and site visits will be used to identify conditions indicating that contamination impacts have the potential to present fatal-flaw type conditions for the roadway Study. Such information may include large disposal areas (landfills), institutional controls, highway authority agreements, engineered barriers, agency-approved no further remediation letters, or evidence that substantial contamination appears to extend beyond the property boundaries. Files will also be reviewed to determine if there is evidence that large/substantial zones of released free product are present in the subsurface near the roadway TCA Project study area.

The screening process for the system alternatives evaluation phase is designed to identify the most substantial sites of environmental releases or disposal areas (Priority High-Risk Sites) and other key

[1] Additional property-screening activities will be necessary in future phases and may involve further classification of the sites as having *de minimis*, "high", "medium" or "low" risks (see the Build Alternative Phase Description section below).

information that could limit or affect the future use of the properties, based on available public records. The screening process is described in detail in the following section.

Recommended Methodology and Tools

The following methodology and tools are recommended for the special waste screening process for the system alternatives evaluation phase. These items are presented in general sequential order, but the timing of individual items may overlap or have variations.

1. Establish a secure web-based Geographic Information System (GIS) that has the capability to integrate key pieces of information related to environmental conditions on individual properties, including proposed Project corridor/improvement areas, property boundaries, addresses, property identification numbers, occupant names, site photos, Priority High-Risk Sites, RECs, historical information, links to related files, and other useful information. The web-based GIS should be accessible to the TCA Team and it should be expandable to allow the future information and data that may be added later during further site assessment and environmental sampling on a property.
2. The web-based GIS for the Project should be integrated to the extent possible with the IDOT/Illinois State Geological Survey (ISGS) Extranet GIS, so that extensive existing IDOT information regarding completed or ongoing preliminary environmental site assessments (PESAs) and preliminary site investigations in Lake County can be readily accessed. If possible, the Project web-based GIS and IDOT Extranet GIS should be directly linked so that manual uploads and manipulation are not necessary. If this integration is not possible, the IDOT/ISGS PESA information will need to be manually accessed and evaluated independently, which would not be as efficient or useful to the TCA Team.
3. Hundreds or thousands of individual properties may be affected by this Project. Therefore, a strategy for assessing geographic areas within the analysis area will be developed, including the priority high-risk prioritization approach described in this technical memorandum, for completing the various steps of the screening process described in steps 4 through 8. The environmental database searches will be conducted for the 1- mile-wide areas previously described in the Analysis Area section.
4. Conduct database searches of the following data sources for properties in the analysis area. These databases include listings that would likely be associated with larger and more substantial potential releases to the environment. This initial screening step will identify potential Priority High-Risk Sites, subject to additional screening as described in steps 5, 6, 7, and 8 in this list:
    - U.S. Environmental Protection Agency (EPA) Superfund Enterprise Management System (SEMS) database, formerly the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) (https://www.epa.gov/enviro/sems-search)
    - EPA National Priorities List (NPL) database (https://www.epa.gov/enviro/sems-search)
    - EPA Resource Conservation and Recovery Act (RCRA) Corrective Action, and Treatment, Storage, Disposal Facilities (TSD) sites (https://www3.epa.gov/enviro/facts/rcrainfo/search.html)
    - Illinois Environmental Protection Agency (IEPA) Site Remediation Program (SRP) database (http://www.epa.illinois.gov/topics/cleanup-programs/bol-database/srp/index)
    - IEPA Landfill Permits (http://epadata.epa.state.il.us/land/solidwaste/index.asp)
    - IEPA Locations of Landfills in Illinois GIS portal (http://epa.illinois.gov/topics/waste-management/landfills/landfill-locations/index)

- IEPA Abandoned Landfills (http://www.epa.state.il.us/land/cleanup-programs/33-abandoned-landfills-book/abandoned-landfills.html)
- State Response Action Program database (http://www.epa.illinois.gov/topics/cleanup-programs/bol-database/ssu/index)
- IEPA Office of Brownfields Assistance (OBA) database (http://www.epa.illinois.gov/topics/cleanup-programs/brownfields/database/index)
- EPA Brownfields (https://www.epa.gov/cleanups/cleanups-my-community)
- IDOT Highway Authority Agreement sites identified from the IDOT Extranet. (https://frostycap.isgs.uiuc.edu/idot_extranet/default.asp).

5. For the potential Priority High-Risk Sites identified in Step 4, the reviewers will screen the available records on the IEPA "Document Explorer" website for site information about the site release(s). The file reviewer will selectively review the available electronic files to identify key information that may assist with determining whether a site should be considered a Priority High-Risk Site under this screening process. Such files may include engineered barriers, institutional controls, no further remediation letters, contamination zones extending beyond property boundaries, highway authority agreements, or evidence of large or substantial free product in the subsurface. Some sites may have numerous files (dozens or hundreds), so the file screening process is not intended to be comprehensive, and not all electronic files will be reviewed or downloaded. The reviewer will use professional judgement to review select electronic files that would likely provide the most relevant information to identify the key site conditions mentioned earlier in the paragraph. If the reviewer identifies key files that are determined to be relevant to making a priority high-risk determination for a site, the files will be downloaded and retained for later reference, and the site will be selected to be visited and documented as part of the windshield site visits described in Step 6. Upon review of the file information from a particular site identified under Step 4, it may become apparent that the site conditions do not likely represent a Priority High-Risk designation for purposes of this assessment due to location, nature of the release, or other available information. In this case the reviewer will note in a tracking form that the site is "Not likely to be a Priority High Risk site" and that site will not be included in the subsequent windshield survey and screening steps described in this technical memorandum. Some IEPA records may not be available electronically for download, but this initial screening process will not include any Freedom of Information Act or other requests or reviews of hard copy or other electronic documents.
6. After the file electronic file review process in Step 5 is completed, the sites that appear to meet the broad definition for a Priority High-Risk Site will be further assessed by a windshield site visit survey. Therefore, the TCA Team will develop a site visit checklist and documentation procedure (preferably in a tablet-based, field-friendly format that can upload directly to GIS).
7. The TCA Team will then implement the site visits/windshield surveys according to the strategy developed in Step 3. The visits will target the field verification of conditions that may constitute a Priority High-Risk designation, and the findings will be documented in the checklist so the information can be integrated into the web-GIS.
8. Upon completion of Steps 1 through 7, the TCA Team will use professional judgement to assess the overall database, file review, site visit, and other relevant information to formulate the final list of Priority High-Risk sites that will be summarized in a table and identified on a GIS web map.

Parameters and Criteria

The primary guidance document for this system alternatives special waste screening process will be this technical memorandum, plus any subsequent strategy, prioritization, and schedule planning documents developed for the task under Step 3 in the Recommended Methodology and Tools section. The special

waste evaluation to be conducted during the systems alternatives evaluation phase of the Project will identify database listings indicative of Priority High-Risk Sites with environmental contamination such as landfills, NPL Superfund sites, waste handling and disposal facilities, industrial sites undergoing cleanup and closure (under the Illinois Site Remediation Program [SRP]), and sites which have established highway authority agreements with IDOT. The presence of Priority High-Risk Sites may indicate a fatal flaw condition that could trigger site avoidance or significant design modifications beyond the normal procedures for addressing special waste soil issues.

A Priority High-Risk Site may have multiple RECs or other conditions that could affect the system alternatives evaluation and would be expected to be considered for one or more of the following actions to evaluate the potential impact of contaminated media: site avoidance, design modifications, risk management determination, and/or additional studies (PESA, Phase 2 or preliminary site investigation sampling) during future evaluation stages.

Therefore, the identification of these Priority High-Risk Sites that fall within the analysis area is the focus of the described process. Evaluation of the identified sites is described in the Review and Decision Process section of this technical memorandum.

The *Environmental Studies Manual* (dated March 2015), IDOT *Bureau of Design and Environmental Manual* (Chapter 27; published September 2010 and revised December 2017), ASTM E-1527 standard, and the ISGS 2014 publication *A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects* will be used for general reference purposes.

Review and Decision Process

The special waste evaluation that will be conducted during the system alternatives evaluation phase of the Study will end in the identification of “Priority High-Risk Sites” that fall within the analysis area (after completing Item 8). These sites will be identified on the web-based GIS tool. The locations of the Priority High-Risk Sites on the GIS tool will provide a visual representation of affected properties within the various system alternative analysis areas and will allow the TCA Team to consider potential special waste impacts as the evaluation progresses. If the screening assessment identifies engineered barriers, institutional controls, or contamination zones extending beyond property boundaries that can be geolocated based on the file review information, they will be included as visible features in GIS.

The number, size, and nature of the Priority High-Risk Sites will all be considerations in the system evaluation process. Priority high-risk sites that might be considered to present a significant impediment to implementing a system alternative—such as a large landfill, a Superfund site, or other large-scale contamination site—will be factored into the screening of the system alternatives.

Output Format

The output and reports generated for this process will include:

- Summary table of identified Priority High-Risk Sites/properties, including the site name, database summary, FOIA results, identified RECs, and relevant site limitations such as institutional controls or engineered barriers.
- The information included in the summary table should be integrated into the web-based GIS for easy access by the Illinois Tollway and the TCA Team.
- Any Priority High-Risk Sites or RECs that may present a significant impediment to future roadway development—such as a large landfill, Superfund site, or other large-scale contamination impediment—will be identified and reported to the Illinois Tollway.
- At the discretion of the Illinois Tollway, the TCA Team can prepare a brief report for individual properties on a case-by-case basis. The content of the brief reports is expected to contain a

summary of the identified site RECs, a site map, and a conclusion regarding the potential for impacted soil or groundwater to be present at the site.

Build Alternative Phase Description

The special waste-screening process described in this memorandum for the system alternatives evaluation phase is designed to identify Priority High-Risk Sites of environmental releases or disposal areas, as well as key information that could limit or affect the future use of the properties, based on available public records. The subsequent build alternative phase of the special waste evaluation process is expected to cover a more comprehensive and targeted evaluation, including further identification of RECs and/or classification of the sites as having *de minimis*, high, medium, or low risks at the following locations:

- Properties where there may be Project-related excavation and construction activities
- Properties that may be purchased/acquired as part of the Project
- Properties where temporary or permanent easement may be negotiated

These more detailed evaluations are typically conducted as part of a PESA, Phase I ESA, or Phase II environmental testing assessments that may be conducted at the discretion of the Illinois Tollway or IDOT when specific build alternatives have been identified. The Illinois Tollway and/or IDOT may initiate these assessment activities in the future, as the Study gets closer to other key milestones such as property acquisitions, detailed engineering designs, bidding/procurement, and construction. The special waste environmental assessment process in this memorandum describes the initial strategic-level evaluation of potential special waste sites. It will inform the system alternatives phase of the Study and will also provide a foundation for more detailed assessments that may be directed by the Illinois Tollway or IDOT in the future. The web-GIS tool that is developed as part of this initial assessment will be invaluable as the Study moves forward into the more detailed assessments that are expected in the future.

Because this large Project involves the Illinois Tollway, IDOT, and FHWA, the build alternative phase is anticipated to include a hybrid PESA-type site evaluation process. Elements of both the Illinois Tollway Environmental Studies Manual (dated March 2015) and the ISGS publication *A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects* (2014) are anticipated to be used. A separate technical memorandum describing the recommended hybrid PESA process for the Project will be completed in 2018 or 2019, after the system alternatives evaluation phase is complete.

Limitations

The term Priority High-Risk Site was created and defined as discussed only for the purposes of this evaluation. The evaluation will only include a qualitative identification and documentation of Priority High-Risk Sites, based on their presence in selected databases, available information sources, and evaluation through the windshield site visit process. The select databases proposed to be evaluated to identify Priority High-Risk Sites is described previously in this technical memorandum, with the limitations and exceptions of this approach discussed subsequently.

The identification of Priority High-Risk Sites is a qualitative screening process that is based on the available information and the professional experience of the environmental staff. The severity of environmental impacts and potential cost and liability limitations presented by the various sites in the analysis area may not be readily apparent from the databases, files, or site visits, and actual conditions may be different from the potential risks identified in this initial screening step. Therefore, this initial qualitative screening process is considered the first step in a multi-phased process and will be supplemented by future studies to better define impacts to the road project as the system and build alternatives are further defined.

Sites that are listed in other regulatory databases not included in this screening methodology do indicate conditions where petroleum constituents or other hazardous substances are documented to have been released into the environment (typical leaking underground storage tanks and spills), and they could possibly be considered priority high risk-sites. However, it is anticipated that larger and more serious sites that could potentially affect the system alternative evaluation will be identified by the limited database list described in this technical memorandum. It is possible that these additional high-risk sites present on other regulatory databases could present similar characteristics to Priority High-Risk Sites, including contamination types, area of impact, and involvement of adjacent rights-of-way, but these sites are not included in the databases included in the evaluation for this initial screening step; they will likely be covered in future evaluation steps as the system alternatives are further defined.

No hard copy files or Freedom of Information Act file requests are anticipated for this initial screening process. The assessment process described in this technical memorandum is considered preliminary and will be limited by the described scope, as well as other conditions and restrictions including but not limited to database information limitations, available internet record limitations, and site visibility restrictions (vegetation, fences, or other obstructions).

No interviews of property owners or operators will be conducted, and no privately-owned properties will be entered for inspection. The findings of the report/output will only address available documentation regarding soil and groundwater media and subsurface conditions; it will not address any items relating to aboveground structures or interior conditions. Except to the extent indicated, it will document neither the current use of every property in the analysis area, nor the potential storage or presence of hazardous materials or wastes (for example, gasoline station with no known releases), nor whether historical records such as historical aerial photos, city directories, property tax records, Sanborn maps, historic topographic maps, or other historical sources of information might indicate past releases or disposal for a particular property, apart from existing regulatory database release listings. Unanticipated and unidentified environmental impacts may be encountered anywhere in the analysis area, and the findings of the assessment should not be relied upon for liability evaluation purposes or considered final or definitive.

The process described in this technical memorandum is not intended to fulfill the requirements of a PESA or a Phase I Environmental Assessment per ASTM E-1527. It is also not designed to identify all RECs potentially associated with a particular property. A separate Phase I ESA/PESA, and follow-up Phase II ESA, targeting Phase I REC findings (if any) for the parcel, would need to be authorized by the Illinois Tollway or IDOT to fully evaluate any parcel for liability-protection purposes.

References

Illinois Tollway. 2015. *Environmental Studies Manual*. March.

Illinois Department of Transportation (IDOT). 2017. *Bureau of Design and Environment Manual*. Initially published September 2010. Revised March.

Illinois State Geological Survey (ISGS). 2014. *A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects*.

Special Lands Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Jacobs
PROJECT NUMBER:	4266

Topic

This technical memorandum describes the methodology that will be used during the system alternatives phase of the Tri-County Access (TCA) Project to document existing special lands resources, provide a high-level assessment of the potential impacts to these resources, and screen system alternatives. For the purposes of this effort, "Special Lands" refers to three categories of resources: (1) park/recreation and historic resources that are subject to the statutory requirements of Section 4(f); (2) park/recreation properties that are subject to the statutory requirements of Section 6(f); and, (3) cultural resources that are subject to the statutory requirements of Section 4(f).

Analysis Area

The analysis area for identifying special lands resources will be 750 feet from the edge of the system alternative corridor. The rationale for the size of this analysis area is as follows:

- Noise impacts. Noise is the most far-reaching potential impact that could trigger a "constructive use" under Section 4(f). Highway traffic noise typically does not cause impacts at distances greater than 500 feet from the edge of right-of-way of heavily traveled roadways. As a reference for applicable guidance, the FTA Noise Manual prescribes a screening distance of 750 feet from the edge of the rail mainlines to unobstructed locations. Therefore, using this guidance, the Study Section 4(f) analysis will use this 750-foot screening distance to conservatively account for potential noise emanating outward from a new roadway or commuter rail in an unobstructed setting.
- Consideration of Minimization or Avoidance Alignment Shifts. The 750-foot offset from the edge of a system alternative corridor would allow for the identification of Section 4(f) resources in the event that design modifications to a given system alternative take place.

Methodology

Data Needed/To Be Collected

Park/Recreation Resources

The TCA Team will use geographic information system (GIS) data to identify all parks/recreational resources (including recreational trails), and wildlife/ waterfowl refuges in the analysis area that are publicly owned and open to the general public.

The TCA Team will collect and review the Illinois Department of Natural Resources' *Illinois Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2015 - 2019* and any other applicable Illinois State Parks plans for publicly owned recreational properties that may be subject to Section 4(f). A review of federally owned park or national wildlife refuges in the study area will also be completed. Applicable jurisdictional parks/recreation resource master plans, trails master plans, and comprehensive plans (parks/recreation resource elements) will also be collected and reviewed.

Currently no GIS database of Land & Water Conservation Fund (LWCF) recreation properties is available. The TCA Team will use the National Park Service LWCF website (https://waso-lwcf.ncrc.nps.gov/public/index.cfm), which contains a listing of grants, by county, that will be consulted to determine if any of the recreation lands in the study area have received LWCF assistance and are therefore protected under Section 6(f).

Cultural Resources

The TCA Team will also identify historic properties that are on, or have previously been determined eligible for, the National Register of Historic Places (NRHP). For identifying historic properties, and to avoid duplication of effort, the Section 4(f) analysis will use data collected as part of the cultural resources evaluation (see *Cultural Resources Methodology TM*). The Project Cultural Resources Team will only be listing the current status of cultural resources and will not be determining eligibility for cultural resources at this stage of the Project.

Regarding archaeological sites, Section 4(f) only applies to archaeological sites that are on, or eligible for, the NRHP and warrant preservation in place. Assuming that the latter piece of information (whether an archaeological site warrants preservation in place) will not be known during the systems alternatives phase, archaeological resources protected under Section 4(f) will not be considered during the systems alternatives phase. Note that archaeological resources will be considered as detailed in the *Cultural Resources TM*; further, Section 4(f) consideration of archaeological resources will be addressed in the build alternative phase.

Recommended Methodology and Tools

The TCA Team will use GIS datasets from the Chicago Metropolitan Agency for Planning and from Lake, McHenry, and Cook counties (as available) to identify publicly owned parks/recreational resources. Primary GIS data to be used include parcel, park/recreation, and trails layers.

After this initial GIS operation, the TCA Team will conduct a follow-up visual scan of the analysis area, using publicly available visual imagery from Google Earth and applicable state and local parks maps to verify that all parks/recreational resources and other conservation sites have been identified; any parks/recreational resources identified in this follow-up effort will be added to the parks/recreational resources Project GIS data layer.

To assess whether Section 4(f) applies to trails identified in the analysis area, the TCA Team will examine whether the purpose of the trail(s) is for recreation (as opposed to transportation) and whether the trail is located on publicly owned park/recreation land (as opposed to being located on transportation right-of-way or easement).

Parameters and Criteria

The sections below identify the Section 4(f) regulations and the guidance resources that the TCA Team will use to prepare the criteria for performing the system alternatives Section 4(f) assessment.

Relevant Regulations

- Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966 (49 United States Code [U.S.C.] 303[c]), 23 U.S.C. 138, 23 Code of Federal Regulations (CFR) 774
- Section 106 of the National Historic Preservation Act, as amended, 16 U.S.C. 470f
- Council on Environmental Quality National Environmental Policy Act Regulations, 40 CFR Part 1500 through 1518
- DOT, Federal Highway Administration, 23 CFR Parts 771 and 774, 49 CFR 622: Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites; Final Rule

Guiding Documents, Plans, and Resources

- DOT and Federal Highway Administration, *Section 4(f) Policy Paper*, Office of Planning, Environment and Realty, Project Development and Environmental Review (July 20, 2012)
- Illinois Tollway, *Environmental Studies Manual*, 2017
- Illinois Department of Transportation *Bureau of Design and Environmental Manual*, Chapter 25, Environmental Impact Statements, 2017
- Illinois Department of Transportation *Bureau of Design and Environmental Manual*, Chapter 26, Special Environmental Analyses, 26-2, Section 4(f) Evaluations and Determinations, 2016

Review and Decision Process

A direct impact (a "permanent incorporation") of a Section 4(f) resource occurs when property is permanently incorporated into a proposed transportation facility. For the systems alternative phase, the TCA Team will use GIS to assess:

1. Which resources in the Project parks/recreational resources GIS data layer are intersected (directly impacted) by a system alternative footprint
2. The subsequent size of the permanent incorporation of each directly affected resource

The TCA Team will take the same steps for historic properties. As noted previously, archaeological resources will be addressed under Section 4(f) in the build alternative phase.

For each resource where there would potentially be a direct impact/permanent incorporation, the TCA Team will assess the activities, features, and attributes of the resource.

If necessary, during the system alternatives phase, the TCA Team will coordinate with officials with jurisdiction for particular Section 4(f) resources to determine the significance of the resource, in accordance with the Section 4(f) statute.

Output Format

The output from the system alternatives phase analysis will include a brief assessment document containing results related to the number of Section 4(f) resources on which each system alternative would potentially have direct impacts. Results will be presented in tabular form, with a tally and list of Section 4(f) resources that would be directly affected by each system alternative, including the acreage amount of the resource that would be directly impacted (see proposed table examples in Tables TM8-1 and TM8-2).

For resources where there would be a potential direct impact/permanent incorporation, the output will include a description of that resource's activities, features, and attributes. Figures will be developed that depict the location of Section 4(f) resources, whether the resource is park/recreation or cultural, and if there would be a permanent incorporation/direct impact.

Table TM8-1. Number of Section 4(f) Resources Located in Direct Impacts Analysis Area for the System Alternatives

Section 4(f)/6(f) Resources	No-Build Alternative	Alternative 1	Alternative 2	Alternative 3
Number of Park/Recreation/ Wildlife and Waterfowl Refuge Resources				
Number of Cultural Resources with Direct Impacts				

Table TM8-1. Number of Section 4(f) Resources Located in Direct Impacts Analysis Area for the System Alternatives

Section 4(f)/6(f) Resources	No-Build Alternative	Alternative 1	Alternative 2	Alternative 3
Total Number of Section 4(f)/6(f) Resources in Direct Impacts Analysis Area				

Table TM8-2. List of Section 4(f)/6(f) Resource with Direct Impacts from the System Alternatives

Section 4(f)/6(f) Resource	Resource Type	Location	Official with Jurisdiction	Acres Directly Impacted
No-Build Alternative				
(Resource Name)	(e.g. "Park"; "Trail"; "Historic Property")	(address)	(official with jurisdiction name)	(# of acres directly impacted per GIS calculation)
(Resource Name)				
Alternative 1				
(Resource Name)	(e.g. "Park"; "Trail"; "Historic Property")	(address)	(official with jurisdiction name)	(# of acres directly impacted per GIS calculation)
(Resource Name)				
Alternative 2				
(Resource Name)				
(Resource Name)				
Alternative 3				
(Resource Name)				
(Resource Name)				

Build Alternative Phase Description

The evaluation of the system alternatives will conclude with the selection of several alternatives to be carried forward in the Environmental Impact Statement analysis, known as the build alternatives. At that time, the TCA Team will evaluate Section 4(f) impacts in greater detail in a Section 4(f) assessment document, which will assess whether there would be any potential use of a Section 4(f) resource related to:

- A permanent incorporation of land from the resource
- A temporary occupancy of resource land during project construction
- A constructive use of the resource (associated with severe indirect proximity impacts such as noise)

The Section 4(f) document will also include a discussion of measures to minimize harm and, as necessary, an assessment of avoidance alternatives and a least overall harm analysis.

The build alternatives phase will also include a separate assessment of potential impacts to Section 6(f) properties.

References

Federal Transit Administration. *Noise Manual*.

Illinois Department of Natural Resources. *Illinois Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2015 – 2019*.

Visual and Aesthetics Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Jacobs
PROJECT NUMBER:	4266

Topic

This technical memorandum describes the methodology and terminology that will be used to assess the visual impacts and aesthetics of the system alternatives. The visual impact analysis generally follows the methodology in the *Visual Impact Assessment of Highway Projects* (FHWA, 1988).

Analysis Area

The analysis area is the area in which all environmental investigations specific to aesthetics and visual quality will be conducted to determine the visual and aesthetic characteristics and potential impacts of the system alternatives. The analysis area for aesthetics and visual quality is what is referred to as the Area of Visual Effect in FHWA's Visual Impact Assessment guidelines. The boundaries of the analysis area for aesthetics and visual quality extend beyond the system alternative footprint, generally encompassing the viewsheds (or areas of project visibility). The analysis area also encompasses watersheds because water quality defines the plant species and overall aesthetic value of the wetlands, stream banks, swales, and best management practices.

Methodology

Data Needed/To Be Collected

Visual resources are the natural, cultural, and project environments that can be seen and would be affected by the system alternatives. The following visual resources will be identified as part of the system alternatives evaluation:

- **Natural Visual Resources.** The land, water, vegetation, and animals that compose the natural environment.
- **Cultural Visual Resources.** The buildings, structures, and artifacts that compose the community environment.
- **Project Visual Resources.** The representative geometrics, structures, and fixtures that compose the project environment.

Visual resources can include state-designated scenic routes and views towards and within natural areas, parks, and urban areas identified as having historical or cultural significance or that include buildings of similar significance or notable landmark status.

Recommended Methodology and Tools

The Tri-County Access (TCA) Project Team will use geographic information systems (GIS), Google Earth, visual surveys, and photography to identify visual resources and determine viewshed(s) (the areas that could potentially have views of Project features and the area potentially viewed from the Project) for each system alternative. Viewsheds include foreground views and middle ground views, and they consider scenic vistas. Identification of viewsheds includes, but is not limited to, the following factors:

- Viewshed(s) will typically be identified as up to 3 miles from any Project feature. For large visible changes such as tunnel portals or large cuts/fills and for large components such as aerial structures that could be seen from a long distance, the viewshed(s) will be expanded, as appropriate.
- Factors that may block or partially obscure views, such as distance, climate, air quality, topography, vegetation, and existing development will be identified.
- The foreground is the area that represents the highest visual concern. In rural/agricultural and other open areas, the Project could be visible over extensive areas because of the general scarcity of buildings and tall vegetation that could block views. In these areas, the foreground of the analysis area will be identified as all areas within 0.5 mile of the system alternative alignment centerline.
- In urbanized areas, project visibility is often more restricted by the presence of buildings and tall vegetation. Therefore, the foreground of the analysis area in urbanized areas will be identified as all areas within 0.25 mile of the system alternative alignment centerline.[1] The TCA Team will consider view corridors, such as areas along major arterials, freeways, railways, or other transportation corridors where the corridors intersect or are adjacent to the system alternative footprint.

The TCA Team will conduct visual windshield surveys to establish the general character of the corridor and viewsheds. They will collect a sampling of representative tree species and other vegetation observed within and adjacent to the system alternative footprints will be recorded to help determine the general corridor landscape and vegetation conditions.

The aesthetic character of the Project is important for acceptance and public perception. Stakeholder input on the visual resources and potential impacts of the system alternatives is also important because it provides information that the TCA Team will use to help develop Project features that are consistent with the aesthetic values of the surrounding communities. A Stakeholder Participating Group will be established to provide this input.

Figure TM9-1 through Figure TM9-3 are examples of three effective visualization tools the TCA Team may use for presentations at meetings.

Parameters and Criteria

Federal, state, and local laws, regulations, orders, and guidance related to aesthetics and visual quality in the analysis area will guide the criteria used to identify impacts. These policies include FHWA National Environmental Policy Act guidance and Illinois Tollway Aesthetics Design Guidelines.

[1] FHWA defines urbanized areas based on census data of 50,000 or more population and urban clusters of at least 2,500 and less than 50,000 population.

Figure TM9-1. Hand Sketching and Rendering (Hand Sketching and Presentations)

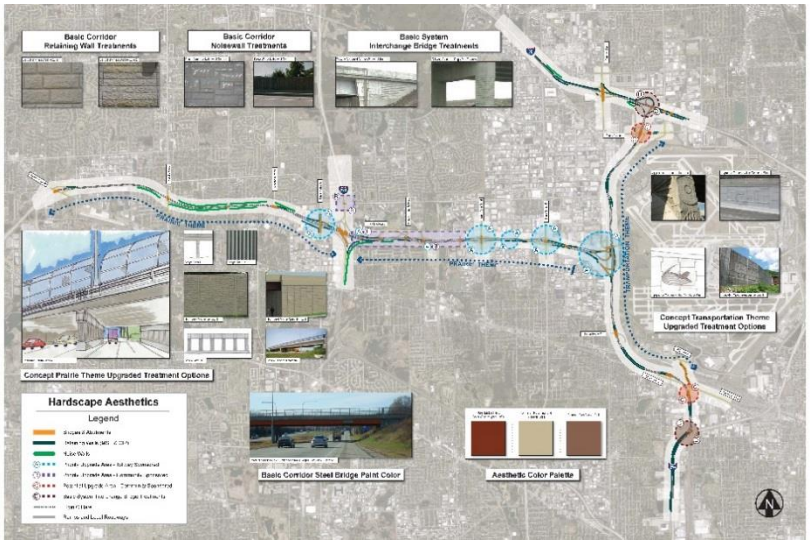


Figure TM9-2. 2D Graphic Presentations (Tools such as InDesign, Adobe Suite Photoshop, and Illustrator, together with GIS and Aerial Maps)

Figure TM9-3. 3D Modeling and Visualizations for Alternative Presentations

Review and Decision Process

The TCA Team will evaluate the visual impacts and potential for aesthetic enhancement opportunities of each system alternative based on the principles and processes identified above and the public input received through the Stakeholder Participation Group. The results of these analyses will help inform the system alternatives screening process by identifying which alternatives have better aesthetic potential and would have less visual impact.

Output Format

The output of all the findings and impacts will be presented in an aesthetic and visual impact assessment report. The report will include tree surveys, tables, and findings from engagement with the Stakeholder Participation Group. The report will be illustrated with figures, including aerial maps, plan views, sections, hand renderings, and models.

Build Alternative Phase Description

A build alternative's permanent alteration of the visual environment throughout the roadway project; reconstruction of any existing roadway, structures, and/or bridges; and construction of retaining walls and sound walls all can cause long-term visual impacts. During the build alternative phase, the TCA Team may create visual simulations and renderings to represent typical views and the potential changes that can be expected as a result of implementing the proposed alternatives. The visual simulations will be strictly for conceptual analysis and will not be intended to provide a precise, scaled depiction of the Project; these renderings are meant to illustrate the potential post-project visual character of the Project study area.

During the build alternative phase, the Project team will identify the corridor's aesthetic palette and architecture, landscape, and signage design decisions to respond to the rural, suburban, or industrial character of the Project study area. Adjacent communities can be identified on corridor bridges, and the functional or aesthetic design of ramps, roadway configurations, sound walls, and bridges may be tailored to a specific location or community.

References

Federal Highway Administration (FHWA). 2015. *Visual Impact Assessment of Highway Projects*. Document No. FHWA-HEP-15-029. January.

Biological Resources and Threatened and Endangered Species Methodologies

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Huff & Huff, Inc., a subsidiary of GZA GeoEnvironmental, Inc.
PROJECT NUMBER:	4266

Introduction

This technical memorandum presents the methodology for assessing impacts of the proposed Tri-County Access (TCA) Project system alternatives on biological resources (including wildlife and upland plant communities), as well as impacts to state-listed and federally listed threatened and endangered species (including federally listed species and state-listed species).

Analysis Area

The limits of the analysis area will be guided by several principles that capture aspects of biological diversity (for example, biological dispersal/gene flow and habitat connectivity) as well as the interactions within and among the ecosystems in the area. Generally, the analysis area will extend from the edge of each system alternative footprint for a distance that will be determined according to the type of resource (species and/or habitat) or ecological process (for example, habitat connectivity) being reviewed. The distance of the offset from the footprint will be based on factors such as, but not limited to, the following: mobility of the species, spatial configurations of habitats, segmenting of previously contiguous habitats, edge effects to habitats, reduced carrying capacity of habitats, and the amount of viable habitat required for a particular species.

Methodology

In the analyses of potential impacts from the system alternatives, the TCA Team will consider the following principle:

- Would the system alternative maintain protected conservation areas, state-listed and federally listed species as well as species proposed for listing, designated critical habitat for state-listed and federally listed species, and native ecosystem types and their natural range of variation within the analysis area?

Data Needed/To Be Collected

The TCA Team will identify and characterize the existing biological resources and threatened and endangered species in the analysis area.

The biological resources and threatened and endangered species, and species proposed for listing assessment for the system alternatives evaluation phase will rely on existing data and some limited field surveys. The evaluation will focus on the following existing conditions in the analysis area:

- Physical features
- Habitat (including designated critical habitats for state-and federally listed species)

- High-quality or special Illinois natural resource areas (the Illinois Natural Area Inventory [INAI] sites and Illinois Nature Preserves)
- Forest preserves
- Properties in a land trust for conservation (for example, Lake County Land Conservancy)
- Lands designated to serve as mitigation
- Other natural lands

The primary source of the data presented will be available Geographic Information System (GIS) data (listed below in the Recommended Methodology and Tools section). The TCA Team will obtain additional information through a field review to verify published information if needed, and any field data gathered will be added to the Project GIS database.

State and federally listed threatened, endangered, and species proposed for listing for each county in the analysis area (McHenry, Lake, and DuPage Counties in Illinois, and Kenosha County, Wisconsin) will be identified and described. Data sources that may be used include but are not limited to the following: the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC); USFWS *Section 7 Technical Assistance County Distribution of Federally-listed Threatened, Endangered, Proposed and Candidate Species*; Illinois Natural History Survey Collections Database; Illinois Department of Natural Resources (IDNR) Natural Heritage Database, IDNR Illinois Endangered Species Board data; IDNR Ecological Compliance Assessment Tool (EcoCAT); and Wisconsin Department of Natural Resources (WDNR) Natural Heritage Inventory.

The TCA Team may informally consult with the USFWS, IDNR, and WDNR at the beginning of the system alternatives evaluation phase to obtain the most current and accurate data available for these resources as well as to gather agency input regarding, among other things, species status within the analysis area and range-wide, health of existing habitats, and areas where degradation may be occurring or where a high potential for degradation may exist.

Recommended Methodology and Tools

These sections outline the methodology for evaluating biological resources and threatened and endangered species. This section also lists the tools the TCA Team will use to conduct the biological resources and the threatened and endangered species evaluations.

Biological Resources Study Methodology
The following two sections outline the methodologies for wildlife and for upland plant communities.

Biological Resources Study Methodology: Wildlife
The TCA Team will implement the following steps as part of the wildlife data-gathering and impact identification task:

1. **Review Wildlife Databases for Each County in the Analysis Area.** The TCA Team will use data from the USFWS, IDNR, Illinois Natural History Survey, and county forest preserves to identify avian, mammal, reptile, fish, and amphibian native species that are not listed as threatened or endangered at the state or federal levels but are known to occur in each county within the analysis area (listed species are discussed in the Threatened and Endangered Species Study Methods section of this technical memorandum.) Habitat requirements and potential for occurrence within the Study analysis area will be discussed for each listed/group of species.
2. **Identify Species of Concern/Priority for Conservation.** All species identified as potentially present in the analysis area by resource agencies will be compared to the following conservation species lists to determine if species of concern, species in greatest need of conservation, or other special

designations exist. The TCA Team will use the following list of up-to-date data resources; this list is not exhaustive:

- Eastern Tallgrass Prairie and Big River Landscape Conservation Cooperative of the USFWS Midwest Region
- Illinois Wildlife Action Plan
- U.S. Geological Survey North American Breeding Bird Surveys
- International Union for the Conservation of Nature, Partners in Flight
- USFWS Region 3 Fish and Wildlife Resource Conservation Priorities list
- USFWS's Birds of Conservation Concern
- International Union for Conservation of Nature Species of Concern List
- USFWS Migratory Bird Data Center for birds protected under the federal Migratory Bird Treaty Act (MBTA)
- University of Illinois Bird Species of State Conservation Concern
- Chicago Wilderness Priority Species
- Chicago Botanic Garden Plants of Concern

3. **Make Conclusions.** The TCA Team will use the Study GIS tool to identify wildlife potentially affected by the system alternatives based on known locations where individual/groups of species occur and where upland, wildlife corridor fragmentation, and aquatic habitat types are estimated to occur.

Biological Resources Study Methodology: Upland Plant Communities

The TCA Team will implement the following steps to gather data on upland plant communities and to identify impacts:

1. **Identify Existing Conditions.** The TCA Team will identify existing cover types in the analysis area using available GIS data, during a field review to verify published information if needed, and information from the cover types/vegetation assessment (see Cover Types/Vegetation Assessment item in this section):

    a. **Cover Types/Vegetation Assessment.** Existing cover types in the analysis area will be identified by type and number of acres, using available GIS data. Data will be obtained from the Land Cover of Illinois 1999 – 2000 Classification, as provided by the Illinois Interagency Landscape Classification Project and the Chicago Metropolitan Agency for Planning (CMAP) 2013 Land Use Inventory. The cover types will likely include:

        - Agricultural Land
        - Forested Land (Contiguous forested areas greater than 20 acres and large forested tracts along waterways will be noted. The TCA Team will use the 10-acre threshold to assess forested areas based on two separate memorandums[1] of understanding with the Illinois Tollway and Illinois Department of Transportation [IDOT] and IDNR.)
        - Urban Land
        - Wetlands (TCA Team to use data identified as part of the *Wetlands and Waters of the U.S. Methodology TM No. 13.*)

[1] Illinois Department of Transportation, Bureau of Design and Environment Manual, Guidance on Environmental Assessment/Environmental Impact Statement Preparation (December 2017) and Illinois Tollway Environmental Studies Manual (March 2017).

- Water Features (e.g., lakes, streams, rivers)

The Illinois Tollway requires assessment of some cover types (e.g., prairies and savannas) that may not be included in existing GIS cover type data, and this cover type data may be collected during the field review to verify published information, if needed, and incorporated into the GIS database cover type data.

b. **Designated Lands and Other Ecological and Protected Properties.** The TCA Team will identify special lands designated for ecological protection, such as INAI sites, Illinois Nature Preserves, Land and Water Reserves, Illinois Natural Heritage Landmarks, county forest preserves, properties in a land trust for conservation, and other natural lands within the analysis area. The IDNR Wildlife Action Plan and the WDNR Wildlife Action Plan will also be reviewed to identify additional areas of ecological importance.

The TCA Team will identify and summarize data from the INAI, Illinois Nature Preserves Commission, Land and Water Reserves, Illinois Natural Heritage Landmarks, and County forest preserves, as well as other natural or special lands.

c. **Wildlife Corridors.** The TCA Team will coordinate with resource agencies to identify areas of habitat connectivity, wildlife corridors, and flyways. The potential for transportation improvements to disrupt these wildlife corridors will be assessed. Corridors that may be used by wildlife species within the analysis area will be identified and the species that may benefit most by the presence of these corridors will be identified.

2. **Make Conclusions.** Before beginning the process of identifying resource impacts, a Project biologist will work with roadway engineers during the alternative development phase to avoid and minimize impacts to upland plant communities, designated lands and other significant, ecological, and protected properties and wildlife corridors where practicable. Where impacts would occur, the TCA Team will assess the potential for the system alternatives to affect upland plant communities, designated lands and other ecological, and protected properties within the analysis area both in terms of their presence and the specific habitat each offers for species of concern/priority for conservation. Impacts to be assessed include habitat destruction and cover type change, as well as proximity impacts such as fragmentation of upland communities, hydrology changes, and Project-induced development.

Fragmentation of habitats can harm certain wildlife and plant species, although some species benefit from habitat fragmentation. The TCA Team will develop a table that shows the number acres affected by cover type for each system alternative. The replacement time for each cover type affected and the commonness or scarcity of each identified habitat/cover type within the analysis area will be determined. The TCA Team will also identify forested land along streams and forested areas greater than 20 acres.

Potential losses of areas of habitat connectivity and wildlife corridors in the analysis area, as well as potential effects to flyways, will also be identified as they pertain to species of concern/priority for conservation.

Threatened and Endangered Species Study Methodology

The following three sections outline the methodologies for federally listed species, species proposed for listing, state-listed species, and for cover types/habitat for state-and federally listed species.

Threatened and Endangered Species and Species Proposed for Listing, Study Methodology: Federally Listed Species

The analyses of federally threatened, endangered, and species proposed for listing, as well as designated critical habitats, will be conducted in adherence with the federal Endangered Species Act (ESA). The ESA directs all federal agencies to work to conserve endangered and threatened species and

to use their authorities to further the purposes of the ESA. Section 7 of the ESA, called "Interagency Cooperation," is the mechanism by which federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species. Section 9 of the ESA prohibits activities that directly or indirectly affect endangered species. These prohibitions apply to all individuals, organizations, and agencies subject to U.S. jurisdiction. Under the ESA and regulations, it is illegal for any person subject to the jurisdiction of the U.S. to take (i.e., harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species.

The TCA Team will implement the following steps as part of the federally listed species data-gathering and impact identification task:

1. **Identify Presence and Characteristics of Threatened and Endangered Species, Species Proposed to be Listed, as well as Designated Critical Habitats.** The TCA Team will use data from the USFWS website to determine the threatened and endangered species, and species proposed to be listed in each county within the analysis area. The analysis will focus on the species listed within each county, species observed (if any) during the field review to verify published information (see the Field Review to Verify Publish Information section below), IDNR Natural Heritage Database Element Occurrence Records, designated critical habitats, and potential suitable habitat present for federally listed species. The evaluation will include all federally listed species, and species proposed to be listed in the analysis area. The TCA Team will develop a table that will list the federally listed species in the analysis area, their scientific names, habitat, classification, and the county in which they are listed. The TCA Team will identify habitat requirements and potential for occurrence within the analysis area for each listed species. The presence of habitat (both designated critical habitats by the ESA and non-designated habitats) for federally listed species or other relevant resources for the species in the analysis area will be noted. This analysis will include those species proposed to be listed as well as proposed designated critical habitats.

   Data will also be gathered on the presence of federally protected bald and golden eagles and nests for these species within the analysis area, which are both protected under the Federal Bald and Golden Eagle Protection Act (16 United States Code [U.S.C.] 668-668c). The TCA Team will gather information regarding the presence of bald and golden eagles and their habitat, which includes actively used nests and nests that are considered inactive, from the "Bald and Golden Eagles, Population Demographics and Estimation of Sustainable Take in the United States," 2016 update (USFWS 2016), as well as from IDNR Element Occurrence Records of these species within the analysis area.

   Data will also be gathered on potential habitat for migratory bird species protected under the federal MBTA (16 U.S.C. 703-712).

2. **Make Conclusions.** Federally endangered or threatened species and species proposed for listing, including federally protected bald and golden eagles and migratory birds, potentially affected by the system alternatives will be identified based on known locations where individual species occur and estimated upland and aquatic habitat type impacts.

Threatened and Endangered Species Study Methodology: State-Listed Species

The TCA Team will implement the following steps as part of the state-listed species data-gathering and impact identification task:

1. **Identify Presence and Characteristics.** The TCA Team will identify Illinois state and Wisconsin state threatened and endangered species and their habitat within the analysis area based upon current available Illinois Endangered Species Protection Board data and Illinois Natural Heritage Database

Element Occurrence Records in Illinois available data from the WDNR, as well as results from previous species surveys in the analysis area. The evaluation will focus on state-listed species identified within the analysis area and on potential suitable habitat for state-listed species within the analysis area. All state-listed species identified in the analysis area will be included in the evaluation. The TCA Team will develop a table listing state-listed threatened and endangered species with potential to occur in the analysis area, which will describe the state-listed species and include their scientific names, habitat, classification, and the county in which they have the potential to occur. The habitat requirements and potential for occurrence will be identified for each species. The TCA Team will note the presence of their habitat (or other relevant resources for the species) within the analysis area.

2. **Make Conclusions.** State threatened and endangered species potentially affected by the system alternatives will be identified based on known locations where individual species occur and impacts to their estimated upland and aquatic habitat type.

Threatened and Endangered Species Study Methodology: Cover Types/Habitat for State- and Federally Listed Species

The TCA Team will implement the following steps as part of task to gather information and identify impacts to cover types/habitat for state- and federally listed species:

1. **Identify Presence and Characteristics.** The TCA Team will assess the potential for the presence of the state- and federally listed threatened and endangered species within the analysis area through an analysis of existing habitats (cover types), during a field review to verify published information if needed, and information from the cover types/vegetation assessment (see "Item a," below).

    a. **Cover Types/Habitat.** Existing cover types in the analysis area will be presented in a table by type and number of acres, using available GIS data (data will be obtained from the Land Cover of Illinois 1999 – 2000 Classification, as provided by the Illinois Interagency Landscape Classification Project and the CMAP 2013 Land Use Inventory), as well as from other sources.

    b. **Designated Lands and Other Ecological, and Protected Properties**

    The TCA Team will identify special lands designated for ecological protection and the laws established to define and protect these areas. Each special area will be defined and evaluated as they relate to threatened and endangered species.

    The TCA Team will identify and summarize data from the INAI, Illinois Nature Preserves Commission, forest preserves, and other natural or special lands. In addition, laws established to define and protect these areas will be identified. Each designated area will be defined and evaluated as it relates to threatened and endangered species. The TCA Team will develop an exhibit displaying protected lands and special (unprotected) lands that contain specific habitats for listed species in the analysis area.

    c. **Wildlife Corridors.** The TCA Team will identify areas of habitat connectivity, which for the system alternatives analysis will include the identification of special lands designated for ecological protection as well as waterways and associated riparian habitat that serve as wildlife corridors, provide genetic connectivity for population viability, andflyways, as they relate to threatened and endangered species. The potential for transportation improvements to disrupt pathways of physical and genetic connectivity provided by special lands designated for ecological protection as well as waterways and associated riparian habitat will be

assessed. Corridors that may be used by listed species within the analysis area and the species that may benefit most by the presence of these corridors will be identified.

2. **Make Conclusions.** The TCA Team will assess the potential for the system alternatives to affect designated lands and other ecological, and protected properties within the analysis area, both in terms of their presence and in terms of the specific habitat each offers for the identified state-and federally listed species. Potential habitat loss and conversion of cover types by the system alternatives will be evaluated as related to listed threatened and endangered species.

   The TCA Team will develop a table to present the acres affected by cover type for each system alternative. The commonness or scarcity of each identified habitat/cover type within the analysis area will be determined. The TCA Team will also identify forested land along streams and forested areas greater than 10 acres.

   Loss of areas of habitat connectivity, wildlife corridors, and potential affects to flyways as they are related to threatened and endangered species within the analysis area will also be discussed.

Recommended Tools

The analysis of biological resources and of threatened and endangered species will primarily draw from available information, including information gathered from the federal and state agencies identified above, combined with the judgement of professional biologists. Based upon this information, the TCA Team will determine the potential for and extent of impacts to suitable habitat. This information will be compiled within a table for each system alternative and used to compare their relative impacts.

Field Review to Verify Published Information

The TCA Team will conduct a field review to verify published information, if needed, in the analysis area for biological resources and for threatened and endangered species. The field review will be completed from public rights-of-way and public access areas where possible, within and immediately adjacent to the system alternatives. Formal species and habitat surveys will not be completed during the system alternatives evaluation phase; however, formal surveys may be required as part of the build alternatives phase. The field review will be conducted to:

- Verify the GIS land cover data provided by the Land Cover of Illinois 1999 – 2000 Classification and CMAP 2013 Land Use Inventory
- Identify other potential suitable habitat for state and/or federally listed species
- Provide preliminary information on vegetation cover types in order to better identify potential habitat for listed species
- Provide a general description of the biological quality of the area and identify woodlands, tallgrass prairie, and other high-quality habitats
- Identify other unique plant communities encountered
- Identify wildlife corridors and flyways
- Identify wildlife that are encountered (a formal wildlife survey will not be completed during the systems alternatives evaluation phase)

Parameters and Criteria

The biological resources and the threatened and endangered species analyses for the system alternatives phase will comply with federal and state regulations and guidelines:

- National Environmental Policy Act (NEPA) (42 U.S.C. 4321-4347);
- Guidelines published by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulation [CFR] 1500)

- Illinois Tollway Environmental Studies Manual
- Illinois Department of Transportation *Bureau of Design and Environmental Manual* (September 2017) Chapters 25, 26, and 27
- Fish and Wildlife Coordination Act
- Section 5(d)1 of the National Rivers Inventory
- MTBA (16 U.S.C. §§ 703–712)
- Executive Order 13112 (Invasive Species)
- Illinois Noxious Weed Law (505 ILCS 100/)
- Illinois Exotic Weed Act (525 ILCS 10/)
- Illinois Natural Areas Preservation Act (525 ILCS 30/)
- Paragraph V.G. 18 of FHWA Technical Advisory T6640.8A *Threatened and Endangered Species*
- 16 U.S.C. 1536(a)-(d) of the Federal Endangered Species Act of 1973 (Public Law 93-205)
- 50 CFR 402, Procedures for Interagency Cooperation – Endangered Species Act of 1973, as amended
- 16 U.S.C 1539(a)-(j) of the Federal Endangered Species Act of 1973 (Public Law 93-205)
- 50 CFR 402, Procedures Exceptions – Endangered Species Act of 1973, as amended
- Federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c)
- Section 11 of the Illinois Endangered Species Protection Act (520 ILCS 10/1, et seq.)
- Wisconsin State Statute 29.604, Endangered and Threatened Species Protection, and Wisconsin Administrative Rule Chapter NR 27 and Chapter NR 29

Review and Decision Process

The TCA Team will analyze data collected related to biological resources and threatened and endangered species and will provide an inventory of potential impacts from each system alternative. The impacts analysis will drive the decision-making process in evaluating alternatives and assessing resource impacts. This evaluation will include the following information:

- The loss of cover type
- The loss of native plant communities, including the fragmentation of habit that may be important to wildlife and/or the abundance and diversity of plant species
- The loss of wildlife, including potential barrier effects to migration and impact on abundance and diversity
- The loss of threatened and endangered species, including the impact to habitat on which these species are dependent
- Concept-level mitigation proposals, including of avoidance, restoring migratory pathways, and control of invasive species.

Output Format

The results of the system alternatives analyses will be summarized in a technical memorandum that will include exhibits and tables. Examples of maps that will be prepared include an exhibit displaying protected lands and special (unprotected) lands containing unique or protected resources, an exhibit

displaying potential wildlife corridors and flyways in the analysis area, and an exhibit displaying cover types in the analysis area (based on the Land Use Inventory by CMAP in 2013).

Build Alternative Phase Description

The system alternatives carried forward for further analysis will be evaluated during the build alternative phase. This level of analysis will be based on data collected and analyzed during the system alternatives evaluation and on in-depth species surveys, habitat surveys, and field sampling to be conducted (if necessary) during the build alternative phase. Consultation with the USFWS, IDNR, and County Forest Preserves may also be conducted during the build alternative phase. Input from these agencies may be valuable in determining habitat and specific species and locations. In addition, agency opinions on potential impacts, avoidance methods, and mitigation for protected lands and wildlife will also be considered. In-depth species surveys or field sampling, if necessary, will be conducted during the build alternatives phase.

Water Quality Methodology

PREPARED FOR: Illinois Tollway

PREPARED BY: ASE and Kabbes Engineering, Inc. (KEI)

PROJECT NUMBER: 4266

Topic

The purpose of this technical memorandum is to present the methodology for assessing the potential water quality impacts of the proposed Tri-County Access (TCA) Project system alternatives on both surface water and groundwater resources, and additionally an assessment of potential changes to instream physical habitat.

Analysis Area

The surface water analysis area for the system alternatives will be the watersheds that are crossed by any portion of a system alternative. This analysis area potentially includes the Des Plaines River, Fox River, and Great Lakes basins.

The groundwater analysis area is defined as the area approximately 500 feet from each side of the corridor footprint. Both groundwater well information and the location of potential aquifer recharge areas within the groundwater analysis area will be identified and evaluated.

Methodology

Data Needed/To Be Collected

To determine the impacts of the system alternatives, data will be needed for several different purposes. Water quality sources that include aquatic species data and aquifer data will be collected from Lake County, Lake County Health Department, Lake County Stormwater Management Commission, Illinois Environmental Protection Agency (IEPA), Illinois Department of Natural Resources, and the Prairie Research.

Table TM11-1 lists the data sources anticipated for the system alternatives evaluation.

Table TM11-1. Data Needed for the System Alternatives Evaluation

Agency	Type of Data
Illinois State Water Survey	Private and public well locations and data, aquifer data
Illinois State Geologic Survey	Private and public well locations and data, aquifer data
Barrington Area Council of Governments	Regional groundwater studies
McHenry County	Regional groundwater studies, watershed boundaries, watershed plans
Kenosha County, Wis., or Southeastern Wisconsin Regional Planning Commission	Regional groundwater studies, watershed boundaries, watershed plans, water quality data
Cook County or Metropolitan Water Reclamation District of Greater Chicago	Watershed boundaries, watershed plans

Table TM11-1. Data Needed for the System Alternatives Evaluation

Agency	Type of Data
Lake County Health Department	Lake water quality monitoring data, BMP monitoring data, chlorides data, historical and ongoing chlorides education efforts
Lake County Stormwater Management Commission	Surface water quality monitoring data, watershed data, BMP monitoring data, water quality criteria data, IEPA 305(b) 303(d) information, available drain tile surveys
IEPA	Water quality monitoring data; water quality impairments data; BMP monitoring data; water quality criteria data; 303(d)and 305 (b) list; TMDL data; IBI (fIBI and mIBI) data; targeted watershed information based on stream, lake, or groundwater protection data; wastewater discharge locations
IEPA Urban Stormwater Working Group	Data specific to urban stormwater
Illinois Natural History Survey	Water quality and habitat data collected specifically for the TCA Project's dam safety permits
Illinois Department of Natural Resources	Aquatic species sampling data and some related water quality data
U.S. Geologic Survey	Surface water and groundwater data, including quality and quantity, stream and rainfall, and water quality gaging station data
Universities	BMP pollutant removal efficiency data
Other organizations, local governments, and community groups, such as watershed steering committees, determined during data review process	To be determined

BMP = best management practice
fIBI = Fish Index of Biological Integrity, which is a tool used to characterize the fishery population and habitat in streams and rivers
IBI = Index of Biological Integrity, which is a tool used to classify the broader biological characteristics of streams and rivers
mIBI = Macroinvertebrate Index of Biological Integrity, which is a tool used to characterize the macroinvertebrate population and habitat in streams and rivers
TMDL = total maximum daily load

Recommended Methodology and Tools

The TCA Team will describe the existing water quality, stream habitat, and groundwater conditions based on the information sources listed in Table TM11-1. Impaired streams and waterbodies either crossed or near the system alternative corridors will be summarized. Pollutants of concern will be summarized, potentially including total suspended solids, conductivity, dissolved oxygen, salt chloride, total nitrogen, total phosphorous, and nitrate-nitrogen. The TCA Team will also identify stream reaches and stream beds that are physically impaired, as well as physical obstructions in the streams. Other relevant existing conditions, including impaired fishery and macroinvertebrate populations, will also be noted.

The summary of existing conditions will include descriptions of groundwater aquifers that may be affected by the system alternatives. Groundwater wells in the analysis area will be enumerated and mapped.

As appropriate, the TCA Team will incorporate existing condition information into the TCA Project Geographic Information System (GIS) database for use in the impact analysis.

The TCA Team will focus on the potential for the Project to cause the following types of water resource impairments in the analysis area and will conduct a qualitative analysis related to each topic:

- Water quality in streams and other waterbodies
- Physical attributes of streams and waterbodies
- Groundwater wells
- Groundwater aquifers

The analysis methodology for each of the preceding types of impairment is summarized as follows:

- **Water quality in streams and other water bodies.** Roadway runoff is known to degrade water quality; therefore, the potential for further impairment of existing conditions will be assessed for each system alternative. For example, stream locations that are already degraded will be labeled as having the greatest risk for further degradation. The analysis will identify pollutants of concern that currently exist and could worsen with the Project. The TCA Team will also evaluate the extent of water quality treatment (BMPs) that would be required either to maintain, without a net increase, current conditions that already exceed pollutants of concern or to maintain conditions within applicable state and federal standards. The degree of possible treatment options will be identified as high, medium, or low and summarized for the streams and waterbodies that would be affected by each system alternative.
- **Physical Attributes of Streams and Waterbodies.** The TCA Team will inventory special or unique stream attributes as part of data collection, including physical obstructions, quality of fishery populations, and quality of macroinvertebrate populations. Potential impacts of the system alternatives will be summarized either as a physical change caused by the structural aspects of the roadway or as a change in water quality conditions that could impair these locations.
- **Groundwater and Groundwater Wells.** Groundwater and groundwater wells are susceptible to pollutants in roadway runoff that could leach into groundwater resources in the analysis area. At this level of analysis, the TCA Team will use a qualitative approach to enumerate this potential. The TCA Team will count and inventory wells in the groundwater analysis area. System alternatives that have more wells in the analysis area will be identified as having greater risk to the well users, compared to other alternatives. The type of well information (residential, commercial, and municipal) will be added to the summary if this information is readily available.
- **Groundwater Aquifers.** The TCA Team will also inventory and enumerate system alternative encroachments on known groundwater aquifers in the groundwater analysis area. System alternatives that have more encroachments will be identified as having greater potential risk to the aquifers, compared to other alternatives.

To perform an initial screening of the system alternatives, the TCA Team will analyze the data as follows:

1. The Project GIS database will be used to identify all stream and waterways, water wells, and aquifers within or intersecting the analysis area.
2. Attribute data included in the GIS database or summarized elsewhere (see Table TM11-1) will be used to identify existing conditions related to water quality, characterization of fishery and macroinvertebrate populations, the importance of aquifers, and physical attributes of streams, as well as other features as appropriate.
3. Professional judgement will be applied to the data with regard to the range of impacts from physical change or roadway runoff to nearby stream, waterbodies, wells, or aquifers.

Parameters and Criteria

Several criteria will be used to evaluate the system alternatives, including the following:

- Number of waterway crossings
- Area of surface water directly affected
- Number of 303(d) waterways segments (known as presently impaired) directly affected
- Number of unimpaired, waterways directly affected
- The level of water quality treatment required to maintain compliance with standards (high, medium, or low levels)
- Number of waterways with physical obstructions within 500 feet of the edge of corridor
- Number of waterways with TMDLs directly affected
- Number of public water supply wells within 500 feet
- Number of private wells water supply within 500 feet
- Number of aquifers encroached

Review and Decision Process

The TCA Team, through the qualitative analysis for this task, will comparatively evaluate the system alternatives and will produce a range of potential impacts for each alternative. System alternatives with higher relative impacts will be considered to pose a greater risk to the environment.

Output Format

The expected output format will be a narrative and a table describing the potential impact of each system alternative. The narrative will summarize the methodology and the outcome of the analysis. Materials that are not easily tabulated will be placed in the narrative, which will include a discussion of the relative differences amongst the system alternatives. Table TM11-2 is an example of the table that will be used to present system alternative impacts.

Table TM11-2. Surface Water, Groundwater, Wells, and Aquifers Impacts

	No-Build Alternative	**Alternative 1**	**Alternative 2**	**Alternative 3**
Number of New Waterway Crossings				
Number of Waterway Crossings or Encroachments				
Number of Waterway Crossings over Impaired Waterways				
Number of Waterway Crossings over Unimpaired Waterway				
Number of Public Water Supply Wells within 500 Feet				
Number of Private Water Supply Wells within 500 Feet				
Number of Aquifers Encroached				
Number of Physical Stream Attributes Affected				

Build Alternative Phase Description

The evaluation of the system alternatives will conclude with the selection of several alternatives to be carried forward in the Environmental Impact Statement analysis, known as the build alternatives. Stormwater runoff and pollutant loading will be estimated via modeling for each build alternative, and the modeling software will be selected that is best suited to the task. The output of the model will provide the data needed to determine compliance or noncompliance with applicable state and federal stream standards. In addition, the TCA Team will run model to determine the mix of detention and BMPs necessary to achieve compliance. The necessary water quality treatment scenarios will be developed to a conceptual level for the purpose of the build alternative phase.

Obstructions and significant alterations or other significant disturbances to the physical habitat of existing stream systems can be evaluated from aerial photography, field visits, and watershed reports to determine the existing extent the stream system and additional stream length that may be affected, beyond the direct impacts of the proposed alternative. The Illinois Tollway may also consider a more detailed investigation of smaller ephemeral streams so that stream systems and aquatic habitat connectivity can be maintained or mitigated.

More detailed groundwater information will be also considered in the build alternative phase. The potential for proposed alternatives to lower or otherwise affect groundwater elevations, especially shallow groundwater resources, needs to be considered. Higher-quality streams and wetlands often rely on groundwater sources. High groundwater tables that may feed streams and wetlands must be considered when evaluating potential impacts to shallow groundwater flow patterns. More detailed agency information on groundwater recharge areas, aquifers, and flow paths may be considered.

Floodplain Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	FluidClarity Ltd.
PROJECT NUMBER:	4266

Topic

The purpose of this technical memorandum is to present the methodology for assessing impacts of the proposed Tri-County Access (TCA) Project system alternatives on floodplains. This technical memorandum includes a discussion of the source information used for identifying and locating floodplains, the tools that will be used to analyze impacts, parameters and criteria that will guide how the data will be used, the review/decision process, and the output data for assessing impacts.

Analysis Area

The Des Plaines, Fox, and Great Lakes watersheds contain extensive waterbodies such as streams, lakes and depressional areas that would be affected by the Project. Regulated floodplains, as identified by the Federal Emergency Management Administration (FEMA) and the State of Illinois, have been established for most of these waterbodies. Both FEMA and the Illinois Department of Natural Resources-Office of Water Resources (IDNR-OWR) have established standards for management of regulated floodplains.

The analysis area includes the corridor for each proposed system alternative and the areas of encroachment on regulated floodplains. For floodplains of streams that are unmapped, the analysis area includes all floodplains upstream of proposed stream crossings and may include unmapped streams that are under the jurisdiction of the IDNR-OWR. The TCA Team will calculate floodplain impacts within the footprint of each proposed system alternative.

Methodology

Data Needed/To Be Collected

The TCA Team will collect and compile information from the following existing digital mapping data from federal, state, and local sources and agencies to identify floodplains within the study area into the Project Geographic Information System (GIS) database:

- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and Watershed Boundary Dataset. NHD data represent the drainage networks related to waterbodies such as rivers, streams, canals, lakes, and ponds within the United States. Watershed Boundary Dataset data provide the hydrologic units and drainage areas of the United States (https://nhd.usgs.gov/ and https://water.usgs.gov/GIS/huc.html).
- USGS topographic maps.
- Available floodplain maps for the Lake, McHenry, and Cook Counties from the FEMA Flood Map Service Center (https://msc.fema.gov/portal).
- Lake County Stormwater Commission-sponsored watershed plans for subwatersheds within the Des Plaines, Fox River, and Lake Michigan watersheds.

- McHenry County Stormwater Management Commission (https://www.int.ch2m.com/webuploads/NewsPublisher/1017/newspublisher_5689.html*).*
- Lake County Stormwater Management Commission (https://www.lakecountyil.gov/553/Stormwater-Management-Commission*).*
- Maps and Geospatial Data - Cook County Government (https://www.cookcountyil.gov/service/maps-and-geospatial-data).

Recommended Methodology and Tools

A GIS database containing geospatial information on floodplains will be the principal tool for identifying and quantifying Project impacts. The TCA Team will review geospatial data from FEMA and sources listed previously in this technical memorandum and collate it into data layers based on the data sources and applications. This database will be compiled during the data collection task as a data layer in the Study GIS database. The TCA Team will use the GIS tool to overlay the proposed system alternatives and accompanying improvements onto the stream crossing and floodplain data layer. County watershed plans will be consulted to identify flood-prone and priority flood protection sites associated with each system alternative. GIS analysis of county tax and parcel maps overlaid with floodplain maps, and the prioritized flood protection sites, will be used to generate a list of sites that would be affected by the proposed alternatives. The TCA Team will display land use and zoning maps to highlight vacant parcels that may provide opportunity areas for onsite floodplain loss and flood damage mitigation. Impacts to floodplains will be quantified by acreage. The following additional factors for assessing the extent of impacts and potential mitigation will be considered:

- Location
- Availability of vacant parcels for mitigation
- Tributary area at the subject crossing
- Proposed alignment of the system alternative relative to the waterbody (for example, whether the system alternative crosses the floodplain transversely or longitudinally)
- Type of floodplain affected (mapped/regulated by FEMA and unmapped)
- Impacts to regulatory floodways (as defined in the next section)

The TCA Team will also use the GIS tools to code the type of floodplain affected (for example, whether it is a riverine floodplain or a non-riverine floodplain, such as a lake).

Parameters and Criteria

The TCA Team will base the evaluation of impacts on current definitions and applicable regulations, as follows:

- **Flood Insurance Rate Map (FIRM).** Official map of a community that depicts FEMA-delineated Special Flood Hazard Areas, the Base Flood Elevations, and the Risk Premium Zones applicable to the community. There are local, state, and federal regulations in the analysis area that apply to floodplains, depending on their location and scale. FEMA prepares FIRMs as the basis for determination of flood insurance rates according to current federal regulations.
- **Floodplain.** Any land area susceptible to being inundated by floodwaters from any source. Floodplains are categorized by flood zones on FIRMs according to varying levels of flood risk. Special Flood Hazard Areas are defined as the area that will be inundated by a flood event having a 1 percent chance of being equaled or exceeded in any given year. The 1 percent annual chance flood is also referred to as the base flood or 100-year flood. The base flood is the designated flood for regulation purposes by FEMA and the State of Illinois.

- **Regulatory Floodway.** The channel of a river or other watercourse and the adjacent land areas that must be reserved to discharge the base flood (100-year flood) without cumulatively increasing the water surface elevation more than a designated height. Floodways are pertinent to the evaluation of potential floodplain impacts because they are a portion of the floodplain. They are important when evaluating floodplain impacts in Illinois because FEMA has delegated the regulation of floodways to the state. The IDNR-OWR has jurisdiction over floodways and waterbodies that are defined as public bodies of water.
- **Unmapped floodplains and streams.** The Project may also affect the floodplains of streams that have not been mapped. Unmapped floodplains are defined as floodplains of waterbodies that have not been mapped by FEMA or IDNR-OWR. The IDNR-OWR has jurisdiction over unmapped floodplains that have tributary areas exceeding 1 square mile (or 640 acres). McHenry, Lake, and Cook County each have ordinances that define and regulate construction, construction-related activities, and mitigation measures in floodplains. The local ordinances are generally more stringent than the state and federal regulations. For the purposes of this evaluation, only regulatory floodplains under the jurisdiction of IDNR-OWR and FEMA will be evaluated. The analysis of floodplains with local regulations will be addressed during subsequent phases of the Study when more detail is needed.
- **INDR-OWR Part 3708 Rules: Floodway Construction in Northeastern Illinois.**[1] These rules are applicable in regulatory floodways in Cook (excluding the City of Chicago), DuPage, Kane, Lake, McHenry, and Will Counties. The designated regulatory floodways are depicted on FIRMs.

Guidance documents for defining and identifying the regulatory boundaries of floodplains and waterbodies for local regulatory purposes include the following:

- Lake County Watershed Development Ordinance, effective October 13, 2015
- McHenry County Stormwater Management Ordinance, effective January 20, 2004
- Watershed Management Ordinance, as amended on July 10, 2014 (which gives Metropolitan Water Reclamation District of Greater Chicago jurisdiction over floodplain management in Cook County)

Relevant state and federal regulations include:

- FIRMs
- IDNR-OWR Part 3708 Rules for Northern Illinois

State regulations are more stringent than federal regulations for allowable increases in base flood elevations as a result of construction in floodplains and floodways. Requirements of Executive Order 11988 will also be considered, including any subsequent executive orders that cause it to be amended.

Within Lake County, pursuant to an intergovernmental agreement entered into on November 22, 1994 between the Illinois Tollway and the Lake County Stormwater Management Commission (SMC), the Project will comply with the standards of the Lake County Watershed Development Ordinance (WDO). According to the agreement, the Lake County SMC will review and provide comments in relation to meeting the standards of the WDO. However, a formal permit from Lake County SMC will not be required.

Review and Decision Process

The TCA Team will update GIS maps and will prepare a list of the current regulations for floodplains that would be affected by the system alternatives. At the system alternative evaluation phase, the metrics

[1] Illinois Administrative Code, Title 17, Chapter 1, Section 3708, December 31, 2014

will include the extent of floodplain encroachment, the effect on priority flood protection areas as defined by Lake County, and opportunities for replacing floodplain loss.

GIS tools will be used to determine the location and size (in acres) of each proposed system alternative's encroachment into floodplains and to characterize the impact. Longitudinal impacts occur when a system alternative runs parallel to a stream. Transverse impacts occur when a system alternative crosses a stream. The TCA Team will use existing topographic maps and proposed elevations, as well as the footprint of each crossing, to assess impacts.

Floodplains of depressional areas (non-riverine floodplains) such as lakes are also distinguished from floodplains of streams. FIRMs also distinguish floodplains that were prepared using detailed studies (for example, Zone AE floodplains) from those that were mapped using approximate methods (for example, Zone A). These distinctions are important because regulations may stipulate different mitigation requirements for compensatory storage, hydraulic modeling, and permit requirements, and they will be noted and associated with impacts.

The best available mapping will be used to define and evaluate floodplains of unmapped streams or depressional areas. Additionally, the TCA Team will note any reported or documented flooding problems that have been reported within the floodplain or immediately adjacent to and associated with flood events as an important attribute.

The TCA Team will identify affected floodplain areas by overlaying the footprint of the various proposed system alternative alignments with the floodplain map. In the event that better topographic maps are available compared to those that were used to prepare the floodplain maps, then the floodplain will be redelineated using the updated elevation information to estimate impacts. In addition, if the floodplain contains defined floodways, the areas (in acres) of the affected floodways will also be quantified and tabulated.

The TCA Team will also use GIS tools to determine the tributary areas at all proposed stream crossings. IDNR-OWR also has jurisdiction over any unmapped floodplain upstream of the location if the tributary area exceeds 1 square mile. Although these floodplains are unmapped, floodplain impacts would nevertheless occur and will need to be taken into account. In such situations, methods for approximately estimating the floodplain will be developed and applied to compare proposed system alternatives.

Local ordinances for McHenry, Lake, and Cook Counties have more refined definitions for floodplains and more stringent mitigation requirements than federal or state regulations. Such requirements will be noted but will not be used as key factors for comparing proposed system alternatives because the information needed to evaluate impacts at the level of detail required to assess compliance with local ordinances will not be available at the system alternatives evaluation phase. Local regulations are best considered during the build alternative and design phases when the alternatives are more refined, more site-specific data are available, and compliance with the Lake County WDO will be required.

Output Format

Output provided by the GIS database will be in table and map formats for clear comparison between the proposed system alternatives. Table TM12-1 is an example of an output table. The table will show the impacts in acres for each proposed system alternative for all floodplains and associated floodways that would be affected by the proposed system alternatives. The output maps will show the location of the impacts, including locations of any known, existing floodplain problems such as flood-prone areas or sensitive outlets. The alignment of the system alternatives will be shown as an overlay on the maps and will indicate whether the alternative would affect the floodplain longitudinally or transversely.

Table TM12-1. Summary of Floodplain Impacts

Floodplain Impact	No-Build Alternative	System Alternative 1	System Alternative 2	System Alternative 3
Riverine FEMA Floodplain Encroachments (acres)				
Non-riverine FEMA Floodplains Encroachments (acres)				
FEMA Zone A Floodplain Encroachments (acres)				
Floodway Encroachment (acres)				
Unmapped Floodplain (Flood-Prone) Encroachments (acres)				
Number of Crossings				
Number of Longitudinal Encroachments				
Number of Transverse Encroachments				
Sensitivity of Crossing (prioritized flood protection areas based on flooding history and floodplain studies)				
Required Permit(s) and Opportunities for Mitigating Floodplain and Floodway Loss				

Build Alternative Phase Description

The TCA Team will compile detailed, site-specific data during the build alternative to satisfy permit requirements for impacts to flood storage volumes. Each build alternative carried forward to this phase will be described by listing the design elements that would have an impact to floodplains, including bridge crossings, culverts, retaining walls, and storage basins. Limited field investigations may be necessary to verify potential locations identified for mitigating floodplain impacts that would be caused by the design elements. Depending on the nature (for example, whether it is a culvert crossing or bridge crossing) and location of some elements of the build alternative, more restrictive local ordinances may apply to the floodplain. The TCA Team will review each build alternative to determine applicable permitting requirements and identify potential floodplain storage mitigation sites.

Mitigation for riverine floodplain encroachment consists of:

- Providing compensatory storage for lost storage in the floodplain
- Providing compensatory storage for fill in the floodway

Compensatory storage is required for any regulatory floodway or floodplain storage lost resulting from the proposed work and based on the volume of fill or structures placed. Local ordinances also generally require compensatory storage for fill placed in non-riverine floodplains or large depressional areas. The amount of compensatory storage required for non-riverine fill is based on the volume of flood storage

displaced below the base flood elevation. The volume of compensatory storage required for fill in the floodplain is determined from local and county ordinances and typically ranges from 1 to 1.5 times the volume of storage lost as a result of fill or structure. The compensatory regulatory floodway storage must be placed between the proposed normal water elevation and the proposed 100-year flood elevation. All regulatory floodway storage lost below the existing 10-year flood elevation must be replaced below the proposed 10-year flood elevation. All regulatory floodway storage lost above the existing 10-year flood elevation must be replaced above the proposed 10-year flood elevation. These requirements are used to determine the footprint of the mitigation site.

Determination of the storage quantities for mitigation requires knowledge of the flood elevations at the affected area. This information is determined from FIRM maps if the location is mapped, while detailed hydrologic and hydraulic analyses are necessary for unmapped locations. The hydrologic and hydraulic analyses are also required for permit applications, particularly for locations that are unmapped and exceed 1 square mile.

The TCA Team will also consider compensatory storage requirements for non-riverine floodplains. Viable storage sites for mitigation will be plotted and included in the GIS database for the build alternatives.

Wetlands and Waters of the United States Methodology

PREPARED FOR:	Illinois Tollway
PREPARED BY:	Jacobs
PROJECT NUMBER:	4266

Topic

This technical memorandum presents the methodology for assessing impacts of the proposed Tri-County Access (TCA) Project system alternatives on wetlands and waterbodies. It includes a discussion of the source information for identifying and locating wetlands and waterbodies, the tools that will be used to analyze impacts, parameters and criteria that will guide how the data will be used, the review and decision process, and the output data for assessing impacts.

Analysis Area

The analysis area for direct impacts is defined as the system alternative footprint plus a 100-foot offset from the edge of the footprint. The TCA Team will analyze indirect impacts based on hydrology sources within each 12-digit hydrologic unit code watershed.

Methodology

Data Needed/To Be Collected

The TCA Team will collect the following existing digital mapping data from various federal, state, and local sources and agencies to identify potential wetlands and waterbodies within the analysis area:

- U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) data: This publicly available resource provides detailed information on the abundance, characteristics, and distribution of United States wetlands (https://www.fws.gov/wetlands/).
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and Watershed Boundary Dataset: NHD data represent the drainage networks related to waterbodies such as rivers, streams, canals, lakes, and ponds within the United States. Watershed Boundary Dataset data provide the hydrologic units and drainage areas of the United States (https://nhd.usgs.gov/ and https://water.usgs.gov/GIS/huc.html).
- Lake County Wetland Inventory (LCWI) maps: The LCWI maps contain additional detail on wetlands that is not included in the national-level NWI maps (https://www.arcgis.com/home/item.html?id=d59b21f762c648869d4df3b3cb4d6ad4).
- U.S. Army Corps of Engineers (USACE) ADvanced IDentification (ADID) wetlands maps for McHenry and Lake Counties: ADID studies show aquatic sites that have been identified by the Chicago District USACE and U.S. Environmental Protection Agency as areas generally unsuitable for disposal of dredged or fill material because they are considered high-quality aquatic resources (http://www.lrc.usace.army.mil/Missions/Regulatory/Illinois/ADID-Maps/).
- Aerial imagery from Google Earth.
- USGS topographic maps.

- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey: The Web Soil Survey provides soil data and information produced by the National Cooperative Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm).
- Federal Emergency Management Administration: Floodplain maps from Flood Map Service Center (https://msc.fema.gov/portal).

Recommended Methodology and Tools

The TCA Team will collect wetland and waterbody mapping information from the sources listed in the Data Needed/To Be Collected section of this technical memorandum. This information will be compiled into a Geographic Information System (GIS) database that will be used to layer the data by source and to create a detailed map of all potential wetland and waterbody resources within the analysis area. Before beginning the process of identifying resource impacts, a TCA Team biologist will work with roadway engineers during the alternative development phase to avoid wetland and waterbody impacts where practicable. Where impacts would occur, the TCA Team will use this layered map to calculate wetlands and waterbody direct and indirect impacts of each system alternative.

Parameters and Criteria

Waters of the United States, which are protected by the Clean Water Act (CWA), will be the focus of the assessment. Based on the guidance documents and regulations discussed in this section, the TCA Team will refine the GIS database to assess impacts to waters of the United States as accurately as possible.

As defined by the CWA, waters of the United States is a global term that includes wetlands and other waterbodies (40 Code of Federal Regulations 230.3). The CWA defines wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 Code of Federal Regulations 230.3)."

The TCA Team will consider the following guidance documents and local ordinances during this research and analysis:

- *USACE Wetlands Delineation Manual*, January 1987
- The *Regional Supplement to the USACE Wetland Delineation Manual: Midwest Region* (Version 2.0), August 2010
- The *Regional Supplement to the USACE Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0), January 2012
- *Illinois Tollway Environmental Studies Manual*, March 2017
- Lake County Watershed Development Ordinance, effective October 13, 2015
- McHenry County Stormwater Management Ordinance, effective January 20, 2004
- Metropolitan Water Reclamation District of Greater Chicago Watershed Management Ordinance, as amended on July 10, 2014

Relevant federal and state laws and regulations potentially include:

- Section 10 of the Rivers and Harbors Act of 1899 (33 United States Code [U.S.C.] §403) authorizes USACE to regulate structures or work in, over, or under navigable waters of the United States.
- Section 404 of the CWA (33 U.S.C. §1344) gives USACE authority to regulate discharges of dredged or fill material in waters of the United States, including wetlands.

- Section 401 of the CWA (33 U.S.C. §1341) gives the Illinois Environmental Protection Agency the authority to grant water quality certification for projects requiring a Section 404 Permit from USACE.
- Executive Order 11990, Protection of Wetlands, requires federal agencies to avoid, to the extent practicable, short- and long-term impacts associated with the destruction or modification of wetlands. More specifically, it directs federal agencies to avoid new construction in wetlands unless there is no practical alternative. In addition, it states that where wetlands cannot be avoided, the proposed action must include all practical measures to minimize harm to wetlands.
- Illinois Interagency Wetland Policy Act of 1989 (20 Illinois Compiled Statutes 830/) applies to wetland impacts from the State of Illinois and State pass-through funded construction activities.
- Illinois Rivers, Lakes, and Streams Act (615 Illinois Compiled Statutes 5/) applies to lakes, rivers, streams, and waterways that are considered public waters.

Review and Decision Process

Before calculating the impacts of each system alternative on wetlands and waterbodies, the TCA Team will refine the GIS database based on the guidance documents and regulations listed in this technical memorandum. For McHenry and Cook counties, the TCA Team will use NWI data to estimate wetland and waters of the United States impacts. For Lake County, the LCWI mapping will be used because it is typically more accurate than the NWI. ADID wetland mapping will also be used to assess impacts in Lake and McHenry counties as a supplement to NWI and LCWI data. To identify potential waterbody impacts associated with each system alternative, the USGS NHD will be used. For purposes of the TCA Project, it will be assumed that identified wetlands and waterbodies are jurisdictional and subject to state and federal regulations.

When boundaries or type of wetlands or waterbodies identified from the listed databases need refinement to improve the impact assessment, the TCA Team will use other data sources such as aerial photos, contour lines, U.S. Department of Agriculture-Natural Resources Conservation Service Web Soil Survey mapping, and floodplain mapping. Where further clarification is needed, the TCA Team will conduct a windshield survey to verify the presence of a wetland or waterbody. However, delineation of these features will not be conducted during this phase.

The TCA Team will quantify the impacts of each system alternative by overlaying them on wetland and waterbody mapping in GIS. Impacts will be quantified by area and the type and quality of wetlands and waterbodies affected, as deduced from the available information. For wetlands, the impact will be measured in acres; for waterbodies the impact will be measured as linear feet and/or acres. The TCA Team will consider the source of hydrology and the size of the wetland to determine the level of indirect impact. The type of wetland impact (palustrine emergent, palustrine forested, and palustrine scrub shrub) and the type of waterbody impact (ephemeral, intermittent, and perennial) will also be considered if data are available.

Output Format

Tables will be prepared to show the output provided by the GIS database for easy comparison between the system alternatives. Table TM13-1 and Table TM13-2 are examples of the output tables that might be used.

Table TM13-1. Summary of Wetland Impacts from the System Alternatives

	Number of Wetlands Impacted	Direct ADID Wetland Impacts (acres)	Indirect ADID Wetland Impacts (acres)	Direct Non-ADID Wetland Impacts (acres)	Indirect Non-ADID Wetland Impacts (acres)	Total Wetland Impacts (acres)
No-Build Alternative						
Watershed A						
Watershed B						
Alternative 1						
Watershed A						
Watershed B						
Alternative 2						
Watershed A						
Watershed B						
Alternative 3						
Watershed A						
Watershed B						

Table TM13-2. Summary of Waterbody Impacts from the System Alternatives

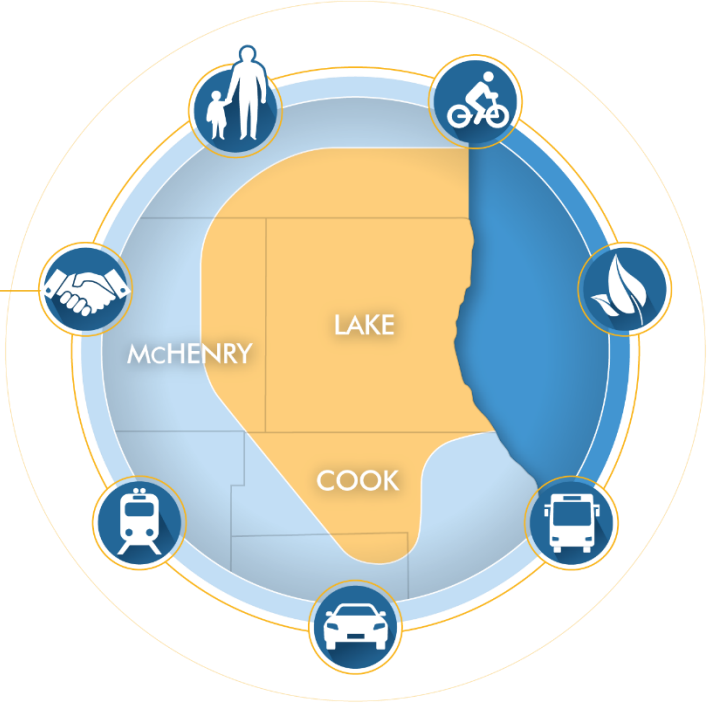
	Direct Impact (linear feet)	Indirect Impact (linear feet)	Total Impact (linear feet)
No-Build Alternative			
Watershed A			
Watershed B			
Alternative 1			
Watershed A			
Watershed B			
Alternative 2			
Watershed A			
Watershed B			
Alternative 3			
Watershed A			
Watershed B			

Build Alternative Phase Description

The evaluation of the system alternatives will conclude with the selection of several alternatives to be carried forward in the Environmental Impact Statement analysis, known as the build alternatives. During the build alternative phase, analyses will be more detailed, including field verification of resources, more precise measurement of impact based on a refined footprint, delineation of wetlands and waterbodies in accordance with USACE delineation methods and local ordinances, and estimation of mitigation ratios. Mitigation ratios typically range from 1.5:1 to 5:1 depending on the quality and type of wetland. Field investigations will also detail the quantity and quality of streams and waterbodies in the Project area. Further analyses will also be completed to determine indirect impacts and subsurface hydrology.

Appendix G

Travel Demand Modeling Strategy and Methodology Memorandum



MEMORANDUM

TRI·COUNTY ACCESS | LAKE MCHENRY COOK

Travel Demand Modeling Strategy and Methodology

PREPARED FOR:	Illinois Tollway
COPY TO:	IDOT, CMAP, FHWA
PREPARED BY:	CH2M
DATE:	February 14, 2018
VERSION NO.:	FINAL

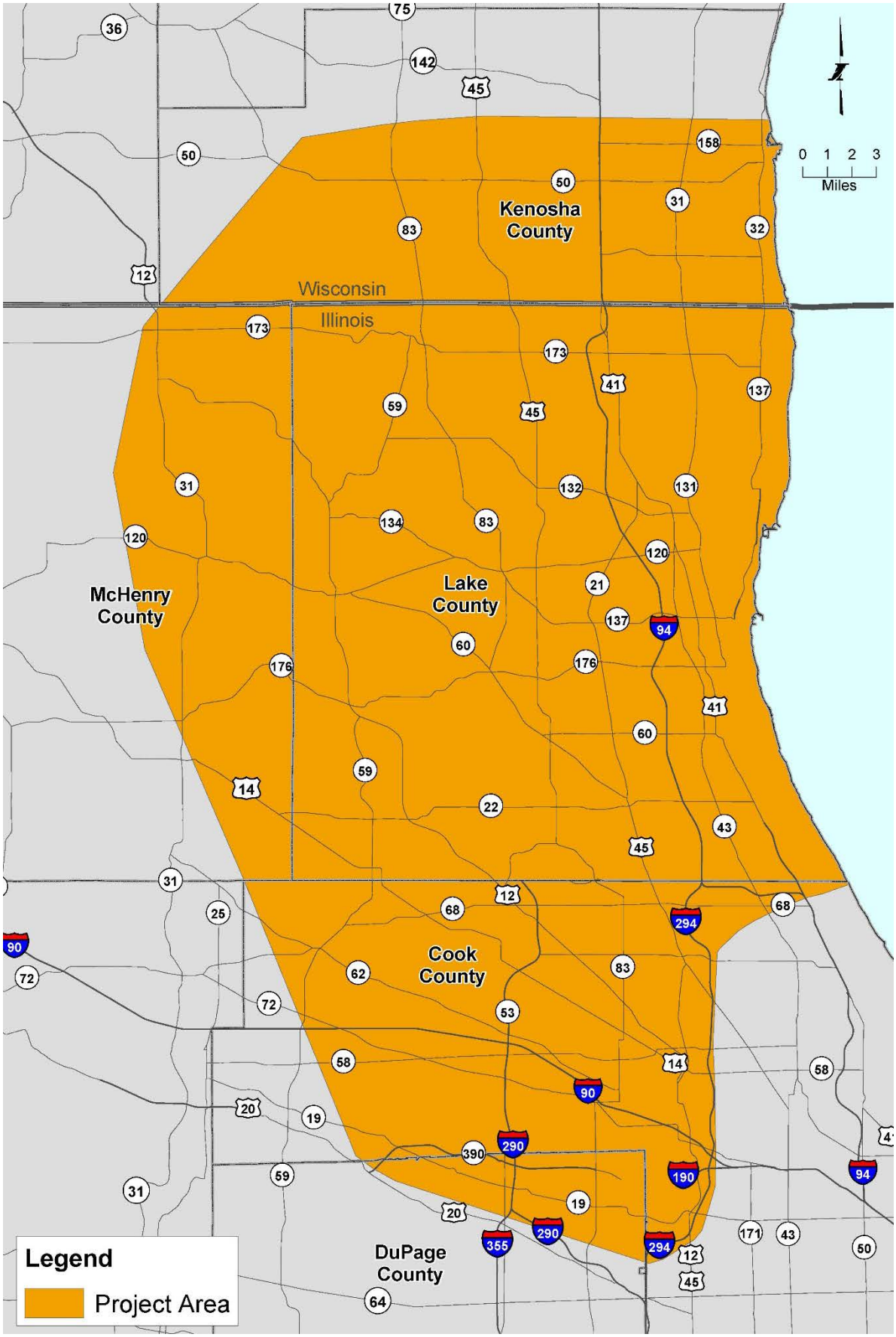
This memorandum documents considerations and strategies for developing the sub-area focus travel demand model that will be used to evaluate multimodal travel demand characteristics and to support transportation performance studies for the Tri-County Access (TCA) Project. The proposed approach takes advantage of the existing capabilities of the Chicago Metropolitan Area Planning (CMAP) travel model (i.e., the regional travel model) to develop a sub-area focus model for the Project. The intent of the sub-area focus model is to increase understanding of travel patterns and origin-destination (OD) trip exchanges within the Project area. The CMAP travel model process, procedures, and data will be used to refine the TCA Project travel demand model to provide model outputs to match the project requirements.

Project Area

The Project area for the TCA Project, as shown on Figure 1 (Page 2), is the overall area within which transportation problems and their potential solutions will be investigated. The Project area encompasses Lake County, northern Cook County, and eastern McHenry County, Ill, as well as a small portion of DuPage County, Ill. It also includes southern Kenosha County, Wisconsin. The Project area is generally bounded by Kenosha, Wisconsin, to the north, the Interstate 290 (I-290)/I-355 system interchange to the south, the Illinois Route 31 corridor to the west, and the Tri-State Tollway (I-294) extending to Lake Michigan to the east. The Project area boundaries are defined by travel characteristics in the northwest portions of the Chicago metropolitan area.

The range of alternatives to be considered will depend on travel performance characteristics related to the Project area defined for the purposes of the study. The Project area will be used to identify and evaluate travel demand and performance characteristics for alternatives under consideration. Network impacts and land use assumptions specific to alternatives will have regional implications, and the Project area will be used to assess regional impacts of the alternatives considered.

Figure 1. TCA Project Map



Travel Demand Modeling and Forecasting Strategy

The proposed travel demand modeling strategy is designed to take maximum advantage of the CMAP regional travel model framework and model resources while providing the necessary refinements to effectively address more detailed considerations in the Project area for the TCA Project.

Three major strategies will be used to accomplish the development and implementation of the travel demand model for the Project:

1. The Project team will use the CMAP (2016/2017) existing travel demand information and synthesize overall travel demand characteristics and travel performance for the Project area. The initial existing conditions analyses will be used as a starting point for performing a robust assessment of systemwide travel demand issues and travel characteristics for the Project area.
2. The Project team will refine traffic analysis zones and transportation networks within the Project area to represent more details of the street network and connections (centroid connectors), and to improve access and egress locations. The refinements will support a detailed assessment of travel performance within the Project area and will provide the Project team with a robust TCA Project travel demand model to evaluate travel performance and associated impacts. CMAP zone boundary definitions are adequate to support regional planning needs. However, refinement to zonal characteristics for Project studies will be used to support better understanding of localized travel performance related to alternatives within the Project area. The network refinement and zone disaggregation process will maintain boundary integrity between the Project area zone definitions and the CMAP zone definitions to maintain seamless integration between the CMAP model and the TCA Project travel demand model.

   To retain sensitivity to changes in regional traffic movements related to the Project, the Project area refinements will be embedded within the larger CMAP regional model. Network enhancements and traffic analysis zone refinements will be contained within the framework of the CMAP regional model.
3. Traffic assignments for both existing and future forecasts (2050) will be enhanced by establishing an existing baseline set of OD trip tables. This will be accomplished by adjusting the existing base CMAP trip tables (after expansion to the new zone system) to better match observed traffic volumes using a process known as “Link-OD Estimation.” This process will be conducted by specific time period (as defined by the CMAP model) and by specific vehicle modes (autos and three truck classes: light, medium, and heavy trucks). Count, speed, and travel time data will be assembled for most highways and streets in the Project area and for major facilities (freeways and select state highways) in the CMAP region outside the Project area. The CMAP regional-level data will be used to review consistency with regional traffic patterns that influence the Project area.

This process will provide the necessary focus on more detailed and refined forecasting in the Project area while retaining both sensitivity to potential regional traffic influences and a high degree of compatibility with the data to be imported from the CMAP regional model.

Methodology

Data Needed/To Be Collected

A comprehensive traffic database will be assembled to support the development and implementation of the travel demand modeling for the TCA Project. Readily available traffic count data from the Illinois Department of Transportation (IDOT), Illinois Tollway, Lake County, Cook County, and McHenry County will be assembled to represent time-of-day traffic counts for both the larger sub-regional area and the focused sub-area. In addition, field data collection efforts to gather specific turning movement counts at critical intersections will be performed to support traffic operational analyses within the focused sub-

area. As part of the sub-area model calibration and validation efforts, an assessment of speed and travel time information will be gathered using third-party data sources such as INRIX and/or HERE to provide a robust assessment of travel performance characteristics of the existing system. A comprehensive Geographic Information System (GIS) database will be developed, maintained, and continually updated to support the data needs for travel demand modeling.

Modeling Platform

The travel demand model development for the Project will be performed using TransCAD 7.0. The modeling platform will be developed to be compatible with the CMAP EMME platform for data management and exchange capabilities. TransCAD was chosen over the native CMAP EMME environment due to its GIS-style interface and available tools that can help speed and facilitate development of the model. TransCAD provides a seamless integration with the ArcGIS environment, and the Project team will take advantage of the suite of capabilities to integrate the GIS database and the travel demand modeling components of the Project.

Travel Demand Modeling Implementation

Implementation of the model can be broadly divided into five categories:

1. Traffic count database development
2. Network definitions and traffic analysis zone refinements
3. Trip table expansion, factoring, and adjustments
4. Traffic assignment
5. Travel performance measures, evaluation, and reporting

The processes that make up each of these categories will continually be refined and updated as the Project progresses. However, the basic steps, expected parameters, and input/output relationships for each category can be identified and described in broad terms. These five categories are described in the sections below.

The processes are being incorporated into an operational framework to facilitate and automate the use of the model for forecasting. Travel model data from CMAP will be obtained in the native CMAP EMME format and will be translated into the TransCAD environment. The data transfer from CMAP for the 2016/2017 existing condition has been completed, and data exchange for additional supporting information between CMAP and the Project team will continue, specifically as it relates to the ON TO 2050 Regional Transportation Plan process.

Category 1: Traffic Count Database Development

The traffic count database development will be a key component of model development, calibration, and validation, as well as identification of ongoing needs for the traffic operational analyses for the Project. A traffic database (GIS-based) will be developed to gather and maintain extensive traffic count information. Hourly traffic data will be collected for a typical weekday 24-hour period, by direction and by vehicle class. Data will be gathered in the field and will be used along with existing IDOT and Wisconsin Department of Transportation count information, Illinois Tollway count data, and data from Counties to develop the count database system.

The count database will include locations on all major facilities, including freeways/interstates, tollway facilities, and major and minor arterials within the Project area, along with counts on freeways/interstates and tollway facilities within the larger CMAP regional area.

The traffic count data will be used to support the Link-OD adjustment process and to validate the 2016/2017 existing base year sub-area focus model, thereby optimizing the ability of the travel model to

replicate existing traffic conditions. It is important to note that the Link-OD adjustment is dependent on the extensiveness and quality of the count data available for the process.

Category 2: Network Definitions and Traffic Analysis Zone Refinements

The basic network inputs for the model will come from two sources. The first and basic source is the network definitions established by CMAP and used for the regional travel demand model development process. This source will be used to provide geographic and attribute definition for the majority of the regional network in the Project area. Specific time-period links in the 2016/2017 base year network will be identified and flagged using time-period attributes in the master highway network. Changes and additions needed to represent future networks will be derived in a similar fashion and supplemented by updates from the CMAP Transportation Improvement Program database.

The second source of data is additional new network coding of more detailed streets and zonal access (centroid connectors) in the Project area using the IDOT IRIS database and Google Maps. Since the most of streets within the Project area are already part of the CMAP model, additional coding will be mostly limited to adding centroid connectors. The additional coded network links will be added to the master highway network file, along with all necessary link and node attributes flagged to identify the presence or absence of specific links in each scenario. Use of the master database concept will eliminate the need to recode the travel demand model elements in each time-period scenario and will facilitate automation of CMAP's eight time-period-assignment processes. A detailed working paper describing the network development process and methodology will be provided as an appendix to the *Travel Demand Modeling and Traffic Forecasting Technical Report* after the model development task has been completed.

The proposed approach will refine the CMAP traffic analysis zones by disaggregating zones to better represent land use patterns within the Project area. The Project area zones will be split within the CMAP zone boundary structure to establish easy data manipulation and transfer between Project area zones and CMAP zones. On the edges of the Project area, zones will be split to provide a buffer around the Project area and to ensure reasonable distribution among the roadways entering and exiting the modeled area. The remainder of the CMAP zone system outside the edges of the Project area will be utilized "as-is" to maximize compatibility and simplify data import and export between the CMAP model and TCA Project travel demand model. The underlying basis of splitting zones will be existing aerial coverage and roadway connectivity, which will help define land use characteristics and physical barriers to traffic movement within the Project area. Once new Project area zone boundaries are identified, socioeconomic data from the parent CMAP zones will be allocated to Project zones primarily through review of aerial imagery identifying patterns of development within the zone and percentage of area represented by the Project area zone boundary. The data disaggregation and reallocation process will use existing CMAP socioeconomic zone boundary definitions and data inputs.

A detailed working paper describing the process and methodology, along with the table showing correlations between the Project area zone system and the CMAP zone system, will be provided as an appendix to the *Travel Demand Modeling and Traffic Forecasting Technical Report*.

Note that no additional entry and exit stations will be defined for the Project. Existing links along the boundary of the CMAP regional model will be retained "as-is" to serve as entry and exit points to the sub-area focus model. Network and attributes from the CMAP model extending into portions of southeast Wisconsin will be maintained to provide a consistent set of point-of-entry links for the sub-area focus model. In addition, necessary adjustments, as needed, will be incorporated with the Southeast Wisconsin Regional Planning Commission socioeconomic and travel demand data that will represent entry and exit points into the sub-area model for the Project.

Category 3: Trip Table Expansion, Factoring, and Adjustments

The regional trip tables for existing conditions (2016/2017) received from CMAP will require three transformations before they can be used as input to the traffic assignment process, which will ultimately generate a 2016/2017 base-year existing model for the Project area:

1. Trip table entries for the CMAP regional model zone system will be expanded to represent the additional zones in the Project area travel demand model.
2. Factors used to allocate daily vehicle mode trips to time periods and specific vehicle classes as part of the CMAP modeling process will be applied to perform the same allocations for the TCA Project travel demand model.
3. This expanded set of trip tables will be input to the Link-OD adjustment process to generate vehicle-mode and time-period-specific traffic volumes that better match the input traffic count data to modeled volumes within the influence of the Project area.

Once the expanded and adjusted trip tables are created, they will be assigned to the existing network to verify model assumptions, operations, and traffic volumes. The process of trip table factoring and adjustments will be performed for existing conditions, 2050 No-Action, and alternatives to be considered for the Project. The four-step factoring and adjustment process is outlined below.

Step 1: Existing Base Year (2016/2017) Trip Table Development

A spreadsheet-based application, along with the TransCAD-based matrix disaggregate process, will be used to expand the existing CMAP regional travel model trip tables, to translate socioeconomic quantities (i.e., population, households, and employment), to generate trips, and to allocate parent-zone trips to sub-zones. CMAP procedures for auto occupancy factors and time-of-day allocations will be applied to generate separate trip tables by vehicle class. The result will be a 2016/2017 base-year sub-area focus trip table by time period and vehicle classes specific to the TCA Project.

The Link-OD estimation technique establishes reasonable consistency between observed and model-estimated traffic volumes within the Project area. The Link-OD estimation uses an iterative process built around traffic assignment to achieve convergence with the input traffic count data. The process used in this Project will replicate the procedures used for CMAP assignments. This process will adjust traffic volumes to match time-period and vehicle-class counts, allowing better correlation between actual and modeled traffic volumes and a more accurate understanding of diurnal traffic patterns. This process will be applied for specific time periods, so modeled traffic volumes in the peak period will accurately represent speed and traffic counts. Trip tables resulting from the zone expansion process will be used for the link-OD estimation in conjunction with the traffic-assignment procedures to develop the adjusted 2016/2017 existing base-year trip tables and loads to evaluate existing conditions.

Step 2: 2050 No-Action Trip Table Development

A discussion of the 2050 No-Action scenario is included in the *No Action Alternative Development Methodology Memorandum,* attached as a companion document to this memorandum. The memorandum outlines the development of the 2050 No-Action network methodology and scenario that will be used to test likely changes in network characteristics relative to the 2050 No-Action network. The 2050 No-Action network will be developed using input from the CMAP ON TO 2050 efforts for the TCA Project travel demand model. A specific 2050 No-Action socioeconomic and land use forecast will be developed to reflect the No-Action projects (i.e., highway and transit projects) within the Project area. The methodology for developing the 2050 No-Action socioeconomic forecasts and coordination related to projects included in the CMAP ON TO 2050 Regional Long-Range Transportation Plan is described in the *Socioeconomic Forecast and Allocation Methodology Memorandum,* attached as a companion document to this memorandum.

The 2050 No-Action forecasts will be developed by adjusting the ON TO 2050 CMAP Regional Long-Range Transportation Plan socioeconomic and land use data with input from CMAP. Socioeconomic assumptions related to the regionally significant projects from the ON TO 2050 process will be revised only if the ON TO 2050 Regional Long-Range Transportation Plan includes the proposed IL 53/IL 120 project. The 2050 No-Action socioeconomic forecast will only be adjusted and reallocated as it relates to the regionally significant projects within the influence of the Project area. The remainder of the CMAP

regional area will use the ON TO 2050 assumptions that align with the Regional Long-Range Transportation Plan.

The growth between the existing and the 2050 No-Action socioeconomic forecasts, along with travel demand model outputs related to the No-Action travel demand, will form the basis of growth between the existing condition and the 2050 No-Action planning horizon for the Project. The anticipated growth trip tables will be reallocated and distributed using the existing Link-OD adjusted trip tables to generate the 2050 No-Action trip tables for evaluating the impacts of the 2050 No-Action condition for the Project.

Step 3: Forecast Year (2050) Initial System Alternatives Trip Table Development

The 2050 No-Action trip tables will be the basis of the initial system alternatives development and evaluation process. However, alternatives that would result in facility class change or significant changes in accessibility will require adjustments to the 2050 No-Action trip tables to account for socioeconomic changes and for land use variations that would affect travel demand and trip distribution characteristics for the Project. A combination of alternative-specific socioeconomic allocation and 2050 No-Action trip tables will be used to support development and evaluation of the initial system alternatives.

For alternatives that would cause changes in trip distribution characteristics due to changes in accessibility, the 2050 No-Action trip tables will be refined using a supplemental model adjustment process that pivots off the 2050 No-Action datasets to account for variations in network accessibility. This adjustment will be integrated into the proposed process to account for growth. The adjustments will be represented as alternative-specific future trip tables that will be used to generate forecast travel volumes. The process will be applied for each of the eight time periods defined in the CMAP model to better forecast accessibility impacts related to time-of-day and direction-specific facility use.

A summary of trip length/trip cost frequency distribution for the 2050 No-Action trip tables, by vehicle type and time period, will be generated using the 2050 No-Action network. The frequency distribution will also be used with trip-ends for the expanded 2050 No-Action trip table, representing the sub-regional area, to generate distance decay (deterrence) functions.

The distance decay function will be applied as input to the gravity model distribution to estimate new trip OD patterns for the initial system alternatives. The new trip OD patterns will reflect refinements to facility type and access as part of the alternative. The new refined trip table representing changes in OD patterns due to the alternative will be used in the assignment process to generate vehicle class link loadings for the initial system alternative evaluation process.

The proposed approach will allow an accessibility-sensitive distribution to be performed for each alternative-specific scenario that represents a significant change in access. Use of the 2050 No-Action trip tables as a starting point will support the identification of trip distributions which reflect the traveling public's willingness to make trips of certain lengths and costs.

Forecast year trip-table development will be based on an incremental application process where the difference between the existing and 2050 No-Action trip tables results in a growth trip table. This will be used to generate 2050 forecast year trip tables showing travel demand. The forecast year trip tables will serve as input to the traffic assignment process to forecast travel demand for alternatives under consideration.

Step 4: Trip Allocation Assessments (Modal and Toll Considerations)–Initial System Alternatives

In addition to the base capabilities of generating 2050 forecast year trip tables and travel demand inputs, which represent growth between existing condition and 2050 planning horizon, an assessment of modal split and toll impacts on route choice behavior will be incorporated into the initial system alternatives analysis process. To address the need to account for modal changes, the following additional model capabilities are anticipated:

- **Develop and implement a pivot point modal diversion estimator within the sub-regional area travel demand model framework.** The pivot point modeling process will use the congested times as a basic input to assess change in modal characteristics for the initial system alternatives analysis process. The traffic assignment process will generate the estimated travel times and costs for highway and transit use based on system-level congestion parameters. The congested travel times will be used in place of free-flow times to reflect changes in network characteristics for alternatives under consideration and will be applied to the pivot point process. A re-estimation of transit impedances will be performed by building transit skims using the CMAP path-building process based on the level of transit investment for alternatives under consideration. The path-building process will account for transit network categorization (rail and/or bus) and related parameters used by the CMAP modeling process. Even though the pivot point modeling process is not identical to CMAP's modal split assessment procedures, the Project team anticipates that, for the purposes of initial system alternatives analysis, the procedure will generate reasonably similar results and will be consistent with general inputs and components of the CMAP process used for modal split estimation as part of the regional travel demand modeling effort.

  After the build alternatives are identified, the Project team will seek the support of CMAP to provide travel demand model runs that use the full complement of regional modal split procedures to support the build alternatives analysis process.

- **Refine the model-impedance handling to represent generalized costs to address tolls and costs related to route choice for initial system alternatives with tolling.** Model parameters will be adjusted to normalize the relationships between auto and transit travel and to provide an effective means to measure impacts of tolling on both route- and mode-choice behavior. These adjustments to the model will allow the Project team to effectively assess impacts of tolling for the initial system alternatives. Since the CMAP mode-choice models are based on generalized values, the formulation will be adapted to calculate assignment impedances for the purposes of forecasting travel demand for the initial system alternatives.

To support the operational effectiveness and implementation of model capabilities, model elements are being designed using GISDK scripts and interface for effective model application. In addition, a complementary, built-in documentation module will be included for managing the sequence of activities during the process.

Since the CMAP modeling procedure, through the model choice application process, is already based on generalized cost, the generalized cost formulations will be extracted and applied to support route choice, including impacts of tolls and normalized impacts of congestion on different modes. If managed lane-based alternatives are considered in the analysis, the adjustment to the generalized costs and tolls would simplify their effective representation and improve the quality of resulting forecasts. Similarly, specifications will be developed and scripted for a pivot point adaption of the CMAP modal choice models. This will also include scripting to iterate through mode-route choice and to measure convergence through assignment cycles.

It is anticipated that the implementation of the pivot point modeling approach will be performed in close collaboration with CMAP to represent the impacts of mode share for the initial system alternatives development and evaluation process.

Category 4: Traffic Assignment

The traffic-assignment process relies on a number of assumptions and parameters regarding how different vehicle classes are treated and how estimated congestion affects route choice. A multiclass traffic-assignment procedure will be followed for the Project. The traffic-assignment procedure will assign trips based on different vehicle classes, using a multiclass equilibrium assignment process by time-of-day slices used by CMAP. The multiclass assignment considers different sets of available routes, depending on class, to represent policies such as roadway characteristics (e.g., one-way/two-way),

vehicle class restrictions such as truck restrictions, and other vehicle parameters defined by class of the vehicle. The traffic-assignment procedure will use the full complement of volume-delay functions used in the CMAP model to align with the regional modeling framework. The highway traffic assignments will be performed for each of the eight time periods that match the CMAP time-period categories and four vehicle classes (i.e., auto, light trucks, medium trucks, and heavy trucks). Table 1 lists the CMAP time-period categories (i.e., stratifications). The link attributes used to drive these assignment functions will be taken directly from the CMAP data and translated to additional new links in the Project area, providing maximum compatibility with CMAP travel model outputs.

Table 1. CMAP Time Period Stratifications

Time Period	Duration
Off-Peak Period	8:00 p.m. to 6:00 a.m.
Pre-AM Peak Period	6:00 a.m. to 7:00 a.m.
AM Peak Period	7:00 a.m. to 9:00 a.m.
Post-AM Peak Period	9:00 a.m. to 10:00 a.m.
Mid-day Period	10:00 a.m. to 2:00 p.m.
Pre-PM Peak Period	2:00 p.m. to 4:00 p.m.
PM Peak Period	4:00 p.m. to 6:00 p.m.
Post-PM Peak Period	6:00 p.m. to 8:00 p.m.

Source: CMAP

With respect to transit assignment, transit shares will be estimated based on a set of matrix adjustments using the pivot point modeling process that will be applied to the outputs of the 2050 No-Action demand. Specific mode choice applications and model runs will not be performed within the sub-area focus model framework for the Project during the initial system alternatives analysis.

Adjustments requiring redistribution of trips to potential destinations, systemic changes in transit services, and other types of changes that could significantly affect regional distributions will require support from the CMAP model runs and will be based on specific transit-focused alternatives developed for the Project in conjunction with the roadway alternatives. As required, specific transit-focused alternatives will be run using the regional CMAP model by CMAP; the results will be used to provide the Project team a reasonable starting point for executing adjustments in the sub-area focus model for the Project area.

Similar to scenarios that require adjustments to trip distribution due to systemic changes in transit services, the build alternatives will require support from CMAP to produce alternative-specific travel demand runs that would account for the full complement of CMAP modal parameters for the build alternatives analysis.

A flow chart describing the travel demand modeling strategy and methodology is shown on Figure 2.

Category 5: Travel Performance Measures, Evaluation, and Reporting

A detailed set of performance measures will be calculated for the Project area using outputs from the TCA Project travel demand model. Appropriate performance measures will be used to evaluate transportation system performance. Performance evaluation results and methods from the CMAP regional modeling framework will be used to complement the evaluation results of the sub-area focus model.

Traditional traffic and travel performance measures will be calculated within the travel demand model and added to the link attributes. These measures are readily developed from the data produced in the loaded network and are generally link-based statistics that account for specific links on the network.

Performance measures that will be used to evaluate travel performance by specific time periods include but are not limited to:

*Vehicles Hours of Delay (VHD): Volume * (Congested Travel Time – Free-Flow Travel Time)*

*Vehicle Hours of Travel (VHT): Volume * Travel Time*

*Vehicle Miles of Travel (VMT): Volume * Distance Traveled*

Average Speed (Time-Period Specific): VMT/VHT

Although these measures are informative, the statistics are limited to link levels (e.g., specific corridors and routes) and thus provide only a limited understanding of the overall transportation network performance. In order to better represent and facilitate evaluation of the roadway network, summary statistics will be developed by aggregating the link data. Variables will be added to the roadway network that can identify specific routes and corridors of interest. Route codes, segment codes, location codes, and direction codes will be developed to identify corridors for analysis. Accessibility measures related to travel time to interchanges and interstates will be quantified to understand system gaps and connectivity issues.

Additional performance measures to assess corridor/system-level performance will be developed as part of the alternatives development and analysis methodology. As an example, the weighted average speed for each segment will be determined by the ratio of VMT on each link to the total VMT over the route segment and will account for exposure at different speeds along the route segments. In addition to these performance measures, a level of service will be computed based on average travel speed, and a weighted percent congestion measure will be calculated using weighting factors to reflect different degrees of congestion based on Highway Capacity Manual (Transportation Research Board 2010) procedures.

Additional detail regarding travel performance evaluation methods will be documented in the *Transportation System Performance Report* and in the *Initial System Alternatives Evaluation Report.*

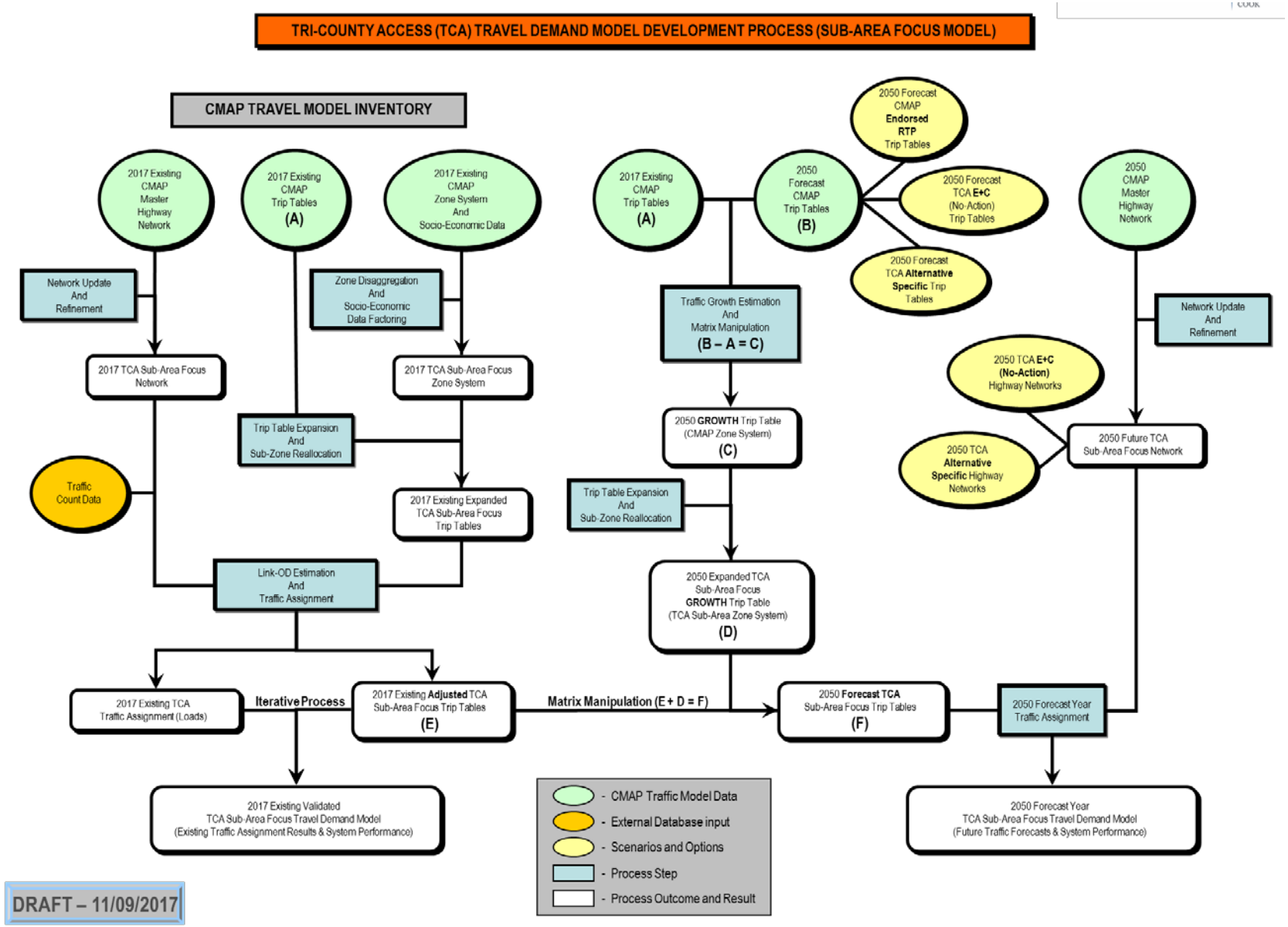


Figure 2. Travel Demand Modeling Strategy and Methodology Flow Chart

Transportation System and Demand Management (TSM/TDM) Strategies

The sub-area focus model is built on the CMAP model framework and uses outputs from the CMAP modeling process and procedures. The TSM/TDM strategies will be evaluated as complementary pieces to the roadway and transit alternatives considered for the Project. The TSM/TDM strategies are designed to maximize the efficiency of the existing and future transportation system by improving capacity on the local street system and reducing the effects of bottlenecks and chokepoints. These relatively low-cost, low-impact strategies are geared toward enhancing all alternatives under consideration. For example, TSM strategies include coordinated traffic signal timing to help relieve congestion, ramp metering to control the entry of vehicles onto access-controlled facilities, and intersection improvements to improve traffic circulation. TDM strategies promote carpooling, staggered work shifts, and workforce transportation management. Alternatively, specific TSM/TDM plans developed by major employment centers in the Project area can provide a framework and starting point to address changes in trip-making characteristics that will be included in the modeling process.

In conjunction with the alternatives development process, ongoing studies by IDOT, Illinois Tollway, Lake County, Cook County, and McHenry County that have recommendations for TSM/TDM strategies will be incorporated into the modeling process to quantify effectiveness within the Project area.

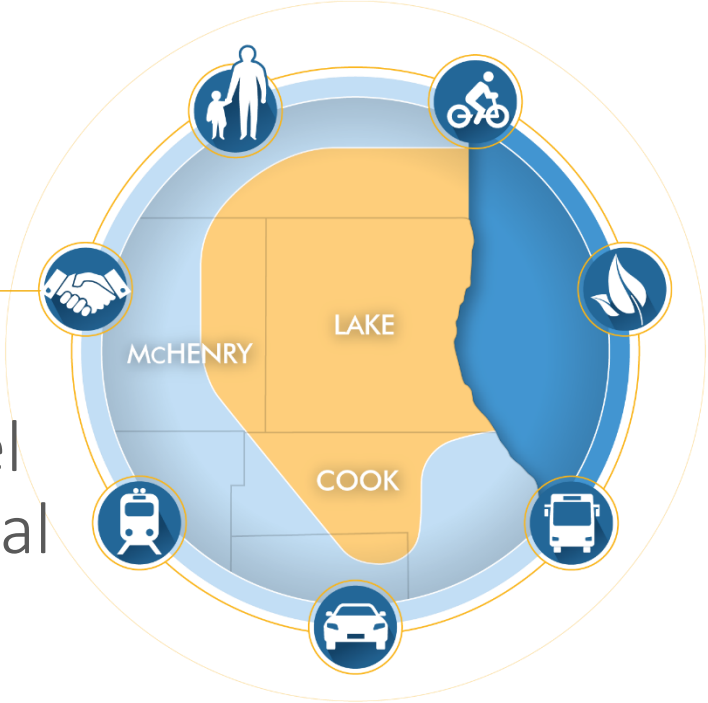
Build Alternatives Assessment and Evaluation

The travel demand modeling strategy will be continued for the build alternatives analysis. Travel demand modeling for the build alternatives will use data from the initial system alternatives as a starting point to generate build alternative-specific socioeconomic forecasts. In addition, the build alternative-specific population and employment forecast will be allocated to reflect location and access considerations along with type of employment potential. The development of the build alternatives forecasts will be coordinated with CMAP. CMAP will need to run the full complement of the its travel demand model parameters to represent regional travel demand and modal characteristics and to reflect the build alternatives for the Project.

Travel demand data and alternative-specific trip tables from the CMAP model runs will be utilized as a starting point in the travel demand modeling and evaluation of the build alternatives. The travel demand modeling strategy for the build alternatives will follow processes and procedures similar to those outlined in the Category 3, Category 4, and Category 5 sections above.

Appendix H

Travel Demand Modeling and Travel Forecasting Technical Report



TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Travel Demand Modeling and Travel Forecasting Technical Report

Prepared for

Illinois Tollway and Federal Highway Administration

Version 1 | Last Updated: November 21, 2019

1.0 Introduction and Methodology

1.1 Background

The Tri-County Access (TCA) Project is a comprehensive study undertaken to understand the Project study area transportation needs and identify potential transportation solutions to address the key congestion and mobility problems. The need for an improved transportation system in the Project study area has been the focus of planning and study since the 1960s.

This report provides details of the development and implementation of TCA travel demand model, which is refined based on the Chicago Metropolitan Agency for Planning (CMAP) regional model. This report includes a summary and overview of model inputs refinements, traffic data preparation, 2015 base year calibration, 2050 No-Build baseline scenario, as well as extensive details on technical methods used in travel demand modeling.

See *TCA Travel Demand Modeling Strategy and Methodology Memorandum* under separate cover for further information on TDM methodology.

1.1.1 Project Study Area Details

The TCA Project study area covers approximately 1,000 square miles in Illinois and Wisconsin. It includes three primary counties in Illinois, Lake County, eastern McHenry County and northern Cook County. The TCA Project study area also includes a small portion of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

Within Illinois, the Project study area is generally bounded by Lake Michigan to the east, the I-290/I-355 system interchange to the south (which includes the Village of Schaumburg and O'Hare International Airport), and Illinois Route 31 (IL 31) to the west (which includes the eastern portion of McHenry County). Within Wisconsin, to address increasing travel between Lake County and Kenosha County, the northern limit of the Project study area is the Kenosha and Racine county border.

Figure 1-1 maps the TCA Project study area. The curly shape in grey is the conceptual TCA Project study area for visual purpose only, because it is impractical and unnecessary to clip all traffic data along the curve. All actual traffic analysis in the TCA project were based on an analyzing area shown in blue boundary. It is an aggregation of select traffic analysis zones (TAZs) from the CMAP model. Therefore, TCA Project study area refers to this TCA analyzing area for rest of this report.

1.1.2 Philosophy and Approach

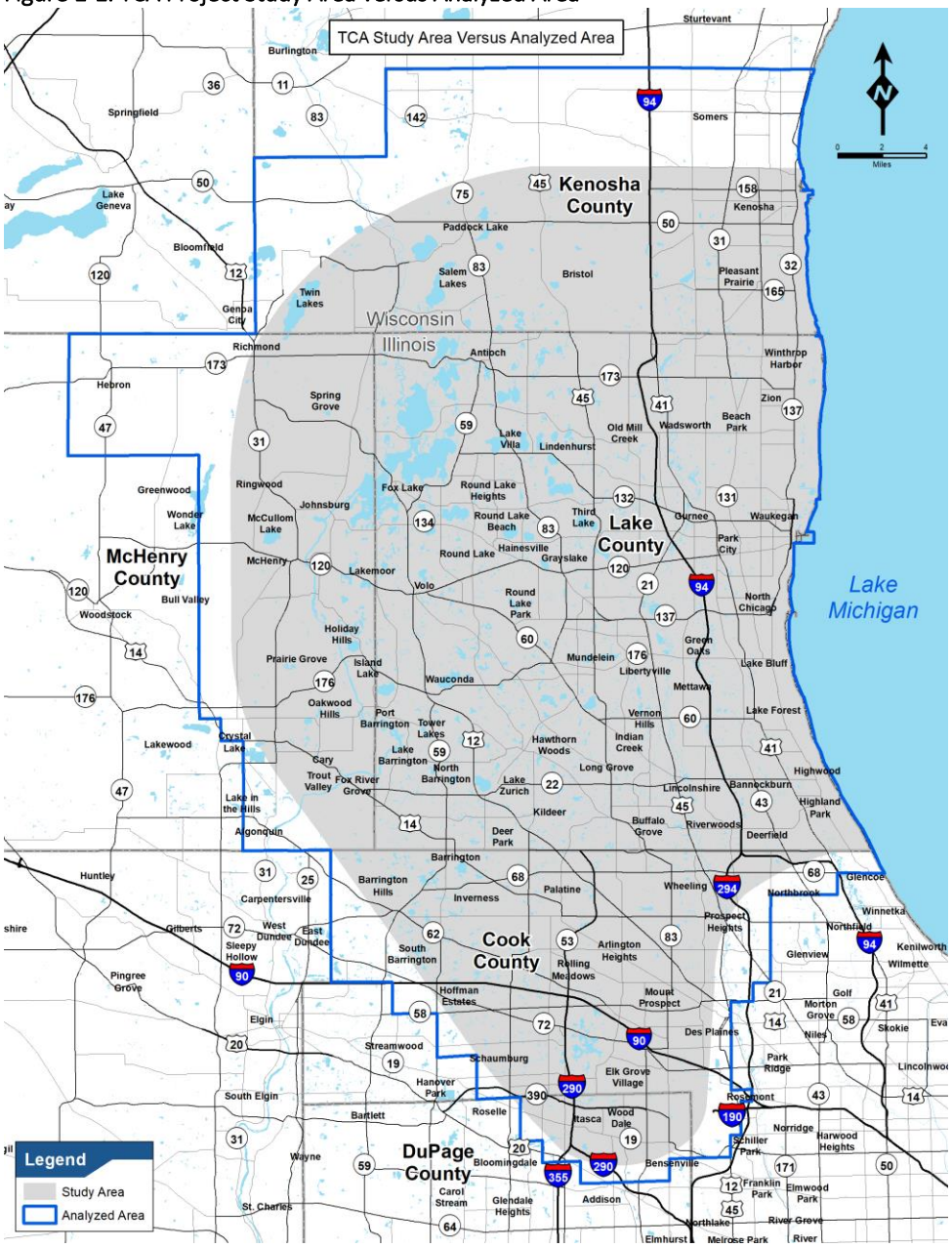
CMAP is the award-winning regional planning organization for the northeastern Illinois counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will. CMAP is responsible for maintaining a sophisticated regional trip-based travel demand forecasting model that has been developed and calibrated to evaluate long-range regional planning strategies and estimate transportation contributions to regional air quality. The CMAP model has been extensively documented and actively used in northeastern Illinois region as a planning tool with proven value for over 50 years.

The TCA model adopted the procedures, database, and known capabilities of the CMAP model. This approach ensures that the TCA model generates traffic pattern and future year forecasts that are generally consistent with the CMAP model at regional scale.

Additional refinements and functionalities were added to TCA model to improve localized accuracy of the travel forecasting process within TCA Project study area. The TCA 2015 base year model was calibrated to match

observed data from field counts and online data sources. 2050 future year forecasts were generated by adding 2015 to 2050 growth estimated from CMAP trip tables onto the TCA 2015 calibrated model.

Figure 1-1. TCA Project Study Area versus Analyzed Area



1.1.3 Model Overview

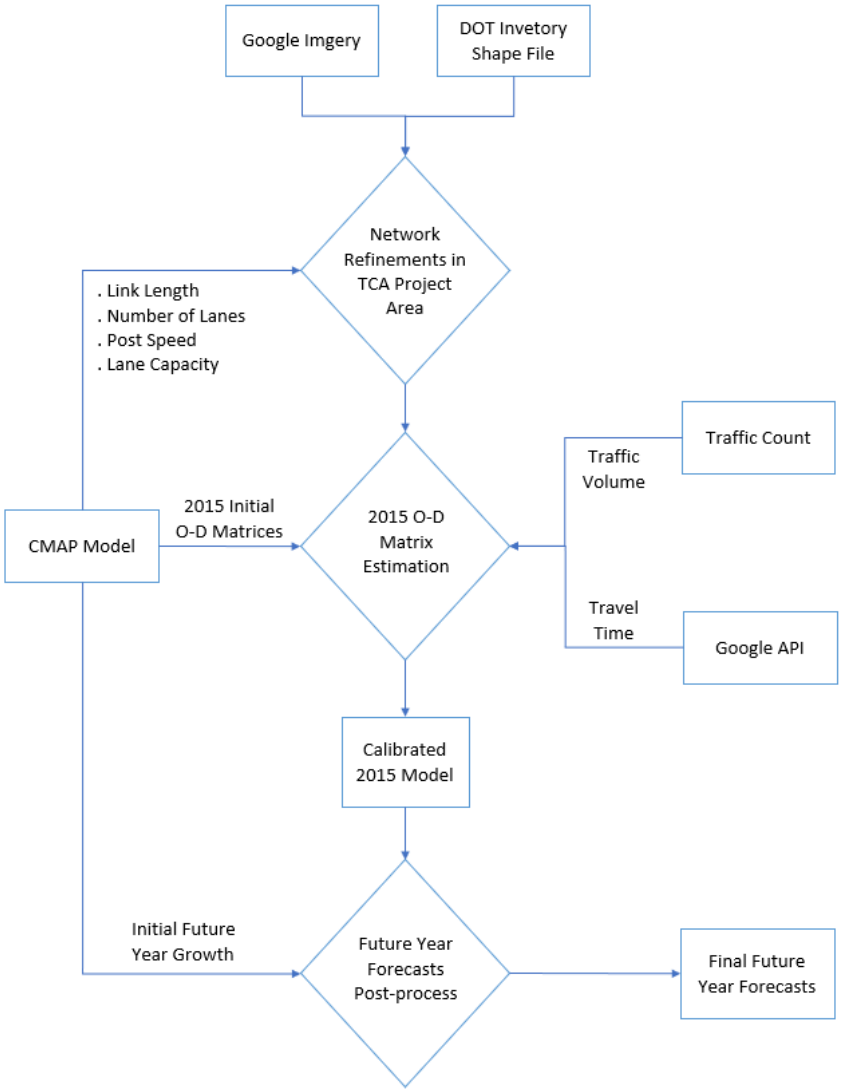
The TCA model was designed to address the full range of needs expected in multimodal forecasting for localized corridors and projects in the greater CMAP region. The model was designed to accept the introduction of more detailed network and area representations in the Project study area while retaining information and assumptions of the CMAP model for the surrounding area. The following approach allows for more locally refined forecasts:

- O-D matrix estimation (ODME) was used to adjust base year demand (trip tables) to better match observed volume data from field counts. The ODME process was implemented by eight time periods in one day as defined in CMAP model and also by multiple vehicle classes.

- CMAP model data were used directly to project the expected travel growth by applying the delta between CMAP base and forecast year tables. Then the growth was applied to calibrated base year trip demand to obtain cumulative future year demand.
- Model processing and results are based on approximating generalized costs of travel to allow evaluation of toll impacts and other cost incentive schemes.
- The model is designed around an integrated multimodal network. This provides a framework for evaluation of a full range of multimodal alternatives and policies.
- A close alignment to the structure of the CMAP modeling process ensure TCA model outputs generally consistent travel pattern and future year forecast with CMAP at regional scale.
- The model interface was built on a series of customized menus and uses easily modifiable data tables and templates to provide maximum flexibility to adjust and update policy and other assumptions to be tested.
- To ensure the TCA model produced accurate results and could adequately support the forecasting needs of this project, an extensive validation of model outputs was performed.

Figure 1-2 shows the data sources and process flow chart of TCA model.

Figure 1-2. Flow Chart of TCA Model



2.0 TCA Travel Demand Model Development

The development and implementation of the TCA model can be presented in following categories:

- Existing network development
- Traffic count database development
- Origin-Destination (O-D) estimation and traffic assignment
- Travel performance measures, evaluation, and reporting
- Future year forecasts preparation

The TCA travel demand model was developed on the Caliper TransCAD modeling platform. TransCAD was chosen over CMAP native INRO EMME environment due to its data and database management capabilities, its geographical information system (GIS) interface, and customized tools developed for other projects used to facilitate development of this model.

In October 2018, CMAP published 2018 Quarter 3 (C18Q3) travel demand model data sets for their air quality conformity analysis. Published model scenarios include a base year of 2015 and horizon years of 2020, 2025, 2030, 2040 and 2050. (https://datahub.cmap.illinois.gov/). Key model data such as highway network and demand matrices were published in native CMAP EMME format and translated into TransCAD format to be used in TCA project.

2.1 Existing Network Development

CMAP's planning region includes 7 counties in Northeastern Illinois: Cook, DuPage, Kane, Kendall, Lake, McHenry and Will Counties. To better understand interaction with surrounding area, CMAP's regional model extends into another 5 counties in Illinois (Boone, DeKalb, Kankakee, Winnebago and Grundy), 3 counties in Indiana (Lake, LaPorte and Porter) and 3 counties in Wisconsin (Kenosha, Racine and Walworth). CMAP C18Q3 model covers more than 10,000 square miles with 1,944 traffic analysis zones and over 50,000 roadway links. Figure 2-1 shows the coverage of CMAP model and TCA Project study area.

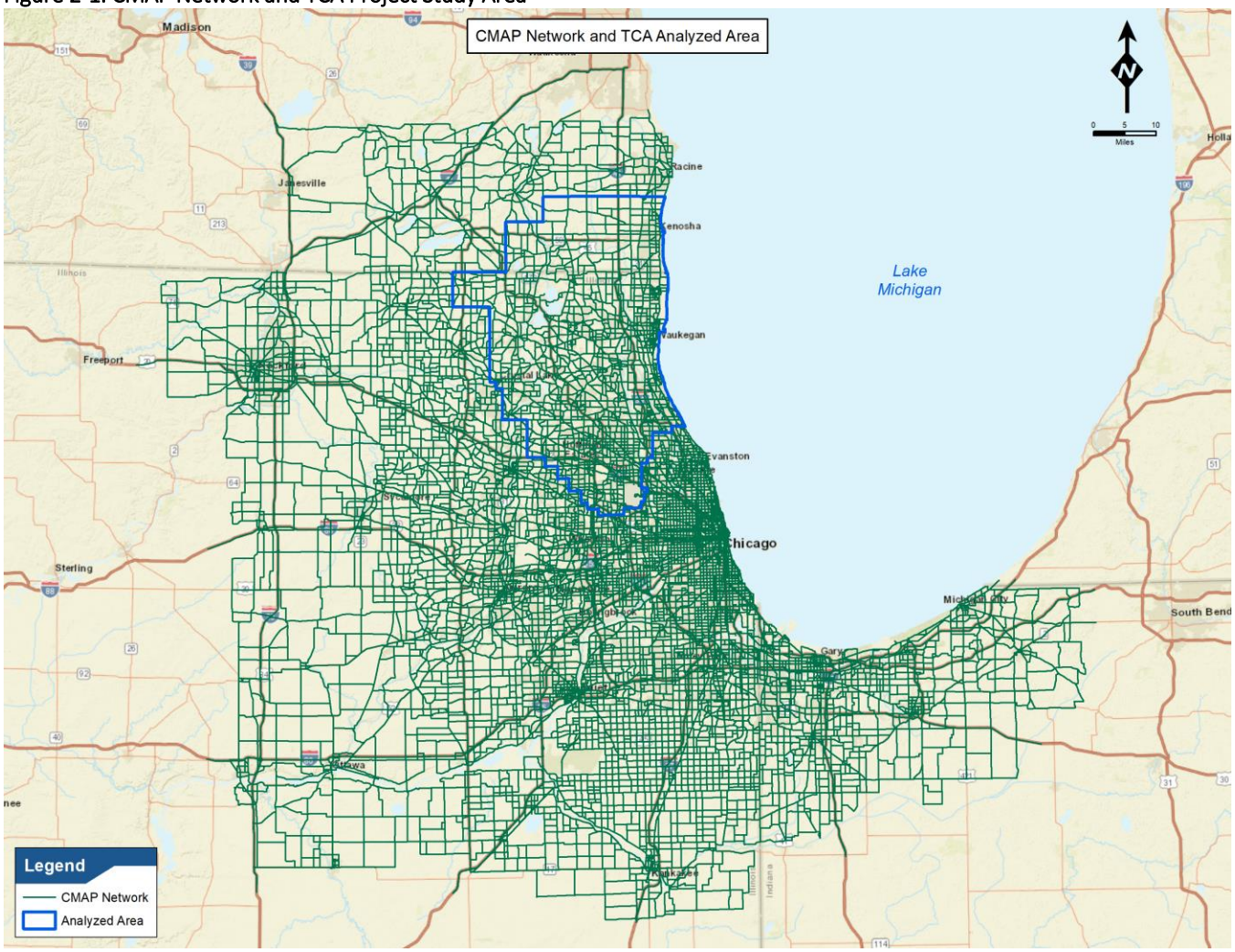
2.1.1 Network Refinements in TCA Project Study Area

The C18Q3 model provides a very detailed highway network for the CMAP planning region. The network consists of 51,132 links and 18,263 nodes, including the majority of collectors and higher classified arterials and a considerable amount of local roads. Therefore, the TCA model adopted the CMAP network structure and performed link attribute refinements within the TCA Project study area. Key attributes imported from the CMAP network are:

- @lanes - number of driving lanes for each network link
- @VDF - volume delay function to define how travel time reflects to the increase of congestion
- @toll - toll value in dollars, only exists on toll links
- @speed – post speed in mph, used to calculate free flow speed and travel time.
- @ftime – free flow time in minutes, which reflects the travel time under uncongested condition
- @emcap - lane capacity per lane per hour, representing level of service E
- @FClass – CMAP model functional classification

The number of lanes and post speed within TCA Project study area were reviewed and corrected against Google Earth imagery and roadway inventory data sets downloaded from the Illinois and Wisconsin Department of Transportation (DOT) websites.

Figure 2-1. CMAP Network and TCA Project Study Area



2.1.2 Additional Attributes for Traffic Analysis

Several attributes were added to the original CMAP network for traffic analysis. Extra attributes include, but are not limited to, Project study area, district, route number, road segment, major route, Illinois Department of Transportation (IDOT) functional class, peer group, jurisdiction, safety area, and district, as described below:

- Project study area: Flag attribute to identify network links that are located within the TCA Project study area.
- District: To better understand internal traffic pattern, TCA Project study area is divided into four quadrants, Western, Eastern, Southern and Northern. Districts are generally aggregated from township boundaries.
- Route number: Data attribute containing the route number of freeways and principal arterials within the Project study area. It does not include the designation of state or US route, e.g., 120 (representing IL 120).
- Road segment: Generic link names describing the beginning and end of a segment that is part of a route, e.g., IL 59 to US 45 (segment along IL 120).
- Major route: Binary data attribute used to identify major routes within the Project study area.

- IDOT functional classification: Roadway functional classification from the Illinois Department of Transportation. It is only used within the TCA Project study area to replace the CMAP functional class in the summary of model outputs. Definitions of IDOT functional classification and their related volume delay function (VDF) codes from the CMAP model have been listed in Table 2-1.

Table 2-2. IDOT Functional Classification

Index	Functional Classification	CMAP Volume Delay Function
1	Interstate	Freeway (VDF=2)
2	Freeway & expressway	Expressway (VDF=4)
3	Other principal arterial	Arterial street (VDF=1)
4	Minor arterial	Arterial street (VDF=1)
5	Major collector	Arterial street (VDF=1)
6	Minor collector	Arterial street (VDF=1)
7	Local road	Arterial street (VDF=1)

- Peer group: Data attribute used to classify roadways into homogeneous groups with similar geometric characteristics, e.g., urban two-lane roads, urban multilane divided roads.
- Jurisdiction: Data attribute used to describe whether the link belongs to the state or local system. The jurisdictional responsibility states whether the segment needs to be maintained by the state or a local agency.
- Safety area: Links that are included as part of the safety analysis.
- District: The TCA traffic analysis zones were aggregated into a set of 32 districts to analyze broader traffic patterns and other travel performance measures in the Project study area. The districts allowed the general O-D patterns within the Project study area and to/from other parts of the region to be more easily represented and analyzed.

2.2 CMAP Trip Table Factoring

C18Q3 model data published by CMAP provides regional daily person trips in production-attraction (PA) format. To be useable in the TCA assignment model, person trip tables need to be converted to vehicle trips in origin-destination (O-D) format and daily trips also need to be allocated into time periods. Factors used in the conversion process are differentiated by following variables.

- Trip purposes, including home based work (HBW), home based other (HBO) and non-home based (NHB)
- Destination type, including airport, central business district (CBD) and other non-CBD area
- Trip direction, from trip production to trip destination or the opposite direction
- Vehicle occupancy rate, including single occupancy vehicle (SOV), high occupancy vehicle with 2 persons (HOV2), high occupancy vehicle with 3 plus persons (HOV3). HOV3 trips are assumed to have different vehicle occupancy rate by trip purpose.
    - HOV3 HBW trips occupancy rate = 3.37
    - HOV3 HBO trips occupancy rate = 3.35
    - HOV3 NHB trips occupancy rate = 3.45

Table 2-2 lists conversion parameters that were obtained from CMAP.

Table 2-2. Trip Table Conversion Factors

PURPOSE	Destination	Direction	Occupancy	OP	PRAM	AM	PSAM	MD	PRPM	PM	PSPM	Daily
HBW	CBD	To	SOV	0.12	0.10	0.32	0.07	0.15	0.08	0.09	0.07	1.00
HBW	CBD	To	HOV2	0.13	0.09	0.31	0.07	0.15	0.08	0.10	0.08	1.00
HBW	CBD	To	HOV3	0.13	0.09	0.31	0.07	0.15	0.08	0.10	0.08	1.00
HBW	CBD	From	SOV	0.17	0.03	0.07	0.03	0.13	0.12	0.27	0.19	1.00
HBW	CBD	From	HOV2	0.17	0.03	0.07	0.03	0.15	0.18	0.26	0.13	1.00
HBW	CBD	From	HOV3	0.17	0.03	0.07	0.03	0.15	0.18	0.26	0.13	1.00
HBW	Non-CBD	To	SOV	0.12	0.10	0.30	0.06	0.17	0.09	0.09	0.07	1.00
HBW	Non-CBD	To	HOV2	0.13	0.09	0.31	0.07	0.15	0.08	0.10	0.08	1.00
HBW	Non-CBD	To	HOV3	0.13	0.09	0.31	0.07	0.15	0.08	0.10	0.08	1.00
HBW	Non-CBD	From	SOV	0.15	0.03	0.07	0.03	0.16	0.17	0.27	0.13	1.00
HBW	Non-CBD	From	HOV2	0.17	0.03	0.07	0.03	0.15	0.18	0.26	0.13	1.00
HBW	Non-CBD	From	HOV3	0.17	0.03	0.07	0.03	0.15	0.18	0.26	0.13	1.00
HBW	Airport	To	SOV	0.21	0.09	0.15	0.06	0.19	0.16	0.09	0.06	1.00
HBW	Airport	To	HOV2	0.13	0.09	0.31	0.07	0.15	0.08	0.10	0.08	1.00
HBW	Airport	To	HOV3	0.13	0.09	0.31	0.07	0.15	0.08	0.10	0.08	1.00
HBW	Airport	From	SOV	0.25	0.04	0.09	0.04	0.14	0.14	0.19	0.12	1.00
HBW	Airport	From	HOV2	0.17	0.03	0.07	0.03	0.15	0.18	0.26	0.13	1.00
HBW	Airport	From	HOV3	0.17	0.03	0.07	0.03	0.15	0.18	0.26	0.13	1.00
HBO	Non-CBD	To	SOV	0.17	0.03	0.10	0.04	0.22	0.15	0.16	0.13	1.00
HBO	Non-CBD	To	HOV2	0.24	0.03	0.07	0.03	0.19	0.14	0.15	0.15	1.00
HBO	Non-CBD	To	HOV3	0.24	0.03	0.07	0.03	0.19	0.14	0.15	0.15	1.00
HBO	Non-CBD	From	SOV	0.11	0.04	0.15	0.07	0.24	0.13	0.14	0.12	1.00
HBO	Non-CBD	From	HOV2	0.12	0.04	0.13	0.06	0.21	0.12	0.17	0.16	1.00
HBO	Non-CBD	From	HOV3	0.12	0.04	0.13	0.06	0.21	0.12	0.17	0.16	1.00
NHB	Non-CBD	To	SOV	0.10	0.03	0.09	0.05	0.32	0.15	0.15	0.10	1.00
NHB	Non-CBD	To	HOV2	0.13	0.03	0.08	0.04	0.27	0.15	0.16	0.14	1.00
NHB	Non-CBD	To	HOV3	0.13	0.03	0.08	0.04	0.27	0.15	0.16	0.14	1.00
NHB	Non-CBD	From	SOV	0.10	0.03	0.09	0.05	0.32	0.15	0.15	0.10	1.00
NHB	Non-CBD	From	HOV2	0.13	0.03	0.08	0.04	0.27	0.15	0.16	0.14	1.00
NHB	Non-CBD	From	HOV3	0.13	0.03	0.08	0.04	0.27	0.15	0.16	0.14	1.00

2.3 Traffic Count Database

2.3.1 Data Sources of Traffic Count

A traffic count database was developed to compile and maintain extensive traffic count information from Illinois DOT, Wisconsin DOT and Illinois Tollway. The detailed data sources were:

- Illinois DOT Traffic Count Database System (TCDS)
- Illinois DOT Automatic Traffic Recorders (ATR) data
- Illinois DOT Highway Data Management (HDM) data

- Illinois Roadway Information System (IRIS)
- Illinois State Tollway Highway Authority (ISHTA) 2015 Lane Closure Guide
- Wisconsin DOT TransPortal Hourly Traffic Data

A total of 2,574 count records from all different data sources were used to calibrate and validate the TCA 2015 baseline model. Table 2-3 summarizes the sample size of traffic counts by IDOT functional classification. Figure 2-2 provides a snippet from the traffic count database. Locations of these counts are mapped in Figure 2-3. The complete inventory of traffic count location is provided in Attachment I.

Table 3-3. Count Data Source

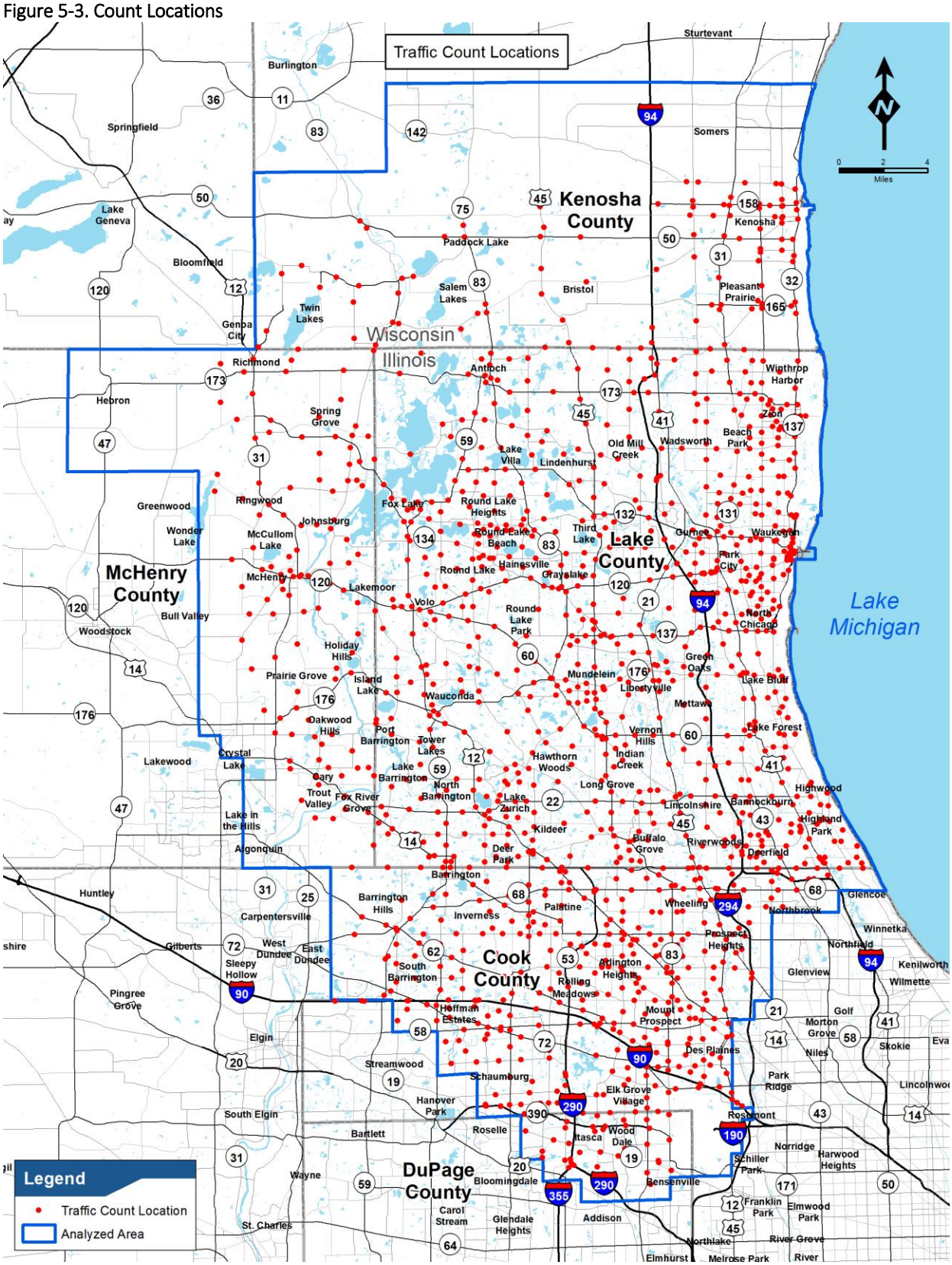
Functional Class	Illinois				Wisconsin	Total
	Cook	DuPage	Lake	McHenry	Kenosha	
Freeway/Expressway	42	8	30	0	2	82
Principal Arterial	260	16	456	64	98	894
Minor Arterial	201	41	618	60	84	1,004
Collector	153	11	345	78	7	594
Total	656	76	1,449	202	191	2,574

Figure 4-2. Traffic Count Database

Auto			OP						PreAM	AM Peak		PosAM	MD				PrePM		PM Peak		PosPM		OP				
MAP_ID	EMME_ID	DIRECTION	H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	Total
300101	12720-8902	1-WAY	36	18	17	25	65	239	401	494	308	211	225	244	258	260	286	346	384	375	324	257	199	152	98	62	5285
300101	8902-12720	1-WAY	38	21	15	20	23	73	172	334	245	222	218	235	267	265	359	463	589	554	381	266	184	144	95	59	5240
300102	11731-11736	1-WAY	68	41	45	76	285	866	1080	1193	793	547	487	560	723	721	868	881	843	845	712	548	426	321	263	134	13324
300102	11736-11731	1-WAY	104	108	59	43	84	206	451	663	484	426	478	609	669	597	856	1048	1122	1162	765	459	304	281	225	197	11401
300105	11452-11836	2-WAY	50	35	29	28	54	188	324	368	312	272	313	322	339	349	390	478	503	499	341	248	212	160	123	78	6014
300105	11836-11452	2-WAY	44	31	26	25	48	166	287	353	299	261	277	285	300	309	346	424	446	450	308	224	188	142	109	69	5417
300106	19274-11463	1-WAY	106	55	57	45	75	198	451	723	724	656	675	847	791	789	790	910	971	986	787	620	483	371	240	145	12493
300106	11463-19274	1-WAY	63	53	43	70	154	365	730	879	737	713	673	784	822	831	927	944	1008	913	819	592	451	303	211	106	13193

Truck			OP						PreAM	AM Peak		PosAM	MD				PrePM		PM Peak		PosPM		OP				
MAP_ID	EMME_ID	DIRECTION	H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	Total
300101	12720-8902	1-WAY	1	1	1	1	2	7	12	15	9	6	7	7	8	8	8	10	11	11	10	8	6	4	3	2	156
300101	8902-12720	1-WAY	1	1	0	1	1	2	4	9	6	6	6	6	7	7	9	12	15	14	10	7	5	4	2	2	137
300102	11731-11736	1-WAY	6	3	4	6	25	74	93	103	68	47	42	48	62	62	75	76	72	73	61	47	37	28	23	12	1,145
300102	11736-11731	1-WAY	8	8	4	3	6	16	34	50	37	32	36	46	50	45	65	79	85	88	58	35	23	21	17	15	860
300105	11452-11836	2-WAY	3	2	2	2	4	13	23	26	22	19	22	23	24	25	28	34	36	35	24	18	15	11	9	6	424
300105	11836-11452	2-WAY	3	2	2	2	3	12	20	25	21	18	20	20	21	22	24	30	31	32	22	16	13	10	8	5	382
300106	19274-11463	1-WAY	9	5	5	4	7	17	39	63	63	58	59	74	69	69	69	80	85	86	69	54	42	32	21	13	1,095
300106	11463-19274	1-WAY	8	6	5	8	19	45	89	107	90	87	82	96	100	102	113	115	123	112	100	72	55	37	26	13	1,612

Figure 5-3. Count Locations



2.3.2 Traffic Data Extraction and Preparation

The process of traffic data involves two steps. The first step is to extract and calculate hourly volume from raw count data. The second step is to estimate percent of truck volume by analyzing the vehicle classification count data. The output of the data process is a point shape file with 24-hour traffic by auto and truck at each count location. For locations with multiple data records, count data were prioritized based on date and type of count (directional preferred to bi-directional).

Processed traffic counts were associated with TCA network links through an ArcGIS-based map-matching process. The process used a 100-foot buffer around the traffic count location to find the nearest network link. Records that did not successfully match links were removed from count database. Other records, especially those on divided highways, required manual revision upon inspection.

The count point shape file contains two index attributes. The MAP_ID data field refers to the site where the count was performed and the EMME_ID data field refers to the directional count. A single MAP_IP may contain two different EMME-IDs, representing each direction of travel. The two attributes allow the user to find the location of all the counts and to identify the traffic counts associated with the direction of flow.

2.3.2.1 IDOT TCDS and ATR Data

IDOT traffic counts were provided in GIS and spreadsheet format. The Traffic Count Database System (TCDS) database contains directional and bidirectional short term (24-hour) hourly counts for the entire Project study area. The Automated Traffic Recorders (ATR) data include continuous bidirectional counts for a few major roadways.

All counts were summarized directionally; therefore, bi-directional counts needed to be processed to produce unique traffic volumes for each direction. Forecasts from the CMAP model were used to assume directional splits for peak and off-peak periods and modal splits for trucks, cars, and all vehicles. In situations where the CMAP split was not available or was deemed unreliable, a directional split of 60% / 40% was assumed for the peak periods, and 50%/50% in off-peak periods.

2.3.2.2 IDOT HDM Count Database

IDOT provided data for interstate segments under their jurisdiction. The files included directional data for I-90, I-94, I-57, I-290, and Lake Shore Drive. The Excel files contained hourly counts for the month of April. The traffic counts for every Tuesday, Wednesday, and Thursday in April were selected to calculate the hourly counts. The files provided the information by direction from a starting point moving along the roadway, including merge and diverge information. Few locations had a direct count from the files. Most of the counts were obtained by adding or subtracting on-ramp and off-ramp volumes to either upstream and downstream mainline counts.

2.3.2.3 Illinois State Tollway Highway Authority 2015 Lane Closure Guide

ISHTA's Lane Closure Guide of 2015 was the main source for Illinois Tollway traffic counts. The guide contains hourly count data in passenger car equivalents for every day of the week for the interstate system under the jurisdiction of the Illinois Tollway. Data for all tollway facilities were extracted from this database. Excel files were created for each of the count data locations. The files contain hourly count data for every day of the week, and a weekday average. The count representative value was obtained by averaging Tuesday, Wednesday, and Thursday values.

Commercial vehicle percentages were obtained from the 2015 Traffic Data Report, with values taken from the nearest toll plaza. When a point was located between two toll plazas with two different commercial vehicle percentages, values were assumed to increase/decrease at a constant rate from one plaza to another. A passenger car equivalent factor of 2.4 was used to convert commercial vehicles into the actual traffic volume.

2.3.2.4 Wisconsin DOT TransPortal Hourly Traffic Data

Hourly traffic data for Wisconsin was obtained from the WisTransPortal System. This is a data repository site where WisDOT stores traffic data counts for freeways, major and minor arterials, and collectors for all 72 counties. Two types of counts are maintained on the site. Continuous counts collected with ATRs provide data for every hour of the year. Short-term or coverage counts are collected at a frequency ranging from once every 3 years to once every 10 years, depending on the route classification and traffic intensity. Coverage counts typically are collected for a 48-hour period on two consecutive weekdays. WisDOT only collects directional traffic volumes on divided highways. A GIS shapefile with the location of each data count was provided.

2.4 O-D Matrix Estimation and Traffic Assignment

Origin-Destination Matrix Estimation (ODME), also known as adaptive assignment, was used to refine the demand matrices to better match the traffic pattern indicated by traffic count data. This process is based on a least-squares model that is solved with a gradient method. It is an iterative process that can be described in following steps:

1. Perform an initial traffic assignment to get initial volume on network links
2. Calculate the difference between assigned and observed volume
3. Conduct a linear regression and calculate the value of objective function
4. Perform a path analysis to understand the path choice between each O-D pair
5. Calculate gradient matrices for auto and truck separately and assign to network
6. Repeat the process until convergence is achieved or stop criteria are met

The ODME process for the TCA Project was implemented by eight time periods as defined in CMAP model. Detailed stratifications of the time periods are listed in Table 2-4. Within each period, auto and truck demand matrices were adjusted simultaneously. To have a successful ODME process, it is important to ensure the difference between model volume and count data are caused by demand matrices not other inputs or parameters such as volume-delay functions and network coding. The CMAP C18Q3 model has been calibrated to 2015 traffic conditions at regional scale. It establishes a good starting point and provides good seed demand matrices for the TCA ODME process.

Table 2-5 compares 2015 all vehicle (auto and truck) trip tables between original CMAP model and TCA ODME results. The comparison is stratified by trip sectors including internal trips that travel within Project study area and external trips that either enter or leave the Project study area. The comparison is also stratified by three time periods - AM peak, PM Peak and daily total. The comparison shows that CMAP AM and PM peak period trip tables are generally consistent with the travel pattern indicated by observed volume so that ODME process only applied mild adjustments (less than 10%) to the peak trip tables.

Table 6-4. CMAP Time Period Stratifications

Time Period	Duration
Off-peak	8:00 p.m.–6:00 a.m.
Pre-a.m. peak	6:00 a.m.–7:00 a.m.
a.m. peak	7:00 a.m.–9:00 a.m.
Post-a.m. peak	9:00 a.m.–10:00 a.m.
Midday	10:00 a.m.–2:00 p.m.

Time Period	Duration
Pre-p.m. peak	2:00 p.m.–4:00 p.m.
p.m. peak	4:00 p.m.–6:00 p.m.
Post-p.m. peak	6:00 p.m.–8:00 p.m.

Table 7-5. Comparing Demand Trip Tables Before and After ODME

	Sector	AM	PM	Daily
CMAP Demand (Before ODME)	Internal	445,900	537,600	3,463,000
	External	240,400	254,200	1,629,800
	Total	686,300	791,800	5,092,800
Final Demand (After ODME)	Internal	423,000	555,300	3,702,000
	External	248,700	277,500	1,905,500
	Total	671,700	832,700	5,607,500
Diff	Internal	-22,900	17,600	239,000
	External	8,300	23,300	275,700
	Total	-14,600	40,900	514,700
%Diff	Internal	-5%	3%	7%
	External	3%	9%	17%
	Total	-2%	5%	10%

3.0 Model Validation

Model validation is a process to evaluate how close travel demand model replicates traffic flow pattern in the reality by comparing model outputs with observed volume that are typically collected from field counts or online data resources. The TCA model was validated to the 2015 base year condition in two dimensions, traffic volume and peak period travel time. This section provides technical details and statistics results from the validation process.

3.1 Traffic Volume Validation

The model validation was done by comparing observed volume to model volumes at locations that are within the TCA Project study area and have associated traffic count data. The validation process is presented at two levels, systemwide (aggregate) and individual links (disaggregate). The systemwide comparison is categorized by roadway functional classifications and by daily total and peak period only. The mean squared error (MSE) of a curve and the root mean squared error (RMSE) were calculated for count locations by facility type. The MSE value is the squared distance vertically between the count and the volume. The smaller the MSE, the closer the fit is to the data. The RMSE is the square root of the MSE. The RMSE is the distance, on average, of a data point from the fitted line measured along a vertical line. For model validation purposes, the percent RMSE by facility class was calculated using the following equation:

$$\%RMSE = \frac{\left(\sum_j (Model_j - Count_j)^2 / (Number\ of\ Counts - 1)\right)^{0.5} * 100}{(\sum_j Count_j / Number\ of\ Counts)}$$

There is no specific target for aggregated %RMSE, but several states have their own guidelines in travel demand modeling practice. The Montana DOT suggests less than 30% in daily traffic volume, and the Community Planning Organization of Southwest Idaho recommends an overall %RMSE less than 40%.

Another useful aggregate statistic in the validation of traffic assignment is the calculation of the correlation coefficient or coefficient of determination (R^2). This correlation measures the strength of the linear relation between x and y. The higher the coefficient, the better the correlation between x and y. This coefficient is used for comparing area-wide observed traffic counts versus model volumes. For an areawide comparison R^2 should be greater than 0.88, as suggested in the U.S. Department of Transportation's Travel Model Improvement Program Model Validation and Reasonableness Checking Manual.

The percentage difference between the model volume and the observed volume is also a common measure of model performance. Table 3-1 shows the FHWA targets of percent difference in link volume by facility type. Table 3-2 lists Michigan DOT targets of percent deviation in link volume with the increase in roadway traffic.

Table 3-1. FHWA Targets for Link Volume by Facility Type

Functional Class	% Diff
Freeway/Expressway	+/- 7%
Principal Arterial	+/- 10%
Minor Arterial	+/- 15%
Collector	+/- 25%

Table 3-2. Michigan DOT Targets for Link Volume by Roadway Traffic

Volume Range	% Diff
< 1,000	+/- 200%
1,000 – 2,500	+/- 100%
2,500 – 5,000	+/- 50%
5,000 – 10,000	+/- 25%
10,000 – 25,000	+/- 20%
25,000 – 50,000	+/- 15%
> 50,000	+/- 10%

Table 3-3 and 3-4 compares the modeled and observed volume by functional class in daily total and peak period (AM peak and PM peak). For each functional class, the TCA model performs well, matches the overall traffic volume observed from count data. %RMSEs of peak period traffic are slightly higher than daily traffic but remain reasonable.

Figure 3-1 is the scatter plot visualizing the correlation between modeled and observed daily volume at each count location. The higher the correlation is, the closer the dots cluster around the y=x grey line. The trend line equation and high R^2 of 0.96 indicate that volume forecasted by TCA model has a high correlation with observed data from field counts.

Figure 3-2 and 3-3 show the percent error in peak period traffic with the increase of observed volume. The red guidelines are percent difference targets that were recommended by Michigan DOT as shown in Table 3-2. The

TCA model produces satisfying results at a majority of validation locations, especially well meet the targets on roads with heavy traffic.

Table 3-3. Daily Volume Validation by Functional Classification

Functional Class	Observation	Count	Model	%Diff	%RSME
Freeway/Expressway	82	4,926,000	4,683,000	-5%	16%
Principal Arterial	894	10,941,000	10,896,000	0%	20%
Minor Arterial	1,004	6,870,000	6,592,000	-4%	21%
Collector	594	1,353,000	1,348,000	0%	29%
Total	2,574	24,091,000	23,520,000	-2%	26%

Table 3-4. Peak Period Volume Validation by Functional Classification

Functional Class	Observation	Count	Model	%Diff	%RSME
Freeway/Expressway	82	1,285,000	1,200,000	-7%	17%
Principal Arterial	894	3,232,000	2,989,000	-8%	28%
Minor Arterial	1,004	2,084,000	1,833,000	-12%	31%
Collector	594	430,000	384,000	-11%	47%
Total	2,574	7,031,000	6,405,000	-9%	33%

Figure 3-1. Daily Volume Comparison in TCA Project Study Area

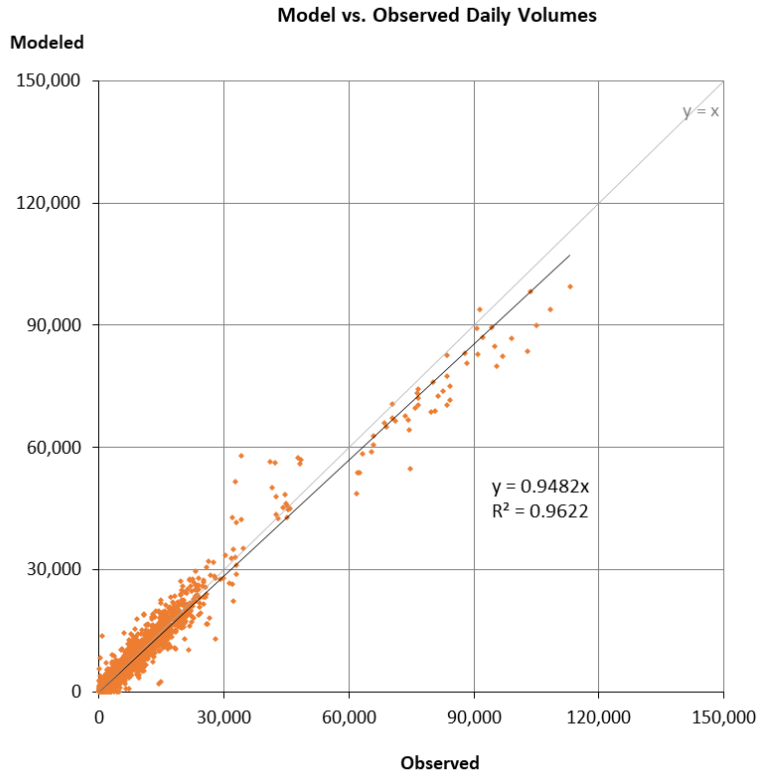


Figure 3-2. Percent Error in AM Volume

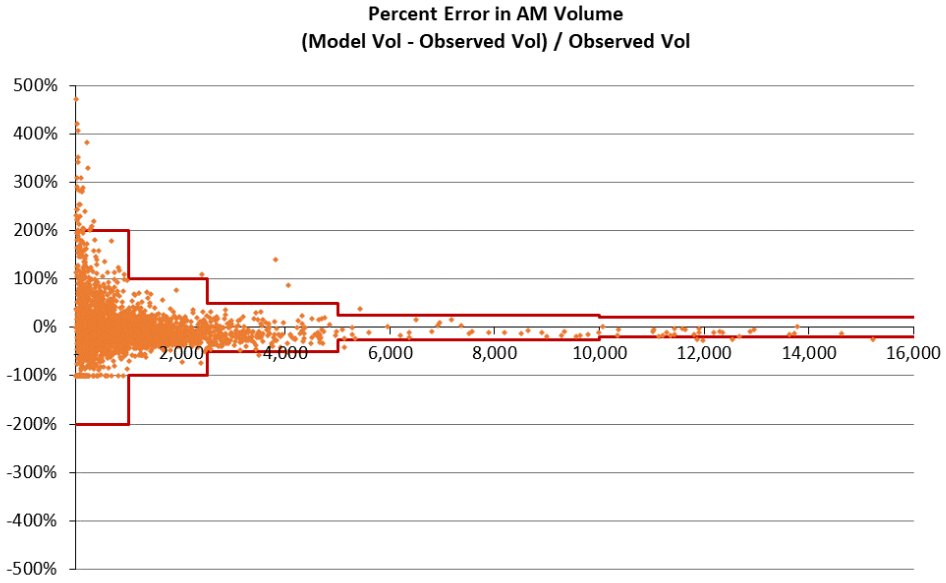
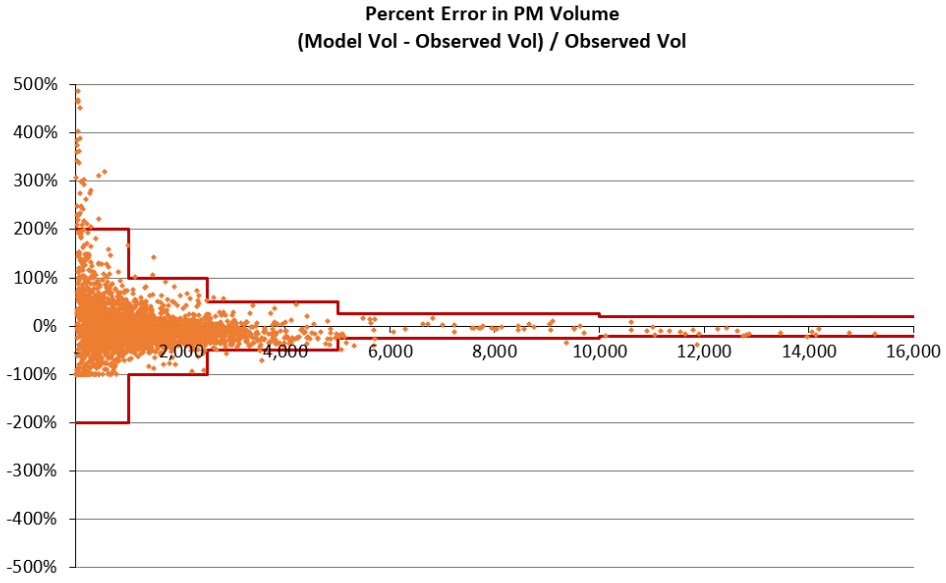


Figure 3-3. Percent Error in PM Volume



3.1.1 Travel Time Validation

In addition to volume validation, the modeled peak period travel time between seven municipalities within TCA Project study area were also compared to Google data to ensure the model reflects reasonable route choice and travel time on major routes in the base year. Selected municipalities were chosen as representative residential or employment centers spread throughout the TCA Project study area and are shown on Figure 3-4.

Existing peak period travel time data were collected using Google Map Directions, which provides crowdsourced navigation route options for driving between two points with considerations for real-time traffic conditions,

duration, and length of the trip (Google 2019). The travel time comparison is shown in Table 3-5 in which Google data were compared with modeled travel time in both peak congested condition and free flow (uncongested) condition. The TCA base year model produces reasonable travel time between major OD interchanges within the Project study area.

Figure 3-4. Example Travel Time Locations

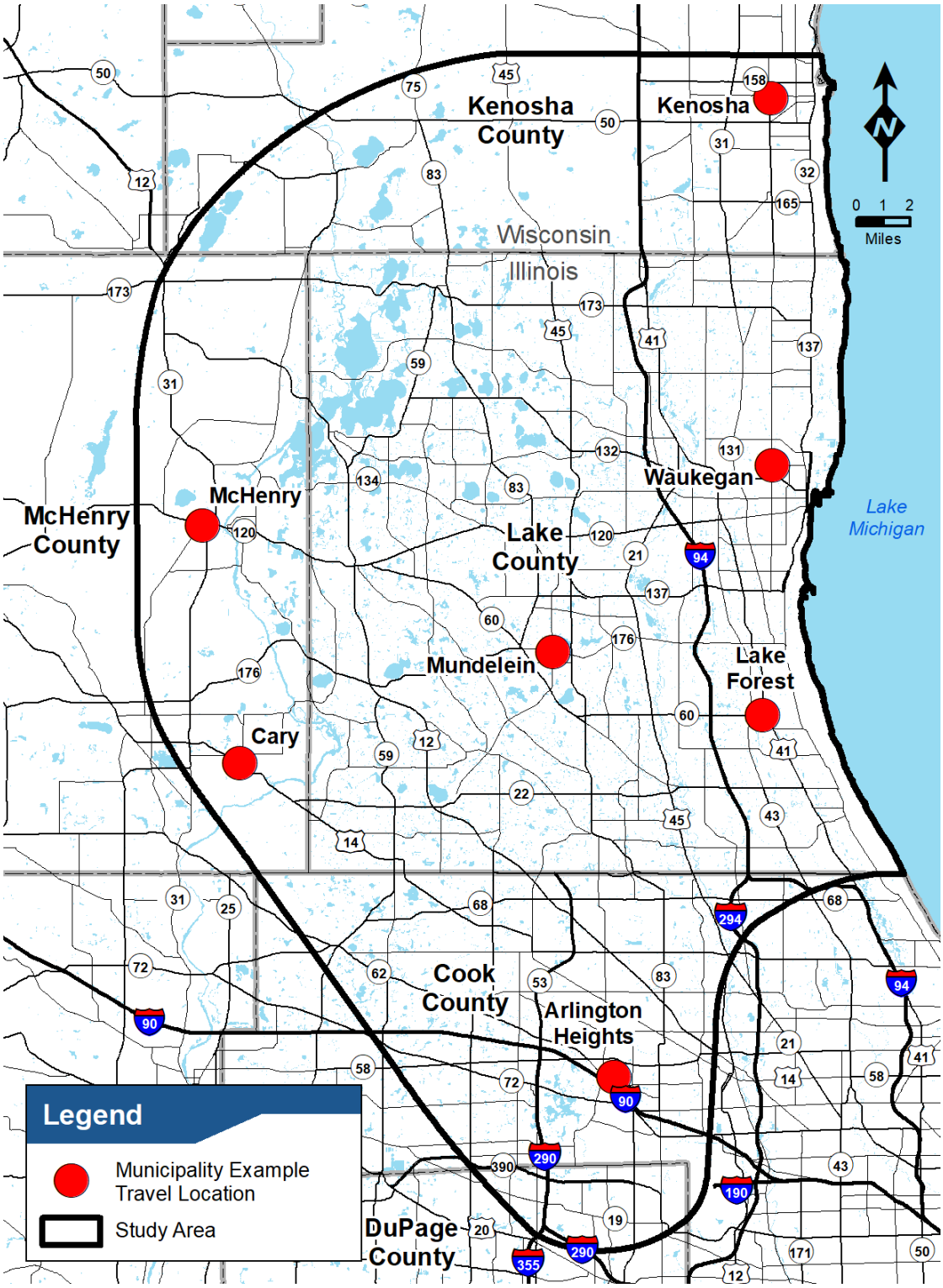


Table 3-5. Peak Period Travel Time Base Year (2015) Conditions and Google Comparison

Municipality	To: Kenosha			McHenry			Waukegan			Cary			Lake Forest			Arlington Heights			Mundelein		
From:	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)	Free Flow Travel Time	Peak-Period Travel Time Range	Google Peak-Period Travel Time Range (2019)
Kenosha	-	-	-	42 min	51-82 min	50-80 min	20 min	26-45 min	24-45 min	52 min	63-103 min	60-100 min	31 min	33-43 min	35-60 min	54 min	61-91 min	55-100 min	33 min	38-58 min	40-60 min
McHenry	42 min	51-83 min	50-80 min	-	-	-	32 min	45-82 min	40-80 min	13 min	18-34 min	16- 40 min	30 min	44-85 min	35-75 min	40 min	50-85 min	45-80 min	21 min	29-53 min	26-50 min
Waukegan	20 min	26-44 min	24-50 min	32 min	44-80 min	40-85 min	-	-	-	38 min	51-93 min	50-90 min	15 min	17-24 min	18-45 min	40 min	49-82 min	45-100 min	19 min	25-44 min	26-60 min
Cary	52 min	64 – 108 min	60-100 min	13 min	18-35 min	16-40 min	38 min	53-97 min	50-85 min	-	-	-	32 min	45-85 min	40-80 min	30 min	41-76 min	30-60 min	23 min	31-56 min	30-50 min
Lake Forest	31 min	33-42 min	35-60 min	30 min	43-82 min	40-100 min	15 min	17-26 min	20-45 min	32 min	45-83 min	45-90 min	-	-	-	27 min	36-63 min	30-80 min	10 min	15-30 min	20-45 min
Arlington Heights	54 min	61-88 min	60-110 min	40 min	49-81 min	50-90 min	40 min	49-81 min	45-100 min	30 min	40-74 min	35-70 min	27 min	35-60 min	30-70 min	-	-	-	24 min	33-61 min	35-65 min
Mundelein	33 min	39-61 min	40-80 min	21 min	28-52 min	28-60 min	19 min	26-47 min	28-55 min	23 min	31-57 min	30-60 min	10 min	16-33 min	16-45 min	24 min	34-65 min	35-75 min	-	-	-

4.0 2050 Baseline Scenario

The 2050 baseline transportation system represents a level of improvement that corresponds to a modest continuing level of investment but does not include the major improvements being considered for this Project. It serves as a basis for comparing the performance of the range of alternatives that will be considered as part of the TCA Environmental Impact Study (EIS) process.

4.1 2050 No Build Baseline Demographics

The TCA 2050 no build baseline model adopts the 2050 population and employment forecast published in CMAP C18Q3 model. Table 4-1 compares 2015 and 2050 county level population and employment within the TCA Project study area. The population is expected to grow by 27 percent to 2.1 million by 2050. Employment is expected to grow by 21 percent to 1.2 million by 2050. The higher density southern (Cook and DuPage counties) and eastern (east half of Lake County) portions of the Project study area will experience the largest amount of growth overall. The CMAP forecasts anticipate considerable growth from the existing condition, which is also anticipated to occur in the less dense central (west half of Lake County), northwest (eastern McHenry County), and northeast (southeast Kenosha County) portions of the Project study area.

Table 4-1. Existing and No-Build Population and Employment by Geographic Area

County	Population			Employment		
	2015	2050	% Growth	2015	2050	% Growth
Lake	700,000	909,200	30%	338,100	416,700	23%
McHenry	152,700	231,700	52%	56,700	82,500	46%
Cook	574,400	663,700	16%	455,300	517,500	14%
DuPage	58,100	72,700	25%	63,700	75,200	18%
Kenosha	166,600	226,800	36%	59,200	82,900	40%
TCA Project Study Area	1,651,800	2,104,100	27%	973,000	1,174,800	21%

4.2 2050 Baseline Trip Tables

Understanding regional and local travel patterns is important to assess traffic routing choices and gaps between travel demand and supply in the system performance. Travel in the Project study area is a component of the total travel in the region and, as such, is a function of not only trips having origins and destinations inside the Project study area, but also of those with one or both trip ends outside the Project study area. The Transportation System Performance Report summarizes travel as follows:

- Internal-internal: trips with both origin and destination within the Project study area
- Internal-external: trips originating in the Project study area with a destination outside the area
- External-internal: trips originating outside the Project study area with a destination within it
- External-external: through trips with neither origin nor destination within the Project study area

Table 4-2 compares the 2015 base year and 2050 No-Build baseline peak period and daily trips. The 2050 baseline trip tables were generated based on an incremental application process. The difference between 2015 and 2050 CMAP trip tables were used to calculate the growth tables for all trip purposes and vehicle classes. The growth tables were then added to the TCA 2015 calibrated matrices to generate 2050 baseline No-Build baseline trip tables that will be used to estimate 2050 baseline traffic forecast for the TCA Project study area.

Table 4-2. 2015 and 2050 No-Build Baseline Vehicle Trips in TCA Project study area

Trip Origin-Destination	2015				2050			
	Peak Trips	%	Daily Trips	%	Peak Trips	%	Daily Trips	%
Internal-Internal	1,951,200	52%	3,239,000	57%	2,666,400	58%	4,235,100	58%
Internal-External	573,700	15%	896,900	16%	721,700	16%	1,123,200	15%
External-Internal	569,400	15%	890,600	16%	722,200	16%	1,115,900	15%
External-External	664,500	18%	675,800	12%	518,300	11%	818,000	11%
Total Trips	3,758,800	100%	5,702,300	100%	4,628,600	100%	7,292,200	100%

4.3 2050 Baseline Network

The 2050 No-Build baseline transportation system was established with input from area transportation agencies, including consideration of ongoing project development. It includes projects that the agencies expect to be in place by 2050. The baseline transportation system includes the existing transportation network as well as following improvements:

- Regionally Significant Projects (RSPs), as identified by CMAP in the *ON TO 2050 Comprehensive Regional Plan* (2018). Only the RSPs listed as "fiscally constrained" are included.
- Programmed roadway, transit, and aviation projects listed in the current TIP. Also included are projects that are not part of the current TIP, but are expected to be funded and completed by 2050.

The 2050 No-Build transit network was developed by review of long-range transit projects identified by CMAP in the ON TO 2050 RSPs. As part of its list of fiscally constrained RSPs, CMAP identifies improvements to the Metra UP-N and UP-NW lines as follows:

- Metra UP-N improvements will enhance the capacity and reliability of the line through installation of crossovers and track improvements, and a new outlying coach yard will allow for more efficient servicing of equipment and accommodate expansion of service. Reconstruction of the bridges along the line is a major cost item in the project and will provide significant state-of-good-repair improvements. In addition to planned upgrades to existing stations, a new station at Peterson Avenue and Ridge Avenue is funded.
- Metra UP-NW improvements will extend the line from McHenry to Johnsburg and allow space for new yards. Other infrastructure upgrades include improvements to the signal system, crossovers, and track improvements to increase capacity and reliability. Two additional stations will be added to the line at Prairie Grove and Ridgefield. These combined improvements are estimated to considerably increase ridership on the line. Planning for transit-supportive development at new stations and for feeder bus service will increase access along the line.
- There are no bus service improvements included in the list of fiscally constrained RSPs. There are, however, three Pace Bus local routes (604, 608, 611) expected to implement service and routing improvements by 2050.

Tables 4-3 and 4-4 list the programmed and expected roadway and transit projects of the 2050 No-Build Alternative. Figures 4-1 and 4-2 show the type, location, and extent of these projects.

Table 4-3. 2050 No-Build Baseline Roadway Projects

Name	Project Type	From	To	Implementing Agency
Aptakisic Rd	Add Lanes	Buffalo Grove Rd	IL 83	LCDOT
Barrington Rd	Add Lanes	Central Rd	IL 62	IDOT
Buffalo Grove Rd	Add Lanes	IL 83 McHenry Road	IL 22 Half Day Road	LCDOT
Cedar Lake Road	Add Lanes	Townline Road	Hart Road	LCDOT
Deerfield Road	Add Lanes	Saunders Road	IL 21/US 45	LCDOT
IL 120		US 41	Wilson Road	IDOT
IL 131 Green Bay Road - RSP 14	Add Lanes	Sunset Avenue	Russell Road	IDOT
IL 137 Buckley Rd	Add Lanes	Petersen Rd	IL 83	IDOT
IL 173 Rosecrans Rd - RSP 15	Add Lanes	US 41 (Skokie Hwy)	IL 59	IDOT
IL 22/Lake Zurich Rd	Add Lanes	W of IL 83	Quentin Rd	IDOT
IL 31 Front St - RSP 6	Add Lanes	N of IL 176 (Terra Cotta Ave)	S of IL 120 Belvidere Rd	IDOT
IL 60/IL 83 - RSP 10	Add Lanes	Townline Road (IL 60)	IL 176	IDOT
IL 62 (Algonquin Rd) - RSP 11	Add Lanes	IL 68 (Dundee Rd)	IL 25 (JF Kennedy Memorial Dr)	IDOT
IL 83 (Barron Blvd)	Add Lanes	IL 137 & At Atkinson Rd	IL 120 (Belvidere Rd)	IDOT
IL 83 Milwaukee Ave - RSP 13	Add Lanes	IL 120	Petite Lake Rd	IDOT
Lake Cook Road	Add Lanes	Hastings Lane	Raupp Boulevard	Cook Co DoTH
Meacham Rd	Add Lanes	IL 62 Algonquin Rd	Kirchoff Rd	TBD
Quentin Road	Add Lanes	IL 68 Dundee Road	Lake Cook Road	Cook Co DoTH
US 41 Skokie Hwy	Add Lanes	0.5 miles S of IL 176	Quassey Avenue	IDOT
US 45 Lake Ave	Add Lanes	N of IL 120	Rollins Rd	IDOT
US 45 McHenry Rd	Add Lanes	N of IL 132 & At Milburn Creek	S of Milburn Bypass	IDOT
US 45/IL 83 (Old Half Day Rd) - RSP 114	Add Lanes	IL 22 (Half Day Rd)	IL 60/Townline Rd	IDOT
Weiland Rd	Add Lanes	CH A50 Lake Cook Road	IL 22 Half Day Road	TBD
Crystal Lake Rd	Intersection/Interchange	Silver Lake Trail	Silver Lake Rd	TBD
Dowell Rd/Fisher Rd	Intersection/Interchange		Darrell Road	LCDOT
Hart Road	Intersection/Interchange		US 14 Northwest Highway	TBD
Lakeview Parkway	Intersection/Interchange	Fairway Drive	Hawthorn Pkwy	TBD

Name	Project Type	From	To	Implementing Agency
Three Oaks Rd	Intersection/Interchange	Village of Cary's municipal limits	Silver Lake Rd	TBD
Wadsworth Road	Intersection/Interchange		Lewis Avenue	LCDOT
Willow Rd	Intersection/Interchange	Waterview Dr	E of DesPlaines River	IDOT
I-190 O'Hare Access Rds - RSP 32	Road Modernization	Cumberland Ave	US 12/US 45	CDOT
IL 62 Algonquin Rd	Road Modernization	IL 53	Plum Grove Rd	TBD
Wolf Rd	Road Modernization	N of Hintz Rd	IL 21/Milwaukee Ave	IDOT

Table 4-4. 2050 No-Build Baseline Transit Projects

Owner	Location	Project Type	Description
Metra	UP-N Line	Capacity/Reliability	Installation of crossovers and track, new outlying coach yard, reconstruction of bridges, upgrades to existing stations, new station at Peterson and Ridge avenues
Metra	UP-NW Line	Line Extension, Capacity/Reliability	Extend line from McHenry to Johnsburg, allow space for new yards, signal system improvements, crossovers, track improvements, two additional stations at Prairie Grove and Ridgefield, planning for transit-supportive development at new stations and for feeder bus service
Pace Bus	Route 604	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing
Pace Bus	Route 608	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing
Pace Bus	Route 611	Service and Route Improvements	Service improvements/enhancements and the introduction of improved routing

Figure 4-1. 2050 No-Build Baseline Roadway Projects

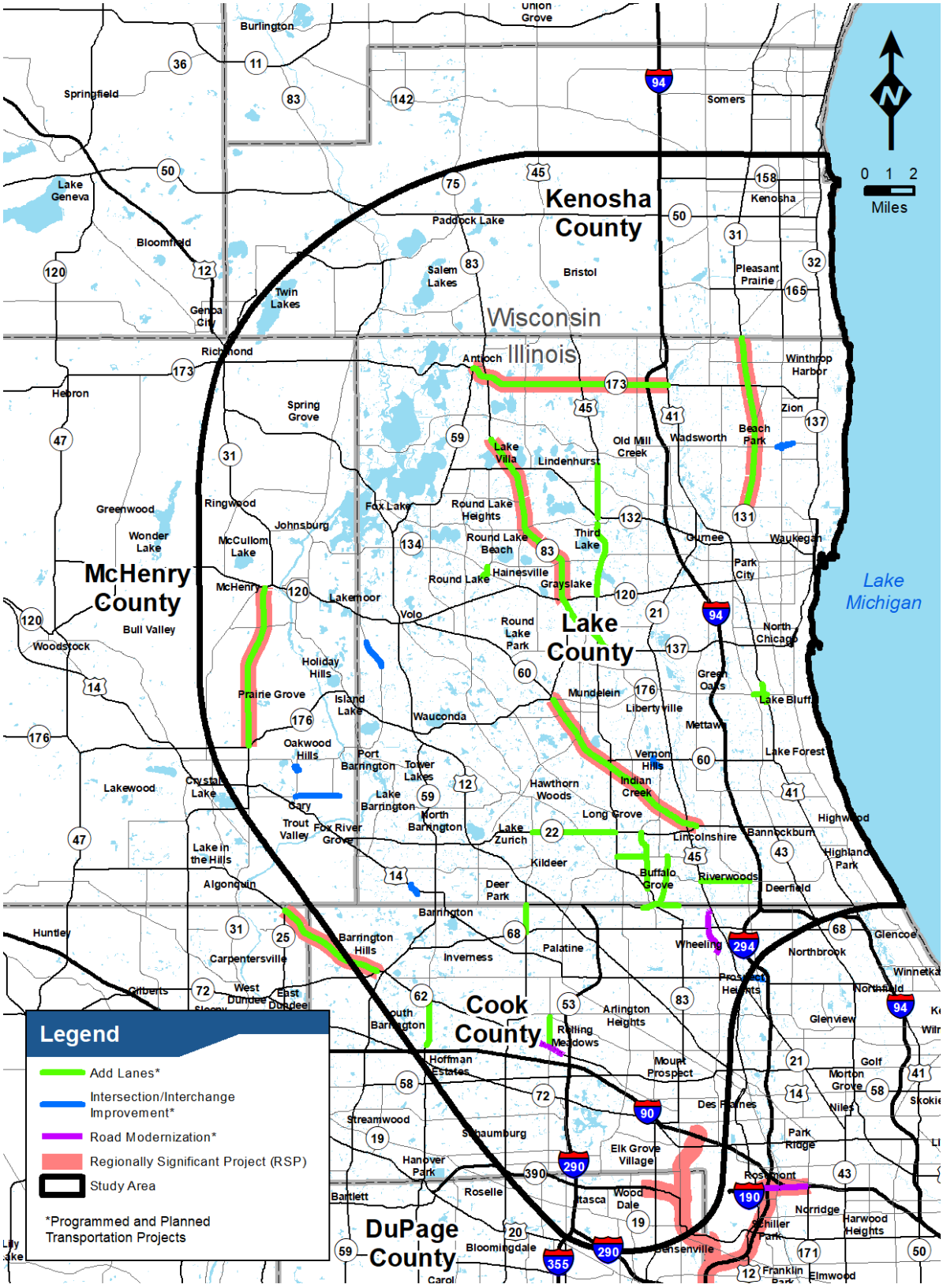
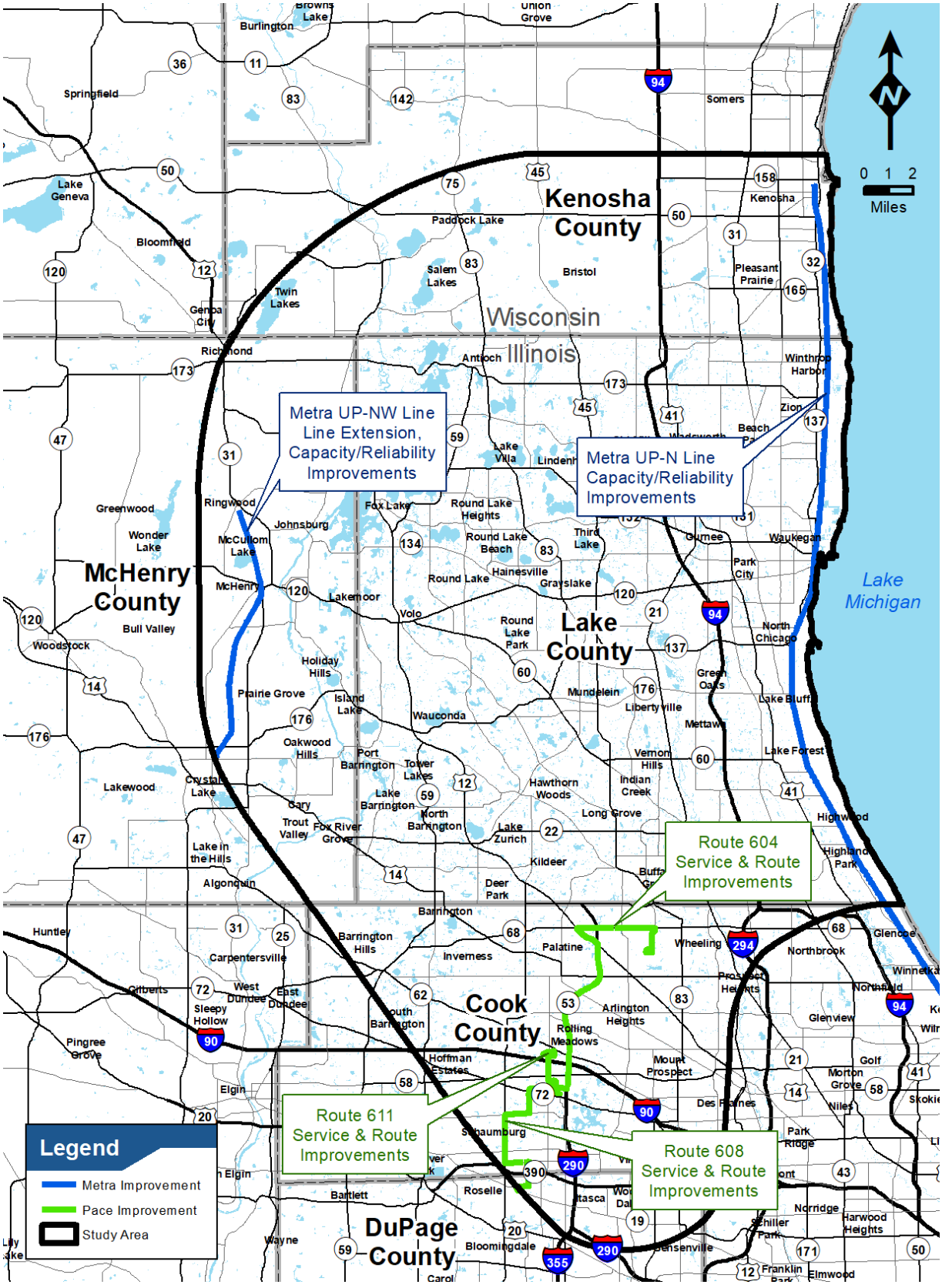


Figure 4-2. 2050 No-Build Baseline Transit Projects



5.0 Performance Analysis

Travel performance analysis in the Project study area was conducted for both existing conditions (2015) and future forecasted conditions (2050). The performance analysis for existing conditions assumed existing transportation system conditions, and the 2050 analysis presumes expected improvements to the future transportation system in the CMAP ON TO 2050 Comprehensive Regional Plan.

The travel performance analysis was conducted to assess transportation system in terms of congestion and safety. A series of performance measures were established to understand how traffic conditions change along with the growth of local population and employment and compare how different potential investments might have different impacts to the future year traffic condition by 2050.

Raw model outputs from the TCA travel demand model were compiled and post-processed by a standalone Python program to generate a series of performance measures. Some of performance measures include but are not limited to: vehicle miles traveled (VMT), vehicle hours traveled (VHT), vehicle hours of delay (VHD), congested vehicle miles traveled (CVMT), severe congested vehicle miles traveled (SCVMT), travel time reliability, system accessibility and crash frequencies.

Key findings from these performance measures are provided in Section 5. The Transportation System Performance Report includes a more detailed inventory of each mode in the transportation system, including highways, public transportation, freight movement, and non-motorized modes. The quality of service in each mode has been defined to help identify constraints and performance issues.

5.1 Traffic Congestion Measures

5.1.1 Performance Measures

Vehicle miles traveled (VMT), vehicle hours traveled (VHT), and vehicle hours of delay (VHD) are common performance measures that assess the level of traffic congestion in a defined region. VMT and VHT measure the total miles and hours traveled by vehicles using the roadway network in a defined area. VHD measures the additional VHT that is caused by traffic congestion. In other words, VHD is the difference of VHT between the uncongested (free flow) condition and the congested condition. These measurements are calculated as follows:

- VMT = traffic volume × travel distance in miles
- VHT = traffic volume × travel time in hours
- VHD = traffic volume × (congested travel time – free flow travel time)
- Averaged speed (time period specific) = VMT/VHT

Table 5-1 to 5-3 summarizes VMT, VHT, and VHD in the Project study area by functional class and time periods.

Table 8-1. Change in VMT in TCA Project Study Area

TCA Project study area—VMT	Peak plus Shoulders				Daily			
Functional Class	**2015**	**2050**	**Growth**	**% Growth**	**2015**	**2050**	**Growth**	**% Growth**
Freeway/Tollway/ Expressway[a]	7,087,500	8,883,800	1,796,300	25%	11,850,100	14,751,900	2,901,800	24%
Principal arterial	9,221,400	11,431,800	2,210,400	24%	14,411,300	17,911,600	3,500,300	24%
Minor arterial	5,813,700	7,428,000	1,614,300	28%	8,911,100	11,427,600	2,516,500	28%

TCA Project study area—VMT	Peak plus Shoulders				Daily			
Collector	2,339,500	3,399,600	1,060,100	45%	3,562,800	5,163,800	1,601,000	45%
Total	24,462,100	31,143,200	6,681,100	27%	38,735,300	49,254,900	10,519,600	27%

a Excludes ramps

Table 9-2. Change in VHT in TCA Project study area

TCA Project study area—VHT	Peak plus Shoulders				Daily			
Functional Class	**2015**	**2050**	**Growth**	**% Growth**	**2015**	**2050**	**Growth**	**% Growth**
Freeway/Tollway/ Expressway[a]	132,800	174,900	42,100	32%	213,300	272,900	59,600	28%
Principal arterial	302,600	395,100	92,500	31%	456,800	590,200	133,400	29%
Minor arterial	212,600	280,800	68,200	32%	316,600	415,900	99,300	31%
Collector	87,600	128,800	41,200	47%	130,500	189,000	58,500	45%
Total	735,600	979,600	244,000	33%	1,117,200	1,468,000	350,800	31%

a Excludes ramps

Table 10-3. Change in VHD in TCA Project study area

TCA Project study area—VHD	Peak Travel Period				Daily			
Functional Class	**2015**	**2050**	**Growth**	**% Growth**	**2015**	**2050**	**Growth**	**% Growth**
Freeway/Tollway/ Expressway[a]	11,400	31,200	19,800	174%	13,000	36,800	23,800	183%
Principal arterial	100,300	144,700	44,400	44%	140,600	197,900	57,300	41%
Minor arterial	70,300	101,600	31,300	45%	98,100	139,900	41,800	43%
Collector	28,100	44,100	16,000	57%	40,000	61,000	21,000	53%
Total	210,100	321,600	111,500	53%	291,700	435,600	143,900	49%

a Excludes ramps

5.1.2 Congestion Level

Volume-to-capacity ratio is a measure used to describe traffic service performance. Capacity represents the maximum rate at which vehicles pass through a given point in an hour under prevailing conditions. Volume-to-capacity ratio represents the sufficiency of a facility to accommodate vehicular demand.

The ratio of volume-to-capacity was used to measure roadway congestion. Four congestion levels, from minimum to severe, are defined as follows.

- Minimum: The traffic volume is less than 80 percent of roadway capacity, traffic is operating in a stable condition, motorists do not experience much delay.

- Moderate: The traffic volume is between 80 percent and 90 percent of roadway capacity, motorists are starting to experience noticeable delay and speed reduction.
- Severe: The traffic volume between 90 percent and 100 percent of roadway capacity, motorists are experiencing significant delay and travel time increases.
- Extreme: The traffic volume is beyond roadway capacity, traffic is in an unstable condition that is intolerable to most motorists.

In the Transportation System Performance Report (TSPR), congestion is measured as the percent of VMT spent in congested conditions during peak periods. Congested conditions are defined as conditions where traffic volumes exceed 80 percent of roadway capacity (i.e., all congestion levels except the minimum congestion level). Table 5-4 lists the congested VMT in peak travel periods.

Drivers will generally accept some degree of congestion during peak hours as long as the roadway network provides reliability of travel between commuting points. Traffic flow becomes unstable and traffic delay increases significantly when the roadway network is severely congested or worse. Table 5-5 shows severe/extreme congested VMT (SCVMT) in peak periods.

Table 5-4. Change in Congested VMT in TCA Project study area - Peak Travel Periods

	2015			2050				
Functional Class	**Total**	**Congested**	**% Congested**	**Total**	**Congested**	**% Congested**	**Congested Growth**	**Congested % Growth**
Freeway / Tollway / Expressway[a]	7,087,500	1,795,600	25%	8,883,800	3,816,900	43%	2,021,300	113%
Principal Arterial	9,221,400	1,885,100	20%	11,431,800	3,794,700	33%	1,909,600	101%
Minor Arterial	5,813,700	924,000	16%	7,428,000	2,054,200	28%	1,130,200	122%
Collector	2,339,500	309,700	13%	3,399,600	939,700	28%	630,000	203%
Total	24,462,100	4,914,400	20%	31,143,200	10,605,500	34%	5,691,100	116%

[a] Excludes ramps

Table 5-5. Change in Severe/Extreme Congested VMT in TCA Project study area - Peak Travel Periods

	2015			2050				
Functional Class	**Total**	**Congested**	**% Congested**	**Total**	**Congested**	**% Congested**	**Congested Growth**	**Congested % Growth**
Freeway / Tollway / Expressway[a]	7,087,500	195,200	3%	8,883,800	1,484,700	17%	1,289,500	661%
Principal arterial	9,221,400	987,700	11%	11,431,800	2,087,800	18%	1,100,100	111%
Minor arterial	5,813,700	523,900	9%	7,428,000	1,272,700	17%	748,800	143%
Collector	2,339,500	164,300	7%	3,399,600	643,900	19%	479,600	292%
Total	24,462,100	1,871,100	8%	31,143,200	5,489,100	18%	3,618,000	193%

[a] Excludes ramps

5.1.3 Accessibility

Accessibility can be defined as the ability to reach desired destinations to perform an activity. A common measure of accessibility is travel time. This considers both the availability of a convenient route and travel speed on the available path. Isochronal maps typically are used to depict areas of equal travel time using a constraint time buffer. The TSPR contains various isochronal maps showing travel time in 5-minute buffer increments around selected locations within the Project study area.

Several examples are provided in Table 5-6 which shows a detailed comparison of the 30-minute accessible area for the six origin points between the base year (2015) and the No-Build forecast year (2050). As shown, the accessible area decreases for all six locations with a percent reduction ranging from 12 to 23 percent depending on the location.

Table 5-6. Change in 30-Minute Accessible Area - AM Peak Travel Period

Select Location	Accessible Area (Square Miles)		
	2015	2050	% Change
IL 53 at Lake Cook Road	522	438	-16%
IL 45 at IL 120	521	429	-18%
I-94 at IL 120	489	406	-17%
US 12 at IL 59	623	482	-23%
City of Waukegan	289	245	-15%
City of Schaumburg	467	413	-12%

5.2 Traffic Safety Measures

5.2.1 Project Study Area General Descriptive Statistics

Highway safety can be characterized by the number of crashes and resulting injuries and fatalities that may occur or be expected to occur over a given period. Historical crash trends in Illinois, the seven-county CMAP region and the TCA Project study area indicate that crash frequencies have begun to increase over the past few years, following a long run of decline. Table 5-5 summarizes the Illinois and TCA Project study area crash frequency by severity type. TCA Project study area fatal and injury (KAB) crashes represent 10.3 percent of the statewide KAB crashes.

Table 5-5. Statewide and Project study area Crashes by Severity (2011 to 2015)

Geographic Area	Crash Frequency by Severity					
	K (Fatal)	A-Injury	B-Injury	C-Injury	PDO	Total
Statewide	4,355	47,081	141,520	116,024	1,119,108	1,428,088
TCA Project Study Area	344	4,244	15,329	18,101	111,456	149,474
Percent	7.9%	9%	10.8%	15.6%	10%	10.5%

PDO = property damage only

The Transportation System Performance Report includes a reference to the Illinois Five Percent Report, which provides information related to top high-risk locations in the state and local roadway systems based on fatal and serious injury crashes. Locations identified as critical are dispersed throughout the TCA Project study area, as shown on Figure 5-3.

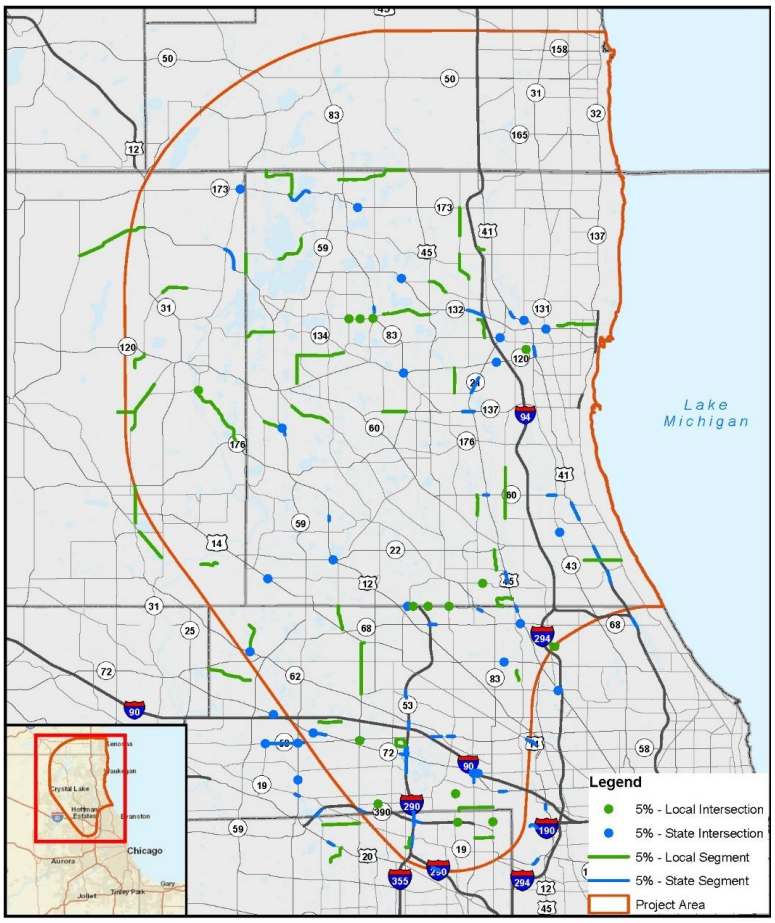


Figure 5-3. TCA Project study area Five Percent Locations. State and Local Systems

The TCA Project study area is characterized by heavy congestion from commuter traffic during the a.m. and p.m. peak periods. Thirty-two percent of the KAB crashes are concentrated around the p.m. peak period between 3:00 p.m. and 7:00 p.m. Approximately 46 percent of KAB crashes in the TCA Project study area occurred on the state system. Of these, 85 percent of crashes occurred on primary roads. Signalized intersections and ramp terminals along primary roads experience an over-representation of rear end and left turn crashes. The main crash types on primary road segments are rear-end, fixed object, and sideswipe crashes. Minor arterials on the local system experience more than 50 percent KAB crashes. Local system segments experience over-representation of rear end and fixed object crashes. The main crash types on local system intersections are rear end, left turn, and angle.

5.2.2 Vulnerable Users

Over the 5-year period from 2011 through 2015, a total of 1,082 KABC-injury pedestrian-vehicle and 1,140 KABC-injury pedal cyclist crashes were reported in the Project study area (Table 5-6). Nearly 72 percent of the pedestrian crashes resulted in an evident injury (incapacitating injury [A] or non-incapacitating injury [B]),

and 6 percent resulted in a fatality (K). Similarly, 74 percent of the pedal cyclist crashes resulted on an A- or B-injury and 1 percent resulted in a fatality (K).

Table 5-6. Project study area Pedestrian and Pedal Cyclist Crashes by Severity (2011-2015)

Crash Type	K	A	B	C	Total
Pedestrian	69	291	480	242	1,082
Pedal Cyclist	16	160	681	283	1,140
Total	85	451	1,161	525	2,222

5.2.3 Safety Performance Evaluation

The notion of predicting crashes is important in assessing future safety performance. This concept recognizes that any roadway that carries traffic would, over a long-time period, experience some level of crashes. Crash prediction involves both the frequency and severity or risk profile of crashes that may occur. According to the knowledge base on crashes captured in the American Association of State Highway and Transportation Officials (AASHTO) *Highway Safety Manual* (HSM), the expected crash frequency for any facility is a function of the following:

- Traffic Volume (AADT) – The greater the traffic volume, the greater the expected number of crashes. The relationship is non-linear for total crashes and crash types.
- Facility Types – Freeways experience different safety risk profiles than two-lane rural highways, or multilane arterials. These differences reflect the design characteristics, access control, and presence of intersections.
- Segments versus Intersections – Crash risk, including the relationship of traffic volume to crashes, varies for road segments versus intersections.
- Geometric Design Features – The effect of cross section elements (lanes, shoulders, medians), cross section dimensions, alignment features, and access control all influence the frequency and severity of crashes. The influence of these features varies by facility type.

The task of predicting crashes involves the use of models for different types of facilities. IDOT developed network screening safety performance functions that follow the AASHTO HSM Part B approaches. These models were used to perform the existing and future safety performance evaluations.

5.2.4 Safety Performance Functions

Research has established relationships among crash frequency, traffic volume, and other factors for most of the basic highway and intersection types. A safety performance function (SPF) expresses the non-linear traffic volume and crash frequency relationship. The SPF is established through modeling of road segments and crashes that are recorded as occurring on the road segments. Two types of SPFs are used for representing crash frequencies as a function of given variables. The first type of SPF is a Level I, or descriptive analysis model, which determines crash frequencies based only on traffic volumes (AADT). Level II SPF, classified as multivariate models, incorporates a variety of variables other than just traffic volumes.

IDOT has developed Level I SPFs for KAB severities for both the state and local system peer groups. Peer groups represent homogenous characteristics, such that an expected crash experience can be determined. Roadway segments and intersections were categorized by peer groups for analysis. For the state system, there are 12 peer groups for roadway segments and eight for intersections. For the local system, there are five peer groups for roadway segments and eight for intersections. Some facility types do not have SPFs available. Data were

collected for such locations, but no analysis was performed (i.e., ramps on the state system). A total of 2,591 miles of state and local roadways and 1,817 intersections were analyzed as part of the TCA Project existing safety performance evaluation. The analyzed mileage and intersections are only those included in the travel demand model. Most local and collector roads are not included.

Data required to apply and run the SPFs include roadway and intersection geometric data, traffic volumes expressed in AADT, and KAB crashes. Roadway and intersection traffic data were obtained from the TCA travel demand model. The IDOT Illinois Roadway Information System (IRIS) data system was used to populate geometric data attributes to assign the appropriate peer group.

The predictive models are applied for each peer group and severity type independently to obtain an average predicted crash frequency for the time period under evaluation. Tables 5-7 and 5-8 contain the existing predicted crash frequency for segments and intersection in the TCA Project study area.

Table 5-7. Existing Segments Predicted Crash Frequency

IDOT Functional Class	Existing (2015)			
	Predicted K	Predicted A	Predicted B	Predicted KAB
Freeway/Expressway	72	1,333	3,445	4,850
Principal Arterial	48	401	1,140	1,588
Minor Arterial	31	233	788	1,052
Collector	37	139	434	610
Local Road	29	38	99	166
Total	**217**	**2,144**	**5,906**	**8,266**

Table 5-8. Existing Intersections Predicted Crash Frequency

Intersection Type	Existing (2015)			
	Predicted K	Predicted A	Predicted B	Predicted KAB
Minor Leg Stop Control	22	169	455	646
All Way Stop	5	37	96	138
Signalized Intersection	61	1,563	5,476	7,100
Urban Undetermined	1	8	32	41
Total	**89**	**1,777**	**6,060**	**7,925**

6.0 Summary

The TCA transportation demand model was developed based on CMAP C18Q3 model data with incorporation of additional data refinements and model functions within the TCA Project study area. This approach allows higher accuracy in local traffic modelling while remaining consistent with CMAP C18Q3 model forecasts at regional scale. Base year 2015 model was closely calibrated to observed traffic volume from field counts and peak period travel time from Google API. The TCA 2050 No-Build baseline scenario was developed based on calibrated 2015 model with future growth from CMAP 2015 and 2050 trip tables. It will be used to develop and evaluate a range of system alternatives. The final alternatives will be evaluated using their respective socioeconomic and travel demand forecasts while using the same methodology and analysis procedures in place for measuring various performance measures.

7.0 References

The following references were used in preparation of this report; however, not all are cited within the report:

American Association of State Highway and Transportation Officials (AASHTO). 2018. *Highway Safety Manual.* http://www.highwaysafetymanual.org/Pages/default.aspx. Accessed July 23, 2018.

Chicago Metropolitan Agency for Planning (CMAP). 2010. *GO TO 2040.* http://www.cmap.illinois.gov/about/2040. Accessed July 23, 2018.

Chicago Metropolitan Agency for Planning (CMAP). 2018. *ON TO 2050 Comprehensive Regional Plan.* http://www.cmap.illinois.gov/onto2050. Accessed July 23, 2018.

Cook County. n.d. *2040 Long Range Transportation Plan.* http://www.connectingcookcounty.org/pdf/CookCounty_LRTP_FINAL_WebVersion.pdf. Accessed July 23, 2018.

Cook County. 2017. *Cook County Sustainability Report 2017.* http://blog.cookcountyil.gov/sustainability/wp-content/uploads/2018/01/Sustainability-Report-2017_final.pdf. Accessed July 23, 2018.

Federal Highway Administration (FHWA). 2013. *Highway Functional Classification Concepts, Criteria and Procedures.*

Federal Highway Administration (FHWA), Office of Operations. 2017. T*ravel Time Reliability: Making It There On Time, All The Time.* https://ops.fhwa.dot.gov/publications/tt_reliability/TTR_Report.htm. Accessed July 23, 2018.

Illinois Department of Transportation (IDOT), Illinois Tollway, in collaboration with the Federal Highway Administration (FHWA). 2015. *Draft Environmental Impact Statement.* September. http://www.idot.illinois.gov/transportation-system/environment/environmental-review-documents. Accessed July 23, 2018.

Illinois Department of Transportation (IDOT). 2015. *Illinois Strategic Highway Safety Plan.* http://www.idot.illinois.gov/transportation-system/transportation-management/planning/SHSP. Accessed July 23, 2018.

Travel Model Improvement Program Federal Highway Administration. 1997. *Model Validation and Reasonableness Checking Manual*

Chicago Metropolitan Agency for Planning (CMAP). 2014. *GO TO 2040 Update Appendix Travel Model Documentation*

Chicago Metropolitan Agency for Planning (CMAP). 2017. *Trip-Based Travel demand Model Validation Report*

Tri-County-Access Draft Environment Impact Statement: System Planning Report

Tri-County-Access Draft Environment Impact Statement: Transportation System Performance Report

Attachment I:
Traffic Count Inventory

Table A-1. Traffic Count Inventory

MAP_ID	County	Latitude	Longitude	AADT	Location
44_016 5026	DuPage	41.992464	-88.015975	7,624	Devon Ave
44_022 3514	DuPage	41.980513	-88.005324	4,504	ARLINGTON HEIGHTS RD
44_022 0164	DuPage	41.972524	-88.028240	18,369	IRVING PARK RD
44_022 3087	DuPage	41.983571	-88.006933	49,901	THORNDALE AVE
44_022 3457	DuPage	41.966528	-88.018623	7,940	BLOOMINGDALE RD
44_022 3513	DuPage	41.990574	-88.003164	14,257	ARLINGTON HEIGHTS RD
44_016 5027	DuPage	41.992752	-87.991710	20,415	Devon Ave
44_022 3510	DuPage	41.957181	-88.003284	3,811	PARKSIDE AVE
44_022 0166	DuPage	41.966908	-88.000550	18,137	IRVING PARK RD
44_022 3518	DuPage	41.981724	-87.998159	13,267	PROSPECT AVE
44_022 3088	DuPage	41.983785	-87.996178	42,183	THORNDALE AVE
44_022 0167	DuPage	41.964295	-87.984590	26,111	IRVING PARK RD
135	DuPage	41.987902	-87.979727	9,850	Wood Dale Rd. North of Thorndale Ave.
44_022 3089	DuPage	41.984114	-87.978069	30,695	THORNDALE AVE
44_022 3545	DuPage	41.961503	-87.978865	9,331	WOODDALE RD
44_022 3544	DuPage	41.969069	-87.978822	12,209	WOODDALE RD
44_016 5028	DuPage	41.993013	-87.969471	21,282	Devon Ave
44_022 0168	DuPage	41.962100	-87.969103	23,525	IRVING PARK RD
44_022 0099	DuPage	41.987942	-87.959419	43,118	BUSSE RD
44_016 5029	DuPage	41.993338	-87.949661	13,837	Devon Ave
44_022 0101	DuPage	41.953202	-87.959466	54,703	KINGERY HWY
44_022 0100	DuPage	41.971809	-87.959321	46,305	BUSSE RD
44_022 3090	DuPage	41.982318	-87.957263	19,029	THORNDALE AVE
44_022 0169	DuPage	41.960934	-87.949502	13,517	IRVING PARK RD
44_022 3561	DuPage	41.959707	-87.949063	12,276	CHURCH RD
44_022 3091	DuPage	41.974522	-87.939726	27,214	YORK RD
44_022 3596	DuPage	41.954649	-87.938181	15,654	GREEN ST
44_022 3085	DuPage	41.987003	-88.029775	84,037	ELGIN OHARE EXPWY
44_022 0162	DuPage	41.980871	-88.066297	16,858	IRVING PARK RD
44_022 3455	DuPage	41.967565	-88.051606	12,697	MEDINAH RD
44_022 3456	DuPage	41.963300	-88.051649	12,521	MEDINAH RD
44_022 0163	DuPage	41.974820	-88.041566	15,983	IRVING PARK RD
44_022 0177	DuPage	41.982811	-88.031461	17,578	ROHLWING RD
44_022 0178	DuPage	41.961658	-88.031624	24,164	ROHLWING RD
1051	DuPage	41.959909	-88.026330	63,202	I-290
1047	DuPage	41.958299	-88.023930	45,106	I-290
1033	DuPage	41.944132	-87.992807	70,371	I-290
1046	DuPage	41.944092	-87.992123	71,168	I-290
1052	DuPage	41.956727	-88.028174	61,774	I-355
44_049 4245	Kenosha	42.495143	-88.004501	6,344	128th St
300672	Kenosha	42.498697	-88.025566	9,263	USH 45 NORTH OF CTH WG BRISTOL TNSHP
300112	Kenosha	42.568046	-88.015150	21,242	STH 50 1.0 MI EAST OF CTH D
300946	Kenosha	42.538629	-88.009798	5,127	CTH C BTWN CTH D & CTH MB
44_049 4246	Kenosha	42.494978	-87.981456	5,897	128th St
44_049 4247	Kenosha	42.494807	-87.961639	3,033	128th St
300762	Kenosha	42.498375	-87.951836	642	W FRONTAGE RD I-94 S. OF CTH ML
300256	Kenosha	42.603959	-87.920572	8,371	38TH ST BTWN CTH H & 95TH AVE KENOSHA
306119	Kenosha	42.546438	-87.947417	9,152	CTH C - EAST OF I-94
300106	Kenosha	42.567232	-87.931037	28,392	STH 50 E OF 104TH AVE & 0.5 MI W OF CTH H-C
300840	Kenosha	42.589496	-87.945775	14,627	STH 158 0.2 MI E OF I-94 & W OF GREYHOUND PARK
300849	Kenosha			11,616	STH 165 EAST OF I-94 PLEASANT PRAIRIE
300324	Kenosha	42.591446	-87.914973	13,856	CTH H 0.5 MI S OF CTH S SOMERS TNSHP
300105	Kenosha	42.603745	-87.910269	12,238	CTH S 0.5 MI W OF CTH EA & 0.5 MI E OF CTH H
300897	Kenosha	42.587342	-87.914887	12,825	CTH H SOUTH OF STH 158 KENOSHA
300431	Kenosha	42.588902	-87.887167	21,699	STH 158 BTWN 64TH & STH 31 KENOSHA - HPMS
300322	Kenosha	42.581688	-87.896859	4,963	CTH K BTWN STH 31 & 82ND AVE KENOSHA - HPMS
300686	Kenosha	42.581954	-87.917484	11,060	CTH K W OF CTH H PLEASANT PRAIRIE TNSHP
300690	Kenosha	42.554586	-87.913777	5,308	CTH H SOUTHEAST OF CTH C PLEASANT PRAIRIE TNSHP
300864	Kenosha	42.512602	-87.912381	1,503	88th Ave
301016	Kenosha	42.523007	-87.898428	17,555	STH 165 BTWN 72ND & 80TH AVES PLEASANT PRAIRIE - HPMS

MAP_ID	County	Latitude	Longitude	AADT	Location
300730	Kenosha	42.553687	-87.891488	33,953	STH 31 NORTH OF 85TH ST KENOSHA - HPMS
300303	Kenosha	42.568305	-87.887274	35,663	STH 31 NORTH OF STH 50 - HPMS
300305	Kenosha	42.566438	-87.873592	34,566	STH 50 WEST OF 52ND AVE KENOSHA
300102	Kenosha	42.540865	-87.892032	26,731	STH 31 .5 MI NORTH OF 93RD ST
300693	Kenosha	42.519960	-87.891590	15,841	STH 31 SOUTH OF STH 165 PLEASANT PRAIRIE TNSHP
300281	Kenosha	42.523020	-87.890299	10,150	STH 165 E OF STH 31 PLEASANT PRAIRIE TNSHP
300276	Kenosha	42.496905	-87.887365	20,215	STH 31 NORTH OF 128TH ST PLEASANT PRAIRE
300114	Kenosha	42.520325	-87.863061	3,986	CTH ML S OF STH 165 PLEASANT PRAIRIE TNSHP
300878	Kenosha	42.588340	-87.882529	51,491	STH 31 BTWN 53RD ST & 55TH ST KENOSHA - HPMS
300307	Kenosha	42.581508	-87.881973	15,725	CTH K EAST OF STH 31 KENOSHA
300875	Kenosha	42.593757	-87.881189	55,535	STH 31 BTWN 46TH ST & 49TH ST KENOSHA - HPMS
300433	Kenosha	42.588503	-87.867313	21,137	STH 158 WEST OF 47TH AVE KENOSHA
300310	Kenosha	42.603185	-87.868585	12,275	CTH S BTWN 47TH & 55TH AVES KENOSHA - HPMS
300846	Kenosha	42.525661	-87.857636	6,651	CTH ML NORTH OF STH 165 PLEASANT PRAIRIE TNSHP
300561	Kenosha	42.557548	-87.855004	14,138	39TH AVE SOUTH OF 80TH ST KENOSHA
300491	Kenosha	42.559858	-87.855066	10,953	39TH AVE NORTH OF 80TH ST KENOSHA
300526	Kenosha	42.558627	-87.835865	6,686	80TH ST BTWN 22ND & 23RD AVES KENOSHA
300541	Kenosha	42.589249	-87.855731	5,277	39TH AVE BTWN 51ST & 52ND ST KENOSHA
300426	Kenosha	42.602566	-87.840766	14,480	WASHINGTON RD BTWN 22ND & 28TH AVES KENOSHA - HPMS
300287	Kenosha	42.535291	-87.854223	9,549	CTH EZ NORTH OF CTH ML KENOSHA
300879	Kenosha	42.586435	-87.855697	13,269	39TH AVE BTWN 53RD & 55TH STS KENOSHA - HPMS
300439	Kenosha	42.588127	-87.846323	22,407	STH 158 52ND BTWN 30TH & 31ST KENOSHA - HPMS
300833	Kenosha	42.572895	-87.855297	13,708	39TH AVE SOUTH OF 67TH ST KENOSHA
300480	Kenosha	42.580798	-87.841974	13,758	60TH ST BTWN 26TH & 28TH AVE KENOSHA - HPMS
300853	Kenosha	42.565914	-87.836037	13,616	75TH ST WEST OF 22ND AVE KENOSHA
300847	Kenosha	42.523567	-87.853867	8,246	CTH EZ NORTH OF STH 165 PLEASANT PRAIRIE
300934	Kenosha	42.520627	-87.853743	8,431	CTH EZ SOUTH OF STH 165 PLEASANT PRAIRIE
300704	Kenosha	42.522077	-87.828023	3,923	STH 165 W OF STH 32 PLEASANT PRAIRIE TNSHP
300420	Kenosha	42.598908	-87.824000	4,316	WASHINGTON RD BTWN 10TH & STH 32 KENOSHA
300442	Kenosha	42.587566	-87.835683	13,185	22ND AVE BTWN STH 158 52ND ST & 53RD ST KENOSHA
300443	Kenosha	42.587950	-87.835005	15,336	STH 158 52ND ST EAST OF 22ND AVE KENOSHA - HPMS
300473	Kenosha	42.579793	-87.835599	11,488	22ND AVE BTWN 62ND & 63RD ST KENOSHA
301005	Kenosha	42.580685	-87.835136	5,362	60TH ST BTWN 20TH & 22ND AVES KENOSHA
300471	Kenosha	42.576527	-87.835650	4,454	22ND AVE BTWN 64TH & 65TH STS KENOSHA
300515	Kenosha	42.565860	-87.826146	11,207	75TH ST BTWN 14TH AVE & STH 32 SHERIDAN KENOSHA
300468	Kenosha	42.579146	-87.821514	29,846	STH 32 SOUTH OF 61ST ST KENOSHA
300522	Kenosha	42.555099	-87.825296	18,391	STH 32 SHERIDAN RD BTWN 80TH & 81ST ST KENOSHA - HPMS
300962	Kenosha	42.524435	-87.824338	11,489	STH 32 N OF STH 165 PLEASANT PRAIRIE - HPMS
300101	Kenosha	42.517057	-87.823664	10,818	Sheridan Rd
300961	Kenosha	42.589755	-87.822970	19,642	STH 32 BTWN STH 158 & 50TH ST KENOSHA - HPMS
300906	Kenosha	42.585293	-87.822417	23,543	STH 32 SHERIDAN BTWN 55TH & 56TH STS KENOSHA
300372	Kenosha	42.578916	-88.211233	23,100	STH 50-83 SE OF STH 83 NORTH
300978	Kenosha	42.574274	-88.205326	4,616	CTH W BTWN STH 50 & CTH JI SILVER LAKE
300391	Kenosha	42.496178	-88.301549	4,490	CTH P NORTH OF WI-IL STATE LINE RANDALL TNSHP
300700	Kenosha	42.506774	-88.294354	3,701	CTH P BTWN 119TH ST & MUSIAL RD TWIN LAKES - HPMS
300387	Kenosha	42.544412	-88.280790	2,100	CTH P SOUTH OF CTH F RANDALL TNSHP
300386	Kenosha	42.549799	-88.262962	2,062	CTH F EAST OF CTH P RANDALL TNSHP
300399	Kenosha	42.535391	-88.246992	7,130	CTH EM SOUTH OF CTH F TWIN LAKES
300641	Kenosha	42.542080	-88.232102	3,995	CTH F BTWN CTH KD NORTH & CTH KD SOUTH RANDALL TNSHP - HPMS
300972	Kenosha	42.525711	-88.216936	3,684	CTH KD BTWN 98TH ST & CTH C TWIN LAKES
300918	Kenosha	42.536257	-88.212333	4,197	CTH F BTWN CTH KD & CTH JI RANDALL TNSHP
300633	Kenosha	42.501816	-88.216484	2,837	CTH KD SOUTH OF CTH C RANDALL TNSHP
300648	Kenosha	42.568492	-88.136045	19,717	STH 50 -83 WEST OF CTH F SALEM TNSHP
301107	Kenosha	42.497353	-88.197533	7,832	CTH W SOUTH OF CTH CK RANDALL TNSHP
300154	Kenosha	42.506668	-88.189909	6,323	CTH W 1.0 MI SOUTH OF CTH C SALEM TNSHP
300975	Kenosha	42.512181	-88.182198	11,824	CTH W BTWN CTH C EAST & CTH C WEST TWIN LAKES
300159	Kenosha	42.531323	-88.177234	1,809	CTH W 0.5 MI SOUTH OF CTH F SALEM TNSHP
300976	Kenosha	42.511352	-88.177010	8,514	CTH C BTWN 360TH AVE & CTH B SOUTH TWIN LAKES
300161	Kenosha	42.541108	-88.173750	4,148	CTH F EAST OF CTH W SALEM TNSHP
300646	Kenosha	42.542433	-88.163580	2,295	CTH F SOUTH OF CTH SA SALEM TNSHP
300200	Kenosha	42.507831	-88.121720	2,849	CTH JF SOUTH OF CTH C SALEM TNSHP
300668	Kenosha	42.517965	-88.106785	8,306	CTH C WEST OF STH 83 SALEM TNSHP

MAP_ID	County	Latitude	Longitude	AADT	Location
300654	Kenosha	42.587146	-88.119429	4,315	STH 75 BTWN CTH NN & CTH K BRIGHTON TNSHP - HPMS
300988	Kenosha	42.568294	-88.118086	24,530	STH 50 BTWN STH 75 & CTH F SILVER LAKE
306111	Kenosha	42.539865	-88.104730	8,372	STH 83 - SOUTH OF CTH AH
306109	Kenosha	42.568397	-88.050768	22,877	75th St
300667	Kenosha	42.524077	-88.099702	6,323	STH 83 NORTH OF CTH C SALEM TNSHP
300983	Kenosha	42.518385	-88.098585	9,576	STH 83 BTWN CTH C & 111TH ST SILVER LAKE
300664	Kenosha	42.588064	-88.050845	6,482	USH 45 NORTH OF CTH K PARIS TNSHP
300224	Kenosha	42.574544	-88.047438	6,552	USH 45 0.5 MI SOUTH OF CTH K BRISTOL TNSHP
300854	Kenosha	42.547339	-88.050227	10,101	USH 45 SOUTH OF CTH AH BRISTOL TNSHP
300108	Kenosha	42.530624	-88.049651	8,289	USH 45 0.5 MI SOUTH OF CTH C
300989	Kenosha	42.513569	-88.031358	10,500	USH 45 BTWN CTH Q & CTH V BRISTOL TNSHP
44_049 0475	Lake	42.481552	-88.017906	8,226	US 45
44_049 0291	Lake	42.338740	-88.018409	19,127	Belvidere Rd
44_049 3694	Lake	42.344658	-88.014403	7,941	Center St
44_049 3693	Lake	42.345192	-88.028664	7,063	Center St
44_049 4263	Lake	42.351751	-88.013887	874	Brae Loch Rd
44_049 3812	Lake	42.360464	-88.012519	23,712	Washington St
44_049 3688	Lake	42.360182	-88.028680	27,038	Washington St
44_049 3650	Lake	42.407904	-88.016900	8,154	SAND LAKE RD
44_049 3619	Lake	42.425299	-88.030651	902	BECK RD
44_049 3646	Lake	42.428799	-88.017625	8,956	Grass Lake Rd
44_049 0992	Lake	42.161395	-88.026185	24,498	Illinois 053
44_049 3996	Lake	42.261928	-88.018793	13,447	Midlothian Rd
44_049 0248	Lake	42.261949	-88.027037	19,813	IL 60 & 83
44_049 3995	Lake	42.272512	-88.018846	12,896	Midlothian Rd
44_049 3869	Lake	42.269858	-88.026344	7,522	Hawley St
44_049 3994	Lake	42.287247	-88.018924	13,563	Midlothian Rd
44_049 0853	Lake	42.274646	-88.011427	16,393	Maple St
44_049 0852	Lake	42.277197	-88.029732	6,544	Maple St
44_049 3993	Lake	42.302688	-88.019033	7,448	Midlothian Rd
44_049 3844	Lake			9,820	Winchester Rd
44_049 3843	Lake	42.299744	-88.025665	6,790	Winchester Rd
44_049 3426	Lake	42.306132	-88.024051	15,182	Peterson Rd
44_049 0943	Lake	42.173825	-88.007239	27,001	IL-53
44_049 3896	Lake	42.190206	-88.011044	8,754	Old McHenry Rd
44_049 3895	Lake	42.210304	-88.036783	14,057	Old McHenry Rd
44_049 0266	Lake	42.197265	-88.038121	18,497	IL-22
150	Lake	42.461345	-88.015981	8,719	US 45 0.9 mile south of IL 173
44_049 0174	Lake	42.465970	-87.994660	17,603	Rosecrans Rd
44_049 0249	Lake	42.246560	-88.013626	22,515	IL 60 & 83
44_049 3999	Lake	42.268638	-88.010740	568	Greenview Ave
44_049 3875	Lake	42.263188	-88.010883	2,924	Courtland St
44_049 3482	Lake	42.316627	-88.014206	5,799	Midlothian Rd
44_049 3427	Lake	42.306067	-88.011733	16,071	Peterson Rd
44_049 0722	Lake	42.322689	-88.017671	14,295	Antioch Rd
44_049 0301	Lake	42.445357	-88.010784	6,214	Lake St
44_049 4227	Lake	42.221507	-88.024785	10,783	Gilmer Rd
44_049 0267	Lake	42.197271	-88.003925	22,920	IL-22
44_049 0308	Lake	42.326690	-88.004856	32,431	Lake St
44_049 4265	Lake	42.320632	-87.982691	7,403	Casey Rd
44_049 0304	Lake	42.384216	-88.004172	21,172	Lake St
44_049 3672	Lake	42.381598	-88.014134	24,583	Rollins Rd
44_049 0303	Lake	42.397001	-88.004064	14,084	Lake St
44_049 0443	Lake	42.405297	-88.025965	17,821	Grand Ave
44_049 0302	Lake	42.416528	-88.003847	14,434	Lake St
44_049 0412	Lake	42.306956	-87.995303	13,645	Antioch Rd
44_049 0328	Lake	42.314857	-88.003405	2,851	IL-137 WB TO US45 NB
44_049 0310	Lake	42.301890	-88.004371	32,346	Lake St
44_049 3428	Lake	42.306056	-87.998434	13,292	Peterson Rd
44_049 0309	Lake	42.310349	-88.004432	34,529	Lake St
44_049 0307	Lake	42.345293	-88.004735	31,867	Lake St
44_049 0306	Lake	42.356211	-88.002645	28,028	Lake St

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 3647	Lake	42.424834	-87.997906	8,701	Millburn Rd
44_049 3897	Lake	42.178529	-87.998613	11,308	Old McHenry Rd
44_049 4003	Lake	42.244573	-88.003701	4,309	Diamond Lake Rd
44_049 0250	Lake	42.240601	-88.002269	262	IL 60 & 83
44_049 0312	Lake	42.268468	-88.004017	25,431	Lake St
44_049 0313	Lake	42.258150	-88.003959	30,723	Lake St
44_049 0311	Lake	42.285579	-88.003973	23,675	Lake St
44_049 4228	Lake	42.210539	-87.998118	12,473	Gilmer Rd
44_049 0305	Lake	42.372136	-87.998896	20,217	Lake St
44_049 4005	Lake	42.264139	-88.002660	1,080	Seymour Ave
44_049 3823	Lake	42.353377	-87.990563	6,138	Gages Lake Rd
44_049 0854	Lake	42.272284	-87.996517	12,627	Maple St
44_049 0259	Lake	42.238028	-87.997276	16,211	IL 83
44_049 0251	Lake	42.239968	-87.997285	19,108	Illinois 060
44_049 0314	Lake	42.249146	-87.993977	30,975	Lake St
44_049 0445	Lake	42.385845	-87.994894	21,378	Grand Ave
44_049 4006	Lake	42.271216	-87.996196	1,367	Prospect Ave
44_049 3871	Lake	42.270529	-87.995485	2,552	Hawley St
44_049 3651	Lake	42.405690	-87.994574	10,977	STEARNS SCHOOL RD
44_049 0316	Lake	42.227962	-87.994232	32,375	Lake St
44_049 0317	Lake	42.213937	-87.994310	35,634	Lake St
44_049 0315	Lake	42.238318	-87.994169	31,888	Lake St
44_049 0422	Lake	42.305742	-87.988476	5,724	IL-137WB TO PETERSON
44_049 0252	Lake	42.240628	-87.985622	32,803	Illinois 060
44_049 3648	Lake	42.422225	-87.982471	3,748	Millburn Rd
44_049 4233	Lake	42.444554	-87.991983	841	Crawford Rd
44_049 4232	Lake	42.480530	-87.991503	225	Crawford Rd
44_049 0320	Lake	42.179207	-87.989748	51,889	Lake St
44_049 0321	Lake	42.174467	-87.987332	38,856	Lake St
44_049 0319	Lake	42.189934	-87.989635	48,224	Lake St
44_049 0318	Lake	42.203417	-87.989544	46,783	Lake St
44_049 0268	Lake	42.197157	-87.979793	27,365	Half Day Rd
44_049 0855	Lake	42.277345	-87.981533	16,701	Maple St
44_049 3794	Lake	42.394981	-87.967081	6,024	Stearns School Rd
44_049 3015	Lake	42.380730	-87.986077	3,704	Almond Rd
44_049 0446	Lake	42.385796	-87.974461	38,506	Grand Ave
44_049 0290	Lake	42.340325	-87.984206	30,018	Belvidere Rd
44_049 4002	Lake	42.157124	-87.985004	25,550	ARLINGTON HEIGHTS RD
44_049 4001	Lake	42.167258	-87.984945	23,198	ARLINGTON HEIGHTS RD
44_049 3954	Lake	42.160126	-87.982080	2,118	CHECKER DR
44_049 4008	Lake	42.287397	-87.979779	24,138	Butterfield Rd
44_049 3016	Lake	42.368829	-87.983010	3,485	Almond Rd
44_049 4007	Lake	42.300446	-87.983695	21,831	Butterfield Rd
44_049 3846	Lake	42.294777	-87.969777	8,857	Winchester Rd
44_049 0411	Lake	42.306110	-87.971897	30,381	Buckley Rd
44_049 3973	Lake	42.224066	-87.979467	1,627	OAKWOOD RD
44_049 4010	Lake	42.267198	-87.974173	23,835	Butterfield Rd
44_049 4009	Lake	42.275431	-87.974043	24,917	Butterfield Rd
44_049 0856	Lake	42.282787	-87.967265	20,417	Maple St
44_049 3824	Lake	42.353092	-87.970651	4,729	Gages Lake Rd
44_049 4012	Lake	42.234087	-87.976972	6,687	Butterfield Rd
44_049 0253	Lake	42.240468	-87.968405	33,984	Illinois 060
44_049 0322	Lake	42.170754	-87.973894	21,968	Lake St
44_049 3915	Lake	42.171699	-87.969976	12,171	Deerfield Pkwy
44_049 3969	Lake	42.164961	-87.974136	767	CHECKER DR
44_049 4026	Lake	42.410882	-87.962840	10,373	Hunt Club Rd
44_049 4024	Lake	42.436598	-87.972395	6,464	Hunt Club Rd
44_049 3780	Lake	42.429178	-87.961066	2,648	Wadsworth Rd
44_049 4023	Lake	42.454778	-87.972259	6,451	Hunt Club Rd
44_049 4022	Lake	42.472944	-87.972145	4,546	Hunt Club Rd
44_049 0175	Lake	42.465629	-87.968013	16,996	Rosecrans Rd
44_049 4021	Lake	42.487563	-87.971777	4,128	Hunt Club Rd

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 4016	Lake	42.190062	-87.967370	11,823	Buffalo Grove Rd
44_049 0269	Lake	42.195885	-87.962756	22,186	Half Day Rd
44_049 3872	Lake	42.270758	-87.962507	6,480	GOLF RD
44_049 4018	Lake			6,930	Buffalo Grove Rd
44_049 4019	Lake	42.157829	-87.964516	12,898	Buffalo Grove Rd
44_049 4017	Lake	42.177191	-87.965319	13,178	Buffalo Grove Rd
44_049 3916	Lake	42.171694	-87.957483	14,409	Deerfield Pkwy
44_049 0254	Lake	42.240438	-87.952256	36,573	Illinois 060
44_049 0857	Lake	42.283164	-87.956810	14,933	Park Ave
44_049 3825	Lake			3,398	Gages Lake Rd
44_049 4029	Lake	42.352441	-87.963654	16,023	Hunt Club Rd
44_049 3815	Lake	42.363938	-87.958626	23,374	Washington St
44_049 4027	Lake	42.389710	-87.963231	18,254	Hunt Club Rd
44_049 0447	Lake	42.383316	-87.955440	44,337	Grand Ave
44_049 3955	Lake	42.158308	-87.971822	1,473	OLD CHECKER RD
44_049 3796	Lake			8,984	Stearns School Rd
44_049 0192	Lake	42.312880	-87.963680	23,477	Milwaukee Ave
44_049 0193	Lake	42.294829	-87.955873	26,961	Milwaukee Ave
44_049 0410	Lake	42.305886	-87.952300	26,117	Buckley Rd
44_049 0176	Lake	42.465507	-87.955251	13,718	Rosecrans Rd
44_049 0194	Lake	42.276253	-87.951975	27,527	Milwaukee Ave
44_049 0196	Lake	42.252122	-87.946736	29,308	Milwaukee Ave
44_049 3873	Lake	42.269242	-87.946762	1,812	GOLF RD
44_049 3851	Lake	42.286857	-87.950914	3,209	CHURCH ST
44_049 3933	Lake	42.182668	-87.952201	10,091	Aptakistic Rd
44_049 3817	Lake	42.363879	-87.934581	14,245	Washington St
44_049 3430	Lake	42.477240	-87.949659	1,626	Old Skokie Rd
44_049 3429	Lake	42.488234	-87.952327	5,176	Old Skokie Rd
44_049 0270	Lake	42.196552	-87.943489	23,956	Half Day Rd
44_049 3596	Lake	42.204453	-87.948556	3,517	Port Clinton Rd
44_049 4037	Lake	42.286328	-87.948498	450	Second St
44_049 3847	Lake	42.288928	-87.940448	2,659	Appley Ave
44_049 0333	Lake	42.452913	-87.945696	21,596	Skokie Hwy
44_049 0177	Lake	42.465024	-87.914089	14,067	Rosecrans Rd
44_049 3759	Lake	42.487002	-87.932070	4,102	Russell Rd
44_049 4038	Lake	42.276227	-87.947082	1,009	Fourth Ave
44_049 3866	Lake	42.276237	-87.934709	6,806	Rockland Rd
44_049 3781	Lake	42.429021	-87.943891	10,101	Wadsworth Rd
44_049 3934	Lake	42.182098	-87.937371	7,934	Aptakistic Rd
44_049 0858	Lake	42.281734	-87.939105	16,307	Park Ave
44_049 4039	Lake	42.410947	-87.944877	7,642	Dilleys Rd
44_049 0288	Lake	42.344497	-87.934452	41,377	Belvidere Rd
44_049 0197	Lake	42.221459	-87.938533	31,819	Milwaukee Ave
44_049 0255	Lake	42.240654	-87.934997	45,296	Illinois 060
44_049 0409	Lake	42.305636	-87.932667	22,667	Buckley Rd
44_049 4040	Lake	42.385674	-87.941404	4,715	Dilleys Rd
44_049 3797	Lake	42.392928	-87.934904	6,791	Stearns School Rd
44_049 3917	Lake			9,881	Deerfield Pkwy
44_049 0190	Lake	42.350588	-87.940044	24,847	Milwaukee Ave
44_049 3782	Lake	42.428828	-87.925920	13,104	Wadsworth Rd
44_049 0198	Lake	42.199918	-87.932772	34,917	Milwaukee Ave
44_049 4202	Lake	42.201733	-87.929089	15,501	Olde Half Day Rd
44_049 0199	Lake	42.189211	-87.928797	38,117	Milwaukee Ave
44_049 0271	Lake	42.200475	-87.919281	29,990	Half Day Rd
44_049 3818	Lake	42.360772	-87.922457	31,322	Washington St
44_049 0200	Lake	42.174299	-87.923727	33,626	Milwaukee Ave
44_049 4047	Lake	42.231278	-87.925402	4,823	St Marys Rd
44_049 3888	Lake	42.221983	-87.912091	5,035	Everett Rd
44_049 4046	Lake	42.260193	-87.925011	11,818	St Marys Rd
44_049 0256	Lake	42.240161	-87.913401	35,177	Town Line Rd
44_049 4045	Lake	42.285518	-87.924885	18,956	St Marys Rd
44_049 0859	Lake	42.280102	-87.918433	22,431	Park Ave

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 4044	Lake	42.298597	-87.923375	16,793	St Marys Rd
44_049 3919	Lake	42.167599	-87.909372	18,150	Deerfield Rd
44_049 0201	Lake	42.160269	-87.918736	32,950	Milwaukee Ave
44_049 0408	Lake	42.307621	-87.917855	31,115	Buckley Rd
44_049 4268	Lake	42.374961	-87.916532	4,167	KILBOURNE RD
44_049 4051	Lake	42.322590	-87.914669	10,850	O'Plaine Rd
44_049 4050	Lake	42.340993	-87.914548	11,532	O'Plaine Rd
44_049 4048	Lake	42.365640	-87.914414	8,487	O'Plaine Rd
44_049 0449	Lake	42.369722	-87.910726	15,978	Grand Ave
44_049 4054	Lake	42.446874	-87.913596	1,135	Kilbourne Rd
44_049 3766	Lake	42.457809	-87.911646	149	21st St
44_049 3819	Lake	42.360259	-87.908201	26,981	Washington St
44_049 4049	Lake	42.353238	-87.914498	11,233	O'Plaine Rd
44_049 0407	Lake	42.311385	-87.910069	25,317	Buckley Rd
44_049 4053	Lake	42.477753	-87.912967	3,052	Kilbourne Rd
44_049 4052	Lake	42.492360	-87.912551	2,716	Kilbourne Rd
44_049 3204	Lake	42.153433	-87.911963	6,336	LAKE-COOK WB TO IL21
44_049 4059	Lake	42.194861	-87.906261	8,688	Riverwoods Rd
44_049 4060	Lake	42.179919	-87.904866	7,478	Riverwoods Rd
44_049 3909	Lake	42.189238	-87.893513	1,586	Duffy Ln
44_049 4058	Lake	42.211138	-87.905997	8,744	Riverwoods Rd
44_049 0272	Lake	42.200331	-87.897534	34,331	Half Day Rd
44_049 4057	Lake	42.230999	-87.902073	5,552	Riverwoods Rd
44_049 3889	Lake	42.221948	-87.885875	7,034	Everett Rd
44_049 4056	Lake	42.251152	-87.905576	5,816	Bradley Rd
44_049 4055	Lake	42.271944	-87.905385	4,760	Bradley Rd
44_049 0860	Lake	42.279999	-87.895280	18,650	Park Ave
44_049 4071	Lake	42.374052	-87.904585	4,370	Delany Rd
44_049 4070	Lake	42.384963	-87.904526	28,037	Delany Rd
44_049 4069	Lake	42.403418	-87.904180	15,704	Delany Rd
44_049 4068	Lake	42.421393	-87.904006	12,455	Delany Rd
44_049 4067	Lake	42.431768	-87.903921	9,888	Delany Rd
44_049 3783	Lake	42.428551	-87.895141	5,186	Wadsworth Rd
44_049 4066	Lake	42.446311	-87.903775	8,491	Delany Rd
44_049 4065	Lake	42.461338	-87.903504	6,901	Delany Rd
44_049 3760	Lake	42.493983	-87.900044	4,633	Russell Rd
44_049 3763	Lake	42.479458	-87.898720	587	9th St
44_049 0406	Lake	42.310947	-87.898701	34,637	Buckley Rd
44_049 0450	Lake	42.370689	-87.901669	17,942	Grand Ave
44_049 0286	Lake	42.346662	-87.908228	33,020	Belvidere Rd
44_049 0293	Lake	42.346452	-87.906290	5,533	IL-120 EB to Greenle
44_049 4074	Lake			959	Portwine Rd
44_049 3920	Lake	42.167462	-87.889900	9,309	Deerfield Rd
44_016 4582	Lake	42.152988	-87.885812	42,808	Lake Cook Rd
44_049 4061	Lake	42.171313	-87.889381	7,020	Riverwoods Rd
44_049 1078	Lake	42.333709	-87.895014	23,775	Waukegan Rd
44_049 1079	Lake	42.314742	-87.893995	14,805	Waukegan Rd
44_049 3838	Lake	42.319824	-87.887811	3,811	ML KING JR DR
44_049 0285	Lake	42.347526	-87.897042	21,393	Belvidere Rd
44_049 3458	Lake	42.411050	-87.891541	1,949	YORK HOUSE RD
44_049 3113	Lake	42.334275	-87.878271	11,734	14TH ST
44_049 0338	Lake	42.355055	-87.894890	47,713	Skokie Hwy
44_049 3789	Lake	42.399697	-87.892880	356	Blanchard Rd
44_049 3820	Lake	42.359561	-87.888106	14,890	Washington St
44_049 4088	Lake	42.383416	-87.894656	1,088	NORTHWESTERN AVE
44_049 3798	Lake	42.392473	-87.894087	17,739	Sunset Ave
44_049 3808	Lake	42.374348	-87.894756	1,244	GRANDVILLE AVE
44_049 1080	Lake	42.300124	-87.890116	25,801	Waukegan Rd
44_049 0405	Lake	42.308921	-87.884840	20,532	Buckley Rd
44_049 0451	Lake	42.370599	-87.888891	30,457	Grand Ave
44_049 0476	Lake	42.486542	-87.885214	14,171	GREEN BAY RD
44_049 1081	Lake	42.285472	-87.882657	26,052	Waukegan Rd

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 0273	Lake	42.200126	-87.880185	19,909	Half Day Rd
44_049 0477	Lake	42.471909	-87.883132	15,000	GREEN BAY RD
44_049 3764	Lake	42.479002	-87.869181	2,929	9th St
44_049 1094	Lake	42.384426	-87.884153	29,883	Green Bay Rd
44_049 1093	Lake	42.395752	-87.882645	23,098	Green Bay Rd
44_049 3799	Lake	42.392054	-87.874433	18,353	Sunset Ave
44_049 1095	Lake	42.373528	-87.882568	18,662	Green Bay Rd
44_049 3971	Lake	42.173474	-87.881635	1,674	Saunders Rd
44_049 3910	Lake	42.189244	-87.873694	2,449	Duffy Ln
44_049 0178	Lake	42.464637	-87.873956	13,120	Rosecrans Rd
44_049 3921	Lake	42.167492	-87.878553	11,467	Deerfield Rd
44_049 1096	Lake	42.365090	-87.877630	14,759	Green Bay Rd
44_049 3452	Lake	42.370393	-87.873451	27,599	Grand Ave
44_049 1092	Lake	42.404770	-87.879801	21,240	Green Bay Rd
44_049 3790	Lake	42.399282	-87.872122	823	Blanchard Rd
44_049 1090	Lake	42.453755	-87.879001	11,769	Green Bay Rd
44_049 0340	Lake	42.314118	-87.878666	37,396	Skokie Hwy
44_049 3839	Lake	42.319541	-87.873421	12,215	ML KING JR DR
44_049 0339	Lake	42.335779	-87.885372	29,666	Skokie Hwy
44_049 3459	Lake	42.410078	-87.866621	14,671	YORK HOUSE RD
44_049 0257	Lake	42.240048	-87.886587	29,547	Town Line Rd
44_049 1091	Lake	42.426542	-87.876738	16,623	Green Bay Rd
44_049 1082	Lake	42.264359	-87.871903	22,389	Waukegan Rd
44_049 0861	Lake	42.279700	-87.874625	19,173	Rockland Rd
44_049 3784	Lake	42.428347	-87.865738	12,427	Wadsworth Rd
44_049 3778	Lake	42.435577	-87.865516	2,506	33RD ST
44_049 3776	Lake	42.442818	-87.865421	1,537	29TH ST
44_049 4113	Lake	42.450428	-87.872604	4,692	Kenosha Rd
44_049 0404	Lake	42.308712	-87.869809	21,111	Buckley Rd
44_049 0341	Lake	42.293330	-87.875922	45,057	Skokie Hwy
44_049 1097	Lake	42.354404	-87.873724	25,852	Green Bay Rd
44_049 1098	Lake	42.341670	-87.873561	19,417	Green Bay Rd
44_049 3827	Lake	42.349694	-87.869316	7,694	Belvidere St
44_049 4104	Lake	42.211047	-87.874487	2,062	Telegraph Rd
44_049 3832	Lake	42.341444	-87.869556	7,246	10TH ST
44_049 1084	Lake	42.231135	-87.873939	21,973	Waukegan Rd
44_049 1083	Lake	42.243558	-87.871646	26,445	Waukegan Rd
44_049 0258	Lake	42.239911	-87.866902	18,429	Kennedy Rd
44_049 3882	Lake	42.247146	-87.867101	5,990	DEERPATH RD
44_049 3922	Lake	42.167456	-87.870713	17,361	Deerfield Rd
44_049 4105	Lake	42.196466	-87.869470	2,687	Telegraph Rd
44_049 0274	Lake	42.199973	-87.867131	24,393	Half Day Rd
44_049 4112	Lake	42.460957	-87.867975	4,387	Kenosha Rd
44_049 3363	Lake	42.281285	-87.872146	4,210	WASHINGTON AVE
44_049 1099	Lake	42.321497	-87.867013	6,966	Green Bay Rd
44_049 4117	Lake	42.345096	-87.866770	1,479	Willow Ave
44_049 4111	Lake	42.471557	-87.863906	2,250	Kenosha Rd
44_049 0179	Lake	42.464503	-87.860466	11,772	Rosecrans Rd
44_049 1085	Lake	42.210853	-87.868101	18,922	Waukegan Rd
44_049 3840	Lake	42.319440	-87.861320	13,596	ML KING JR DR
44_049 3837	Lake	42.324967	-87.859082	3,821	ARGONNE DR
44_016 4583	Lake	42.152921	-87.861307	40,375	Lake Cook Rd
44_049 4116	Lake	42.160203	-87.867295	4,587	WILMOT RD
44_049 3947	Lake	42.160154	-87.861851	427	HACKBERRY RD
44_049 4115	Lake	42.174693	-87.866992	2,713	WILMOT RD
44_049 4114	Lake	42.187740	-87.866730	2,191	WILMOT RD
44_049 4264	Lake	42.181876	-87.861056	468	NORTH AVE
44_049 4119	Lake	42.331923	-87.865646	4,929	DUGDALE RD
44_049 3835	Lake	42.334174	-87.863771	10,117	14TH ST
44_049 3833	Lake	42.341418	-87.860706	6,484	10TH ST
44_049 4123	Lake	42.368335	-87.865420	4,264	McAree Rd
44_049 3453	Lake	42.370327	-87.860476	22,997	Grand Ave

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 4106	Lake	42.187639	-87.860997	909	Telegraph Rd
44_049 3803	Lake	42.385739	-87.860791	1,312	GREENWOOD AVE
44_049 3800	Lake	42.391988	-87.860181	16,433	Sunset Ave
44_049 4121	Lake	42.401028	-87.864933	5,286	McAree Rd
44_049 3828	Lake	42.350463	-87.860121	27,315	Belvidere St
44_049 3821	Lake	42.359693	-87.856012	23,877	Washington St
44_049 4110	Lake	42.486153	-87.862866	2,071	Kenosha Rd
44_049 0342	Lake	42.264281	-87.863318	39,393	Skokie Hwy
44_049 0403	Lake	42.308460	-87.859403	20,653	Buckley Rd
44_049 1100	Lake	42.293776	-87.859098	7,159	Green Bay Rd
44_049 1086	Lake	42.183167	-87.854859	21,265	Waukegan Rd
44_049 0275	Lake	42.199806	-87.847665	23,596	Half Day Rd
44_049 3365	Lake	42.248765	-87.862174	1,477	DEERPATH TO US-41 NB
44_049 0343	Lake	42.243253	-87.862603	46,663	Skokie Hwy
44_049 3944	Lake	42.174648	-87.859679	2,122	GREENWOOD AVE
44_049 3890	Lake	42.218174	-87.859939	4,179	EVERETT RD
44_049 3923	Lake	42.167390	-87.856456	17,238	Deerfield Rd
44_049 4118	Lake	42.343298	-87.857533	1,868	DUGDALE RD
44_049 4125	Lake	42.163121	-87.859644	954	PINE ST
44_049 4126	Lake	42.156647	-87.855069	1,109	PINE ST
44_049 4141	Lake	42.329548	-87.855936	7,572	Lewis Ave
44_049 4137	Lake	42.368616	-87.855626	8,730	Lewis Ave
44_049 4136	Lake	42.384756	-87.855422	18,145	Lewis Ave
44_049 0402	Lake	42.308693	-87.851597	15,286	Buckley Rd
44_049 4142	Lake	42.316562	-87.856159	3,205	Lewis Ave
44_049 4140	Lake	42.337760	-87.855861	7,772	Lewis Ave
44_049 3836	Lake	42.334123	-87.850461	8,752	14TH ST
44_049 4139	Lake	42.346103	-87.855791	12,632	Lewis Ave
44_049 4135	Lake	42.401035	-87.855129	21,957	Lewis Ave
44_049 3801	Lake	42.391657	-87.848601	6,305	Sunset Ave
44_049 4134	Lake	42.415560	-87.855093	20,419	Lewis Ave
44_049 3460	Lake	42.410071	-87.839906	8,982	YORK HOUSE RD
44_049 4133	Lake	42.424718	-87.854997	20,031	Lewis Ave
44_049 3787	Lake	42.420988	-87.845281	4,757	BEACH RD
44_049 4132	Lake	42.431958	-87.854885	21,753	Lewis Ave
44_049 3785	Lake	42.430414	-87.840398	8,942	Wadsworth Rd
44_049 4131	Lake	42.439123	-87.854786	19,312	Lewis Ave
44_049 4130	Lake	42.449978	-87.854676	18,550	Lewis Ave
44_049 3773	Lake	42.450382	-87.846886	770	SALEM BLVD
44_049 4129	Lake	42.460833	-87.854556	11,056	Lewis Ave
44_049 3768	Lake	42.457178	-87.849001	5,737	21st St
44_049 4128	Lake	42.471701	-87.854465	7,831	Lewis Ave
44_049 0180	Lake	42.460149	-87.846991	9,970	Bethlehem Ave
44_049 4127	Lake	42.486023	-87.853088	4,780	Lewis Ave
44_049 3765	Lake	42.478863	-87.838776	4,980	9th St
44_049 4107	Lake	42.176497	-87.853034	1,090	CHESTNUT AVE
44_049 0344	Lake	42.229805	-87.853396	45,358	Skokie Hwy
44_049 3886	Lake	42.232506	-87.846259	8,630	WESTLEIGH RD
44_049 4101	Lake	42.264695	-87.850680	9,391	Green Bay Rd
44_049 0862	Lake	42.279568	-87.862478	16,886	Rockland Rd
44_049 3863	Lake	42.279658	-87.849297	4,890	Scranton Ave
44_049 3841	Lake	42.319351	-87.849475	10,116	ML KING JR DR
44_049 4256	Lake	42.323117	-87.845720	3,320	BROADWAY AVE
44_049 3829	Lake	42.351643	-87.845888	11,008	Belvidere St
44_049 4216	Lake	42.356328	-87.844899	5,397	Glen Rock Ave
44_049 3945	Lake	42.174573	-87.850831	3,026	GREENWOOD AVE
44_049 3946	Lake	42.170998	-87.857051	1,177	HAZEL AVE
44_049 3454	Lake	42.367564	-87.843922	14,626	Grand Ave
44_049 3807	Lake	42.377508	-87.843094	10,779	Glen Flora Ave
44_049 3878	Lake			1,869	WOODLAND RD
44_049 3958	Lake	42.283177	-87.841141	364	BLODGETT RD
44_049 3842	Lake	42.307860	-87.845262	8,563	BUCKLEY TO SHERIDAN

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 4152	Lake	42.342924	-87.844937	8,610	Jackson St
44_049 3834	Lake			3,114	10TH ST
44_049 4151	Lake	42.355693	-87.844779	6,238	Jackson St
44_049 4153	Lake	42.328752	-87.844885	3,953	Jackson St
44_049 4102	Lake	42.241260	-87.840813	4,987	Green Bay Rd
44_049 4159	Lake	42.268419	-87.844026	4,855	SHERIDAN RD
44_049 4150	Lake	42.368079	-87.842280	6,271	Jackson St
44_049 3779	Lake	42.435428	-87.840246	3,676	33RD ST
44_049 4156	Lake	42.442913	-87.845033	1,949	GALILEE AVE
44_049 3775	Lake	42.446148	-87.841591	3,074	27TH ST
44_049 4155	Lake	42.454478	-87.844961	672	GALILEE AVE
44_049 1087	Lake	42.160102	-87.840553	27,156	Waukegan Rd
44_049 0401	Lake	42.324678	-87.839775	9,854	Sheridan Rd
44_049 3802	Lake	42.386509	-87.840370	8,410	GOLF
44_049 4143	Lake	42.194451	-87.842152	4,058	Ridge Rd
44_049 3791	Lake	42.399178	-87.840436	1,354	BLANCHARD RD
44_049 4144	Lake	42.184385	-87.841506	2,344	Ridge Rd
44_049 3911	Lake			1,306	WEST PARK AVE
44_049 4160	Lake	42.254976	-87.840777	5,890	WOODLAND
44_049 0345	Lake	42.209097	-87.838779	41,261	Skokie Hwy
44_049 4161	Lake	42.240345	-87.836406	6,828	WESTERN AVE
44_049 3924	Lake	42.167238	-87.835068	23,446	Deerfield Rd
44_049 4169	Lake	42.440788	-87.839187	731	GABRIEL AVE
44_049 3777	Lake	42.442677	-87.837806	1,436	29TH ST
44_049 3772	Lake	42.454049	-87.837627	1,845	23RD ST
44_049 3891	Lake	42.217980	-87.833113	5,208	OLD ELM RD
44_049 3887	Lake	42.232408	-87.835476	8,766	WESTLEIGH RD
44_049 4174	Lake	42.373881	-87.835936	3,500	North Ave
44_049 3792	Lake	42.399171	-87.831981	712	BLANCHARD RD
44_049 4177	Lake	42.410058	-87.835355	1,494	NORTH AVE
44_049 3788	Lake	42.420928	-87.830606	3,856	BEACH RD
44_049 4175	Lake	42.361005	-87.835430	5,286	West St
44_049 4180	Lake	42.276018	-87.836068	1,285	MOFFETT RD
44_049 4171	Lake	42.264037	-87.834834	1,485	SHERIDAN RD
44_049 3957	Lake	42.278709	-87.838002	424	SCRANTON AVE
44_049 0400	Lake	42.348476	-87.831630	17,522	Amstutz Expwy
44_049 3830	Lake	42.355136	-87.832968	9,794	Belvidere St
44_049 0397	Lake	42.397280	-87.829192	21,138	Sheridan Rd
44_049 0398	Lake	42.384706	-87.829123	13,313	Greenwood Ave
44_049 3935	Lake	42.181718	-87.830779	700	BERKLEY RD
44_049 0181	Lake	42.457117	-87.832136	10,973	21st St
44_049 0346	Lake	42.194347	-87.829168	53,362	Skokie Hwy
44_049 4076	Lake	42.359459	-87.831376	365	Genesee St
44_049 3455	Lake	42.363773	-87.830685	9,479	Grand Ave
44_049 4146	Lake	42.374358	-87.830117	14,280	Sheridan Rd
44_049 4147	Lake	42.358265	-87.829639	2,207	Sheridan Rd
44_049 3831	Lake	42.355105	-87.828971	2,904	Belvidere St
44_049 3418	Lake	42.361724	-87.829160	1,899	MATHON TO IL-137 SB
44_049 4269	Lake	42.384695	-87.824653	632	Greenwood Ave
44_049 3413	Lake	42.383116	-87.826120	5,666	GRNWOOD TO IL-137 SB
44_049 0396	Lake	42.415461	-87.825168	21,325	Sheridan Rd
44_049 0395	Lake	42.425453	-87.825686	21,006	Sheridan Rd
44_049 0394	Lake	42.436303	-87.825641	21,045	Sheridan Rd
44_049 0393	Lake	42.449856	-87.825474	19,495	Sheridan Rd
44_049 3021	Lake	42.360919	-87.826262	347	Madison St
44_049 3769	Lake	42.457068	-87.822836	2,510	21ST ST
44_049 4172	Lake	42.240690	-87.826831	4,583	SHERIDAN RD
44_049 0392	Lake	42.467981	-87.824793	18,876	Sheridan Rd
44_049 3912	Lake	42.188866	-87.814629	2,068	WEST PARK AVE
44_049 0391	Lake	42.485747	-87.822237	13,405	Sheridan Rd
44_049 3928	Lake	42.178317	-87.822061	1,740	BRKLY RD TO DRFLD EB
44_049 3925	Lake	42.176392	-87.822845	21,260	Deerfield Rd

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 4185	Lake	42.449774	-87.820617	128	EDINA BLVD
44_049 3774	Lake	42.449747	-87.815856	1,598	SHILOH BLVD
44_049 4181	Lake	42.166363	-87.818164	1,792	RIDGE RD
44_049 3929	Lake	42.180282	-87.822986	1,785	DRFLD RD WB TO BRKLY
44_049 3907	Lake	42.199838	-87.825236	13,429	Half Day Rd
44_049 4163	Lake	42.209034	-87.812856	12,184	SHERIDAN RD
44_049 0347	Lake	42.184767	-87.822180	53,783	Skokie Hwy
44_049 4183	Lake	42.155789	-87.818644	798	RED OAK LN
44_049 3908	Lake	42.199768	-87.813145	7,662	Half Day Rd
44_049 3926	Lake	42.181559	-87.807913	9,153	Deerfield Rd
44_049 3913	Lake	42.183466	-87.805579	15,057	CENTRAL AVE
44_049 4188	Lake	42.201902	-87.798654	531	OAK ST
44_049 4165	Lake	42.184998	-87.802359	8,046	GREEN BAY RD
44_049 4164	Lake	42.194231	-87.804811	9,486	GREEN BAY RD
44_049 4186	Lake			5,993	SKOKIE VALLEY RD
44_049 4189	Lake	42.193478	-87.797660	1,219	EDGECLIFF DR
44_049 4166	Lake	42.170211	-87.792599	8,414	GREEN BAY RD
44_049 4208	Lake	42.183264	-87.796943	3,553	ST JOHNS AVE
44_049 4210	Lake	42.177577	-87.785087	2,264	SHERIDAN RD
44_049 4209	Lake	42.170229	-87.786674	2,092	ST JOHNS AVE
44_049 4167	Lake	42.156044	-87.780640	5,894	GREEN BAY RD
44_049 4211	Lake	42.167115	-87.772567	937	CEDAR AVE
44_049 3949	Lake	42.159705	-87.773100	831	LAMBERT TREE AVE
44_016 6043	Lake	42.152335	-87.767532	3,941	COUNTY LINE RD
44_049 3712	Lake	42.335089	-88.097388	3,526	Cedar Lake Rd
44_049 3583	Lake	42.325427	-88.174739	4,706	Volo Village Rd
44_049 0227	Lake	42.242858	-88.119300	37,955	Rand Rd
44_049 4271	Lake	42.359278	-87.826756	1,584	Pershing Rd
44_049 0348	Lake	42.171896	-87.814982	62,563	Skokie Hwy
44_049 0287	Lake	42.345819	-87.919017	36,699	Belvidere Rd
44_049 4035	Lake	42.204352	-87.955226	13,282	BUFFALO GROVE RD
44_049 0205	Lake	42.153284	-87.917944	4,875	IL21 TO LAKE-COOK WB
44_049 0208	Lake	42.323405	-88.158615	29,051	Belvidere Rd
44_049 0431	Lake	42.322161	-88.149173	8,207	IL 60
44_049 4157	Lake	42.314946	-87.844362	8,035	SHERIDAN RD
44_049 3748	Lake	42.280861	-88.152759	5,119	Old Rand Rd
44_049 3035	Lake	42.286955	-88.153096	834	Callahan Rd
44_049 0244	Lake	42.256772	-88.146530	14,677	Liberty St
44_049 3752	Lake	42.254410	-88.142258	5,387	BARRINGTON RD
44_049 0224	Lake	42.267671	-88.154742	29,178	Rand Rd
44_049 0278	Lake	42.244783	-88.149613	15,050	IL-59
44_049 0225	Lake	42.253845	-88.150105	39,737	Rand Rd
44_049 0226	Lake	42.248511	-88.136490	36,213	Rand Rd
44_049 0826	Lake	42.348604	-87.883175	31,839	Belvidere St
44_049 3423	Lake	42.305078	-87.989605	7,258	PETERSON TO IL-137EB
44_049 0264	Lake	42.191183	-88.097898	17,502	IL-22
44_049 3294	Lake	42.346978	-87.906756	4,702	Greenleaf Ave to IL
44_049 0300	Lake	42.347567	-87.900473	3,024	IL-120 WB to Greenle
44_049 1077	Lake	42.350169	-87.894795	11,370	Waukegan Rd
44_049 0298	Lake	42.348184	-87.895810	4,223	IL-43 SB TO IL-120WB
44_049 3299	Lake	42.346840	-87.900007	3,358	Greenleaf Ave to IL-
44_049 0325	Lake	42.316118	-88.005549	2,046	US-45 SB TO IL-137
44_049 0415	Lake	42.366308	-87.828425	715	IL-137 SB TO MATHON
44_049 3416	Lake	42.366507	-87.827957	1,167	MATHON TO IL 137 NB
44_049 0289	Lake	42.342319	-87.954513	39,334	Belvidere Rd
44_049 4221	Lake	42.299421	-88.115103	9,022	Gilmer Rd
44_049 4219	Lake	42.313607	-88.153631	8,397	Gilmer Rd
44_049 0187	Lake	42.161165	-88.128983	29,911	Northwest Hwy
44_049 3705	Lake	42.243055	-88.081292	11,714	Fairfield Rd
44_049 0417	Lake	42.361794	-87.828779	1,810	IL 137 NB TO MATHON
44_049 0399	Lake	42.369727	-87.827721	12,815	Amstutz Expwy
44_049 0414	Lake	42.383116	-87.825609	6,825	Il-137 NB to Greenwo

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 3364	Lake	42.281218	-87.869040	4,673	SKOKIE VALLEY RD
44_049 3367	Lake	42.245424	-87.862706	2,516	DEERPATH TO US-41 SB
44_049 0368	Lake	42.245180	-87.862243	2,472	US-41 NB TO DEERPATH
44_049 0366	Lake	42.249010	-87.862642	805	US-41 SB TO DEERPATH
44_049 3864	Lake	42.278610	-87.845313	759	SCRANTON AVE
44_049 4244	Lake	42.248847	-88.197656	8,773	RAWSON BRIDGE RD
44_049 3678	Lake			7,807	Big Hollow Rd
44_049 0260	Lake	42.194218	-88.192993	15,179	IL-22
44_049 4257	Lake	42.168756	-88.199765	3,754	Ridge Rd
44_049 3936	Lake	42.176106	-88.187176	997	Merri Oaks Rd
44_049 4273	Lake	42.183298	-88.195203	5,641	PLUM TREE RD
44_049 0168	Lake	42.478696	-88.175956	8,859	Illinois 173
44_016 4821	Lake	42.154254	-88.187427	10,203	Lake Cook Rd
44_049 4249	Lake	42.251379	-88.197309	7,913	Roberts Rd
44_049 3630	Lake	42.422408	-88.198660	8,864	State Park Rd
44_049 0216	Lake	42.405793	-88.190457	23,694	Rand Rd
44_049 4239	Lake	42.311310	-88.191186	8,007	Darrell Rd
44_049 4243	Lake	42.252145	-88.184136	6,041	Darrell Rd
44_049 4250	Lake	42.241469	-88.183909	10,985	Roberts Rd
44_049 0242	Lake	42.268936	-88.188415	20,160	Illinois 176
44_049 4255	Lake	42.188829	-88.188715	5,653	Kelsey Rd
44_049 0183	Lake	42.179675	-88.183345	27,814	Northwest Hwy
44_049 4254	Lake	42.207277	-88.183859	12,121	Kelsey Rd
44_049 0261	Lake	42.192266	-88.168294	14,696	IL-22
44_049 4230	Lake	42.330139	-88.182404	2,644	Sullivan Lake Blvd
44_049 0207	Lake	42.325196	-88.181569	23,554	Belvidere Rd
44_049 3631	Lake	42.396863	-88.183546	9,203	GRAND AVE
44_049 0218	Lake	42.381365	-88.172419	19,544	Rand Rd
44_049 3627	Lake			1,406	Sullivan Lake Rd
44_049 4240	Lake	42.291712	-88.179244	5,164	Darrell Rd
44_049 4241	Lake	42.279533	-88.179131	5,371	Darrell Rd
44_049 3664	Lake	42.388981	-88.169291	7,995	Rollins Rd
44_049 4242	Lake	42.269083	-88.179002	7,021	Darrell Rd
44_049 3640	Lake	42.425770	-88.166734	8,254	Grass Lake Rd
44_049 3634	Lake	42.491978	-88.157028	2,807	Wilmont Rd
44_049 3937	Lake	42.176158	-88.162871	4,091	Cuba Rd
44_049 0184	Lake	42.170550	-88.165662	26,395	Northwest Hwy
44_016 4822	Lake	42.154253	-88.158061	11,835	Lake Cook Rd
44_049 4253	Lake	42.212107	-88.171061	8,003	Kelsey Rd
44_049 3904	Lake	42.199559	-88.157756	1,057	Old Barrington Rd
44_049 4252	Lake	42.221664	-88.158325	4,424	Kelsey Rd
44_049 3898	Lake	42.212561	-88.155665	2,651	Miller Rd
44_049 4251	Lake	42.236580	-88.159035	9,984	Roberts Rd
44_049 0220	Lake	42.356272	-88.169442	31,552	Rand Rd
44_049 0221	Lake	42.332760	-88.168704	27,656	Rand Rd
44_049 3629	Lake	42.346881	-88.152512	983	Molidor Rd
44_049 0219	Lake	42.371692	-88.169393	37,027	Rand Rd
44_049 0679	Lake	42.368728	-88.167434	12,896	Illinois 134
44_049 0167	Lake	42.381079	-88.166309	12,622	IL 59
44_049 3689	Lake	42.357792	-88.153689	3,064	Nippersink Rd
44_049 0680	Lake	42.370798	-88.152658	10,156	Illinois 134
44_049 3615	Lake	42.390388	-88.164954	295	ELM AVE
44_049 0222	Lake	42.307595	-88.164957	30,509	Rand Rd
44_049 0166	Lake	42.389324	-88.157925	9,691	IL 59
44_049 3665	Lake	42.383048	-88.150395	10,929	Rollins Rd
44_049 0223	Lake	42.285812	-88.157083	37,347	Rand Rd
44_049 0165	Lake	42.394068	-88.147996	13,938	IL 59
44_049 3976	Lake	42.170739	-88.155602	4,029	Hart Rd
44_049 0186	Lake	42.161753	-88.146220	30,914	Northwest Hwy
44_016 4823	Lake	42.154228	-88.138491	14,027	Main St
44_049 3938	Lake	42.175941	-88.143149	6,034	Cuba Rd
44_049 0170	Lake	42.478102	-88.115155	17,461	Illinois 173

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 0262	Lake	42.190438	-88.142846	13,944	IL-22
44_049 0279	Lake	42.232951	-88.147235	18,078	IL-59
44_049 0432	Lake	42.319074	-88.132902	10,504	IL 60
44_049 3624	Lake	42.338188	-88.144901	1,966	Fish Lake Rd
44_049 0209	Lake	42.327828	-88.138106	16,816	Belvidere Rd
44_049 0280	Lake	42.221236	-88.140803	17,074	IL-59
44_049 0281	Lake	42.201163	-88.142053	17,304	IL-59
44_049 3658	Lake	42.359603	-88.139878	8,360	Wilson Rd
44_049 3659	Lake	42.338699	-88.136057	7,600	Wilson Rd
44_049 3690	Lake	42.350282	-88.125396	3,376	Nippersink Rd
44_049 3657	Lake	42.374988	-88.139877	9,859	Wilson Rd
44_049 0681	Lake	42.367053	-88.125616	8,552	Illinois 134
44_049 3656	Lake	42.387648	-88.139857	4,424	Wilson Rd
44_049 0164	Lake	42.395456	-88.133474	15,513	IL 59
44_049 3641	Lake	42.445362	-88.138034	8,604	Grass Lake Rd
44_049 3605	Lake	42.437076	-88.130951	1,253	Kathryn Dr
44_016 4824	Lake	42.154220	-88.132196	13,532	Main St
44_049 0284	Lake	42.157889	-88.136106	19,852	Hough St
44_049 0283	Lake	42.168718	-88.135940	19,763	IL-59
44_049 0282	Lake	42.183138	-88.135626	18,986	IL-59
44_049 3753	Lake	42.287987	-88.135246	2,224	Garland Rd
44_049 3745	Lake	42.277328	-88.122721	3,612	Bonner Rd
44_049 3508	Lake	42.285952	-88.114652	387	Gossell Rd
44_049 4192	Lake	42.204935	-88.135406	476	Biltmore Dr
44_049 3666	Lake			5,848	Rollins Rd
44_049 3673	Lake	42.379440	-88.122510	876	Lake Shore Dr
44_049 3979	Lake	42.158050	-88.131248	1,051	NORTH AVE
44_049 3642	Lake	42.448068	-88.120819	9,501	Grass Lake Rd
44_049 0263	Lake	42.190515	-88.121280	21,180	IL-22
44_049 0163	Lake	42.408252	-88.127225	14,643	IL 59
44_049 3652	Lake	42.400977	-88.120391	6,105	Monaville Rd
44_049 3899	Lake	42.212170	-88.126481	6,500	Miller Rd
44_016 4825	Lake	42.154169	-88.115136	16,982	Main St
44_049 3756	Lake	42.269354	-88.121312	717	GRAND BLVD
44_049 0245	Lake	42.262633	-88.106537	17,556	Liberty St
44_049 3939	Lake	42.176186	-88.119286	9,415	Cuba Rd
44_049 0162	Lake	42.422531	-88.120412	13,051	IL 59
44_049 0438	Lake	42.415422	-88.115282	6,853	Grand Ave
44_049 3660	Lake	42.325380	-88.120714	5,051	Wilson Rd
44_049 0210	Lake	42.333652	-88.117941	14,548	Belvidere Rd
44_049 0433	Lake	42.316289	-88.116002	14,903	IL 60
44_049 3700	Lake	42.342714	-88.111825	11,142	Fairfield Rd
44_049 0211	Lake	42.337086	-88.104638	20,036	Belvidere Rd
44_049 0229	Lake	42.204817	-88.111681	32,834	Rand Rd
44_049 0228	Lake	42.224744	-88.111639	30,743	Rand Rd
44_049 3900	Lake	42.212036	-88.106526	4,365	Miller Rd
44_049 3701	Lake	42.325340	-88.111590	10,855	Fairfield Rd
44_049 0682	Lake	42.359023	-88.102330	8,536	Illinois 134
44_049 3697	Lake	42.391119	-88.114179	6,647	Fairfield Rd
44_049 3667	Lake	42.380284	-88.107197	17,115	Rollins Rd
44_049 3892	Lake	42.230243	-88.096991	12,980	Old McHenry Rd
44_049 3699	Lake	42.356730	-88.111780	10,239	Fairfield Rd
44_049 3727	Lake	42.357334	-88.105826	3,026	Hart Rd
44_049 0161	Lake	42.452674	-88.109313	13,431	IL 59
44_049 3643	Lake	42.448173	-88.100737	9,753	Grass Lake Rd
44_049 0230	Lake	42.193717	-88.109504	39,641	Rand Rd
44_049 3691	Lake	42.351427	-88.103337	1,526	Nippersink Rd
44_049 3698	Lake	42.373019	-88.110008	6,047	Fairfield Rd
44_049 3703	Lake	42.284718	-88.107153	13,856	Fairfield Rd
44_049 3704	Lake	42.269756	-88.106470	13,864	Fairfield Rd
44_049 3696	Lake	42.407161	-88.108401	5,455	Fairfield Rd
44_049 3653	Lake	42.398240	-88.101791	1,153	OLD MONAVILLE RD

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 3724	Lake	42.366674	-88.106424	750	MAYFIELD DR
44_049 3060	Lake	42.372313	-88.106127	1,456	Oakwood Dr
44_049 3636	Lake	42.488103	-88.103456	2,122	NORTH AVE
44_049 3702	Lake	42.305354	-88.106922	12,628	Fairfield Rd
44_049 3695	Lake			1,762	Fairfield Rd
44_049 3737	Lake	42.430008	-88.103568	2,075	Petite Lake Rd
44_049 0439	Lake	42.415468	-88.099463	8,259	Grand Ave
44_049 4258	Lake	42.477228	-88.100255	9,060	CHANNEL LAKE ST
44_049 0171	Lake	42.472770	-88.099376	14,110	Illinois 173
44_049 3985	Lake	42.157702	-88.101842	19,412	Ela Rd
44_049 3984	Lake	42.168578	-88.101725	10,084	Ela Rd
44_049 3950	Lake	42.161245	-88.091756	3,899	Long Grove Rd
44_049 3983	Lake	42.181559	-88.101646	9,657	Ela Rd
44_049 3940	Lake	42.175767	-88.094411	8,494	Cuba Rd
44_049 3982	Lake	42.188764	-88.101668	9,502	Ela Rd
44_049 0231	Lake	42.186188	-88.097460	39,101	Rand Rd
44_049 3728	Lake	42.357271	-88.096606	7,203	Hart Rd
44_049 3725	Lake	42.376242	-88.101836	940	Lotus Dr
44_049 3062	Lake	42.371795	-88.096051	1,622	OAKWOOD DR
44_049 3668	Lake	42.379047	-88.095806	24,283	Rollins Rd
44_049 4222	Lake	42.281088	-88.090386	10,873	Gilmer Rd
44_049 0462	Lake	42.484105	-88.096069	12,259	Main St
44_049 0463	Lake	42.475439	-88.095108	13,128	Main St
44_049 0461	Lake	42.491892	-88.094898	9,726	Main St
44_049 3711	Lake	42.357092	-88.093448	11,886	Cedar Lake Rd
44_049 0434	Lake	42.312339	-88.092486	23,788	IL 60
44_049 3706	Lake	42.406573	-88.092112	4,604	Cedar Lake Rd
44_049 3707	Lake	42.388054	-88.092133	10,415	Cedar Lake Rd
44_049 3654	Lake	42.398057	-88.078510	4,857	MONAVILLE RD
44_049 0440	Lake	42.415497	-88.082609	13,034	Grand Ave
44_049 0464	Lake	42.458797	-88.091819	12,709	Main St
44_049 0683	Lake	42.350462	-88.085451	9,637	MAIN ST
44_049 3644	Lake	42.444192	-88.076576	10,293	Grass Lake Rd
44_049 3710	Lake	42.364475	-88.089846	18,610	Cedar Lake Rd
44_049 3685	Lake	42.358027	-88.079334	13,618	Washington St
44_049 4195	Lake			2,585	ANITA AVE
44_049 4196	Lake	42.474183	-88.089130	2,468	ANITA AVE
44_049 3623	Lake			1,817	Depot St
44_049 3637	Lake	42.488096	-88.078617	7,804	NORTH AVE
44_049 4205	Lake	42.201447	-88.088061	13,401	Midlothian Rd
44_049 3708	Lake	42.376383	-88.089775	16,476	Cedar Lake Rd
44_049 0212	Lake	42.342219	-88.082424	121	Belvidere Rd
44_049 3676	Lake	42.375192	-88.081927	997	HAWTHORNE DR
44_049 0465	Lake	42.429490	-88.086117	14,363	IL 83
44_049 0232	Lake	42.180662	-88.080218	40,164	Rand Rd
44_049 3677	Lake	42.375812	-88.077227	3,123	CLARENDON DR
44_049 3669	Lake	42.378808	-88.082036	31,402	Rollins Rd
44_049 3975	Lake	42.210664	-88.083778	2,874	Echo Lake Rd
44_049 4204	Lake	42.208562	-88.081293	9,575	Midlothian Rd
44_049 3902	Lake	42.218563	-88.082614	4,334	Echo Lake Rd
44_049 4207	Lake	42.187319	-88.082755	8,597	Old Rand Rd
44_049 0265	Lake	42.197381	-88.074223	18,837	IL-22
44_049 3893	Lake	42.221729	-88.074467	15,580	Old McHenry Rd
44_049 3986	Lake	42.168374	-88.082069	2,320	Deerpath Rd
44_049 3941	Lake	42.175670	-88.080864	6,939	Cuba Rd
44_049 3987	Lake	42.157551	-88.081256	300	DEERPATH RD
44_049 3951	Lake	42.161144	-88.072257	2,595	Long Grove Rd
44_049 0172	Lake	42.466327	-88.078384	17,948	Rosecrans Rd
44_049 4203	Lake	42.215863	-88.071896	14,740	Midlothian Rd
44_049 0435	Lake	42.300717	-88.074086	18,177	IL 60
44_049 3661	Lake	42.306126	-88.064406	13,231	Peterson Rd
44_049 3942	Lake	42.176477	-88.066164	2,972	Cuba Rd

MAP_ID	County	Latitude	Longitude	AADT	Location
44_049 4223	Lake	42.268201	-88.071528	11,351	Gilmer Rd
44_049 0246	Lake	42.275393	-88.057893	6,252	Liberty St
44_049 3670	Lake	42.378985	-88.068489	25,621	Rollins Rd
44_049 0466	Lake	42.406441	-88.067890	16,104	IL 83
44_049 4218	Lake	42.186739	-88.072516	514	Old Mill Grove Rd
152	Lake	42.197533	-88.064719	19,044	IL 22 .14 Mi W. of Quentin
44_049 3867	Lake	42.266278	-88.061085	6,710	Hawley St
44_049 3716	Lake	42.351109	-88.067088	13,865	Hainesville Rd
44_049 3715	Lake	42.364445	-88.067973	12,423	Hainesville Rd
44_049 3686	Lake	42.357018	-88.055875	7,929	Washington St
44_049 4224	Lake	42.257306	-88.063137	11,586	Gilmer Rd
44_049 0213	Lake	42.343893	-88.060214	24,236	Belvidere Rd
44_049 3039	Lake	42.382622	-88.066339	6,178	HOOK DR
44_049 3894	Lake	42.219138	-88.062426	27,096	Old McHenry Rd
44_049 0436	Lake	42.289480	-88.056687	6,119	IL 60
44_049 3714	Lake	42.375517	-88.064996	11,467	Hainesville Rd
44_049 3729	Lake	42.371613	-88.058881	2,768	SHOREWOOD RD
44_049 3655	Lake	42.398821	-88.045567	4,188	Engle Dr
44_049 0467	Lake	42.388006	-88.063371	23,288	IL 83
44_049 0468	Lake	42.375489	-88.057121	16,204	IL 83
44_049 3671	Lake	42.382908	-88.048414	22,997	Rollins Rd
44_049 3735	Lake	42.437728	-88.062581	7,990	Deep Lake Rd
44_049 3736	Lake	42.424964	-88.058929	11,381	Deep Lake Rd
44_049 3483	Lake	42.433552	-88.050021	2,359	Gelden Rd
44_049 3734	Lake	42.454089	-88.062516	9,720	Deep Lake Rd
44_049 3645	Lake	42.440816	-88.045309	8,240	Grass Lake Rd
44_049 3733	Lake	42.473558	-88.062350	9,387	Deep Lake Rd
44_049 0173	Lake	42.466262	-88.039784	16,687	Rosecrans Rd
44_049 3732	Lake	42.488448	-88.062208	6,203	Deep Lake Rd
44_049 3638	Lake	42.495541	-88.046904	6,459	NORTH AVE
44_016 4827	Lake	42.153818	-88.050786	21,662	Lake Cook Rd
44_049 3424	Lake	42.164113	-88.062816	16,437	QUENTIN RD
44_049 3952	Lake	42.162704	-88.059028	5,430	Long Grove Rd
44_049 3991	Lake	42.171818	-88.059422	25,146	Quentin Rd
44_049 0234	Lake	42.164901	-88.058970	45,590	Rand Rd
44_049 3998	Lake	42.229341	-88.059120	15,997	Midlothian Rd
44_049 0441	Lake	42.415422	-88.055728	20,939	Grand Ave
44_049 3990	Lake	42.180493	-88.057935	26,766	Quentin Rd
44_049 3988	Lake	42.208126	-88.058216	16,669	Quentin Rd
44_049 3989	Lake	42.190097	-88.057916	22,491	Quentin Rd
44_049 4225	Lake	42.243131	-88.053748	14,210	Gilmer Rd
44_049 0235	Lake	42.159066	-88.046697	47,830	Rand Rd
44_049 3717	Lake	42.323484	-88.053337	7,703	Alleghany Rd
44_049 0214	Lake	42.338831	-88.048731	21,467	Belvidere Rd
44_049 4226	Lake	42.235854	-88.047401	13,733	Gilmer Rd
44_049 3997	Lake	42.244825	-88.034656	14,645	Midlothian Rd
44_049 3474	Lake	42.278032	-88.043055	6,942	Schank Ave
44_049 0215	Lake	42.337765	-88.041361	17,477	Belvidere Rd
44_049 0469	Lake	42.365660	-88.042128	23,629	IL 83
44_049 3730	Lake	42.374380	-88.038148	937	SHOREWOOD RD
44_049 3868	Lake	42.267098	-88.038166	8,559	Hawley St
44_049 0437	Lake	42.278078	-88.041561	12,309	IL 60/83
44_049 0473	Lake	42.292923	-88.036441	20,872	Ivanhoe Rd
44_049 0247	Lake	42.273155	-88.037249	18,484	IL 60 & 83
44_049 0292	Lake	42.336907	-88.035426	21,920	Belvidere Rd
44_016 4575	Lake	42.153782	-88.033661	45,576	Lake Cook Rd
44_049 0470	Lake	42.352439	-88.033229	17,143	Barron Blvd
44_049 0471	Lake	42.338338	-88.032942	17,769	Barron Blvd
44_049 0472	Lake	42.319592	-88.028906	7,599	Ivanhoe Rd
44_049 3721	Lake	42.334858	-88.029034	3,907	IVANHOE RD
1025	Lake	42.156520	-87.802445	32,820	US-41
2058	Lake	42.353373	-87.930539	62,401	I-94

MAP_ID	County	Latitude	Longitude	AADT	Location
1022	Lake	42.155759	-87.801298	32,685	US-41
2046	Lake	42.182266	-87.876271	105,060	I-94
2040	Lake	42.369095	-87.941754	65,308	I-94
2056	Lake	42.293099	-87.903598	82,654	I-94
2052	Lake	42.161688	-87.874133	108,404	I-94
2057	Lake	42.331430	-87.910262	76,542	I-94
2042	Lake	42.330626	-87.909853	76,556	I-94
1023	Lake	42.158573	-87.804555	32,866	US-41
2039	Lake	42.407678	-87.948400	44,778	I-94
2055	Lake	42.262148	-87.903856	88,315	I-94
2060	Lake	42.409225	-87.948070	45,055	I-94
2043	Lake	42.293134	-87.903848	84,149	I-94
2053	Lake	42.183238	-87.876386	102,877	I-94
2059	Lake	42.369248	-87.941563	65,815	I-94
2045	Lake	42.220036	-87.897910	98,951	I-94
1024	Lake	42.159845	-87.806178	31,230	US-41
2047	Lake	42.163868	-87.874413	113,009	I-94
2054	Lake	42.220079	-87.897641	96,837	I-94
2044	Lake	42.262159	-87.904160	91,018	I-94
2041	Lake	42.353225	-87.930674	62,065	I-94
44_016 5025	Cook	41.994829	-88.028557	7,832	Nerge Rd
44_016 4870	Cook	42.088448	-88.017942	24,751	Euclid Ave
44_016 6165	Cook	42.096863	-88.026399	6,435	ROHLWING RD
44_016 0710	Cook	42.050937	-88.018032	35,507	Golf Rd
44_016 0775	Cook	42.103362	-88.026129	23,471	NORTHWEST HWY
44_016 0483	Cook	42.139203	-88.027538	29,417	Dundee Rd
44_016 0408	Cook	42.143956	-88.026914	29,829	RAND RD
44_016 4392	Cook	42.110227	-88.018680	16,644	Palatine Rd
44_016 0462	Cook	42.030299	-88.004042	39,251	Higgins Rd
44_016 0439	Cook	42.060033	-88.015550	36,601	Algonquin Rd
44_016 4576	Cook	42.153668	-88.010688	45,948	Lake Cook Rd
44_016 0776	Cook	42.097184	-88.012246	21,445	NORTHWEST HWY
44_016 2891	Cook	42.077842	-88.017225	13,710	KIRCHOFF RD
44_016 0409	Cook	42.133747	-88.013706	33,984	RAND RD
44_016 4871	Cook	42.088328	-87.998575	13,588	Euclid Ave
44_016 5953	Cook	42.103577	-88.004638	1,202	South Frontage Rd
44_016 5952	Cook	42.004533	-88.003822	24,135	ARLINGTON HEIGHTS RD
44_016 6037	Cook	42.004498	-87.997560	9,691	JF KENNEDY BLVD
44_016 0484	Cook	42.139136	-88.003511	28,135	Dundee Rd
44_016 0711	Cook	42.051313	-88.000480	35,141	Golf Rd
44_016 0440	Cook	42.054584	-87.998246	35,075	Algonquin Rd
44_016 5955	Cook	42.070958	-88.003262	6,799	Wilke Rd
44_016 2892	Cook	42.070317	-87.993144	10,247	KIRCHOFF RD
44_016 5957	Cook	42.116050	-87.994350	2,799	KENNICOTT DR
44_016 4393	Cook	42.110048	-87.991909	47,425	Palatine Rd
44_016 5959	Cook	42.092595	-87.995067	502	KENNICOTT DR
44_016 0777	Cook	42.088400	-87.992548	19,130	NORTHWEST HWY
44_016 5958	Cook	42.102845	-87.995046	4,089	KENNICOTT DR
44_016 0410	Cook	42.119553	-87.990674	33,616	RAND RD
44_016 5961	Cook	42.132264	-87.994390	2,421	KENNICOTT AV
44_016 0785	Cook	42.047384	-87.988817	33,979	Algonquin Rd
44_016 0441	Cook	42.051428	-87.988020	33,971	Golf Rd
44_016 5951	Cook	42.019748	-87.989726	14,151	ARLINGTON HEIGHTS RD
44_016 6039	Cook			3,372	ELK GROVE BLVD
44_016 4979	Cook	42.022223	-87.976020	9,023	Oakton St
44_016 5962	Cook			3,597	RIDGE AVE
44_016 4872	Cook	42.088289	-87.981570	13,384	Euclid Ave
44_016 5950	Cook	42.033822	-87.985196	35,848	ARLINGTON HEIGHTS RD
44_016 5940	Cook	42.146381	-87.985466	19,104	ARLINGTON HEIGHTS RD
44_016 4578	Cook	42.151838	-87.972086	42,497	Lake Cook Rd
44_016 5949	Cook	42.045492	-87.982829	26,217	ARLINGTON HEIGHTS RD
44_016 5944	Cook	42.106278	-87.980424	29,807	ARLINGTON HEIGHTS RD

MAP_ID	County	Latitude	Longitude	AADT	Location
44_016 4857	Cook	42.102807	-87.973106	7,054	Thomas St
44_016 5946	Cook	42.085618	-87.980455	11,032	ARLINGTON HEIGHTS RD
44_016 5947	Cook	42.074716	-87.980541	27,460	ARLINGTON HEIGHTS RD
44_016 5943	Cook	42.111198	-87.980436	30,310	ARLINGTON HEIGHTS RD
44_016 4394	Cook	42.109757	-87.978291	41,092	Palatine Rd
44_016 5942	Cook	42.118593	-87.980404	27,243	ARLINGTON HEIGHTS RD
44_016 5941	Cook	42.132633	-87.980426	24,194	ARLINGTON HEIGHTS RD
44_016 4834	Cook	42.124550	-87.979624	7,736	Hintz Rd
44_016 0485	Cook	42.138963	-87.971911	34,355	Dundee Rd
44_016 5948	Cook	42.058909	-87.980147	36,926	ARLINGTON HEIGHTS RD
44_016 5966	Cook	41.999628	-87.978810	12,471	Tonne Rd NB
44_016 4914	Cook	42.066468	-87.970216	24,354	Central Rd
44_016 5965	Cook	42.010862	-87.979168	10,882	Tonne Rd NB
44_016 4994	Cook	42.014448	-87.975442	14,192	Landmeier Rd
44_016 0411	Cook	42.106223	-87.970964	30,813	RAND RD
44_016 0786	Cook	42.039855	-87.971686	33,433	Algonquin Rd
44_016 0442	Cook	42.050868	-87.970958	32,200	Golf Rd
127	Cook	42.077533	-87.968345	19,477	US 14 (Northwest Hwy.) NW of Arthur Ave.
44_016 5969	Cook	42.083190	-87.970784	4,573	DRYDEN AVE
44_016 4890	Cook	42.080950	-87.966174	6,118	KENSINGTON RD
44_016 5968	Cook	42.096817	-87.970716	4,640	DRYDEN AVE
44_016 5967	Cook	42.106014	-87.967841	5,822	DRYDEN AVE
44_016 5971	Cook	42.113906	-87.965866	10,321	WINDSOR DR
44_016 4395	Cook	42.109871	-87.956465	26,289	Palatine Rd
44_016 5970	Cook	42.071864	-87.966088	3,687	ARTHUR AVE
44_016 4858	Cook	42.102628	-87.951281	3,032	Thomas St
44_016 0778	Cook	42.074657	-87.961749	19,746	NORTHWEST HWY
44_016 4835	Cook	42.124381	-87.953811	10,786	Hintz Rd
44_016 4873	Cook	42.088158	-87.958001	15,188	Euclid Ave
44_016 5975	Cook	42.041922	-87.960780	15,114	BUSSE RD
44_016 4966	Cook	42.037082	-87.957175	14,028	Dempster St
44_016 4915	Cook	42.066378	-87.951764	24,262	Central Rd
44_016 5972	Cook	42.146439	-87.958482	23,945	BUFFALO GROVE RD
44_016 5974	Cook	42.057323	-87.960372	10,600	BUSSE RD
44_016 0443	Cook	42.047302	-87.950544	33,907	Golf Rd
44_016 4312	Cook	41.995660	-87.959294	745	ARTHUR AVE
44_016 0518	Cook	42.002380	-87.959444	40,477	Busse Rd
44_016 0517	Cook	42.017018	-87.959769	36,217	Busse Rd
44_016 4995	Cook	42.010136	-87.951968	17,030	Landmeier Rd
44_016 5976	Cook			11,209	BUSSE RD
44_016 0463	Cook	42.022444	-87.959380	41,508	Higgins Rd
44_016 0787	Cook	42.031902	-87.950580	24,956	Algonquin Rd
44_016 0486	Cook	42.138818	-87.947635	29,358	Dundee Rd
44_016 0506	Cook	42.022585	-87.949536	25,013	Oakton St
44_016 0495	Cook	42.148741	-87.948045	15,605	McHenry Rd
44_016 4579	Cook	42.153168	-87.944223	40,112	Lake Cook Rd
44_016 4861	Cook	42.095364	-87.950584	5,751	CAMP MCDONALD RD
44_016 5978	Cook	42.124297	-87.946556	5,925	SCHOENBECK RD
44_016 4836	Cook			9,298	Hintz Rd
44_016 5980	Cook	42.096176	-87.946438	4,373	SCHOENBECK RD
44_016 5979	Cook	42.106188	-87.946466	5,139	SCHOENBECK RD
44_016 0413	Cook	42.084590	-87.941128	27,099	RAND RD
44_016 4874	Cook	42.088059	-87.941036	21,765	Euclid Ave
44_016 0779	Cook	42.064902	-87.939937	13,186	NORTHWEST HWY
44_016 0504	Cook	42.038764	-87.940716	25,572	Elmhurst Rd
44_016 4967	Cook	42.037388	-87.940691	13,560	Dempster St
44_016 0503	Cook	42.057312	-87.940862	16,451	Main St
44_016 5982	Cook	42.005755	-87.940214	11,904	ELMHURST RD
44_016 5981	Cook	42.020375	-87.940450	32,669	ELMHURST RD
44_016 0505	Cook	42.026350	-87.940545	31,080	Elmhurst Rd
44_016 4987	Cook	42.022791	-87.930673	16,645	OAKTON ST
44_016 0464	Cook	42.008123	-87.933860	42,242	Higgins Rd

MAP_ID	County	Latitude	Longitude	AADT	Location
44_016 0497	Cook	42.131738	-87.936719	20,649	Elmhurst Rd
44_016 4837	Cook	42.124275	-87.931901	17,601	Hintz Rd
44_016 0496	Cook	42.141633	-87.936619	14,899	Elmhurst Rd
44_016 5983	Cook	42.141857	-87.933557	15,098	MCHENRY RD
44_016 0501	Cook	42.077432	-87.936813	17,490	Elmhurst Rd
44_016 0500	Cook	42.084693	-87.936806	19,197	Elmhurst Rd
44_016 0499	Cook	42.091668	-87.936779	25,358	Elmhurst Rd
44_016 0498	Cook	42.109783	-87.936777	19,391	Elmhurst Rd
44_016 4859	Cook	42.102517	-87.931951	1,875	Willow Rd
44_016 0780	Cook	42.060096	-87.929041	6,393	NORTHWEST HWY
44_016 4916	Cook	42.066278	-87.931834	20,167	Central Rd
44_016 0502	Cook	42.068582	-87.936806	14,562	Main St
44_016 4891	Cook	42.080756	-87.931986	8,721	KENSINGTON RD
44_016 2882	Cook	42.030362	-87.924806	11,546	Algonquin Rd
44_016 4968	Cook	42.037443	-87.922848	12,080	Dempster St
44_016 0487	Cook	42.139363	-87.926216	29,744	Dundee Rd
44_016 4580	Cook	42.153061	-87.921900	43,343	Lake Cook Rd
44_016 5986	Cook	42.095171	-87.927168	6,272	WHEELING RD
44_016 4875	Cook	42.087830	-87.922251	20,735	Euclid Ave
44_016 5985	Cook	42.106103	-87.927086	7,132	WHEELING RD
44_016 4396	Cook	42.109711	-87.922216	27,365	Palatine Rd
44_016 5997	Cook	42.061868	-87.921350	7,268	MT PROSPECT RD
44_016 5998	Cook	42.054253	-87.921267	18,670	MT PROSPECT RD
44_016 0781	Cook	42.054380	-87.916322	19,138	NORTHWEST HWY
44_016 5999	Cook	42.041166	-87.921052	19,614	MT PROSPECT RD
44_016 2000	Cook	42.019206	-87.920806	13,781	MT PROSPECT RD
44_016 4988	Cook	42.023157	-87.916668	12,407	OAKTON ST
44_016 0465	Cook	42.008699	-87.913699	45,896	Touhy Ave
44_016 2026	Cook	42.131837	-87.911348	14,750	Wolf Rd
44_016 0488	Cook	42.139626	-87.911785	28,321	Dundee Rd
44_016 2025	Cook	42.145323	-87.915809	10,330	Wolf Rd
44_016 4581	Cook	42.153110	-87.906026	50,631	Lake Cook Rd
44_016 0782	Cook	42.047572	-87.900013	8,838	NORTHWEST HWY
44_016 0445	Cook	42.052872	-87.910902	35,035	Golf Rd
44_016 2022	Cook	42.040698	-87.909886	13,598	WOLF RD
44_016 0446	Cook	42.054088	-87.899289	29,159	Cumberland Cir
44_016 0415	Cook	42.060313	-87.909295	22,001	RAND RD
44_016 2023	Cook	42.027068	-87.909046	15,630	WOLF RD
44_016 4989	Cook	42.023625	-87.903455	29,104	OAKTON ST
44_016 2883	Cook	42.030997	-87.901715	9,458	Algonquin Rd
44_016 2028	Cook	42.098497	-87.907696	13,122	Wolf Rd
44_016 2027	Cook	42.117031	-87.907837	16,538	Wolf Rd
44_016 4876	Cook	42.087803	-87.899823	18,995	Euclid Ave
44_016 4397	Cook	42.109352	-87.898645	32,783	Palatine Rd
44_016 0355	Cook	42.132322	-87.901881	30,379	Milwaukee Ave
44_016 0489	Cook	42.139595	-87.897623	30,018	Dundee Rd
44_016 0354	Cook	42.146439	-87.911389	29,776	Milwaukee Ave
44_016 2029	Cook	42.070673	-87.907682	12,294	Wolf Rd
44_016 4917	Cook	42.066112	-87.906223	14,749	Central Rd
44_016 4892	Cook	42.080559	-87.900206	8,969	KENSINGTON RD
44_016 0356	Cook	42.115844	-87.894379	32,390	Milwaukee Ave
129	Cook	42.139430	-87.895597	31,477	IL 68 (Dundee Rd.) East of Portwine Rd.
44_016 0367	Cook	42.018287	-87.888904	24,793	Lee St
44_016 0366	Cook	42.028358	-87.894414	21,839	Lee St
44_016 0466	Cook	42.009280	-87.895268	28,175	Touhy Ave
44_016 0361	Cook	42.073154	-87.893683	22,399	Des Plaines River Rd
44_016 0359	Cook	42.091290	-87.891382	19,107	Des Plaines River Rd
44_016 0362	Cook	42.060237	-87.889962	24,181	Des Plaines River Rd
44_016 0358	Cook	42.100035	-87.890036	15,611	Des Plaines River Rd
44_016 0357	Cook	42.106156	-87.888560	30,563	Milwaukee Ave
44_016 4398	Cook	42.109384	-87.883246	32,786	Palatine Rd
44_016 0783	Cook	42.041983	-87.888481	19,051	MINER ST

MAP_ID	County	Latitude	Longitude	AADT	Location
44_016 0363	Cook	42.050985	-87.886889	24,601	Des Plaines River Rd
44_016 0368	Cook	42.005399	-87.884645	26,448	Mannheim Rd
44_016 2057	Cook	42.043143	-87.884451	19,574	Des Plaines River Rd
44_016 2043	Cook	42.149072	-87.883067	16,107	Sanders Rd
44_016 0687	Cook	42.097227	-87.880100	21,229	Milwaukee Ave
44_016 2044	Cook	42.141818	-87.881756	14,893	Sanders Rd
44_016 0490	Cook	42.138399	-87.872889	28,348	Dundee Rd
44_016 4830	Cook	42.127526	-87.868946	5,270	WALTERS AVE
44_016 4841	Cook	42.117015	-87.868281	4,239	Techny Rd
44_016 4399	Cook	42.108321	-87.872171	38,254	Willow Rd
44_016 2048	Cook	42.099698	-87.874949	13,760	Sanders Rd
44_016 2101	Cook			10,483	Landwehr Rd
44_016 2100	Cook			11,957	Landwehr Rd
44_016 4831	Cook	42.127478	-87.853551	5,913	WALTERS AVE
44_016 2123	Cook	42.132918	-87.848546	8,797	Pfingsten Rd
44_016 4832	Cook	42.127425	-87.838718	5,491	WALTERS AVE
44_016 2122	Cook	42.143929	-87.848306	16,990	Pfingsten Rd
44_016 0491	Cook	42.138298	-87.842538	30,901	Dundee Rd
44_016 2121	Cook	42.151157	-87.848226	18,283	Pfingsten Rd
44_016 4584	Cook	42.152770	-87.841821	21,045	Lake Cook Rd
44_016 4585	Cook	42.152708	-87.826288	39,919	Lake Cook Rd
44_016 0492	Cook	42.138213	-87.826033	30,664	Dundee Rd
44_016 0540	Cook	42.145390	-87.830487	27,880	Waukegan Rd
44_016 0493	Cook	42.138164	-87.817326	28,582	Dundee Rd
44_016 4586	Cook	42.152546	-87.807851	36,886	Lake Cook Rd
44_016 6041	Cook	42.152453	-87.788069	19,895	COUNTY LINE RD
44_016 2506	Cook			5,700	MARTINGALE RD
44_016 0421	Cook	42.070227	-88.190664	35,034	SUTTON RD
44_016 0481	Cook	42.135347	-88.080547	20,058	Dundee Rd
44_016 5930	Cook	42.128805	-88.033896	20,571	HICKS RD
44_016 4911	Cook	42.067048	-88.085646	5,607	CENTRAL RD
44_016 0476	Cook	42.110303	-88.216716	8,641	Dundee Rd
44_016 0429	Cook	42.121777	-88.210353	29,553	Algonquin Rd
44_016 0430	Cook	42.116273	-88.188971	28,016	Algonquin Rd
44_016 0420	Cook	42.093926	-88.189796	25,451	NEW SUTTON RD
44_016 0454	Cook	42.073059	-88.184857	35,325	Higgins Rd
44_016 6033	Cook	42.095928	-88.187386	3,069	PENNY RD
44_016 0431	Cook	42.114273	-88.180360	41,568	Algonquin Rd
44_016 6030	Cook	42.132782	-88.175148	2,137	BRINKER RD
44_016 5880	Cook	42.078878	-88.179968	2,743	BARTLETT RD
44_016 5879	Cook	42.090993	-88.180032	1,523	BARTLETT RD
44_016 5878	Cook	42.103624	-88.180156	1,050	BARTLETT RD
44_016 6034	Cook	42.095978	-88.163603	3,783	PENNY RD
44_016 5883	Cook	42.053653	-88.179036	6,585	BARTLETT RD
44_016 0706	Cook	42.046401	-88.161810	21,625	Golf Rd
44_016 4928	Cook	42.061014	-88.170469	7,809	Shoe Factory Rd
44_016 0419	Cook	42.112743	-88.179378	24,813	NEW SUTTON RD
44_016 0418	Cook	42.120682	-88.167635	23,014	NEW SUTTON RD
44_016 0456	Cook	42.064019	-88.152895	35,917	Higgins Rd
44_016 6035	Cook	42.081539	-88.163060	2,915	LIBERTY DR
44_016 0432	Cook	42.104362	-88.159796	31,540	Algonquin Rd
44_016 4849	Cook	42.110338	-88.155871	6,553	PALATINE RD
44_016 0417	Cook	42.136727	-88.147404	11,351	HAWTHORNE RD
44_016 0478	Cook	42.128095	-88.147165	12,313	Dundee Rd
44_016 4961	Cook	42.025314	-88.131871	15,952	Schaumburg Rd
44_016 4951	Cook	42.039706	-88.136402	3,345	BODE RD
44_016 4497	Cook	42.053443	-88.144519	35,468	BARRINGTON RD
44_016 4496	Cook	42.063427	-88.144540	38,588	BARRINGTON RD
44_016 4809	Cook	42.061882	-88.133855	2,880	HASSELL RD
44_016 4495	Cook	42.073674	-88.141104	16,321	BARRINGTON RD
44_016 4909	Cook	42.067098	-88.134163	6,360	CENTRAL RD
44_016 4494	Cook	42.089168	-88.141086	23,487	BARRINGTON RD

MAP_ID	County	Latitude	Longitude	AADT	Location
44_016 5894	Cook	42.103613	-88.141116	17,732	BARRINGTON RD
44_016 0433	Cook	42.095014	-88.131121	23,587	Algonquin Rd
44_016 4850	Cook	42.110551	-88.126922	10,368	PALATINE RD
44_016 5893	Cook	42.119588	-88.140230	17,059	BARRINGTON RD
44_016 5892	Cook	42.136565	-88.136174	14,709	BARRINGTON RD
44_016 0480	Cook	42.132379	-88.106232	18,509	Dundee Rd
44_016 0416	Cook	42.149482	-88.136072	17,309	HOUGH ST
44_016 0457	Cook	42.055580	-88.132901	35,099	Higgins Rd
44_016 4952	Cook	42.040277	-88.124675	7,651	BODE RD
44_016 4810	Cook	42.062747	-88.111076	3,076	HASSELL RD
44_016 5907	Cook	42.074363	-88.121706	655	FREEMAN RD
44_016 4910	Cook	42.067081	-88.107131	8,303	CENTRAL RD
44_016 5906	Cook	42.086428	-88.121686	4,365	FREEMAN RD
44_016 5904	Cook	42.099528	-88.120909	211	HUNTINGTON BLVD
44_016 0707	Cook	42.047497	-88.120298	44,857	Golf Rd
44_016 0332	Cook	42.142827	-88.112223	22,822	Northwest Hwy
44_016 5901	Cook	42.033529	-88.119146	10,125	BODE RD
44_016 4962	Cook	42.026234	-88.109422	30,332	Schaumburg Rd
44_016 0458	Cook	42.051635	-88.108077	38,104	Higgins Rd
44_016 4851	Cook	42.110588	-88.103486	8,308	PALATINE RD
44_016 5051	Cook	41.998228	-88.101735	3,406	WRIGHT BLVD
44_016 5007	Cook	42.004838	-88.092750	21,806	WISE RD
44_016 4813	Cook	42.044429	-88.099731	3,137	SALEM DR
44_016 4953	Cook	42.041147	-88.101739	3,142	BODE RD
44_016 4826	Cook	42.153944	-88.082406	11,335	Lake Cook Rd
44_016 5908	Cook	42.144797	-88.100060	11,401	ELA RD
44_016 4811	Cook	42.056381	-88.099331	3,905	JONES RD
44_016 4814	Cook	42.059915	-88.089622	5,610	HILLCREST BL
44_016 5910	Cook	42.125151	-88.097459	8,307	ELA RD
44_016 0708	Cook	42.049024	-88.087851	45,367	Golf Rd
44_016 0459	Cook	42.046883	-88.087917	38,170	Higgins Rd
44_016 4852	Cook	42.110508	-88.086041	16,104	PALATINE RD
44_016 0333	Cook	42.129195	-88.084128	28,997	Northwest Hwy
44_016 4963	Cook	42.026914	-88.089817	23,044	Schaumburg Rd
44_016 5913	Cook			2,575	ELA RD
44_016 5912	Cook	42.097692	-88.092454	7,605	ELA RD
44_016 0435	Cook	42.082427	-88.084906	28,254	Algonquin Rd
44_016 4511	Cook	42.056583	-88.079607	38,817	Roselle Rd
44_016 4512	Cook	42.047168	-88.079716	32,943	Roselle Rd
44_016 4515	Cook	41.998021	-88.080166	29,234	Roselle Rd
44_016 5008	Cook	42.005823	-88.062958	13,292	WISE RD
44_016 4514	Cook	42.016323	-88.080006	30,697	Roselle Rd
44_016 4513	Cook	42.036138	-88.079830	33,788	Roselle Rd
44_016 4964	Cook	42.027729	-88.070119	29,531	Schaumburg Rd
44_016 0460	Cook	42.042643	-88.070063	37,740	Higgins Rd
44_016 5022	Cook	41.998394	-88.070376	6,854	Nerge Rd
44_016 4510	Cook	42.071256	-88.077976	33,315	Roselle Rd
44_016 4509	Cook	42.081993	-88.077933	23,830	Roselle Rd
44_016 0436	Cook	42.076544	-88.070665	28,646	Algonquin Rd
44_016 4508	Cook	42.085147	-88.070124	17,675	Euclid Ave
44_016 5915	Cook			11,127	ROSELLE RD
44_016 5914	Cook	42.118750	-88.077866	12,372	BALDWIN RD
44_016 4853	Cook	42.110428	-88.070486	15,609	PALATINE RD
44_016 5920	Cook	41.995060	-88.060626	9,118	Plum Grove Rd
44_016 0437	Cook	42.071523	-88.053562	43,141	Algonquin Rd
44_016 4506	Cook	42.108593	-88.063096	18,886	Quentin Rd
44_016 4507	Cook	42.096825	-88.063091	16,453	Quentin Rd
44_016 4505	Cook	42.115108	-88.063118	19,280	Quentin Rd
44_016 4504	Cook	42.122353	-88.063106	16,624	Quentin Rd
44_016 2855	Cook	42.118190	-88.058819	2,815	COLFAX ST
44_016 4503	Cook	42.131093	-88.063016	17,976	Quentin Rd
44_016 0334	Cook	42.124848	-88.058936	25,268	Northwest Hwy

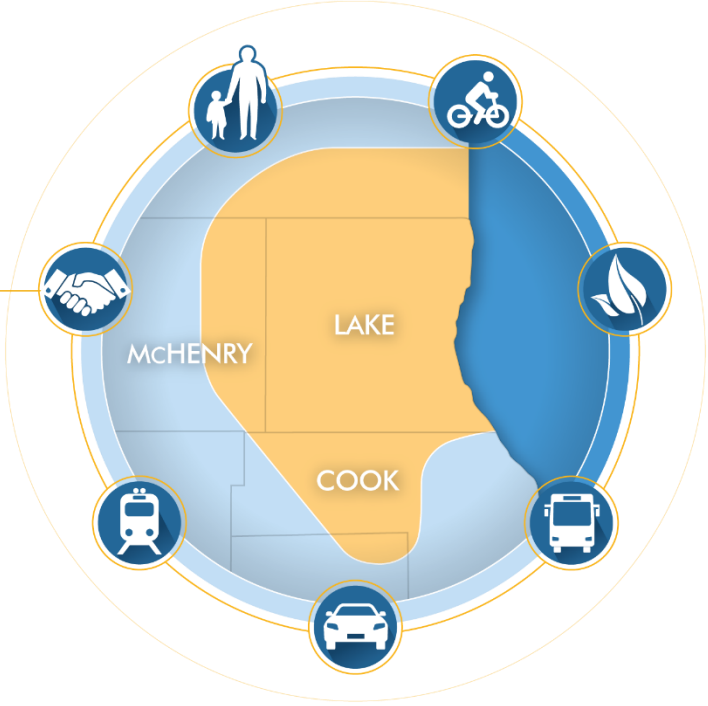
MAP_ID	County	Latitude	Longitude	AADT	Location
44_016 4869	Cook	42.088598	-88.047086	22,319	Euclid Ave
44_016 4502	Cook	42.142463	-88.062939	22,430	Quentin Rd
44_016 5023	Cook	41.999079	-88.053273	9,181	Nerge Rd
44_016 5919	Cook	42.013473	-88.060469	15,522	Plum Grove Rd
44_016 0461	Cook	42.039029	-88.045643	43,934	Higgins Rd
44_016 0709	Cook	42.050190	-88.054413	43,447	Golf Rd
44_016 4854	Cook	42.110378	-88.053436	15,356	PALATINE RD
44_016 4700	Cook	42.116413	-88.048589	3,605	SMITH ST
44_016 4677	Cook	42.135668	-88.048526	7,248	SMITH RD
44_016 0482	Cook	42.139279	-88.048229	24,558	Dundee Rd
44_016 5928	Cook	41.999244	-88.045958	8,706	MEACHAM RD
44_016 5024	Cook	41.999176	-88.038073	7,268	Nerge Rd
44_016 5009	Cook	42.006837	-88.038391	6,694	Biesterfield Rd
44_016 5926	Cook	42.033828	-88.045451	31,275	MEACHAM RD
44_016 4965	Cook	42.028660	-88.045242	27,172	Schaumburg Rd
44_016 5925	Cook	42.044698	-88.045277	13,642	MEACHAM RD
44_016 5923	Cook	42.074036	-88.043896	13,663	PLUM GROVE RD
44_016 0438	Cook	42.065170	-88.036183	40,775	Algonquin Rd
44_016 2890	Cook	42.084497	-88.036287	10,571	KIRCHOFF RD
44_016 5922	Cook	42.099463	-88.043777	16,173	PLUM GROVE RD
44_016 4855	Cook	42.110318	-88.038861	16,971	PALATINE RD
44_016 0335	Cook	42.118883	-88.035020	32,718	Northwest Hwy
44_016 0407	Cook	42.151232	-88.035477	29,499	RAND RD
44_016 5931	Cook			4,592	HICKS RD
44_016 5929	Cook	42.144021	-88.033819	20,754	HICKS RD
44_016 5932	Cook	42.075399	-88.028596	2,114	HICKS RD
44_016 0759	Cook	42.151172	-88.030406	9,321	HICKS RD
44_016 0757	Cook	42.010712	-88.031090	15,963	MARTINGALE RD
44_016 0758	Cook	41.994303	-88.031359	11,538	ROHLWING RD
1056	Cook	42.137640	-88.005116	23,100	IL-53
2007	Cook	41.997502	-88.102139	42,522	IL-390
2028	Cook	42.127696	-87.887122	73,523	I-294
2066	Cook	42.066521	-88.170638	75,900	I-90
2004	Cook	41.991744	-88.067358	44,688	IL-390
1057	Cook	42.102039	-88.016421	69,030	IL-53
2029	Cook	42.080421	-87.866370	80,082	I-294
2003	Cook	41.997127	-88.088205	45,910	IL-390
2048	Cook	42.149359	-87.843190	31,940	I-94
2077	Cook	42.001095	-87.884125	103,464	I-90
2067	Cook	42.066535	-88.109905	83,596	I-90
2002	Cook	41.997261	-88.100778	42,908	IL-390
2005	Cook	41.992036	-88.067393	44,119	IL-390
2064	Cook	42.066470	-88.233960	68,502	I-90
2084	Cook	42.066705	-88.169446	74,288	I-90
2051	Cook	42.149662	-87.843662	32,265	I-94
2079	Cook	42.026095	-87.960867	84,339	I-90
2050	Cook	42.145546	-87.815356	28,009	I-94
2068	Cook	42.061001	-88.056865	90,657	I-90
2083	Cook	42.066718	-88.110525	81,455	I-90
2069	Cook	42.049324	-88.002801	79,769	I-90
2086	Cook	42.066651	-88.234269	70,341	I-90
1054	Cook	42.101956	-88.016060	65,786	IL-53
2085	Cook	42.066671	-88.210732	76,637	I-90
2027	Cook	42.130286	-87.887084	74,406	I-294
1055	Cook	42.138882	-88.004894	23,100	IL-53
2065	Cook	42.066480	-88.208262	76,384	I-90
2049	Cook	42.145679	-87.811112	26,512	I-94
1031	Cook	42.018603	-88.031241	91,440	I-290
2070	Cook	42.025652	-87.960622	80,641	I-90
2006	Cook	41.997414	-88.088103	45,412	IL-390
2076	Cook	41.996561	-87.875295	94,872	I-90
2026	Cook	42.083940	-87.866034	83,536	I-294

MAP_ID	County	Latitude	Longitude	AADT	Location
2072	Cook	41.998910	-87.879946	92,113	I-90
2078	Cook	42.011265	-87.912447	94,243	I-90
2071	Cook	42.010995	-87.912171	87,870	I-90
44_056 0036	McHenry	42.201142	-88.225373	35,779	Northwest Hwy
44_056 0073	McHenry	42.447983	-88.290359	10,722	US 012
44_056 0063	McHenry	42.356738	-88.325239	16,585	Elm St
44_056 3705	McHenry	42.412390	-88.337777	4,736	Barnard Mill Rd
44_056 3707	McHenry	42.401516	-88.340417	3,948	WONDER LAKE RD
44_056 3706	McHenry	42.396610	-88.315275	4,789	Barnard Mill Rd
44_056 3722	McHenry	42.459960	-88.335226	1,982	KEYSTONE RD
44_056 3680	McHenry	42.448516	-88.320733	3,879	Tryon Grove Rd
44_056 3721	McHenry	42.485257	-88.335286	1,536	KEYSTONE RD
44_056 0016	McHenry	42.479702	-88.314328	9,353	KENOSHA ST
44_056 3421	McHenry	42.284659	-88.307621	1,668	Edgewood Rd
44_056 3491	McHenry	42.303538	-88.316178	7,176	Crystal Lake Rd
44_056 3488	McHenry	42.338782	-88.316176	2,550	DRAPER RD
44_056 3586	McHenry	42.320761	-88.309416	5,261	Bull Valley Rd
44_056 0072	McHenry	42.465370	-88.306726	14,533	MAIN ST
44_056 0064	McHenry	42.350028	-88.298264	21,230	Elm St
44_056 3551	McHenry	42.364405	-88.306262	9,303	Ringwood Rd
44_056 3550	McHenry	42.385839	-88.300455	6,555	Ringwood Rd
44_056 3711	McHenry	42.358459	-88.274193	7,133	McCullom Lake Rd
44_056 0071	McHenry	42.488371	-88.306142	9,737	MAIN ST
44_056 3511	McHenry	42.351712	-88.290109	1,332	SHORE DR
44_056 0086	McHenry	42.436281	-88.304314	9,096	Illinois 031
44_056 3490	McHenry	42.330289	-88.293562	15,698	Crystal Lake Rd
44_056 3587	McHenry	42.320872	-88.288529	17,808	Bull Valley Rd
44_056 0087	McHenry	42.406882	-88.301036	9,504	Illinois 031
44_056 3543	McHenry	42.440095	-88.291737	665	West Solon Rd
44_056 3530	McHenry	42.257633	-88.296338	4,507	TERRA COTTA RD
44_056 0088	McHenry	42.392609	-88.292305	7,999	Illinois 031
44_056 0065	McHenry	42.346693	-88.281656	32,045	Elm St
44_056 0089	McHenry	42.385820	-88.279060	14,265	Barnard Mill Rd
44_056 0093	McHenry	42.242549	-88.286751	27,148	Illinois 031
44_056 0081	McHenry	42.252318	-88.282285	17,971	Illinois 176
44_056 0092	McHenry	42.292403	-88.286991	22,205	Illinois 031
44_056 3489	McHenry	42.342399	-88.280470	15,780	Crystal Lake Rd
44_056 3487	McHenry	42.336779	-88.279992	4,605	Lillian St
44_056 3663	McHenry	42.219036	-88.273586	14,486	Three Oaks Rd
44_056 0034	McHenry	42.224281	-88.273739	23,222	Northwest Hwy
44_056 0017	McHenry	42.480048	-88.276879	7,150	KENOSHA ST
44_056 3515	McHenry	42.241499	-88.272043	3,696	Crystal Lake Ave
44_056 3549	McHenry	42.403737	-88.273225	4,313	Ringwood Rd
44_056 0074	McHenry	42.436940	-88.262886	10,708	US 012
44_056 0091	McHenry	42.332955	-88.274461	20,100	Front St
44_056 0066	McHenry	42.345355	-88.270394	35,615	Elm St
44_056 3506	McHenry	42.349183	-88.273346	1,149	Front St
44_056 3499	McHenry	42.269878	-88.266808	3,280	Barreville Rd
44_056 0082	McHenry	42.259029	-88.267993	15,809	Illinois 176
44_056 3682	McHenry	42.487482	-88.272103	1,492	LAKEVIEW RD
44_056 3683	McHenry	42.494718	-88.266357	876	STATE LINE RD
44_056 0090	McHenry	42.362655	-88.267291	17,975	Richmond Rd
44_056 3565	McHenry	42.378988	-88.263776	12,063	Johnsburg Rd
44_056 3669	McHenry	42.198368	-88.263621	6,374	SILVER LAKE RD
44_056 3497	McHenry			3,450	Green St
44_056 3498	McHenry	42.301113	-88.267168	2,012	Green St
44_056 3588	McHenry	42.322275	-88.261342	17,131	Charles J Miller Rd
44_056 3486	McHenry	42.346308	-88.263505	5,648	Pearl St
44_056 0067	McHenry	42.345374	-88.265053	24,371	Elm St
44_056 3536	McHenry			5,360	RIVERSIDE DR
44_056 3503	McHenry	42.345828	-88.257417	7,339	Lincoln Rd
44_056 0068	McHenry	42.342573	-88.250505	21,742	Elm St

MAP_ID	County	Latitude	Longitude	AADT	Location
44_056 3564	McHenry	42.379414	-88.249960	15,726	Johnsburg Rd
44_056 3621	McHenry	42.186696	-88.251510	4,476	ALGONQUIN RD
44_056 3351	McHenry	42.278030	-88.233321	975	Nish Rd
44_056 3516	McHenry	42.240107	-88.251568	9,729	Crystal Lake Ave
44_056 3629	McHenry	42.250968	-88.257314	5,091	Valley View Rd
44_056 0083	McHenry	42.266257	-88.241814	18,705	Illinois 176
44_056 0035	McHenry	42.213947	-88.250289	30,525	Northwest Hwy
44_056 3668	McHenry	42.224992	-88.247781	13,957	SILVER LAKE RD
44_056 3664	McHenry	42.219835	-88.239660	5,995	Three Oaks Rd
44_056 3504	McHenry	42.324610	-88.248597	4,053	River Rd
44_056 3555	McHenry	42.340760	-88.238107	12,594	CHAPEL HILL RD
44_056 3337	McHenry	42.285117	-88.232169	1,509	Wright Rd
44_056 3364	McHenry	42.235292	-88.245557	4,166	CRYSTAL LAKE AVE
44_056 3667	McHenry	42.241718	-88.236660	4,443	RAWSON BRIDGE RD
44_056 3541	McHenry	42.408903	-88.247389	6,213	Spring Grove Rd
44_056 3548	McHenry	42.401329	-88.235522	6,428	Ringwood Rd
44_056 3540	McHenry	42.426223	-88.247398	5,327	Spring Grove Rd
44_056 3539	McHenry	42.450134	-88.247543	4,507	Winn Rd
44_056 3505	McHenry	42.295342	-88.218376	9,136	River Rd
44_056 3563	McHenry	42.382571	-88.234235	3,375	Johnsburg Rd
44_056 0069	McHenry	42.336374	-88.226204	25,993	RAND RD
44_056 3554	McHenry	42.354043	-88.238051	10,227	CHAPEL HILL RD
44_056 3501	McHenry	42.354169	-88.221406	6,344	Lincoln Rd
44_056 0075	McHenry	42.437237	-88.232967	12,252	US 012
44_056 3622	McHenry	42.186207	-88.235576	2,092	PLUM TREE RD
44_056 3442	McHenry	42.461637	-88.228358	1,689	MICHIGAN DR
44_056 3566	McHenry	42.369662	-88.223130	7,686	BAY RD
44_056 3616	McHenry	42.214501	-88.228062	3,297	MONTANA DR
44_056 0084	McHenry	42.282014	-88.219589	18,175	Illinois 176
44_056 0018	McHenry	42.480721	-88.225881	8,828	Illinois 173
44_056 3619	McHenry	42.192385	-88.224788	3,886	ALGONQUIN RD
44_056 3561	McHenry	42.408326	-88.222050	3,693	Johnsburg Rd
44_056 3547	McHenry	42.404874	-88.209170	5,485	FOX LAKE RD
44_056 3560	McHenry	42.419172	-88.220829	3,685	Johnsburg Rd
44_056 3559	McHenry	42.430068	-88.219896	3,385	Wilmot Rd
44_056 3558	McHenry	42.438063	-88.218168	7,349	Wilmot Rd
44_056 3665	McHenry	42.219664	-88.213866	635	Three Oaks Rd
44_016 4820	McHenry	42.154297	-88.218966	12,104	Lake Cook Rd
44_056 3572	McHenry	42.230938	-88.218624	1,503	S RAWSON BRIDGE RD
44_056 3557	McHenry	42.444216	-88.215100	9,453	Wilmot Rd
44_056 3581	McHenry	42.307746	-88.213363	2,125	LILY LAKE RD
44_056 3580	McHenry	42.328072	-88.213458	2,544	LILY LAKE RD
44_056 0076	McHenry	42.420760	-88.211720	12,922	US 012
44_056 0037	McHenry	42.190454	-88.204620	26,315	Northwest Hwy
44_049 4266	McHenry	42.214313	-88.199310	296	Hickory Nut Grove Rd
44_056 3666	McHenry	42.219748	-88.204051	572	Three Oaks Rd
44_056 0085	McHenry	42.276925	-88.203789	19,380	River Rd

Appendix I

Socioeconomic Forecast and Allocation Methodology Memorandum



Socioeconomic Forecast and Allocation Methodology

Introduction

This memorandum describes the methodology to be used to prepare the socioeconomic forecasts and land use assumptions that will support travel demand modeling for the Tri-County Access (TCA) Project. The memorandum discusses the development of the socioeconomic forecasts for the 2050 No-Build Alternative, the initial system alternatives, and the build alternatives. The methodology relies on the use of UrbanSim, which is a cloud-based socioeconomic forecasting model at the Census block level, and on SB Friedman's regional real estate forecast models by land use. The memorandum provides a description of the models, the data inputs necessary to run the models, key drivers of the models and the model output data.

The socioeconomic forecasts are intended to be used for development of travel demand modeling for the alternatives to be considered for the TCA Project.

Project Influence Areas

The TCA Project would change the characteristics of the Chicago regional transportation system. The Project is expected to have different levels of effects on local and regional socioeconomic characteristics. Hence, analyses will be performed at three geographic levels to address both local and regional effects for the TCA Project:

1. The Chicago Metropolitan Agency for Planning region **(CMAP region)** is a seven-county area that includes Cook, Lake, McHenry, DuPage, Kane, Will, and Kendall counties. Real estate trends and development capacity will be analyzed by Census block group at the regional level. In addition, the Project team will use input on trends from the Southeast Wisconsin Regional Planning Commission to understand interactions between Lake County and areas in southeast Wisconsin related to the study. The **CMAP regional analysis** will evaluate changes in socioeconomic allocation patterns at the county-level to reflect conditions with the system alternatives under consideration.
2. The **Project study area**, which is within the CMAP region, includes all of Lake County and portions of McHenry and Cook counties. The Project team will conduct a more detailed real estate and development capacity analysis for the Project area, which is a smaller area than the CMAP region. Data outputs will be produced at the Census block level but can be aggregated by community or other geography. The analysis for the **Project study area** will evaluate changes in socioeconomic and land use patterns related to the initial system alternatives at the community level, aggregated by Census block group, to reflect changes in accessibility for the alternatives under consideration.
3. The **analysis area** is a 1-mile buffer from the edge of the proposed footprint of each alternative, and it includes areas where planned improvements would improve access to adjacent land uses along the project corridor. Site- or parcel-level land use outputs will be prepared and displayed in maps within the analysis area for the No-Build and build alternatives. This will allow a more focused comparison of socioeconomic forecasting characteristics of the No-Build Alternative and build alternatives under consideration (compared to the CMAP region- and Project area-level analyses). The parcel-level data for the No-Build Alternative will include information generated by the CMAP ON TO 2050 No-Build analysis related to the Project. The build alternative scenarios will have alternative-specific site and parcel-level land use data outputs that reflect facility type and access considerations representing the characteristics of the build alternatives.

Methodology

Socioeconomic forecasts will be generated for the 2050 No-Build, the initial system alternatives, and the build alternatives. The CMAP ON TO 2050 analysis will provide the initial data input for development of the socioeconomic forecast for the TCA Project. The 2050 No-Build forecasts generated by CMAP will exclude the IL 53/IL 120 project but will include other ON TO 2050 regionally significant projects from the long-range transportation plan. The 2050 No-Build forecasts will form the basis of the initial system alternatives forecasts, which will be refined for the build alternatives socioeconomic forecasts and allocation process. The socioeconomic forecast development and allocation process will include a combination of real estate forecasting model and the UrbanSim model.

Socioeconomic Forecast Development and Allocation Tools

SB Friedman Real Estate Model

The SB Friedman real estate model uses socioeconomic and land use information to develop likely real estate potential and forecasts based on market demand related to infrastructure investments. The real estate models developed for the Project will address major land uses types (i.e., residential, retail, office, hotel, and industrial) for the Project area through 2050. The real estate model will account for environmental constraints and sensitive areas, including open lands, designated agricultural areas, and designated preservation locations in the Project area. System alternative-specific assessments will be performed only in cases where an alternative would result in changes to facility class/type and accessibility, which are primary influencing factors for market demand and development potential.

The real estate modeling results will serve as key macro controls of total real estate potential and will be used as inputs into the UrbanSim model. In addition, data outputs from the real estate model will also ensure that the UrbanSim model outputs and socioeconomic allocations are consistent with observed development trends in the region.

UrbanSim Model for Census Blocks

UrbanSim is a socioeconomic modeling software that forecasts household and job distribution within a region at the Census-block level. It specifically incorporates interaction between real estate markets and the travel demand model outputs to forecast the potential impacts of alternate transportation plans. UrbanSim has a robust background in academic literature and is one of the most sophisticated modeling software packages available. Figure 1 (pg. 8) shows the UrbanSim modeling process.

The UrbanSim model simulates real estate market conditions by assessing how households and businesses (i.e., jobs) move and make location choices as the regional economy grows, and how real estate developers add housing and nonresidential buildings in response to changes in demand and travel time due to change in accessibility and local development constraints. Price and rent models predict the pricing outcomes in the real estate market and adjust to reconcile shifts in demand and supply. The UrbanSim model accounts for environmental constraints and sensitive land areas that are designated for specific purposes.

The model is built with 2010 Census data on households and housing units, and 2010 Longitudinal Employer-Household Dynamics (LEHD) employment data. While housing unit data is available from the U.S. Census, regional data on nonresidential (e.g., office, industrial, retail) building square footage, rents/prices, and vacancy has to be entered by the user. The model then accounts for building price and rent changes based on the travel demand model and distribution of future jobs into specific typologies of nonresidential buildings. This allows more accurate simulation of real-world development, where developers make decisions on constructing new buildings and households and where employers make decisions on location in new or existing buildings.

Data Needed/To Be Collected

Data needed for developing the socioeconomic forecasts include information for developing the SB Friedman real estate forecasting model and the development of the UrbanSim model.

Sources of data will include CMAP ON TO 2050 employment and population projections, Moody's Economy.com employment projections, ESRI Business Analyst spending by household, CoStar data for nonresidential land uses, Smith Travel Research data for hotel demand and supply, Multiple Listing Services, and U.S. Census building permit data.

SB Friedman Real Estate Model

Data components needed for the development of the SB Friedman regional real estate model include:

- **Local and Community Plans**. Community transportation and land use plans representing short-term and long-term ideas of the community will be integrated into the forecasting process. Local and community plans will be used to validate projects considered for the CMAP ON TO 2050 analysis.
- **Household Change by Age.** CMAP population forecasts for the region by age, in 5-year increments, from existing to 2050.
- **Employment and Output Forecasts.** CMAP employment forecasts for the region by North American Industry Classification System sectors in 5-year increments from existing to 2050. In addition, data from Moody's Analytics for the Project area will be used review historical employment data by sector and to compare the Moody's forecasts with CMAP economic output data to be consistent with the regional employment forecasts.
- **Retail Spending.** Consumer spending data from ESRI Business Analyst will be used to forecast future retail spending and supportable retail space.
- **Real Estate Data Supply by Land Use.** CoStar and Smith Travel Research data will be used to identify the existing supply of nonresidential development by land use and to identify trends in development, absorption, pricing, and vacancy in the CMAP region, Project area, and analysis area. These two data sources will provide detail on historical retail, office, industrial, and hotel development. The Project team will also research trends in space needs and density by land use to forecast likely future floor area ratios and employment density. Residential supply data will be compiled based on the Census 2010 and 2015 American Community Survey.

UrbanSim Model

Data components that will be needed to implement the UrbanSim model include a combination of travel demand outputs, real estate data, and socioeconomic information. The UrbanSim model needs to be calibrated with travel demand skims of the existing network and updated from 2010 to existing year. Travel demand skims, which are generated using the travel demand model, provide travel time information between traffic analysis zones, which offers a measure of accessibility. Calibration of the UrbanSim model will be necessary to represent existing Project area characteristics to allow development of reliable socioeconomic allocation for future conditions. Data needed to calibrate the UrbanSim model include:

- **Travel Skims of Existing Transportation Network for Existing Travel Demand.** This will be obtained using the travel demand model and will provide travel time information developed for the purposes of the TCA Project.
- **Real Estate Development, Population, and Employment Change from 2010 to Existing Conditions.** The base year of the UrbanSim model is 2010. The CMAP development database and the CoStar supply data will be input for the calibration process. The development database and the CoStar data will be tabulated using parcel/building, Census existing household, and Longitudinal Employer-

Household Dynamics (LEHD) existing employment data as targets for the model to match data by Census block for calibration.

- **Historical Real Estate Data by Land Use.** CoStar and Smith Travel Research data will be used to identify the existing supply of nonresidential development by land use, as well as trends in development, absorption, pricing, and vacancy. These data sources will provide detail on retail, office, industrial, and hotel development for calibrating the model.
- **Under Construction and Planned Developments.** Developments that have been completed since 2015, are under construction, or are planned will be compiled and included in the forecasted development.

Process and Procedures

As noted above, socioeconomic forecast development and allocation will be performed within three geographic boundaries that influence the project development process. The **CMAP regional analysis** will evaluate changes in socioeconomic allocation patterns at the county-level to reflect conditions for system alternatives under consideration. The **Project area** analysis will evaluate changes in socioeconomic and land use patterns related to the system alternatives at the community level, aggregated by Census block groups, and the **analysis area** evaluations will assess changes in alternative-specific site and parcel-level land use data outputs that reflect facility type and access considerations representing the characteristics of the No-Build and build alternatives for the Project.

2050 No-Build Socioeconomic Forecasts and Allocation

The 2050 No-Build socioeconomic forecasts and allocation will be provided by CMAP as part of its ongoing ON TO 2050 efforts. The 2050 No-Build forecasts generated by CMAP will exclude the IL 53/IL 120 project but will include other ON TO 2050 regionally significant projects from the CMAP Long-Range Transportation Plan. The Project team will validate CMAP's 2050 No-Build forecasts using the calibrated UrbanSim model. If needed, refinements will be performed to represent changes in allocation due to the final list of ON TO 2050 regionally significant projects, and the refinements will be coordinated with CMAP to reconcile differences in socioeconomic data allocation between the TCA Project and the CMAP region.

Initial System Alternatives Socioeconomic Forecasts and Allocation

The socioeconomic forecasts and allocation for the 2050 No-Build Alternative developed for the purposes of the Project will provide the basis for developing the initial system alternatives socioeconomic forecasts and allocation. The SB Friedman real estate model will be used to prepare initial forecasts of the development potential for initial system alternatives that involve changes in facility type and accessibility considerations compared to the No-Build Alternative. For initial system alternatives that do not represent changes to facility class/type and access considerations, such as arterial improvements without grade separations or interchange access, the 2050 No-Build socioeconomic forecasts and allocation will be used as inputs into the travel demand modeling process.

The Project team will generate real estate forecasts for each land use type that influences travel characteristics within the Project area. The model will be calibrated based on the core drivers of demand and specific supply factors, as shown in Table 1 (pg. 5).

The real estate modeling results will serve as control totals of development potential for socioeconomic demand in the Project area. The control totals will provide a base for the UrbanSim calibration efforts to represent change in forecasts and allocation for the initial system alternatives.

Table 1. Core Drivers of Real Estate Demand and Supply Factors

Major Land Use Type[a]	Demand Driver	Supply Factors
Residential	Households by Age and Income; Housing Choice by Age (single-family and multifamily households)	Inventory by Product, Vacancy, Housing Starts, Replacement Need
Retail	Consumer Spending of Households, Office Workers, and Tourists by Sector	Existing and Planned Retail by Type, Existing Deficiencies/Surplus, Replacement Need
Office	Office-Related Employment	Change in Overall Inventory and Occupied Space, Replacement Need, Trends in Space per Employee
Industrial	Output for Manufacturing, Wholesale, and Distribution Sectors	Change in Overall Inventory and Occupied Space, Replacement Need, Trends in Output per Employee
Hotel	Occupied Room Night Demand from Employees, Travelers, and Residents	Change in Overall Inventory, Replacement Need

[a] The Project team anticipates that multiple real estate products for each major land use type will be analyzed (e.g., for retail: lifestyle centers, power centers, community centers, neighborhood centers, and Main Street mixed-use retail).

The inputs from the SB Friedman real estate model will serve as starting points for the UrbanSim model. The UrbanSim model simulation will be performed for each initial system alternative that would have potential influence on socioeconomic demand due to changes in facility class/type and access consideration; this task will use travel skim data for each initial system alternative. The initial system alternatives are expected to be categorized as having low, moderate, or high potential effects on socioeconomic demand based on facility type and access considerations. Similar to the real estate model application, for initial system alternatives that would not represent changes to facility class and access considerations, the 2050 No-Build socioeconomic forecasts and allocation will be used as inputs into the travel demand modeling process. Model simulation outputs will be used to support initial system alternative analysis.

Key data input into the UrbanSim model simulation to generate socioeconomic forecasts include:

- **Future Travel Demand Model Skims.** Travel times from the travel demand model will be a key input to calibrate the model and develop 2050 socioeconomic forecasts. Travel demand model skims for the CMAP region for existing and 2050 No-Build, initial system alternatives, and build alternatives will be used for model simulation. Using interim years (e.g., every 5 years) will increase the accuracy of outputs and should be incorporated for the build alternatives (if possible).
- **CMAP Region and County Control Totals for 2050.** Population and employment control totals for the region are available from CMAP in 5-year increments from 2015 through 2050.
- **Development/Zoning Capacity in the CMAP Region by Census Block.** Development/zoning capacity is a key input into the UrbanSim model, determining where land uses, population, and employment can be located in the future. The CMAP database of land availability and infill redevelopment potential by Census block group for the CMAP region will be used as inputs into the UrbanSim model. The Project team will work with CMAP to review the methodology for preparing the database and allocate the available land and infill potential data to Census blocks for UrbanSim modeling. The Project team will compile future land use/zoning data for communities in the CMAP region and will research zoning and typical densities of future development within the CMAP region by land use type. By combining the available land/infill potential database from CMAP and the associated zoning/density data, the Project team will develop a comprehensive database of development capacity for residential and nonresidential uses in the CMAP region by Census block. This database will be used in the model.

- **Environmental Constraints to Development.** Development capacity will be refined in the Project area by removing known environmental constraints, which include: open space dedicated for preservation or recreation through easements limiting future land use (Chicago Wilderness dataset); Lake County Forest Preserves (Lake County GIS Open Data Portal); streams, rivers, and lakes (Project GIS database); FEMA 100-year floodplain and Lake County floodway and problem flood areas (FEMA and Lake County GIS Open Data Portal); and federally and locally designated wetlands and wetland mitigation banks, including a buffer required under the Lake County Watershed Development Ordinance (Lake County GIS Open Data Portal and U.S. Army Corps of Engineers RIBITS mitigation banks to be acquired).
- **2015 CoStar Inventory of Nonresidential Building Data for the Region.** A compilation of CoStar and Smith Travel Research building data for office, industrial, retail and hotel uses will include square footage, vacancy, and rent information by Census block for the CMAP region.
- **Assignment of LEHD Employment Data to buildings.** LEHD data points by block will be compiled for the CMAP region and assigned to the inventory of 2015 buildings.
- **Nonmarket Development.** Public and institutional uses that are nonmarket (such as military bases, government buildings, universities, etc.) will be compiled using CMAP's 2013 land use data and LEHD.

Build Alternative Socioeconomic Forecasts and Allocation

Socioeconomic forecasts and allocation will be a continuation of the initial system alternatives process to represent details of socioeconomic impacts and land uses in the analysis area for the build alternative phase of the Project. After identification of the build alternatives, the SB Friedman real estate model will be used to refine the initial system alternative forecasts to integrate local parcel-level analysis of future real estate potential with UrbanSim Census block-level forecasts within a 1-mile Project footprint of the build alternative corridors. Adjustments to the output will be based on knowledge of local development, community plans, access, and adjacencies. Site- or parcel-level land use outputs will be prepared and displayed on maps for each of the build alternative corridors. This will allow the Project team to differentiate and analyze the potential socioeconomic characteristics related to the communities in the analysis area of each build alternative.

The refined inputs from the SB Friedman real estate model for the build alternatives, representing localized details, will be used as a starting point for the UrbanSim model simulation for the build alternatives. The UrbanSim model simulation will generate build alternative specific socioeconomic forecasts and allocation for the travel demand model. The UrbanSim model simulation will follow similar procedures used for the initial system alternatives.

Figure 2 (pg. 8) shows the description of the input/output parameters of the UrbanSim model.

Parameters

The Project team will reconcile the forecasts from the SB Friedman real estate model with CMAP regional population and employment control totals to maintain consistency between the TCA Project and the ON TO 2050 regional forecasts.

UrbanSim model will be calibrated to ensure robustness and statistical validity based on the existing inputs, 2050 control totals, travel model inputs, and development capacity data provided by the Project team.

SB Friedman real estate modeling and UrbanSim modeling for the Project will be conducted to ensure consistency of socioeconomic forecast totals for the CMAP region. The modeling process will include adjustments to:

- Reconcile data discrepancies to make sure CMAP published ON TO 2050 population, household, and employment totals for the CMAP region are consistent with the forecasts developed for the Project
- Incorporate travel demand model skims
- Reconcile SB Friedman real estate model forecasts by land use based on land availability
- Incorporate development capacity and zoning considerations by communities
- Include environmental constraints on development in Lake County

Review and Decision Process

SB Friedman's real estate forecast model and UrbanSim outputs will be synthesized and reconciled with historic regional trends, recent shifts in real estate markets that diverge from historic trends, community aspirations of development intensity (as derived from zoning data), and knowledge of key development sites. The Project team will collaborate with CMAP to review forecasts and allocation methodology related to reasonableness of output generated for both the initial system alternatives and build alternatives socioeconomic forecasts.

Documentation and Deliverables

The Project team will develop technical memorandums discussing the details of the framework, process, methodology, and outputs for the socioeconomic forecasts and allocation for the 2050 No-Build scenario, initial system alternatives phase, and the build alternatives phase of the TCA Project. In addition to the technical memorandums, the Project team will also provide data files representing socioeconomic allocations (population, households, and employment) for the initial system alternatives and the build alternatives by Census block and traffic analysis zones in ESRI format, including maps and tables showing spatial distribution of population/households, jobs, and development related to the project.

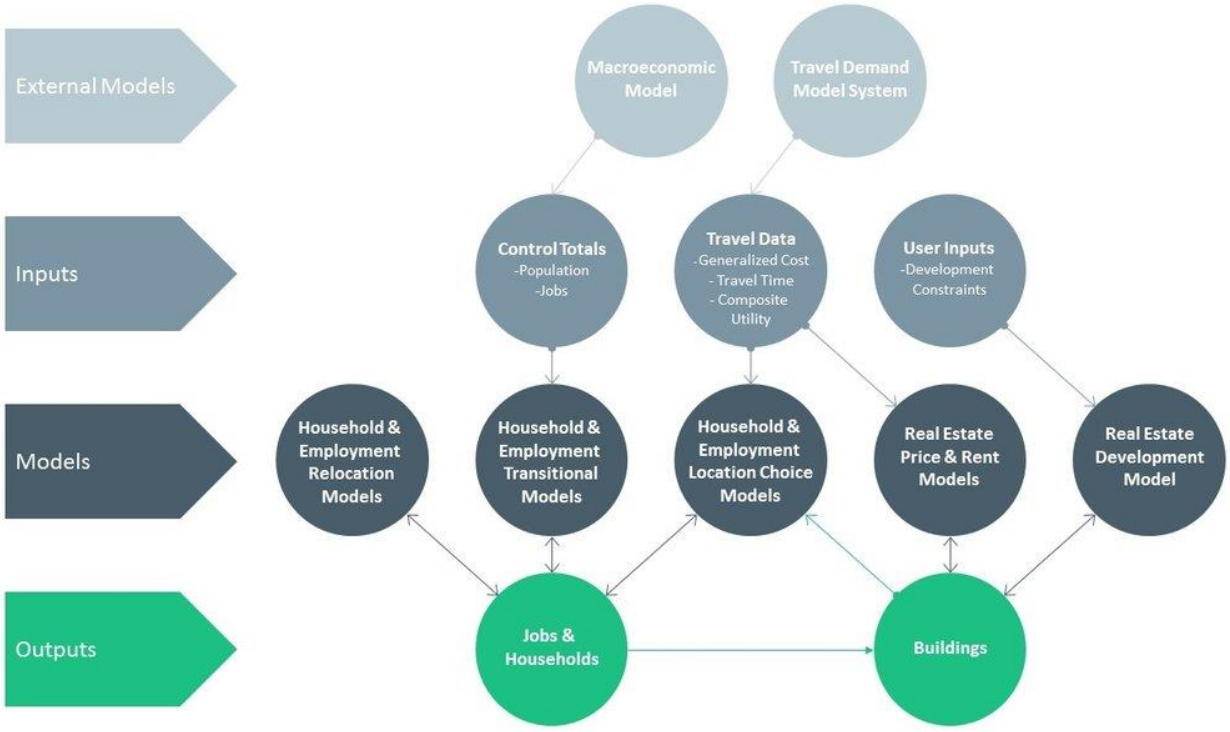


Figure 1. UrbanSim Modeling Process

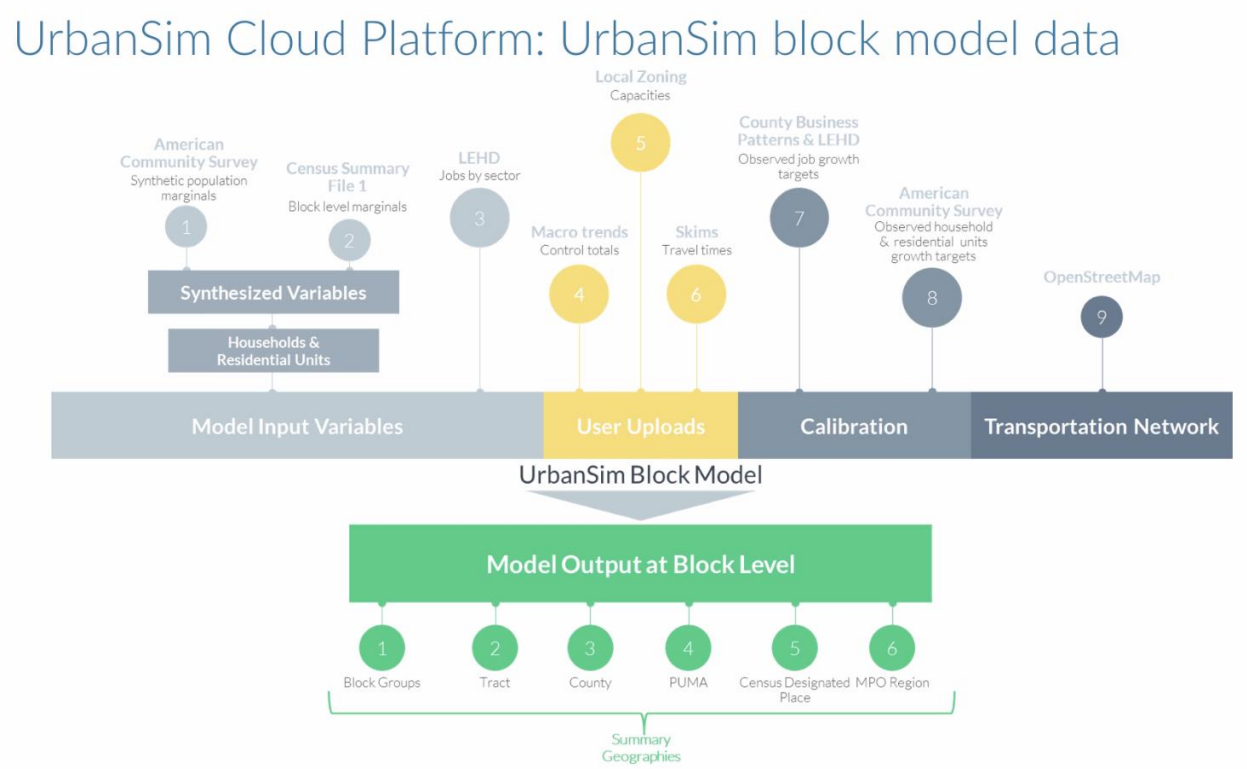
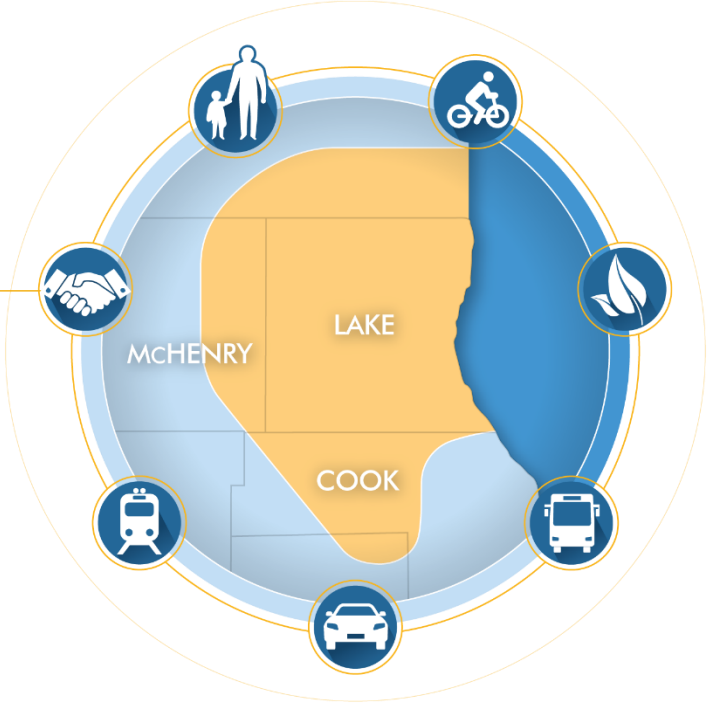


Figure 2. UrbanSim Model Input/Output Framework

Appendix J

Affected Environment Memorandums



TRI·COUNTY ACCESS
MOBILITY FOR TODAY AND TOMORROW

LAKE
McHENRY
COOK

Affected Environment—System Alternatives

November 2019

Illinois Tollway

U.S. Department of Transportation
Federal Highway Administration

Illinois Department of Transportation

Contents

Introduction

TM1 Agricultural Resources

TM2 Biological Resources and Threatened & Endangered Species

TM3 Community Resources and Facilities

TM4 Cultural Resources

TM5 Land Use

TM6 Special Lands

TM7 Special Waste

TM8 Traffic Noise

TM9 Visual Resources

TM10 Wetlands and Waterbodies

List of Preparers

Introduction

This appendix contains Affected Environment Memoranda for the corridors identified during the development of the initial range of alternatives. Organized by resource and using the approach identified in the corresponding methodology memo, these memos document key resources along each corridor. During this phase of alternatives development, identifying natural and socioeconomic resources in the corridors relied on a combination of published information and windshield surveys, which were used to verify the presence or absence of a resource and provide further characterization.

The memos identify the environmental setting for 12[1] existing roadway corridors that were identified for expansion and three new roadway corridors. The three new roadway corridors contained six corridor location options for segments of the corridors. Corridors evaluated include:

- Corridor 1 (US 12: Lake-Cook Road to North Richmond Road)
- Corridor 2 (IL 60: IL 83 to IL 120)
- Corridor 3 (US 45: IL 120 to IL 83)
- Corridor 4 (Old McHenry Road, Midlothian Road, and Quentin Road)
- Corridor 6 (IL 53 Expressway: Lake-Cook Road to Higgins Road)
- Corridor 7 (Lake Cook Road, Arlington Heights Road, IL 53, and IL 83)
- Corridor 8 (Lake Cook Road: Barrington Road to US 12)
- Corridor 9 (IL 59 and Barrington Road: I-90 to US 12)
- Corridor 11 (IL 120: US 12 to US 41 - Arterial Widening)
- Corridor 13 (IL 176 and Fairfield Road)
- Corridor 14 (IL 59 and Rollins Road)
- Corridor 15 (IL 176, Butterfield Road, and IL 137)
- Corridor 16 (IL 53 Extension: Lake-Cook Road to IL 120)
- Corridors 17-18: (two location options for segments of the IL 53 Extension)
- Corridor 20 (IL 120 Expressway: IL 83 to I-94)
- Corridor 21 (IL 120 Expressway: US 12 to IL 83)
- Corridors 22-25 (four location options for segments of the IL 120 Expressway between US 12 and IL 83)

An "analysis area," or the area used to identify resources and assess potential impacts for a specific resource, was defined in separate resource methodology memorandums prepared for each resource topic (see *Natural and Socioeconomic Resource Methodologies for the System Alternatives Evaluation Memorandums*). The analysis areas varied, depending on the specific resource, and were determined based upon requirements that supported evaluation of the specific environmental or socioeconomic

[1] 15 potential improvement corridors were initially identified. For Corridors 5 and 12, Final Year 2050 traffic forecasts showed that no additional improvement beyond what was programed would be required; For Corridor 10, it was combined with Corridor 14.

resource. As both IDOT and the Illinois Tollway are potential implementing agencies for the corridors under consideration, the approach considered the respective environmental requirements and guidance of each agency. The analysis areas are detailed by resource topic, below:

Resource Topic	Defined Analysis Area
Agriculture	0.25 mile from roadway's approximate centerline (0.5-mile total width) for all corridors
Biological/T&E	0.25 mile from the roadway's approximate centerline (0.5-mile total width) for all corridors
Community Resources	0.5 mile from the roadway's approximate centerline (1-mile total width) for all corridors For demographic evaluation, the analysis areas established for land use resources were followed
Cultural	0.25 mile from the roadway's approximate centerline (0.5-mile total width) for all corridors
Land Use	0.5-mile from roadway's approximate centerline (1-mile total width) for corridors 1-15 2 miles from roadway's approximate centerline (4 miles total width) for corridors 16-25
Noise	545 feet from roadway's approximate centerline (1,090 total width) for corridors 1-15 500 feet from edge of pavement for corridors 16-25
Special Lands	0.25 mile from the roadway's approximate centerline (0.5-mile total width) for all corridors
Special Waste	0.5-mile from roadway's approximate centerline (1-mile total width) for all corridors
Visual	Viewsheds
Wetlands/Waterbodies	0.25 mile from the roadway's approximate centerline (0.5-mile total width) for all corridors

The Affected Environment Memorandums developed for the Initial Range of Alternatives phase document the environmental setting for the individual corridors that were considered. As the TCA Project progressed, the individual corridors would have been assembled in different combinations to form the Initial Range of Alternatives.

TECHNICAL MEMORANDUM #1

Agricultural Resources

Agricultural Resources Affected Environment; System Alternatives

This memorandum details the affected environment for agricultural resources.

1.0 Resource Introduction

Agricultural resources include cultivated farmland, and prime, unique, and important farmland defined by soil types; heritage farms and agribusinesses; specialty cropland; farmsteads; equestrian facilities; organic agriculture; and Community Supported Agriculture (CSA). They are defined as follows:

- *Farmland* – The 2012 U.S. Department of Agriculture's (USDA) Census of Agriculture defines farms as producing and selling $1,000 or more agricultural products annually. For this analysis, farmland includes cropland and pastureland where active cultivation or management of crops or livestock occurs.
- *Prime, Unique, and Important Farmland* – The USDA Natural Resources Conservation Service (NRCS) classifies and maps existing and potential farmland using soil types as follows: prime farmland, unique farmland, farmland of statewide importance and farmland of local importance. Prime farmland has the best physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops. It may be cultivated or undeveloped land not located in urbanized areas or in bodies of water. All subcategories of prime farmland were included in this analysis (USDA NRCS 2018). Unique farmland is nonprime farmland producing specific high-value food and fiber crops (USDA NRCS 2018). Important farmland is less productive nonprime farmland of statewide or local importance because of its value in agricultural production and has restrictions affecting its use (IDOA 2001).
- *Heritage Farms and Agribusinesses* – Three Illinois Department of Agriculture (IDOA) farm programs, hereafter referred to as Heritage Farms, recognize continual ownership by the same family of lineal or collateral descendants: centennial (100 years), sesquicentennial (150 years) and bicentennial (200 years). The centennial program recognizes both farms and agribusinesses (IDOA 2018). (Specific addresses/locations of heritage farms is not publicly available, so this information is only presented at the Tri-County Access [TCA] study area level.)
- *Specialty Cropland* – Specialty cropland includes a subset of farmland cultivating or managing "fruits and vegetables, tree nuts, dried fruits and horticulture and nursery crops, including floriculture" that are not wild (USDA AMS 2018). Specialty cropland was identified separately in the analysis.

  Propagation and sale of specialty crops (flowers, herbs, vegetables, pumpkins, nursery stock such as trees and shrubs and others) can occur at nurseries, garden centers, and tree (propagation) locations, be raised on site in the soil or in greenhouses and be located within the corridor area.
- *Farmsteads* – Farmsteads are the buildings and adjacent service areas of a farm. This analysis considered uncultivated land composing the farmstead yard, the farm residence, and outbuildings. Farm residences were categorized separately from outbuildings.
- *Equestrian Facilities* – Equestrian facilities are commercial operations that have a combination of pasturing acreage, fenced paddocks, exercise and training grounds, barns, and buildings.
- *Organic Agriculture* – USDA certified organic foods are grown and processed according to federal guidelines that use natural substances and physical, mechanical, or biologically based farming

methods. The USDA National Organic Program certifies organic operations according to strict standards and regulations and the program's oversight is delegated to the IDOA in Illinois. Some farms use organic principles but are not USDA- certified. The USDA Organic Integrity Database (USDA AMS 2018) identified certified operations and Community Supported Agriculture directories (USDA 2018; IIRA 2018; Chicagoland CSA Coalition, 2018; Localharvest.org. 2018) have been used to identify noncertified farms.

- *Community Supported Agriculture* -- Community Supported Agriculture (CSA) is a small market local food movement with a subscription-based production system that distributes periodic shares (allotments) during the growing season (USDA NAL 2018). CSA farms are often organic operations, either certified or cultivating crops or animals according to organic principles.

2.0 Methodology

As indicated in the Agricultural Resources Methodology Memo, agricultural resources in the analysis area were identified and located using readily available information from secondary sources. Additional resources that were utilized are also identified in Section 5.0 References.

A desktop survey of available GIS information was conducted in July and August 2018 for corridors 1 through 15 and in January and February 2019 for corridors 16 through 25. Field verifications were completed October 17 and 18, 2018. Based on the field verifications, modifications to the GIS layer were made.

Agricultural resources were identified within a defined analysis area of 0.25 mile from the roadway's approximate centerline (0.5-mile total width) for all corridors.

While agricultural statistics report numbers of farms, available databases identify land use in agriculture, not individual farms. For this analysis, parcel information was matched with current agricultural use to determine the number of farmed parcels. The number of farms is smaller, as a farm may contain more than one parcel.

3.0 Tri-County Access Study Area

The Tri-County Access (TCA) study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the study area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

While Illinois and Wisconsin play national and international roles in agriculture production and agriculture is a top contributor to both states' economies, within the TCA study area, agricultural land use is diminishing. The number of farms and acreage of lands devoted to farmland use for counties within the study area have declined at higher percentages than their respective states' percentage declines. Agricultural acreage and production has particularly declined in Cook, DuPage and Lake counties, as residential, commercial and industrial land uses have radiated outward from the City of Chicago and replaced farmland within the Chicago Region. While 76 percent of the state of Illinois' land is still considered farmland, Cook County has only one percent, DuPage County only four percent, and Lake County only 11 percent remaining. Similarly, Kenosha County's percent of land devoted to agricultural use is lower than the state Wisconsin's (22 percent versus 42 percent). The three Illinois counties also rank near the bottom among Illinois counties in agricultural production and economic value (USDA NASS 2012). Among the TCA counties, only McHenry County still has a significant portion of its land dedicated to farm production (61 percent). Participation in federal farmland reserve programs (conservation practices) is low.

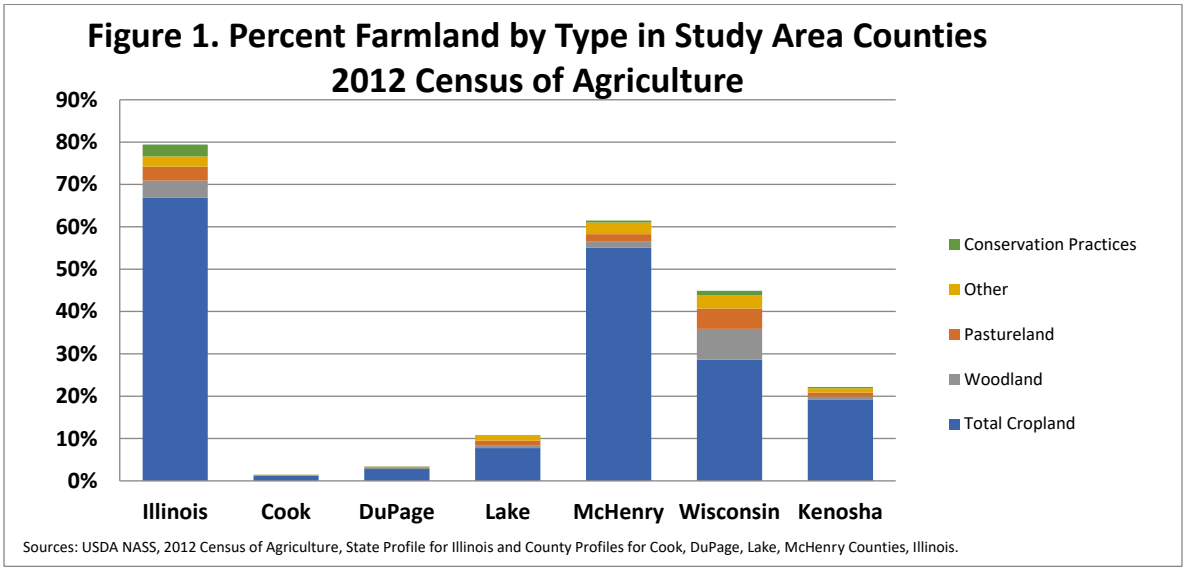
Table 3-1 and Figure 1 present the agricultural statistics for the TCA study area counties.

Table 3-1. 2012 Summary of State and County Agricultural Statistics

Category	Illinois	Cook Co, IL	DuPage Co, IL	Lake Co, IL	McHenry Co, IL	Wisconsin	Kenosha Co, WI
Size (acres)	35,532,405	604,968	209,648	283,901	386,065	34,661,189	356,143
Number of Farms	75,087	127	74	349	911	69,754	359
Land in Farms (acres)	26,937,721	8,499	7,252	30,039	234,211	14,568,926	76,632
Percent of Land in Farms	76%	1%	3%	11%	61%	42%	22%
Total Cropland (acres)	23,752,778	7,501	5,878	21,960	212,556	9,910,991	68,098
Conservation Practices[a] (acres)	986,719	49	149	260	1,699	351,457	1,072

Sources: USDA NASS 2012 Census of Agriculture, Illinois State and County Data, Volume 1, Issued May 2014; USDA NASS, 2012 Census of Agriculture, Illinois State and County Data and Wisconsin State and County Data, Volume 1, Issued May 2014; Farmlandinfo.org 2018 from USDA 2012 Natural Resources Inventory.

[a] Conservation practices include land enrolled in Conservation Reserve, Wetlands Reserve, Farmable Wetlands, or Conservation Reserve Enhancement Programs.



Corn and soybean acreage in Lake, Cook and DuPage counties rank among the lowest five counties in the state. McHenry County ranks thirty-eighth for corn and forty-third among counties for soybeans. Within each county, however, corn and soybeans still lead the cultivated acreage (Table 3-2). Figure 2 depicts the land in farms in each of the Illinois study area counties.

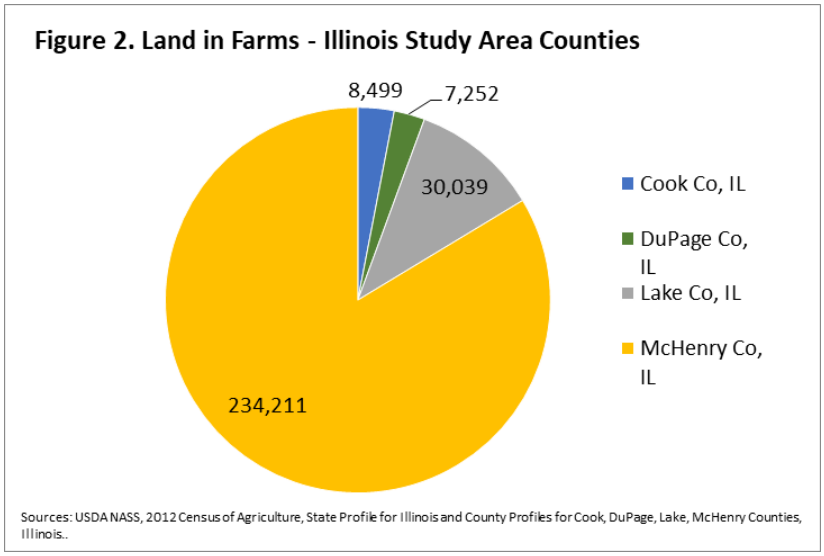


Table 3-2. 2012 State and County Crop Production and Value

Crop Production (acres)	Illinois	Cook Co, IL	DuPage Co, IL	Lake Co, IL	McHenry Co, IL	Wisconsin	Kenosha Co, WI
Land in Farms	26,937,721	8,499	7,252	30,039	234,211	14,568,926	76,632
Corn for grain	12,263,259	(D)[a]	(D)	7,988	123,654	3,306,621	27,622
Corn for silage or greenchop	171,562	0	(D)	(D)	3,063	953,876	2,876
Soybeans for beans	8,933,457	2,738	1,914	7,186	58,099	1,699,728	20,798
Forage (hay)	514,024	1,453	170	3,072	13,469	2,396,640	5,879
Wheat for grain	645,829	(D)	(D)	919	3,684	261,519	5,301

Sources: USDA NASS, 2012 Census of Agriculture, Illinois State and County Data, Volume 1, Issued May 2014; USDA NASS, 2012 Census of Agriculture, Illinois State and County Data and Wisconsin State and County Data, Volume 1, Issued May 2014.

[a] (D) Designation in source document indicating data were withheld to avoid disclosing data for individual farms.

In terms of economic value of agricultural products sold, Cook, Lake and DuPage counties rank among the lowest 11 counties, and McHenry County ranks 43rd among 102 Illinois counties. All four counties rank in the top six in value of horses sold, with Cook County first in the state. This has significance because northwestern Cook and southern Lake County have historically been a center of equestrian breeding, training and boarding. Arlington Park Racecourse in Arlington Heights is adjacent to existing IL 53 in the study area. McHenry County ranks high among forage acreage (fifth), horses (sixth) and sheep (eighth). Other notable commodities ranked within the top 20 in study area counties are: 1) vegetables (Lake), 2) fruit (McHenry), 3) nursery/floriculture (all four counties), 4) milk (cow) (McHenry), 5) sheep/ goats (McHenry), and 6) aquaculture (McHenry and Cook). Landscape nurseries and apple orchards stand out in Lake County as common specialty farms (IDOT and ISTHA 2001).

Of the 72 counties in Wisconsin, Kenosha County ranks in the middle for corn and soybean acreage (46th and 38th, respectively), in the lower third for forage (66th) and in the upper quarter (20th) for wheat. In terms of economic value of agricultural products sold, Kenosha County also ranks in the middle. Its strength in crop value is wheat cultivation (twentieth in acreage). Notably, Kenosha County ranks sixth among Wisconsin counties in nursery/floriculture (USDA NASS 2012).

Reflecting national and state trends, the study area counties experienced declining farmland acreage and the number of farms in most or all of the agricultural censuses since 1950 (USDC ESA BOC 1952-1994; USDA NASS 1994-2014). In 62 years, agricultural resource losses exceed state levels for all of the four Illinois counties and exceed 90 percent in Cook and DuPage counties. Lake County losses exceed 80 percent. McHenry County retains about two-thirds of its agricultural land and 80 percent of its cropland, though its number of farms has decreased similar to the state overall. Since 1974, representing the closest agricultural census year to the first environmental impact study for the Project, the magnitude of farmland conversion remains high, particularly in Cook, DuPage and Lake counties. Like the state, the percentage of resource losses declined in more recent comparison intervals though farmland acreage showed an increase in a few instances between 2007 and 2012. Kenosha County has lost 49 percent of its farm acreage and 74 percent of its farm numbers since 1950, which is higher than the statewide losses in Wisconsin (USDC ESA BOC 1952-1994; USDA NASS 1994-2014).

Table 3-3 presents the change in state and county agricultural measures from the two most recent agricultural census years, 2007 and 2012.

Table 3-3. Five-Year Percent Change in Key Agricultural Measures by County – 2007-2012

	Illinois	4-County Total	Cook Co, IL	DuPage Co, IL	Lake Co, IL	McHenry Co, IL	Wisconsin	Kenosha Co, WI
Number of Farms	-2%	-13%	-31%	1%	-12%	-12%	-11%	-22%

Table 3-3. Five-Year Percent Change in Key Agricultural Measures by County – 2007-2012

	Illinois	4-County Total	Cook Co, IL	DuPage Co, IL	Lake Co, IL	McHenry Co, IL	Wisconsin	Kenosha Co, WI
Land in Farms	0.6%	5%	4%	-9%	-13%	9%	-4%	-9%
Cropland	0.2%	3%	16%	-8%	-23%	7%	-2%	-5%

Sources: USDA NASS, 2012 Census of Agriculture, State Profile for Illinois and County Profiles for Cook, DuPage, Lake, McHenry Counties, Illinois and Kenosha County, Wisconsin.

Table 3-4 presents the occurrence of prime farmland and farmland of statewide importance in the TCA study area for all land uses and is taken from mapping of soil types determined by the USDA to be prime farmland. Prime farmland is 60 percent or greater in each TCA county except Cook County (31 percent). Lake, McHenry and Kenosha counties all have greater than 70 percent of the county acreage in prime farmland. Within the study area, prime farmland makes up 68 percent of the land area. Farmland of statewide importance ranges between 1 percent (McHenry County) and 12 percent (Kenosha County). Overall, mapped farmland of statewide importance makes up 11 percent of the study area. Farmland of local or unique importance is not present within any of the five counties. A total of 21 percent of the study area consists of nonprime farmland.

Table 3-4. Prime Farmland Designations by County (Percent)

Classification	Cook Co, IL	DuPage Co, IL	Lake Co, IL	McHenry Co, IL	Kenosha Co, WI	Study Area
Total Land Area (Acres)	604,968	209,648	283,901	386,065	356,143	602,887
Prime farmland[a]	31%	60%	72%	77%	76%	68%
Farmland of statewide importance	4%	3%	6%	1%	12%	11%
Farmland of local or unique importance	0%	0%	0%	0%	0%	0%
Not prime farmland	65%	37%	22%	22%	12%	21%

Source: USDA NRCS. 2017

[a] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, Prime farmland if protected from flooding or not frequently flooded during the growing season, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Cook, DuPage, Lake and McHenry counties have a combined total of 69 Centennial farms and 5 Sesquicentennial farms. There are no Bicentennial farms or agribusinesses in these counties (Table 3-5) (IDOA 2018). Nineteen Centennial farms are within the study area and of those, 15 are in Lake County (Table 3-5). None of the Sesquicentennial farms are within the study area. Data from Wisconsin's Centennial and Sesquicentennial Farm Program for Kenosha County are currently not publicly available.

Table 3-5. Heritage Farms and Agribusinesses in Study Area

Type		Cook Co, IL	DuPage Co, IL	Lake Co, IL	McHenry Co, IL	Kenosha Co, WI	Study Area
Farm	Centennial	3	0	15	1	NA	19
	Sesquicentennial	0	0	0	0	NA	0
	Bicentennial	0	0	0	0	NA	0
Agribusiness	Centennial	0	0	0	0	NA	0

Sources: Illinois Department of Agriculture, Centennial & Sesquicentennial Farm Programs. Accessed July 24, 2018. https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/CentennialSesquicentennial/Pages/default.aspx.

Illinois Department of Agriculture, Centennial Agribusiness. Accessed July 26, 2018. https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/Pages/Centennial-Agribusiness-Program.aspx.

NA= Not Available

Nine of the 20 certified organic farms listed in the USDA Organic Integrity Database (USDA AMS 2018) for Cook, DuPage, Lake and McHenry counties are in the study area. Eight of them are in Lake County (Table 3-6).

Eighteen CSA farms are located in the study area (Table 3-6). A total of 2 are in Cook County, 12 are in Lake County, and 4 are in McHenry County. None are in DuPage County (USDA 2018; Illinois Institute for Rural Affairs 2018; Chicagoland CSA Coalition 2018).

Table 3-6. Illinois Organic and Community Supported Agriculture Farms in Study Area

Type		Cook Co, IL	DuPage Co, IL	Lake Co, IL	McHenry Co, IL	Kenosha Co, WI	Study Area
Organic Farms	Certified[a]	1	0	8	0	N/A	9
	Noncertified[b]	0	0	3	3	N/A	6
CSAs[c]		2	0	12	4	N/A	18

Sources: U.S. Department of Agriculture, Agricultural Marketing Service (USDA AMS). 2018. Organic Integrity Database. Accessed August 3, 2018, September 4, 2018, February 26, 2019. https://organic.ams.usda.gov/integrity//; U.S. Department of Agriculture. 2018. Local Food Directories: Community Supported Agriculture (CSA) Directory. https://www.ams.usda.gov/local-food-directories/csas. Accessed July 13, 2018; Illinois Institute for Rural Affairs. 2018. Illinois Community Supported Agriculture (CSA) Directory. Western Illinois University. First Printing April 2007. https://www.value-added.org/food-agriculture/local-foods/csa-directory. Accessed July 11, 2018; Chicagoland CSA Coalition. 2018. CSA Directory. http://www.bandoffarmers.org/CSA-Directory. Accessed July 11, 2018; Localharvest.org. 2018. CSAs in Illinois. localharvest.org. Accessed August 6, 2018.

[a] Certified status determined from USDA Organic Integrity Database.

[b] Noncertified organic farms identified in CSA source directories.

[c] CSAs are not all organic.

4.0 System Alternative Corridors

4.1 Corridor 1

Agricultural resources are described in Table 4-1.

Table 4-1. Agricultural Resources – Corridor 1 Analysis Area

Total Land Acreage	9,275	
Agricultural Land (Acres/Percent)[a]	1,172	13%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	3	
Number of Farmsteads	15	
Number of Equestrian Areas	2	
Agricultural Related Property Parcels	129	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	5,839	63%
Farmland of Statewide Importance	523	6%
Not Prime Farmland	2,913	31%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 9,275 acres included within the Corridor 1 analysis area, 1,172 acres have been identified as active farmland. In total, approximately 13 percent of the land within Corridor 1 consists of active farmland.

The heaviest concentration of agricultural parcels is in McHenry County, toward the northern terminus (MP 3.2-6.1). Scattered farmlands parcels are located between the northern terminus and Spring Grove.

Forty-seven of the 129 agricultural-related property parcels in the corridor are in McHenry County. From the county boundary to Volo in Lake County, farmland is almost absent through the Fox Lake area (MP 10.0-MP 15.0), where there is only one agricultural parcel. The largest concentration of farmland in the corridor is near Volo and Wauconda between MP 15.0 and MP 20.3. Several parcels occur in the North Barrington/Hawthorn Woods/Lake Zurich vicinity. From MP 24.6 to the southern terminus at MP 31.8, Corridor 1 primarily consists of suburban residential, open space and commercial land uses south of Wauconda, through North Barrington and Deer Park, where there is just one parcel of farmland.

Prime, Unique, and Important Farmland

Of the 9,275 acres included within Corridor 1, 5,839 acres (63 percent) are mapped as prime farmland, 523 acres (six percent) are mapped as farmland of statewide importance, and 2,913 acres (31 percent) are mapped as nonprime farmland.

Specialty Areas

Three specialty areas have been identified within Corridor 1 that include the following:

- Castle Gardens Nursery and Garden Center (MP 16.5), 27340 West Volo Village Road, Volo
- Hoffman's Garden Center (MP 17.8), 30699 US 12, Volo
- Montale Gardens (MP 22.6), 25865 West Ivanhoe Road, Wauconda

These locations appear to have greenhouses or in-ground plots cultivating specialty crops within their premises. None of the specialty crop growing operations in this corridor are certified organic organizations.

Organic Farms and Community Supported Agriculture

"Our Farm" in Volo (30563 N US 12, Volo) is a 17-acre noncertified organic CSA farm located along the east side of US 12 at MP 17.85 to 18.05 (US 12 at Russell Drive). Four acres of identified farmstead for this CSA are located within Corridor 1. Thirteen acres of cultivated farmland for this CSA farm is located within the analysis area. Although the farm was closed in August 2018 for maintenance of an unspecified duration, it has been included in the calculations for the farmland and farmstead analysis.

Farmsteads

Fifteen separate farmsteads were identified within Corridor 1 (Table 4-2). A total of seven farmsteads are located in McHenry County and eight are located in Lake County.

Table 4-2. Farmsteads – Corridor 1

Milepost	Farmstead
3.3	Farm residence
3.3-3.4	Farm residence and ancillary farm buildings
4	Farm residence and ancillary farm buildings
4.4	Farm residence and barn
5	Farm residence and ancillary farm buildings. Continues outside analysis area
5.3	Farm residence and farmland on parcel
5.7	Farm residence and ancillary farm buildings
15.6-15.7	Farm residence and ancillary farm buildings
17.6	Farm residence
17.6	Farm residence and ancillary farm buildings
18	Farm residence and ancillary farm buildings
18.5	Farm residence and ancillary farm buildings
18.2-18.3	Farm residence
19.2-19.4	Farm buildings
23.9	Farm residence and ancillary farm building

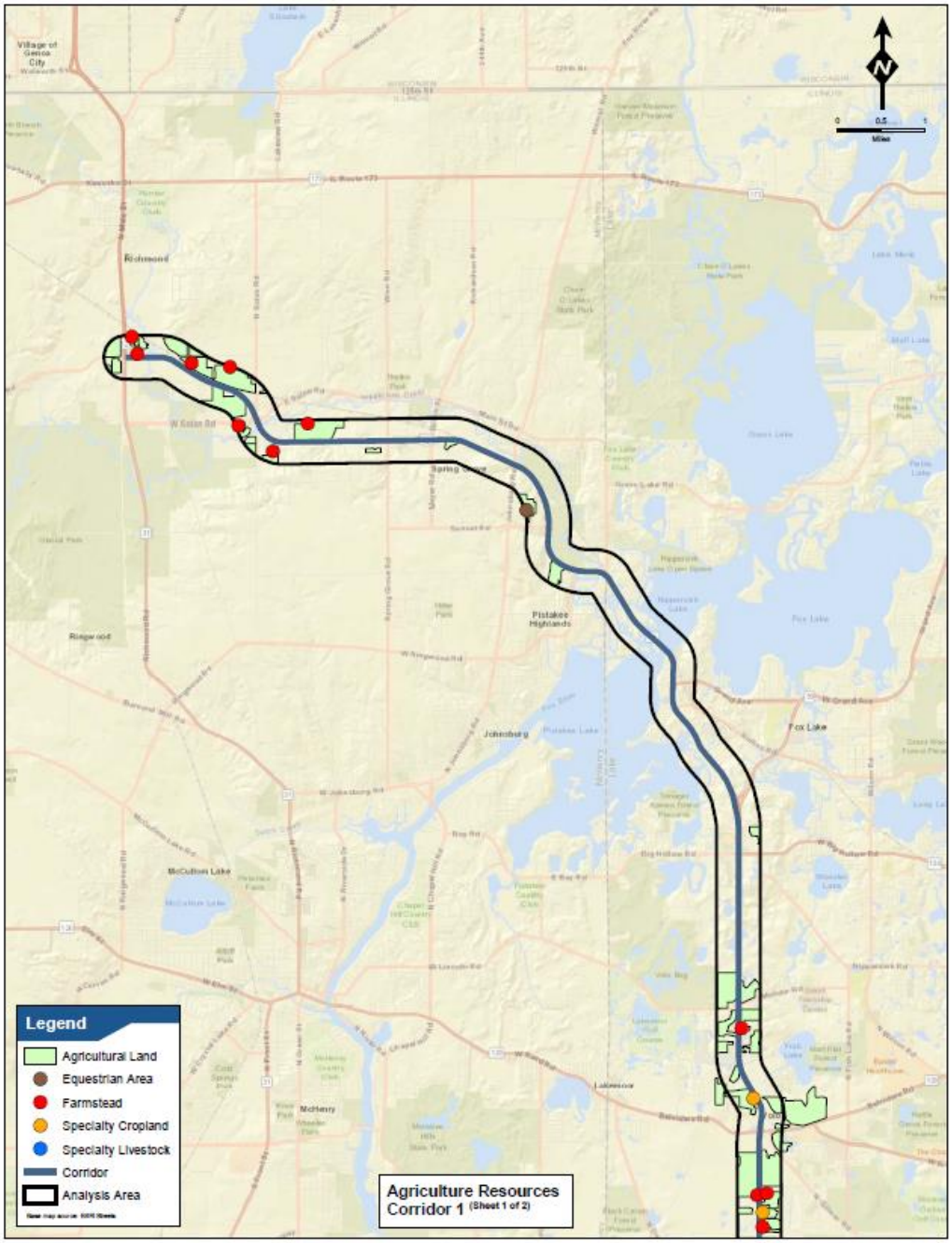
Equestrian Facilities

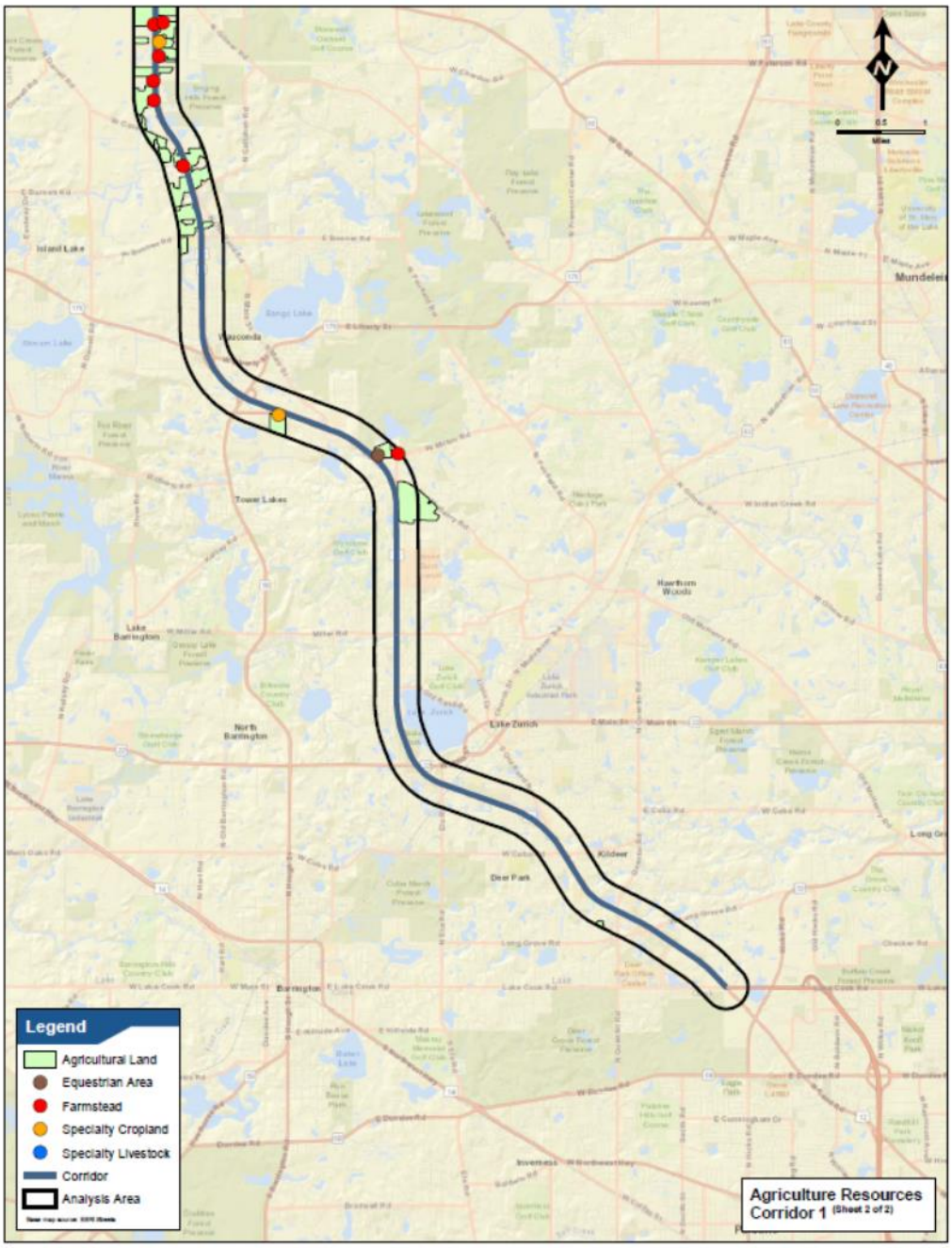
Two equestrian facilities are located within Corridor 1:

- Royal Ebony Friesian Sport Horses (MP 8.7-8.8), 101 Sunset Road, Spring Grove
- Wedgewood Riding Center (MP 23.8) 26011 North Rand Road, Wauconda

The Royal Ebony Friesian Sport Horses is a horse breeder. Wedgewood Riding Center is a horse-riding school.

Agricultural Resources Corridor 1 Figures





4.2 Corridor 2

Data related to the analysis for Corridor 2 is summarized in Table 4-3.

Table 4-3. Agricultural Resources – Corridor 2 Analysis Area

Total Land Acreage	2,275	
Agricultural Land (Acres/Percent)[a]	897	39%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	6	
Number of Farmsteads	9	
Number of Equestrian Areas	0	

Table 4-3. Agricultural Resources – Corridor 2 Analysis Area

Agricultural-related Property Parcels	103	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	1,900	63%
Farmland of Statewide Importance	189	6%
Not Prime Farmland	186	31%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 2,275 acres included within the Corridor 2 analysis area, 897 acres have been identified as active farmland. In total, 39 percent of the land within Corridor 2 consists of active farmland.

This corridor has farmland parcels throughout its length. The largest stretches without agricultural parcels are from MP 0.0 to MP 0.65 in Volo at the western terminus of the corridor, and from MP 2.9 to 3.6 in Round Lake. The most concentrated farmland is from MP 1.6-2.9 and from MP 3.6 to the southern terminus at MP 6.7.

Prime, Unique, and Important Farmland

Of the 2,275 acres included within Corridor 2, 1,900 acres (63 percent) are mapped as prime farmland, 189 acres (six percent) are mapped as farmland of statewide importance, and 186 acres (31 percent) are mapped as nonprime farmland.

Specialty Areas

Six specialty areas have been identified within Corridor 2 that include the following:

- Unnamed tree farm (MP 1.0-1.2), 25743 W IL 60 Grayslake
- Turks' Greenhouses (MP 3.9-4.3), 22871 W IL 60, Grayslake
- Mini Earth Greenhouses (MP 4.3), 22525 Peterson Road, Grayslake
- Unnamed pumpkin farm (MP 3.6-3.9), 23080 W IL 60 Grayslake
- Fremont Community Garden (MP 4.8), 22376 W Erhart Road, Mundelein
- Ivanhoe Nursery (MP 5.0 to 5.8 south), 21888 IL 60, Mundelein

These locations appear to have greenhouses and/or in-ground plots cultivating specialty crops within their premises. Turks' Greenhouses and Mini Earth Greenhouses have particularly large numbers of greenhouses for indoor growing operations. Mini Earth Greenhouses is also propagating plants in-ground plots. Ivanhoe Nursery is propagating trees and shrubs. A farm growing pumpkins (MP 3.6-3.9) and a tree farm (MP 1.0-1.2) were also identified during field verifications. In addition, a community garden was identified at MP 4.8. This community garden is managed by Fremont Township.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in Corridor 2.

Farmsteads

Nine separate farmsteads were identified within Corridor 2 and are detailed in Table 4-4.

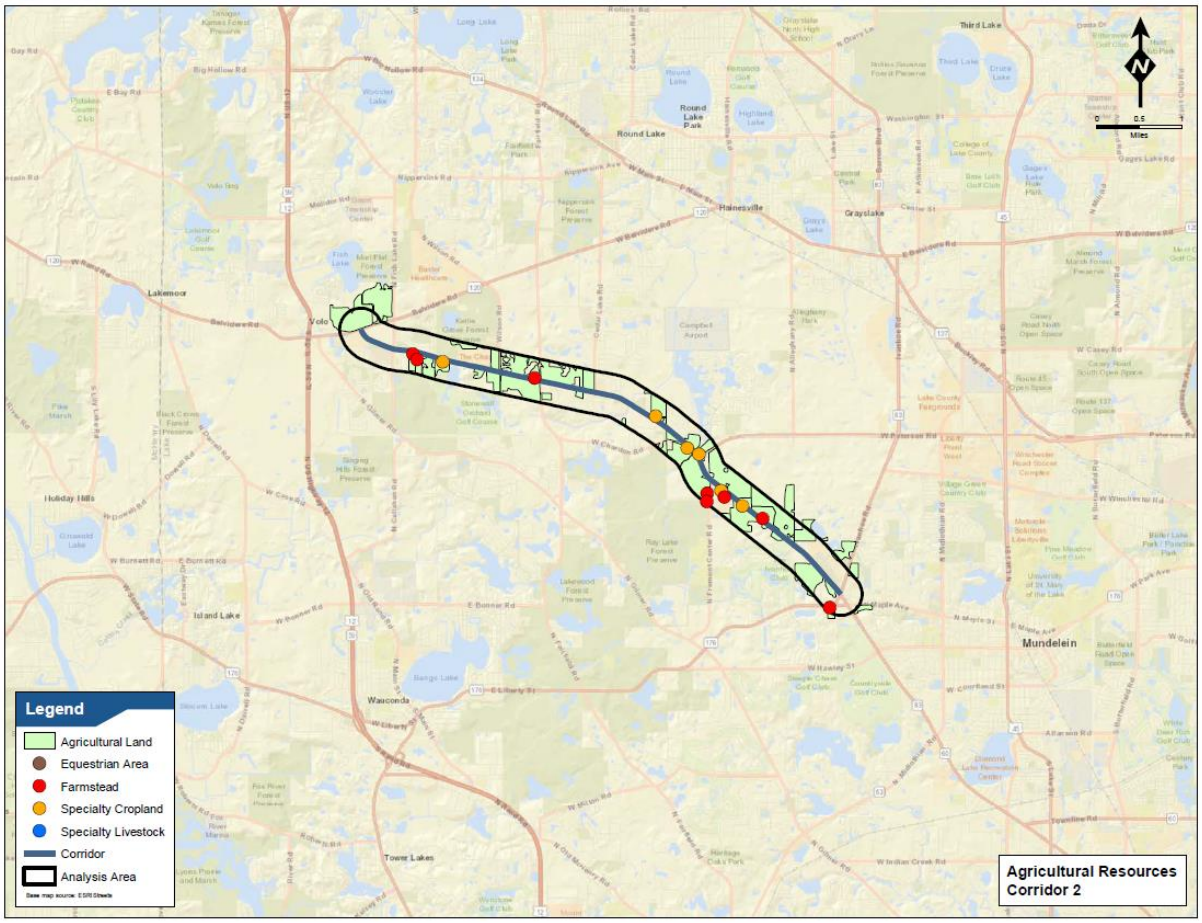
Table 4-4. Farmsteads – Corridor 2

Milepost	Farmstead
0.0	Farm buildings
0.7	Farm residence and ancillary farm buildings
0.7-0.8	Farm residence and ancillary farm building
2.1-2.2	Barn
3.7	Farm residence and barn
4.7-4.8	Farm residence and ancillary farm buildings
4.8	Farm residence and ancillary farm buildings
4.9	Farm residence and ancillary farm buildings
5.3-5.7	Large estate with a variety of buildings.

Equestrian Facilities

No equestrian facilities have been identified in Corridor 2.

Agricultural Resources Corridor 2 Figure



4.3 Corridor 3

Data related to the analysis for Corridor 3 is summarized in Table 4-5.

Table 4-5. Agricultural Resources – Corridor 3 Analysis Area

Total Land Acreage	1,018	
Agricultural Land (Acres/Percent)[a]	0	0%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	0	
Number of Farmsteads	0	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	0	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	918	90%
Farmland of Statewide Importance	2	<1%
Not Prime Farmland	99	10%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 1,018 acres included within the Corridor 3 analysis area, none of the land has been identified as active farmland.

Prime, Unique, and Important Farmland

Of the 1,018 acres within Corridor 3, 918 acres (90 percent) are mapped as prime farmland, 2 acres (less than one percent) are mapped as farmland of statewide importance, and 99 acres (10 percent) is mapped as nonprime farmland.

Specialty Areas

None of the land within Corridor 3 has been identified as a specialty area.

Organic Farms and Community Supported Agriculture
No organic farms or CSAs have been identified within Corridor 3.

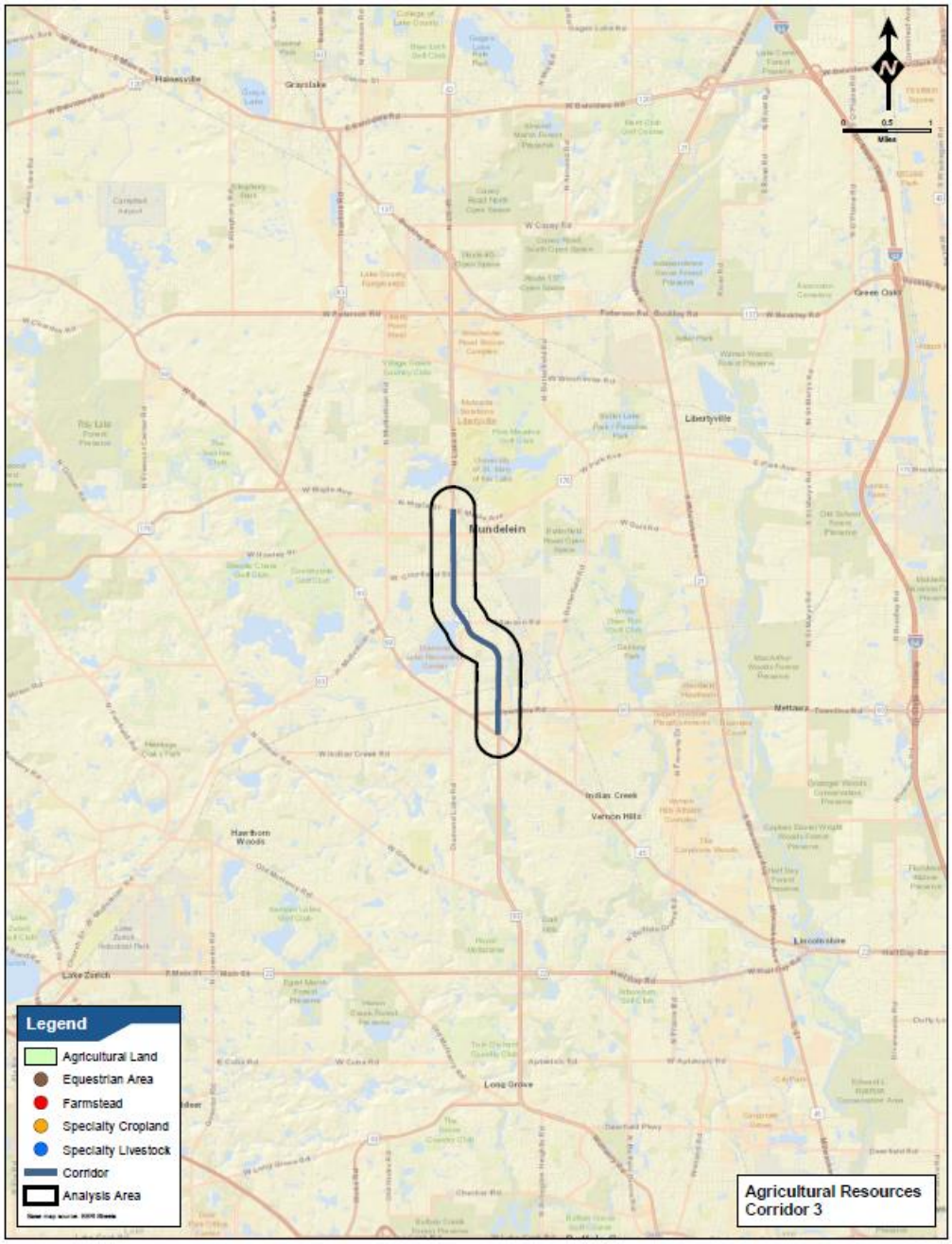
Farmsteads

No farmsteads have been identified within Corridor 3.

Equestrian Facilities

No equestrian facilities have been identified in Corridor 3.

Agricultural Resources Corridor 3 Figure



4.4 Corridor 4

Corridor 4 consists of three segments of roadway: Old McHenry Road, Midlothian Road, and Quentin Road. Data related to the analysis for Corridor 4 is summarized in Table 4-6.

Table 4-6. Agricultural Resources – Corridor 4 Analysis Area

Total Land Acreage	3,562	
Agricultural Land (Acres/Percent)[a]	337	9%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	1	

Table 4-6. Agricultural Resources – Corridor 4 Analysis Area

Number of Farmsteads	2	
Number of Equestrian Areas	1	
Agricultural-related Property Parcels	53	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	2,851	80%
Farmland of Statewide Importance	274	8%
Not Prime Farmland	437	12%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 3,562 acres included within the Corridor 4 analysis area, 337 acres have been identified as active farmland. In total, nine percent of the land within Corridor 4 consists of active farmland.

This corridor has farmland on Old McHenry Road, Midlothian Road and Quentin Road. Most of the farmland and specialty cropland on Old McHenry Road is between US 12 and Midlothian Road (MP 0.0-2.8), with a few parcels scattered between Midlothian Road and IL 53 (MP 2.8-7.9). There is no farmland on Old McHenry Road from east of Quentin Road to west of Hillcrest Drive in Hawthorn Woods (MP 3.5 to MP 4.7) and a cluster of parcels occurs between MP 4.7 and 5.8. MP 5.8 to MP 7.9 has only one parcel at the eastern terminus (MP 7.9). On Midlothian Road, there are agricultural parcels throughout the segment, but they are concentrated primarily in the southern portion close to Old McHenry Road (MP 0.0-MP 0.8). A few scattered parcels are in the northern portion of the Midlothian Road corridor between MP 1.0 and the northern terminus at MP 1.5. Only one agricultural parcel is located along Quentin Road at the intersection of Quentin Road and Lake Zurich Road (MP 0.0).

Prime, Unique, and Important Farmland

Of the 3,562 acres included within Corridor 4, 2,851 acres (80 percent) are mapped as prime farmland, 274 acres (eight percent) are mapped as farmland of statewide importance, and 437 acres (12 percent) are mapped as nonprime farmland.

Specialty Areas

One specialty area has been identified within Corridor 4:

- Natural Environments (MP 5.1), 23520 N Old McHenry Road, Lake Zurich

This location appears to have a greenhouses and in-ground plots cultivating specialty crops within their premises.

Organic Farms and Community Supported Agriculture

Natural Environments (MP 4.9) is also a certified organic farm, which is located at 23520 Old McHenry Road near Old Meadow Trail in Lake Zurich.

No CSAs have been identified in Corridor 4.

Farmsteads

Two farmsteads were identified within Corridor 4 (see Table 4-7).

Table 4-7. Farmsteads – Corridor 4

Milepost	Farmstead
0	Farm residence and ancillary farm buildings
5.8	Farm residence and ancillary farm buildings

Equestrian Facilities

One equestrian facility is located within Corridor 4:

- Forward Stride Stables (MP 2.9), 24630 North Old McHenry Road, Hawthorn Woods

Forward Stride Stables is a full-service hunter and jumper training facility and has full-service boarding.

4.5 Corridor 6

Data related to the analysis for Corridor 6 is summarized in Table 4-8.

Table 4-8. Agricultural Resources – Corridor 6 Analysis Area

Total Land Acreage	3,993	
Agricultural Land (Acres/Percent)[a]	0	0%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	0	
Number of Farmsteads	0	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	0	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	1,471	37%
Farmland of Statewide Importance	62	2%
Not Prime Farmland	2,460	62%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 3,993 acres included within the Corridor 6 analysis area, none of the land has been identified as active farmland.

Prime, Unique, and Important Farmland

Of the 3,993 acres within Corridor 6, 1,471 acres (37 percent) are mapped as prime farmland, 62 acres (2 percent) are mapped as farmland of statewide importance, and 2,460 acres (62 percent) are mapped as nonprime farmland.

Specialty Areas

None of the land within Corridor 6 has been identified as a specialty area.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in Corridor 6.

Farmsteads

No farmsteads were identified within Corridor 6.

Equestrian Facilities

No equestrian facilities have been identified in Corridor 6.

4.6 Corridor 7

Corridor 7 consists of four roadways: Lake Cook Road, Arlington Heights Road, IL 53, and IL 83. Data related to the analysis for Corridor 7 is summarized in Table 4-9.

Table 4-9. Agricultural Resources – Corridor 7 Analysis Area

Total Land Acreage	5,061	
Agricultural Land (Acres/Percent)[a]	501	10%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	22	<1%
Number of Specialty Areas	5	
Number of Farmsteads	6	
Number of Equestrian Areas	1	
Agricultural Related Property Parcels	73	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	3,866	76%
Farmland of Statewide Importance	175	3%
Not Prime Farmland	1,021	20%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 5,061 acres included within the Corridor 7 analysis area, 501 acres have been identified as active farmland. Approximately 10 percent of the land within Corridor 7 consists of active farmland.

This corridor has no farmland on Lake Cook Road. Farmland is located on four segments of IL 83 (MP 4.4-5.1, MP 7.0, MP 12.6-15.4, MP 16.1-16.4). IL 83 from Ivanhoe Road to IL 137 has the largest concentration of farmland in the corridor, primarily from Ivanhoe Road at Shank Road (MP 12.6 – 15.4) to north of Peterson Road in Mundelein and Grayslake. Arlington Heights Road has only an equestrian facility and no cultivated farmland. The IL 53 and Old Hicks Road leg of Corridor 7 (MP 0.0-3.0) has a cluster of active farmland from MP 0.3-1.2. All other segments in this corridor have limited to no farmland.

A total of 22 acres of agricultural land in Corridor 7 is cultivated on IDOT-owned land. These areas are located west of IL 83 at MP 15.3 and MP 16.1 and east of IL 83 at MP 16.3. The land is cultivated by agreement with IDOT. IDOT-owned cultivated acreage is not included in the agriculture resource evaluation.

Prime, Unique, and Important Farmland

Of the 5,061 acres within Corridor 7, 3,866 acres (76 percent) are mapped as prime farmland, 175 acres (3 percent) are mapped as farmland of statewide importance, and 1,021 acres (20 percent) are mapped as nonprime farmland.

Specialty Areas

Five specialty areas have been identified within Corridor 7 include the following:

- The Care of Trees (IL 53 MP 0.3-0.4), 2727 IL-53 Unit C, Long Grove
- BrightView Landscaping (IL 53 MP 1.1), 3490 Long Grove Road, Long Grove
- Unnamed greenhouse (IL 83 MP 5.1), 22155 N IL 83, Long Grove
- Buhrman Design Group, Inc. (IL 83 MP14.2), 20200 W Winchester Road, Mundelein
- Prairie Crossing/Liberty Prairie Foundation, (IL 83 MP 16.1-16.2), 32400 Harris Road, Grayslake

The area owned by BrightView Landscaping appears to be rows of cultivated trees and shrubs within Corridor 7. The business center of BrightView Landscaping is located east of Corridor 7 along Long Grove Road. An unnamed greenhouse is located along IL 83 in Long Grove (MP 5.1). It could not be determined if the greenhouse is currently in use. Multiple greenhouses and agricultural buildings appear to be located east of Corridor 7 within the property parcel. Desktop reviews and field verification could not identify a business associated with this location. Buhrman Design Group on Winchester Road (IL 83 MP 14.2) and The Care of Trees at the southern end of IL 53 (Hicks Road) near Lake Cook Road (MP 0.3) are both tree nurseries with cultivation occurring onsite. Prairie Crossing is a certified organic farm operated under the Liberty Prairie Foundation. The Prairie Crossing parcel in Corridor 7 is located at MP 16.1 – 16.2. A small portion of the property extends into Corridor 7. In-ground plots of organic plants are under cultivation.

Organic Farms and Community Supported Agriculture

An approximately 10-acre portion of cultivated farmland in the Prairie Crossing organic farm has been identified in Corridor 7. Prairie Crossing has several CSAs operating within its organic certification (Sandhill Organics, Chatty Goats, Informed Farm & Foods, Quinn Farm, and Sol-Ful Blooms). Liberty Prairie Foundation is the certified operator. Adam's Acres and Prairie Wind Family Farm are certified separately.

Farmsteads

Six farmsteads were identified within Corridor 7 and are listed in Table 4-10.

Table 4-10. Farmsteads – Corridor 7

Milepost	Farmstead
1.2	Farm residence and ancillary farm buildings
(12.6)	Farm residence and barn
4.8	Farm residence and ancillary farm buildings
7.0-7.1	Farm residence and ancillary farm buildings
13.3	Farm residence and ancillary farm building
13.4	Farm buildings

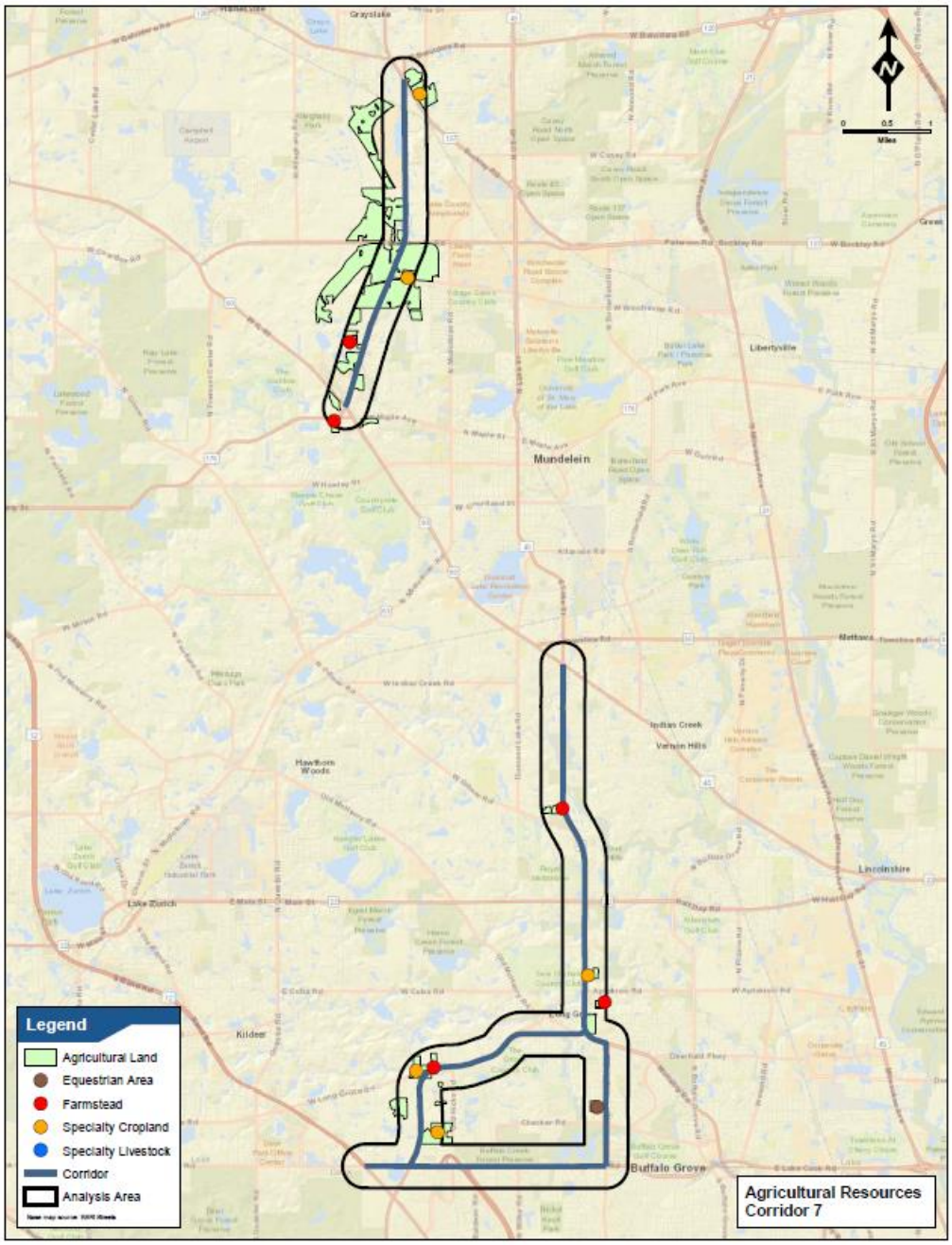
Equestrian Facilities

One equestrian facility is located within Corridor 7:

- Galway Farm (MP 3.4-3.5), 150 Bernay Lane, Long Grove

Galway Farm is a training school with resident equine stock for competitive riders specializing in hunter, jumper and equitation horses and ponies for show competition.

Agricultural Resources Corridor 7 Figure



4.7 Corridor 8

Data related to the analysis for Corridor 8 is summarized in Table 4-11.

Table 4-11. Agricultural Resources – Corridor 8 Analysis Area

Total Land Acreage	1,726	
Agricultural Land (Acres/Percent)[a]	18	1%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	0	
Number of Farmsteads	1	

Table 4-11. Agricultural Resources – Corridor 8 Analysis Area

Number of Equestrian Areas	0	
Agricultural Related Property Parcels	3	
Prime Farmland Designations for All Land Uses (Acre/Percent)		
Prime Farmland[b]	1,350	78%
Farmland of Statewide Importance	105	6%
Not Prime Farmland	271	16%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 1,726 acres included within the Corridor 8 analysis area, 18 acres have been identified as active farmland. Approximately one percent of the land within Corridor 8 consists of active farmland. Agricultural land only occurs north of Lake Cook Road near MP 3.0 and MP 4.0-4.1.

Prime, Unique, and Important Farmland

Of the 1,726 acres within Corridor 8, 1,350 acres (78 percent) are mapped as prime farmland, 105 acres (6 percent) are mapped as farmland of statewide importance, and 271 acres (16 percent) are mapped as nonprime farmland.

Specialty Areas

No specialty areas have been identified in Corridor 8.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in Corridor 8.

Farmsteads

One farmstead was identified within Corridor 8 (Table 4-12).

Table 4-12. Farmsteads – Corridor 8

Milepost	Farmstead
3.0-3.1	Farm residence and barn

Equestrian Facilities

No equestrian facilities have been identified in Corridor 8.

4.8 Corridor 9

Data related to the analysis for Corridor 9 is summarized in Table 4-13.

Table 4-13. Agricultural Resources – Corridor 9 Analysis Area

Total Land Acreage	4,337	
Agricultural Land (Acres/Percent)[a]	143	3%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	2	

Table 4-13. Agricultural Resources – Corridor 9 Analysis Area

Number of Farmsteads	5	
Number of Equestrian Areas	2	
Agricultural Related Property Parcels	23	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	2,766	64%
Farmland of Statewide Importance	400	9%
Not Prime Farmland	1,171	27%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 4,337 acres included within Corridor 9 analysis area, 143 acres have been identified as active farmland. In total, approximately three percent of the land within Corridor 9 consists of active farmland. This corridor has agricultural land concentrated in two sections located along Barrington Road in South Barrington (MP 0.9-1.5) and MP 7.6-9.0 in North Barrington. The area from MP 7.6-9.0 primarily consists of equestrian facilities and pastureland. Five of the 23 parcels in the corridor are in Cook County and 18 are in Lake County.

Prime, Unique, and Important Farmland

Of the 4,337 acres within Corridor 9, 2,766 acres (64 percent) are mapped as prime farmland, 400 acres (nine percent) are mapped as farmland of statewide importance, and 1,171 acres (27 percent) are mapped as nonprime farmland.

Specialty Areas

Two specialty livestock and animals areas have been identified within Corridor 9:

- SafeHouse Alpacas (MP 7.6), 25550 W Cuba Road, Barrington
- Honey Lake Bee Company (MP 10.0), 230 Honey Lake Ct, North Barrington

SafeHouse Alpacas is a specialty livestock alpaca breeder. Honey Lake Bee Company hives are sited in North Barrington, while husbandry and production occur at the operation address.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in the corridor.

Farmsteads

Five farmsteads were identified within Corridor 9. The farmsteads are discussed in Table 4-14. Three farmsteads are in Lake County and two are in Cook County.

Table 4-14. Farmsteads – Corridor 9

Milepost	Farmstead
1.0-1.1	Farm residence and ancillary farm buildings
1.3-1.4	Large estate with a variety of buildings.
8	Residence and equine-related buildings

Table 4-14. Farmsteads – Corridor 9

Milepost	Farmstead
8.1	Farm residence and ancillary farm buildings
8.5-8.6	Light Farms. Farm residence and ancillary farm buildings.

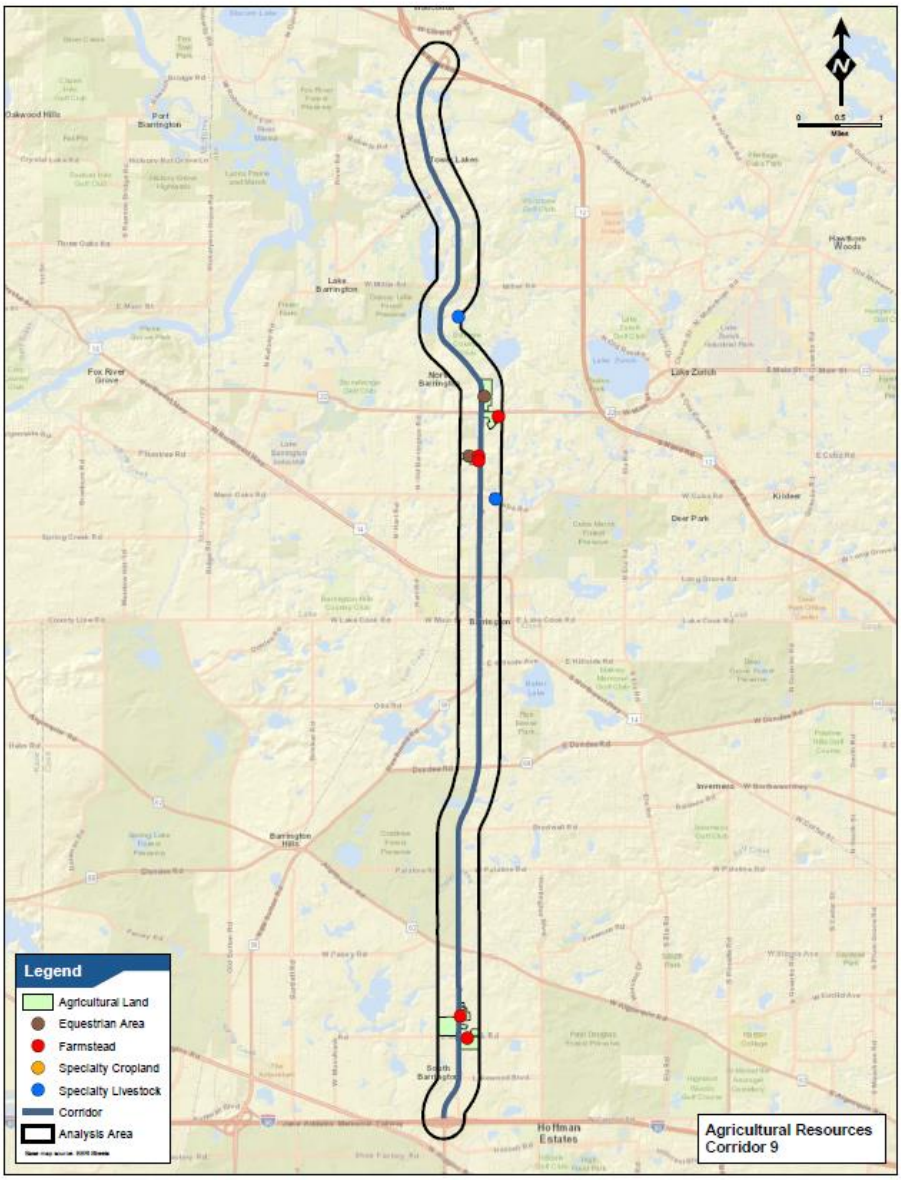
Equestrian Facilities

Two equestrian facilities are in Corridor 9:

- Old Barrington Equestrian Farm (MP 8.1), 26059 W Scott Road, North Barrington
- Barrington Hills Equine Center (MP 8.7), 25718 W State IL 22, Barrington

The Old Barrington Equestrian Farm is a horse-riding school and boarding facility. Barrington Hills Equine Center is a horse-riding school. During field verifications, for sale signs were located at the entrance of the facility.

Agricultural Resources Corridor 9 Figure



4.9 Corridor 11

Data related to the analysis for Corridor 11 is summarized in Table 4-15.

Table 4-15. Agricultural Resources – Corridor 11 Analysis Area

Total Land Acreage	5,231	
Agricultural Land (Acres/Percent)[a]	812	16%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	14	<1%
Number of Specialty Areas	3	
Number of Farmsteads	8	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	119	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	4,192	80%
Farmland of Statewide Importance	301	6%
Not Prime Farmland	738	14%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 5,231 acres included within the Corridor 11 analysis area, 812 acres have been identified as active farmland. In total, approximately 16 percent of the land within Corridor 11 consists of active farmland.

Farmland is concentrated in the western portion of this corridor between Volo and Grayslake (MP 0.5-1.9, MP 2.6-4.0, MP 4.5-5.0, MP 6.2-6.4), and in the I-94 interchange quadrants at MP 12.8-MP 13.6. In addition, there are some scattered parcels of farmland from Grayslake eastward. Large stretches of former farmland have been entirely developed into suburban residential, open space and commercial uses in Grayslake, Gages Lake and Gurnee. Active farmland parcels also extend south from the I-94 interchange and are also located at the northern tip of the corridor area on I-94 at IL 21 (Milwaukee Road).

A total of 14 acres of agricultural land in Corridor 11 is cultivated on IDOT-owned land. A small portion of a parcel is located within Corridor 11 south of IL 120 near MP 8.2. Agricultural land on IDOT-owned property is also located south of IL 120 from MP 9.2 to MP 9.6. The land is cultivated by agreement with IDOT. IDOT-owned cultivated acreage is not included in the agriculture resource evaluation.

Prime, Unique, and Important Farmland

Of the 5,231 acres within Corridor 11, 4,192 acres (80 percent) are mapped as prime farmland, 301 acres (6 percent) are mapped as farmland of statewide importance, and 738 acres (14 percent) are mapped as nonprime farmland.

Specialty Areas

Three specialty areas have been identified within Corridor 11 that include the following:

- Castle Gardens Nursery and Garden Center (MP 0.4), 27340 W Volo Village Road, Volo
- Highland Green Nursery (MP 3.8-4.0), 23803 W IL 120, Grayslake

- Prairie Crossing/Liberty Prairie Foundation, (MP 7.95-8.25), 32400 Harris Road, Grayslake

Highland Green Nursery is located in the southwest quadrant of the IL 120 intersection with Cedar Lake Road. This landscape design business has cultivated trees and shrubs with one plot that falls within the corridor area. There is one greenhouse on the property. Prairie Crossing is a certified organic farm. A small portion of the Prairie Crossing property extends into Corridor 11. In-ground plots of organic plants are under cultivation.

Organic Farms and Community Supported Agriculture

An approximately 7.5-acre portion of Prairie Crossing organic farm has been identified in Corridor 11. Prairie Crossing has several CSAs operating within its organic certification (Sandhill Organics, Chatty Goats, Informed Farm & Foods, Quinn Farm, and Sol-Ful Blooms). Liberty Prairie Foundation is the certified operator. Adam's Acres and Prairie Wind Family Farm are certified separately.

Farmsteads

Eight farmsteads were identified within Corridor 11 and are summarized in Table 4-16.

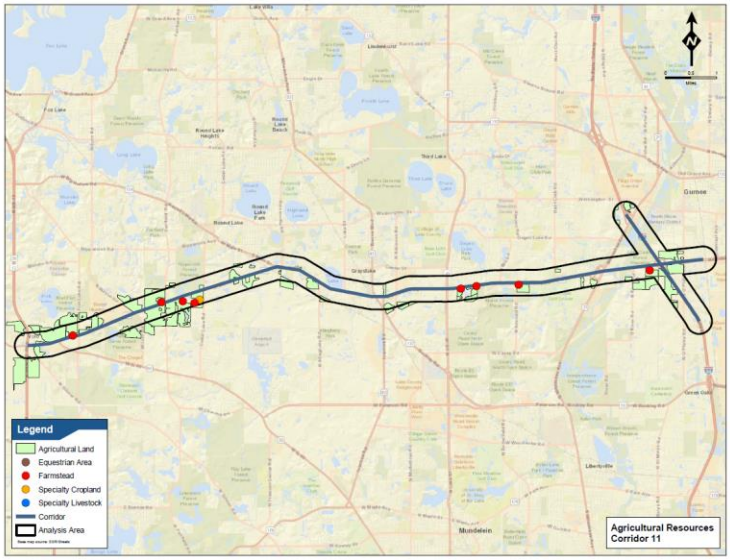
Table 4-16. Farmsteads – Corridor 11

Milepost	Farmstead
1.3	Farm buildings
3.1-3.2	Farm residence and ancillary farm buildings
3.5-3.6	Farm residence and ancillary farm buildings
3.8	Farm residence and ancillary farm buildings
9.2	Farm residence and ancillary farm buildings
9.5	Farm residence and ancillary farm buildings
10.4	Farm residence and ancillary farm buildings
12.9	Farm residence and barn

Equestrian Facilities

No equestrian facilities have been identified in Corridor 11.

Agricultural Resources Corridor 11 Figure



4.10 Corridor 13

Data related to the analysis for Corridor 13 is summarized in Table 4-17.

Table 4-17. Agricultural Resources – Corridor 13 Analysis Area

Total Land Acreage	2,895	
Agricultural Land (Acres/Percent)[a]	291	10%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	2	
Number of Farmsteads	7	
Number of Equestrian Areas	1	
Agricultural Related Property Parcels	80	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	1,674	58%
Farmland of Statewide Importance	278	10%
Not Prime Farmland	943	33%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 2,895 acres included within the Corridor 13 analysis area, 291 acres have been identified as active farmland. In total, approximately 10 percent of the land within Corridor 13 consists of active farmland.

IL 176 throughout Corridor 13 primarily consists of suburban residential, open space and commercial land uses from US 12 east through Wauconda, in Hawthorn Woods and in parts of Mundelein. However, farmland is present within the corridor. The largest concentration of farmland is in Hawthorn Woods east of Hawley Street to Hilltop Terrace (MP 4.6-5.5). Scattered agricultural parcels are also located in Mundelein (MP 5.8, 6.3, and 6.5). The Fairfield Road segment of Corridor 13 has three farmland parcels from MP 2.25 to MP 2.6.

Prime, Unique, and Important Farmland

Of the 2,895 acres within Corridor 13, 1,674 acres (58 percent) are mapped as prime farmland, 278 acres (10 percent) are mapped as farmland of statewide importance, and 943 acres (33 percent) are mapped as nonprime farmland.

Specialty Areas

Two specialty areas within Corridor 13 include:

- Hoffman's Greenhouses (MP 4.2-4.45), 23089 IL 176, Mundelein
- A.M. Woodland Outdoor Design (MP 5.2), 28433 Fremont Center Road, Mundelein

Hoffman's Greenhouses appears to have a greenhouse and in-ground plots cultivating specialty crops. A.M. Woodland Outdoor Design has tree plantings that are evident on the property.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in Corridor 13.

Farmsteads

Seven farmsteads were identified within Corridor 13 and are summarized in Table 4-18.

Table 4-18. Farmsteads – Corridor 13

Milepost	Farmstead
2.4	Farm residence and ancillary farm buildings
2.5	Estate with residence and barn
2.5-2.6	Farm residence and ancillary farm buildings
4.2	Farmstead yard, building outside analysis area
4.9	Farm residence and ancillary farm buildings
5.8-5.9	Farm residence and ancillary farm buildings
6.5	Farm residence and barn

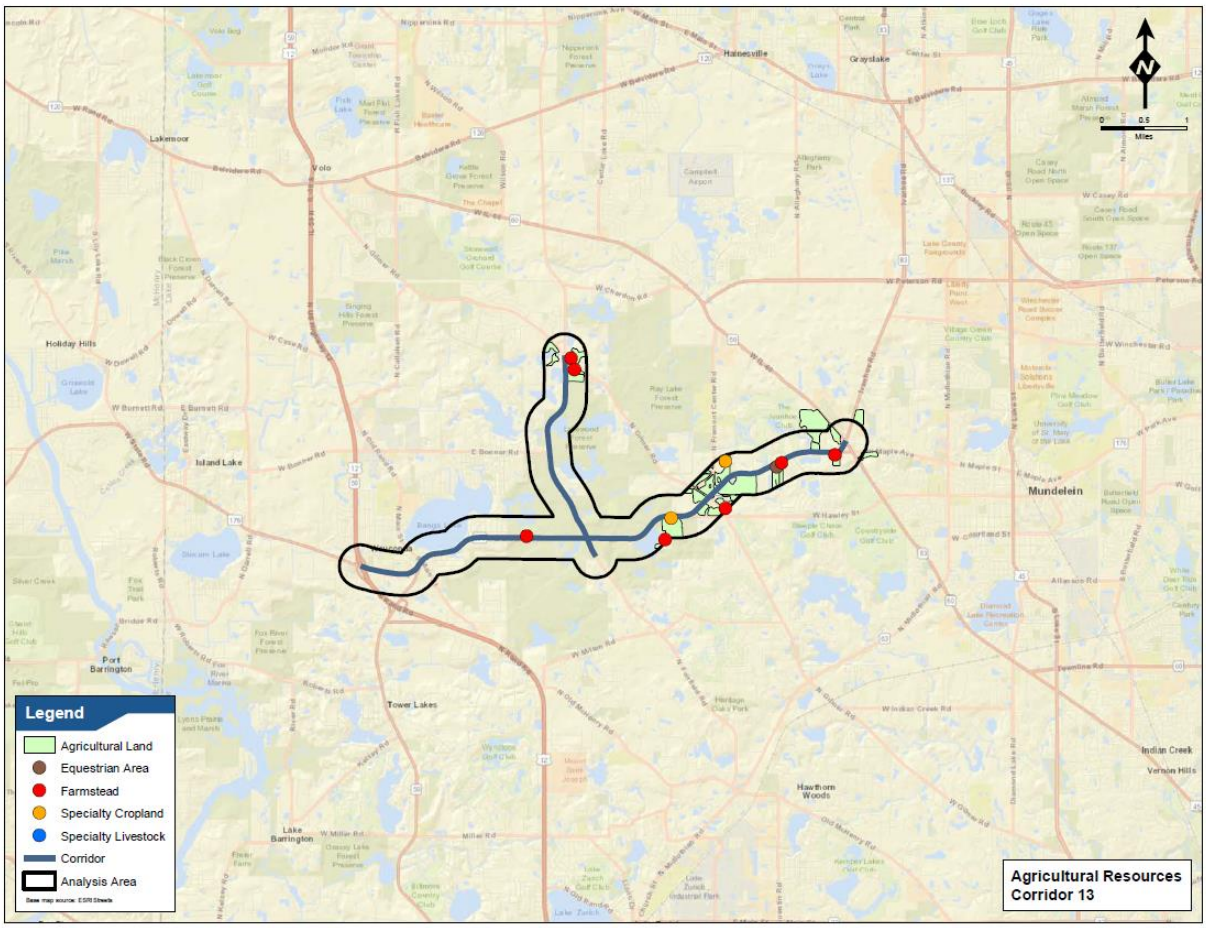
Equestrian Facilities

One equestrian facility is located within Corridor 13:

- Pine Grove Equestrian Center (MP 5.8), 55 Pine Grove Blvd, Mundelein

Pine Grove Equestrian Center is a horse-riding school on the same parcel as the Prairie Equine Veterinary care facility.

Agricultural Resources Corridor 13 Figure



4.11 Corridor 14

Data related to the analysis for Corridor 14 is summarized in Table 4-19.

Table 4-19. Agricultural Resources – Corridor 14 Analysis Area

Total Land Acreage (0.5-mile analysis area)	2,071	
Agricultural Land (Acres/Percent)[a]	4	<1%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	0	
Number of Farmsteads	0	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	3	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	1,407	68%
Farmland of Statewide Importance	132	6%
Not Prime Farmland	532	26%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 2,071 acres included within Corridor 14, four acres within one parcel has been identified as active farmland. This parcel is located at the eastern terminus of the corridor (MP 6.0) on IL 83 in Round Lake Beach. In addition, there is a small area (0.05 acre) of active farmland, located at MP 0.1, that extends into Corridor 14. In total, less than one percent of the land within Corridor 14 consists of active farmland.

Prime, Unique, and Important Farmland

Of the 2,071 acres within Corridor 14, 1,407 acres (68 percent) are mapped as prime farmland, 132 acres (six percent) are mapped as farmland of statewide importance, and 532 acres (26 percent) are mapped as nonprime farmland.

Specialty Areas

None of the land within Corridor 14 has been identified as a specialty area.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in Corridor 14.

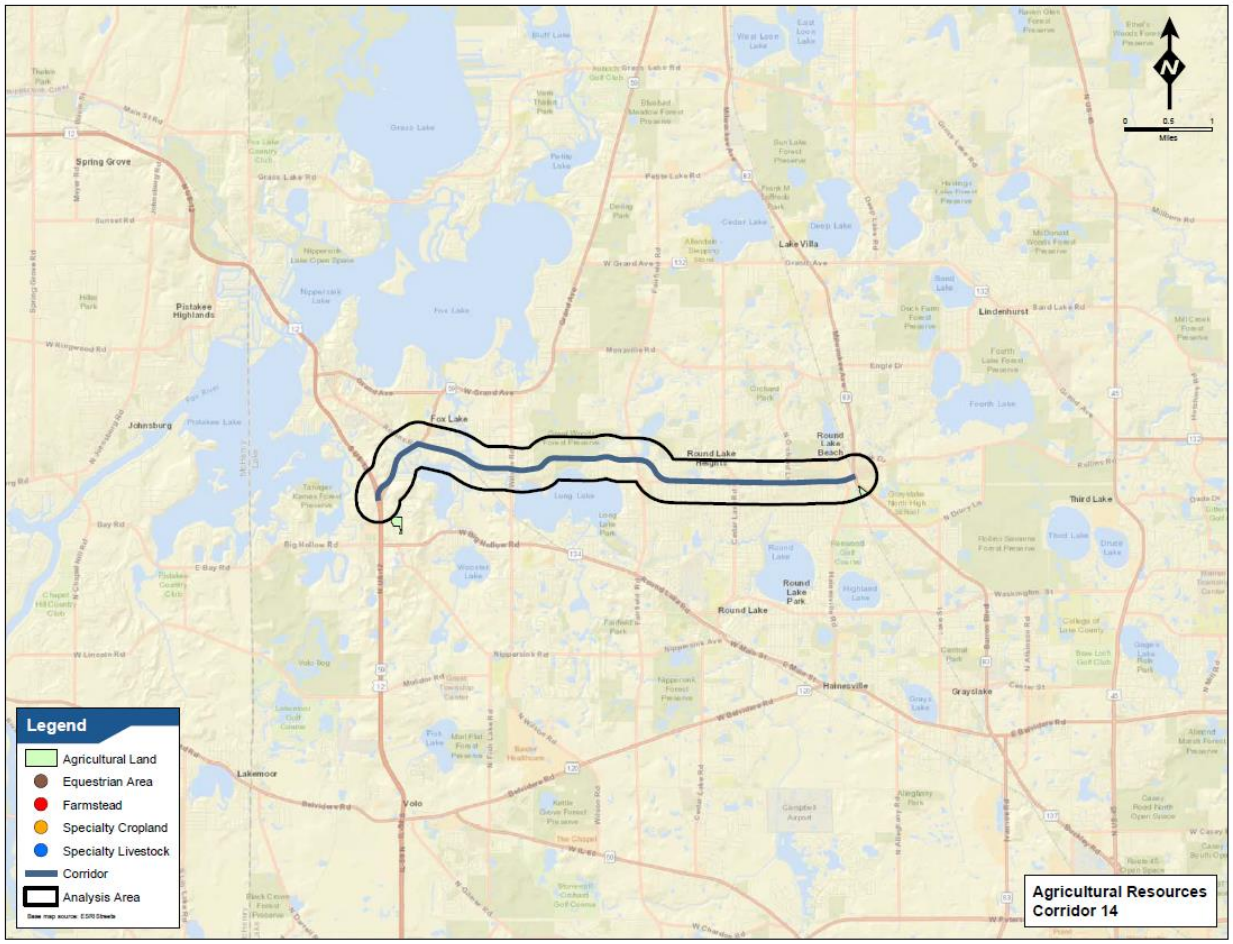
Farmsteads

No farmsteads were identified within Corridor 14.

Equestrian Facilities

No equestrian facilities have been identified in Corridor 14.

Agricultural Resources Corridor 14 Figure



4.12 Corridor 15

Data related to the analysis for Corridor 15 is summarized in Table 4-20.

Table 4-20. Agricultural Resources – Corridor 15 Analysis Area

Total Land Acreage	1,661	
Agricultural Land (Acres/Percent)[a]	6	<1%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	0	
Number of Farmsteads	0	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	2	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	1,483	89%
Farmland of Statewide Importance	39	2%
Not Prime Farmland	139	8%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 1,661 acres included within the Corridor 15 analysis area, 6 acres have been identified as active farmland. In total, less than one percent of the land within Corridor 15 consists of active farmland. The farmland in Corridor 15 is located on two parcels of land located along Butterfield Road in Libertyville (MP 3.6 and 4.8).

Prime, Unique, and Important Farmland

Of the 1,661 acres within Corridor 15, 1,483 acres (89 percent) are mapped as prime farmland, 39 acres (two percent) are mapped as farmland of statewide importance, and 139 acres (eight percent) are mapped as nonprime farmland.

Specialty Areas

None of the land within Corridor 15 has been identified as a specialty area.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in Corridor 15.

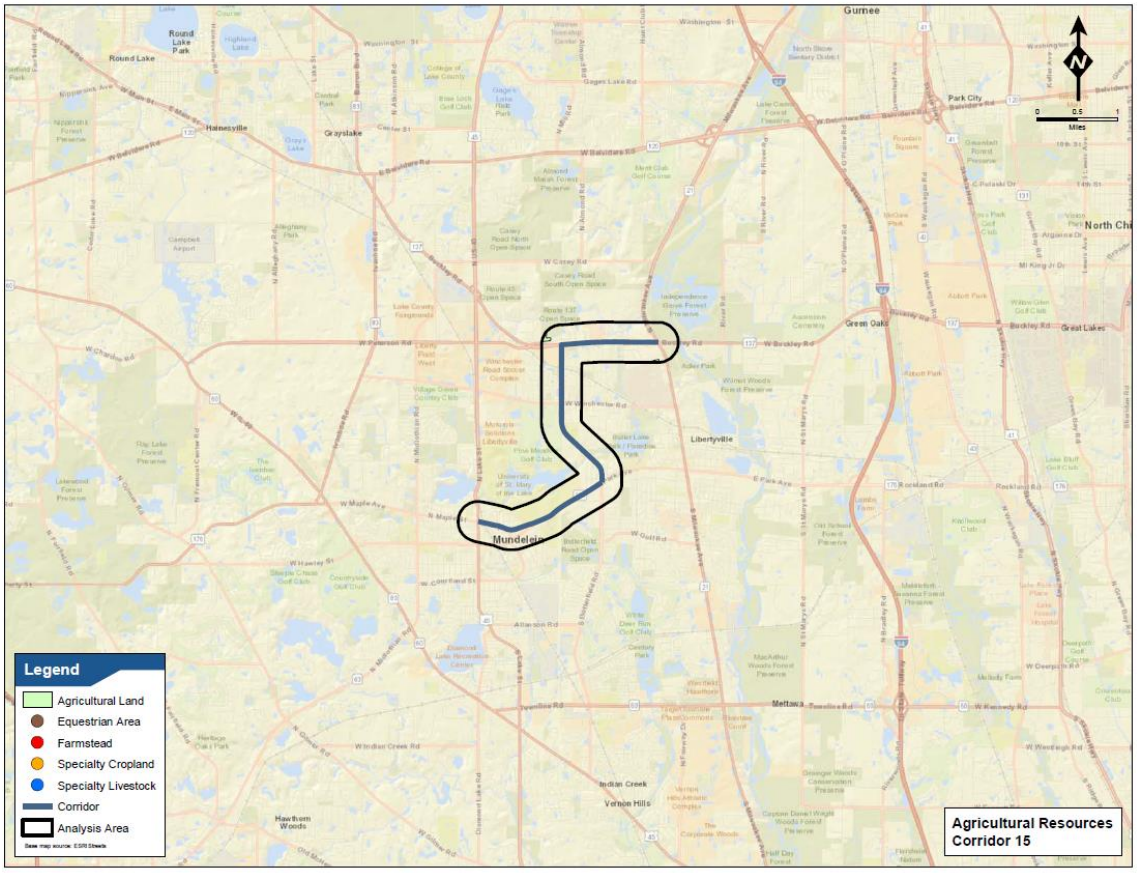
Farmsteads

No farmsteads were identified within Corridor 15.

Equestrian Facilities

No equestrian facilities have been identified in Corridor 15.

Agricultural Resources Corridor 15 Figure



4.13 Corridor 16

Data for Corridor 16 is summarized in Table 4-21.

Table 4-21. Agricultural Resources – Corridor 16 Analysis Area

Total Land Acreage	5,382	
Agricultural Land (Acres/Percent)[a]	832	15%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	328	6%
Number of Specialty Areas	6	
Number of Farmsteads	5	
Number of Equestrian Areas	2	
Agricultural Related Property Parcels	106	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	4,289	80%
Farmland of Statewide Importance	288	5%
Not Prime Farmland	805	15%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 5,382 acres included within the Corridor 16 analysis area, 832 acres have been identified as active farmland. In total, approximately 15 percent of the land within Corridor 16 consists of active farmland.

Cultivated agricultural land is most heavily concentrated in the northern part of this corridor, north from IL 176 (MP 17.75) to the Canadian Pacific (CP) rail line (MP 21.6). It is essentially continuous – although a substantial portion of these lands are owned by IDOT and leased for agricultural purposes. Smaller concentrations of agricultural land occur near the southern terminus from north of Lake Cook Road to Long Grove Road (between MP 9.3 and 10.4), between IL 22 and Old McHenry Road (MP 11.2 and 12.8), and south of Gilmer Road to Midlothian Road (again, owned by IDOT and leased for farming -- MP 13.7 and 15.7). IDOT-owned cultivated acreage is not included in the agricultural resource evaluation. In Corridor 16, the cultivated acreage on IDOT-owned property is 328 acres.

Prime, Unique, and Important Farmland

Of the 5,382 acres included within Corridor 16, 4,289 acres (80 percent) are mapped as prime farmland, 288 acres (five percent) are mapped as farmland of statewide importance, and 805 acres (15 percent) are mapped as nonprime farmland.

Specialty Areas

Six specialty areas within Corridor 16 include:

- The Care of Trees (MP 9.3-9.6), 2727 IL-53 Unit C, Long Grove
- BrightView Landscaping (MP 10.2-10.4), 3490 W Long Grove Road, Long Grove
- McGinty Bros. (MP 11.15-11.5), 3744 Cuba Rd, Long Grove
- Chris Weiler Tree Service, (MP 11.9-12.15), 20237 IL-22, Kildeer
- Natural Environments, (MP 12.7), 23520 N Old McHenry Road, Lake Zurich

- Buhrman Design Group Inc., (MP 19.2), 20200 W Winchester Road, Mundelein

These locations appear to have greenhouses or in-ground plots cultivating specialty crops within their premises.

The area owned by BrightView Landscaping appears to be rows of cultivated trees and shrubs. The business center of BrightView Landscaping is located along Long Grove Road. McGinty Bros. specializes in planning and restoration of native vegetation and natural areas. Tree and shrub cultivation is apparent on its property. Chris Weiler Tree Service is tree nursery, with cultivation apparent. Natural Environments is an organic landscaping operation growing trees, shrubs and plants in in-ground plots and greenhouses. Buhrman Design Group on Winchester Road (MP 19.2) and The Care of Trees at the southern end of IL 53 (Hicks Road) near Lake Cook Road (MP 9.3-9.6) are both tree nurseries with cultivation occurring onsite.

Organic Farms and Community Supported Agriculture

Natural Environments (23520 N Old McHenry Road, Lake Zurich) is a 2-acre certified organic landscaping grower with greenhouses located along the east side of Corridor 16 at MP 12.7.

Farmsteads

Five farmsteads were identified within Corridor 16 and are summarized in Table 4-22.

Table 4-22. Farmsteads – Corridor 16

Milepost	Farmstead
14.0	Farm residence and ancillary farm buildings
14.7	Farm buildings
19.2	Farm residence and ancillary farm buildings
19.3	Farm residence and ancillary farm buildings
19.7	Farm residence and ancillary farm buildings

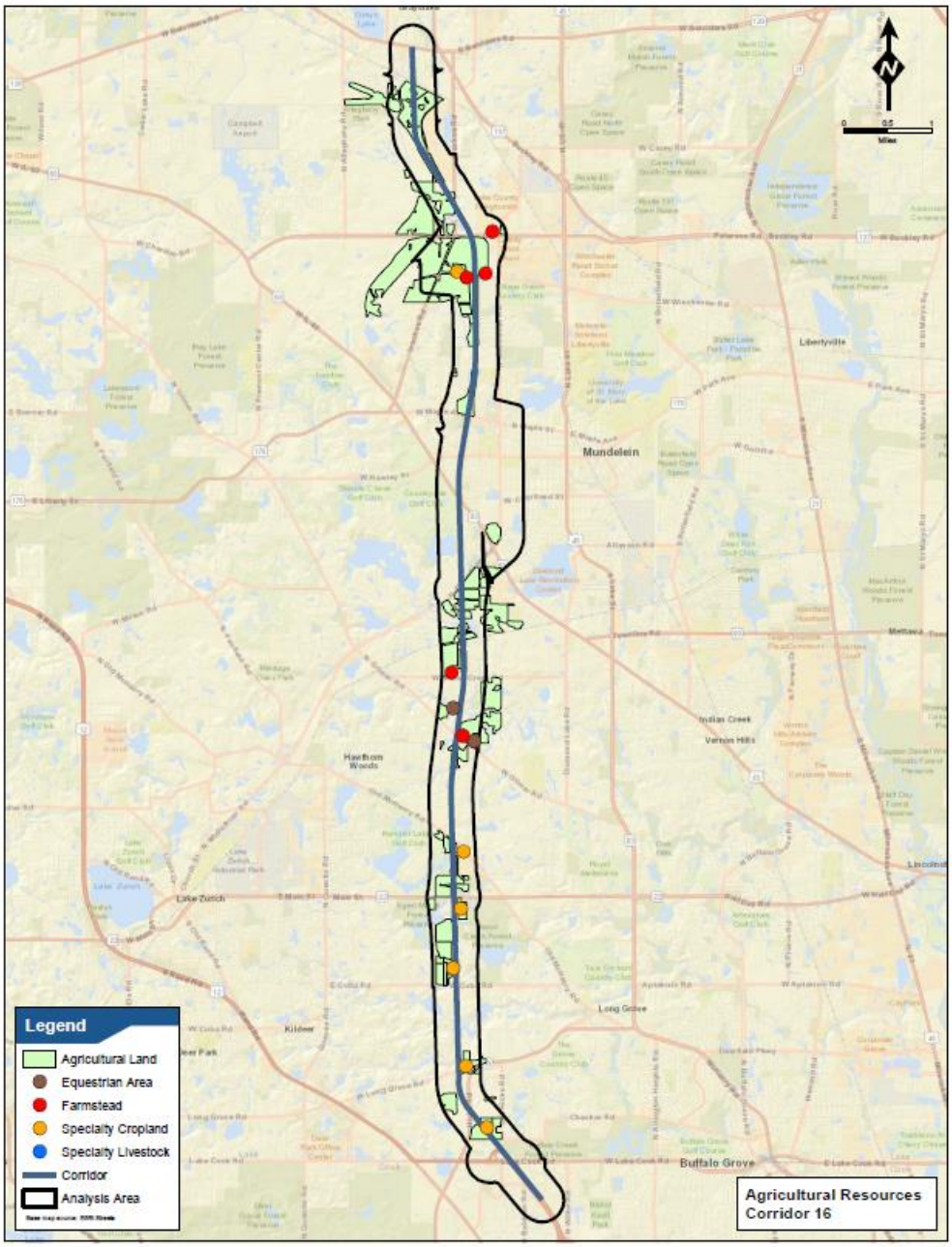
Equestrian Facilities

Two equestrian facilities are located within Corridor 16:

- Red Coat Farm (MP 13.8-14.5), 25147 Gilmer Road., Mundelein
- Winter Meadow Farm/Creekside Farm (MP 14.1-14.4), 25147 Gilmer Rd., Mundelein

Red Coat Farm and Winter Meadow Farm/Creekside Farm both specialize in hunter and jumper show horses, riding lessons, horse boarding, training and sales.

Agricultural Resources Corridor 16 Figure



4.14 Corridor 17

Data related to the analysis for Corridor 17 is summarized in Table 4-23.

Table 4-23. Agricultural Resources - Corridor 17 Analysis Area

Total Land Acreage	807	
Agricultural Land (Acres/Percent)[a]	131	16%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	4	<1%
Number of Specialty Areas	3	
Number of Farmsteads	1	

Table 4-23. Agricultural Resources - Corridor 17 Analysis Area

Number of Equestrian Areas	0	
Agricultural Related Property Parcels	21	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	529	66%
Farmland of Statewide Importance	11	1%
Not Prime Farmland	267	33%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 807 acres included within the Corridor 17 analysis area, 131 acres have been identified as active farmland. In total, 16 percent of the land within Corridor 17 consists of active farmland.

This corridor has three areas of concentration of farmland parcels: the southern terminus of the corridor from Checker Road to Dorothy Lane (MP 9.3 to 9.6), a central area near its crossing with IL 53 (from MP 10.1 to 10.4), and the northern portion of the corridor north of Cuba Road (from MP 11.2 to 11.6). Some of the farmed areas south of IL 53 and north of Cuba Road are cultivated by agreement on IDOT-owned property. The northern portion of the corridor has the highest concentration of agricultural land. IDOT-owned cultivated acreage is not included in the agricultural resource evaluation. In Corridor 17, the cultivated acreage on IDOT-owned property is 4 acres.

Prime, Unique, and Important Farmland

Of the 807 acres included within Corridor 17, 529 acres (66 percent) are mapped as prime farmland, 11 acres (one percent) are mapped as farmland of statewide importance, and 267 acres (33 percent) are mapped as nonprime farmland.

Specialty Areas

Three specialty areas within Corridor 17 include:

- The Care of Trees (MP 9.3-9.6), 2727 IL-53 Unit C, Long Grove
- BrightView Landscaping (MP 10.1-10.4), 3490 W Long Grove Road, Long Grove
- McGinty Bros. (MP 11.15-11.5), 3744 Cuba Rd, Long Grove

These locations appear to have greenhouses or in-ground plots cultivating specialty crops within their premises.

The Care of Trees is a tree specialty company with large numbers of trees and shrubs being cultivated on site. BrightView Landscaping is a landscaping company with apparent tree and shrub cultivation on its numerous parcels. McGinty Bros. specializes in planning and restoration of native vegetation and natural areas. Tree and shrub cultivation is apparent on its property.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified in Corridor 17.

Farmsteads

One farmstead was identified within Corridor 17 and is shown in Table 4-24.

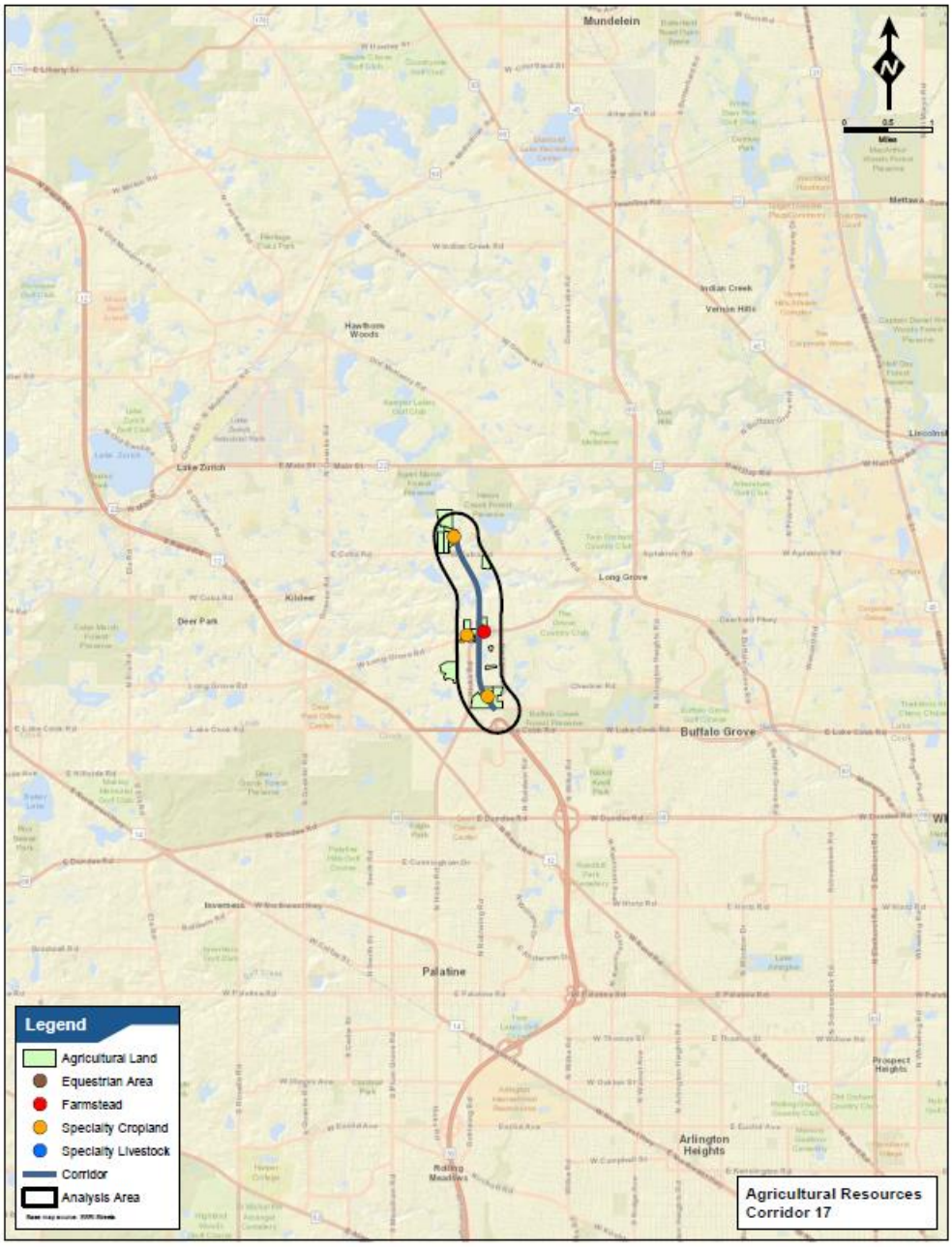
Table 4-24. Farmsteads – Corridor 17

Milepost	Farmstead
10.2-10.3	Farm residence and ancillary farm buildings

Equestrian Facilities

No equestrian facilities have been identified in Corridor 17.

Agricultural Resources Corridor 17 Figure



4.15 Corridor 18

Data related to the analysis for Corridor 18 is summarized in Table 4-25.

Table 4-25. Agricultural Resources - Corridor 18 Analysis Area

Total Land Acreage	1,207	
Agricultural Land (Acres/Percent)[a]	139	12%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	151	12%
Number of Specialty Areas	1	
Number of Farmsteads	1	
Number of Equestrian Areas	1	
Agricultural Related Property Parcels	28	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	914	76%
Farmland of Statewide Importance	129	11%
Not Prime Farmland	164	14%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 1,207 acres included within the Corridor 18 analysis area, 139 acres have been identified as active farmland. In total, 12 percent of the land within Corridor 18 consists of active farmland.

This corridor has two areas of concentration of farmland parcels: both are in the central area of the corridor (from north of the Canadian National (CN) rail line to north of Midlothian Road [MP 15.4 to MP 16.1] and from south of Gilmer Road to north of Indian Creek Road [MP 13.65 to MP 15.0]). Much of the concentrated agricultural cultivation is located on IDOT-owned land, and is cultivated by agreement. IDOT-owned cultivated acreage is not included in the agriculture resource evaluation. In Corridor 18, the cultivated acreage on IDOT-owned property is 151 acres.

Prime, Unique, and Important Farmland

Of the 1,207 acres included within Corridor 18, 914 acres (76 percent) are mapped as prime farmland, 129 acres (11 percent) are mapped as farmland of statewide importance, and 164 acres (14 percent) are mapped as nonprime farmland.

Specialty Cropland

One specialty area is within Corridor 18:

- Poul's Landscaping & Nursery (MP 14.85-15.15), 6754 Indian Creek Road, Long Grove
- Poul’s Landscaping and Nursery appears to have in-ground plots cultivating specialty crops within its premises.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified within Corridor 18.

Farmsteads

One farmstead was identified within Corridor 18 and is shown in Table 4-26.

Table 4-26. Farmsteads – Corridor 18

Milepost	Farmstead
14.0-14.1	Farm residence and ancillary farm buildings

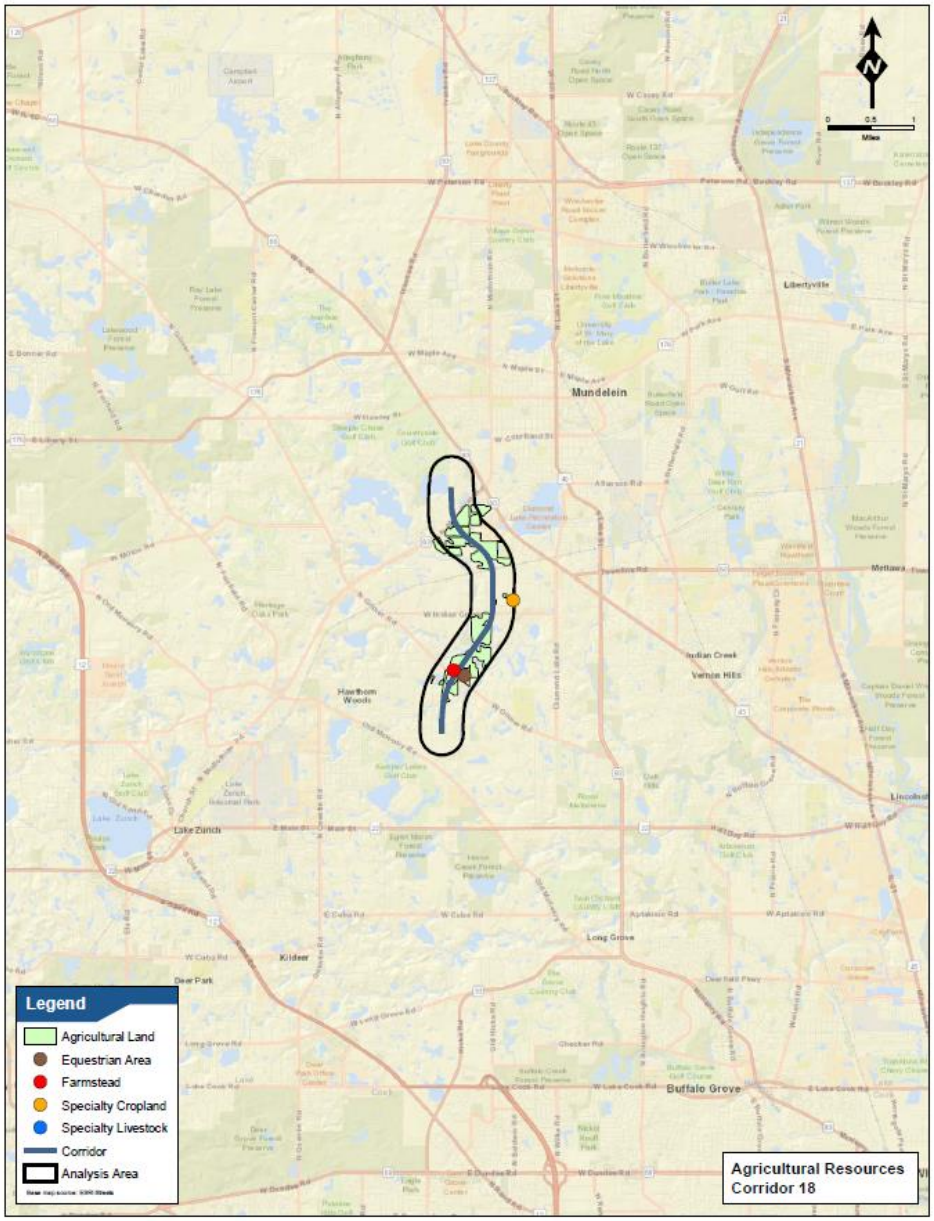
Equestrian Facilities

One equestrian facility is located within Corridor 18:

- Red Coat Farm (MP 14.0-14.1), 25147 Gilmer Road., Mundelein.

Red Coat Farm specializes in hunter and jumper show horses, riding lessons, horse boarding, training and sales. Indian Creek Farm and Winter Meadow Farm are also names associated with this equestrian complex.

Agricultural Resources Corridor 18 Figure



4.16 Corridor 20

Data related to the analysis for Corridor 20 is summarized in Table 4-27.

Table 4-27. Agricultural Resources - Corridor 20 Analysis Area

Total Land Acreage	3,236	
Agricultural Land (Acres/Percent)[a]	426	13%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	113	3%
Number of Specialty Areas	1	
Number of Farmsteads	5	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	46	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	2,596	80%
Farmland of Statewide Importance	198	6%
Not Prime Farmland	442	14%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 3,236 acres included within the Corridor 20 analysis area, 426 acres have been identified as active farmland. In total, 13 percent of the land within Corridor 20 consists of active farmland.

This corridor has two areas of concentrated agricultural cultivation: one is from south of the CP rail line to Harris Road (MP 7.7 to MP 9.3), and the second area of concentrated agricultural land is at the I-94 interchange (MP 13.0-14.2). Agricultural land also extends south in the corridor on I-94. A lone small parcel is located at the northern tip of the corridor on I-94 beyond IL 21. Much of the agricultural land in Corridor 20 west of Almond Road (at MP 10.9) is IDOT-owned land and is cultivated by agreement. IDOT-owned cultivated acreage is not included in the agriculture resource evaluation. In Corridor 20, the cultivated acreage on IDOT-owned property is 113 acres. The lands in agricultural use near the I-94 interchange are not on IDOT-owned parcels.

Prime, Unique, and Important Farmland

Of the 3,236 acres included within Corridor 20, 2,596 acres (80 percent) are mapped as prime farmland, 198 acres (six percent) are mapped as farmland of statewide importance, and 442 acres (14 percent) are mapped as nonprime farmland.

Specialty Areas

One specialty area has been identified within Corridor 20:

- Prairie Crossing/Liberty Prairie Foundation, (MP 8.3-9.3), 32400 Harris Road, Grayslake

Prairie Crossing (MP 8.3-9.3) is a 100-acre certified organic farm, owned by the Liberty Prairie Foundation. There are approximately 66 acres of organic plants in in-ground cultivated plots on Prairie Crossing property within Corridor 20.

Organic Farms and Community Supported Agriculture

Approximately 66 acres of cultivated land owned by Prairie Crossing organic farm has been identified in Corridor 20. Prairie Crossing has several CSAs operating within its organic certification (Sandhill Organics, Chatty Goats, Informed Farm & Foods, Quinn Farm, and Sol-Ful Blooms). Liberty Prairie Foundation is the certified operator. Adam's Acres and Prairie Wind Family Farm are certified separately.

Farmsteads

Five farmsteads were identified within Corridor 20. The farmsteads are discussed in Table 4-28.

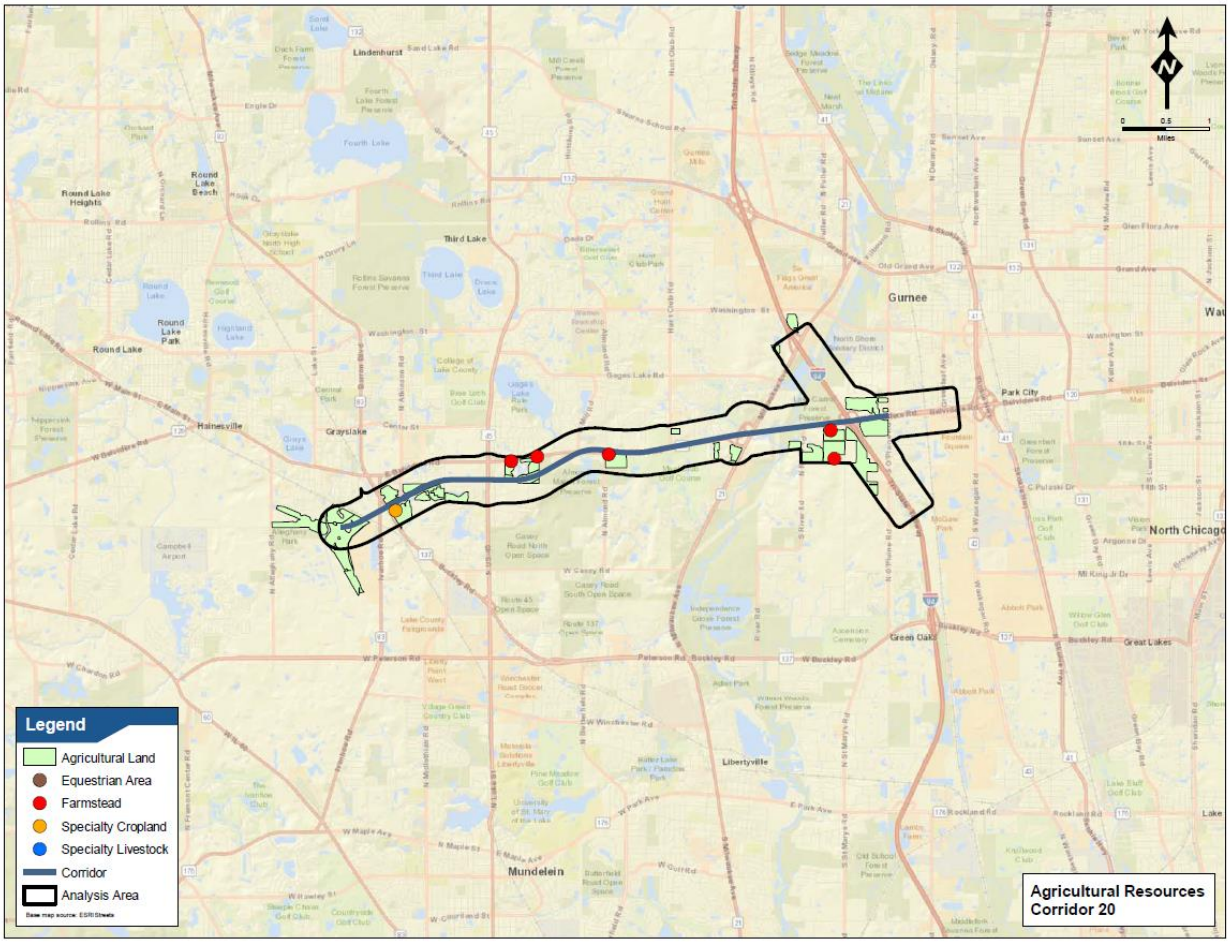
Table 4-28. Farmsteads – Corridor 20

Milepost	Farmstead
9.5	Farm residence and ancillary farm buildings
9.7-9.8	Farm residence and ancillary farm buildings
10.9-11.0	Farm residence and ancillary farm buildings
13.5	Farm residence and barn
13.5	Farm residence and ancillary farm buildings. Continues outside analysis area

Equestrian Facilities

No equestrian facilities have been identified in Corridor 20.

Agricultural Resources Corridor 20 Figure



4.17 Corridor 21

Data for Corridor 21 is summarized in Table 4-29.

Table 4-29. Agricultural Resources – Corridor 21 Analysis Area

Total Land Acreage	2,703	
Agricultural Land (Acres/Percent)a	771	29%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	122	4%
Number of Specialty Areas	4	
Number of Farmsteads	7	
Number of Equestrian Areas	1	
Agricultural Related Property Parcels	87	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmlandb	2,010	74%
Farmland of Statewide Importance	300	11%
Not Prime Farmland	393	15%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 2,703 acres included within the Corridor 21 analysis area, 771 acres have been identified as active farmland. In total, 29 percent of the land within Corridor 21 consists of active farmland.

This corridor has two areas of concentrated agricultural cultivation: one is in the central portion of Corridor 21 from east of Wilson Road to Cedar Lake Road (MP 2.4 to MP 4.5). There is a gap along the corridor near Jade Lane (from MP 3.0 to MP 3.35), but agricultural land occurs toward the edge of the corridor area. The second concentration is from west of Squaw Creek to the corridor's eastern terminus west of IL 83 (between MP 5.3 and MP 7.7). Although there is a gap in agricultural land along the corridor between MP 5.95 and MP 6.6 in this concentrated agricultural area, there are parcels that are continuous and have farmsteads along the outer edge of the corridor in this stretch. The farmland east of Allegheny Road (from MP 6.9 to MP 7.8) is located on IDOT-owned property. A small IDOT-owned parcel along the corridor in Volo (west of Fish Lake Road from MP 1.2 to MP 1.55) is also cultivated. These lands are leased and cultivated by agreement with IDOT. IDOT-owned cultivated acreage is not included in the agriculture resource evaluation. In Corridor 21, the cultivated acreage on IDOT-owned property is 122 acres.

Prime, Unique, and Important Farmland

Of the 2,703 acres included within Corridor 21, 2,010 acres (74 percent) are mapped as prime farmland, 300 acres (11 percent) are mapped as farmland of statewide importance, and 393 acres (15 percent) are mapped as nonprime farmland.

Specialty Areas

Five specialty areas have been identified within Corridor 21:

- Elite Growers (MP 1.2-1.3), 26821 W Molidor Road, Ingleside
- Fish Lake Nursery, (MP 1.9), 23803 W IL 120, Grayslake
- Unnamed tree nursery (MP 2.4-2.75), Wilson Road, NW of IL 120, Grant Township
- Unnamed tree farm (MP 4.3), 32063 N Bacon Road, Grayslake

- Highland Green Nursery (MP 4.4), 23803 W IL 120, Grayslake

These locations appear to have in-ground plots cultivating specialty crops within their premises.

Elite Growers is a wholesale supplier to garden centers. Fish Lake Nursery is a tree nursery. The unnamed tree nursery (MP 2.4-2.75) is located on Baxter Healthcare property in Round Lake. The unnamed tree farm at MP 4.3 has row plantings of trees evident on the property. Highland Green Nursery (MP 4.4) has tree plantings on multiple parcels. Part of the parcels of Elite Growers and Fish Lake Nursery extend into Corridor 21.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified within Corridor 21.

Farmsteads and Farm Buildings

Seven farmsteads were identified within Corridor 21 and are discussed in Table 4-30.

Table 4-30. Farmsteads – Corridor 21

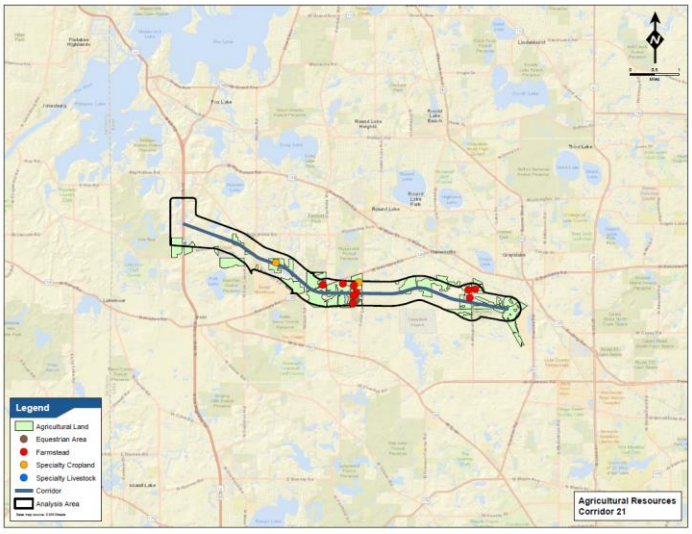
Milepost	Farmstead
3.6-3.8	Farm residence and ancillary farm buildings
4.1	Farm residence and ancillary farm buildings
4.3	Farm residence and ancillary farm buildings
4.3	Farm residence and barn
4.3-4.4	Farm residence and ancillary farm buildings. Previously Ziegler's Orchard
4.3-4.5	Farm residence and barn
6.8	Farm residence and ancillary farm buildings

Equestrian Facilities

One equestrian facility is located within Corridor 21:

- McCrae Farm French Classical Dressage (MP 4.3-4.5), 32159 N Bacon Road, Grayslake, IL 60030.
- McCrae Farm French Classical Dressage is a horse-riding school.

Agricultural Resources Corridor 21 Figure



4.18 Corridor 22

Data related to the analysis for Corridor 22 is summarized in Table 4-31.

Table 4-31. Agricultural Resources – Corridor 22 Analysis Area

Total Land Acreage	929	
Agricultural Land (Acres/Percent)[a]	312	34%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	115	12%
Number of Specialty Areas	0	
Number of Farmsteads	4	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	26	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	757	81%
Farmland of Statewide Importance	128	14%
Not Prime Farmland	44	5%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 929 acres included within the Corridor 22 analysis area, 312 acres have been identified as active farmland. In total, 34 percent of the land within Corridor 22 consists of active farmland.

This corridor is primarily agricultural, with farmland parcels throughout its length. There are two small gaps in which lands are not in agricultural use: west of Alleghany Road from MP 6.3-6.7; and at Alleghany Road (MP 6.8). A large portion of the farmland east of Alleghany Road from MP 6.9 to MP 7.95 is on IDOT-owned property. This land is leased and cultivated by agreement with IDOT. IDOT-owned cultivated acreage is not included in the agriculture resource evaluation. In Corridor 22, the cultivated acreage on IDOT-owned property is 115 acres.

Prime, Unique, and Important Farmland

Of the 929 acres included within Corridor 22, 757 acres (81 percent) are mapped as prime farmland, 128 acres (14 percent) are mapped as farmland of statewide importance, and 44 acres (five percent) are mapped as nonprime farmland.

Specialty Areas

None of the land within Corridor 22 has been identified as a specialty area.

Organic Farms and Community Supported Agriculture
No organic farms or CSAs have been identified within Corridor 22.

Farmsteads

Four farmsteads were identified within Corridor 22, as detailed in Table 4-32.

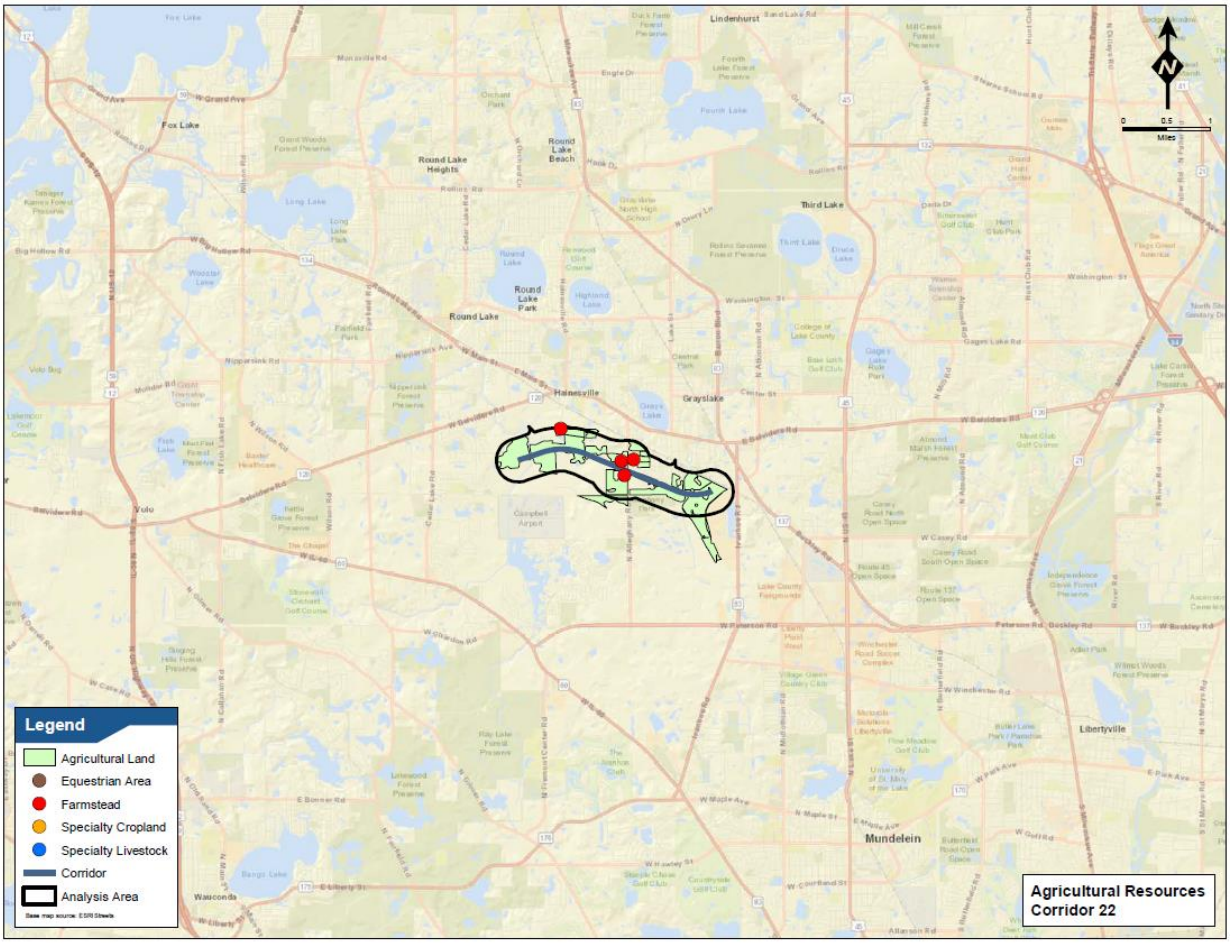
Table 4-32. Farmsteads – Corridor 22

Milepost	Farmstead
6.0	Farm residence and ancillary farm buildings. Northbrook Sportsman Club land
6.7-6.8	Farm residence and ancillary farm buildings
6.8	Farm residence and ancillary farm buildings
6.8-6.9	Farm residence and barn

Equestrian Facilities

No equestrian facilities have been identified in Corridor 22.

Agricultural Resources Corridor 22 Figure



4.19 Corridor 23

Data related to the analysis for Corridor 23 is summarized in Table 4-33.

Table 4-33. Agricultural Resources – Corridor 23 Analysis Area

Total Land Acreage	1,630	
Agricultural Land (Acres/Percent)[a]	636	39%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%

Number of Specialty Areas	5	
Number of Farmsteads	8	
Number of Equestrian Areas	1	
Agricultural Related Property Parcels	86	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	1,220	75%
Farmland of Statewide Importance	98	6%
Not Prime Farmland	312	19%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 1,630 acres included within the Corridor 23 analysis area, 636 acres have been identified as active farmland. In total, 39 percent of the land within Corridor 23 consists of active farmland.

The largest concentrations of agricultural land are in the western and eastern ends of the corridor. The western portion of the corridor (MP 0.25-0.75) surrounding US 12 is not as dense with agricultural parcels as the eastern corridor, where agricultural parcels are almost continuous between Wilson Road to east of Bacon Road (MP 3.5 to MP 4.6). In between these areas are scattered parcels, some of which are sizeable. No cultivated IDOT-owned property occurs in this corridor.

Prime, Unique, and Important Farmland

Of the 1,630 acres included within Corridor 23, 1,220 acres (75 percent) are mapped as prime farmland, 98 acres (six percent) are mapped as farmland of statewide importance, and 312 acres (19 percent) are mapped as nonprime farmland.

Specialty Areas

Five specialty areas in Corridor 23 include:

- Elite Growers (MP 1.2 – 1.5), 26821 W Molidor Road, Ingleside
- Fish Lake Nursery, (MP 1.9), 32965 N Fish Lake Road, Round Lake
- Lawnscape Maintenance Co. (MP 3.7), 24639 W Town Line Road, Grayslake
- Unnamed tree farm (MP 4.3), 32063 N Bacon Road, Grayslake
- Highland Green Nursery (MP 4.5), 23803 W IL 120, Grayslake

These locations appear to have in-ground plots cultivating specialty crops within their premises. Elite Growers is a wholesale supplier to garden centers. Fish Lake Nursery is a tree nursery. Lawnscape Maintenance is a landscape maintenance operation that has cultivation. The unnamed tree farm at MP 4.3 has row plantings of trees evident on the property. Highland Green Nursery (MP 4.4) has tree plantings on multiple parcels.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified within Corridor 23.

Farmsteads

Eight farmsteads were identified within Corridor 23. The farmsteads are discussed in Table 4-34.

Table 4-34. Farmsteads – Corridor 23

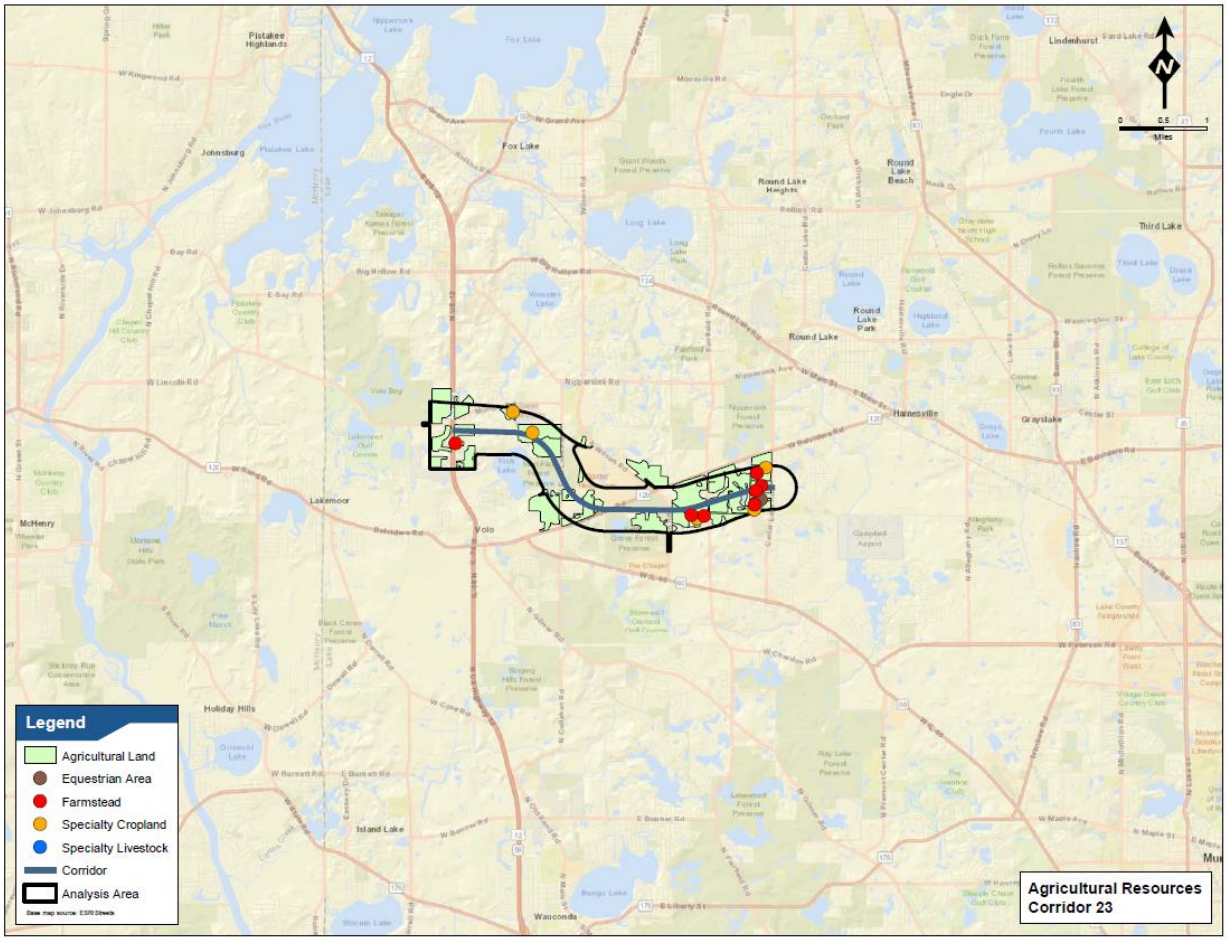
Milepost	Farmstead
0.5-0.6	Farm residence and ancillary farm buildings
3.6	Farm residence and ancillary farm buildings
3.7-3.8	Farm residence and ancillary farm buildings
4.2	Farm residence and ancillary farm buildings
4.4	Farm residence and ancillary farm buildings
4.4	Farm residence and barn
4.4-4.6	Farm residence and ancillary farm buildings. Previously Ziegler's Orchard
4.4-4.6	Farm residence and barn

Equestrian Facilities

There is one equestrian facility in this corridor:

- McCrae Farm French Classical Dressage (MP 4.3-4.6), 32159 N Bacon Road, Grayslake, IL 60030.
- McCrae Farm French Classical Dressage is a horse-riding school.

Agricultural Resources Corridor 23 Figure



4.20 Corridor 24

Data related to the analysis for Corridor 24 is summarized in Table 4-35.

Table 4-35. Agricultural Resources – Corridor 24 Analysis Area

Total Land Acreage	967	
Agricultural Land (Acres/Percent)[a]	308	32%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	1	
Number of Farmsteads	1	
Number of Equestrian Areas	0	
Agricultural Related Property Parcels	39	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	646	67%
Farmland of Statewide Importance	47	5%
Not Prime Farmland	273	28%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 967 acres included within the Corridor 24 analysis area, 308 acres have been identified as active farmland. In total, 32 percent of the land within Corridor 24 consists of active farmland.

This corridor has farmland parcels throughout its length, and agricultural use is relatively continuous throughout. There is only one segment of the corridor that is not in agricultural use, just east of Fish Lake Road (MP 1.5-1.8). No IDOT-owned property occurs in this corridor.

Prime, Unique, and Important Farmland

Of the 967 acres included within Corridor 24, 646 acres (67 percent) are mapped as prime farmland, 47 acres (five percent) are mapped as farmland of statewide importance, and 273 acres (28 percent) are mapped as nonprime farmland.

Specialty Areas

One specialty area has been identified within Corridor 24:

- Castle Gardens Nursery and Garden Center (MP 16.5), 27340 W Volo Village Road, Volo

This nursery has a variety of trees and shrubs growing on the property.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified within Corridor 24.

Farmsteads

One farmstead was identified within Corridor 24 and is listed in Table 4-36.

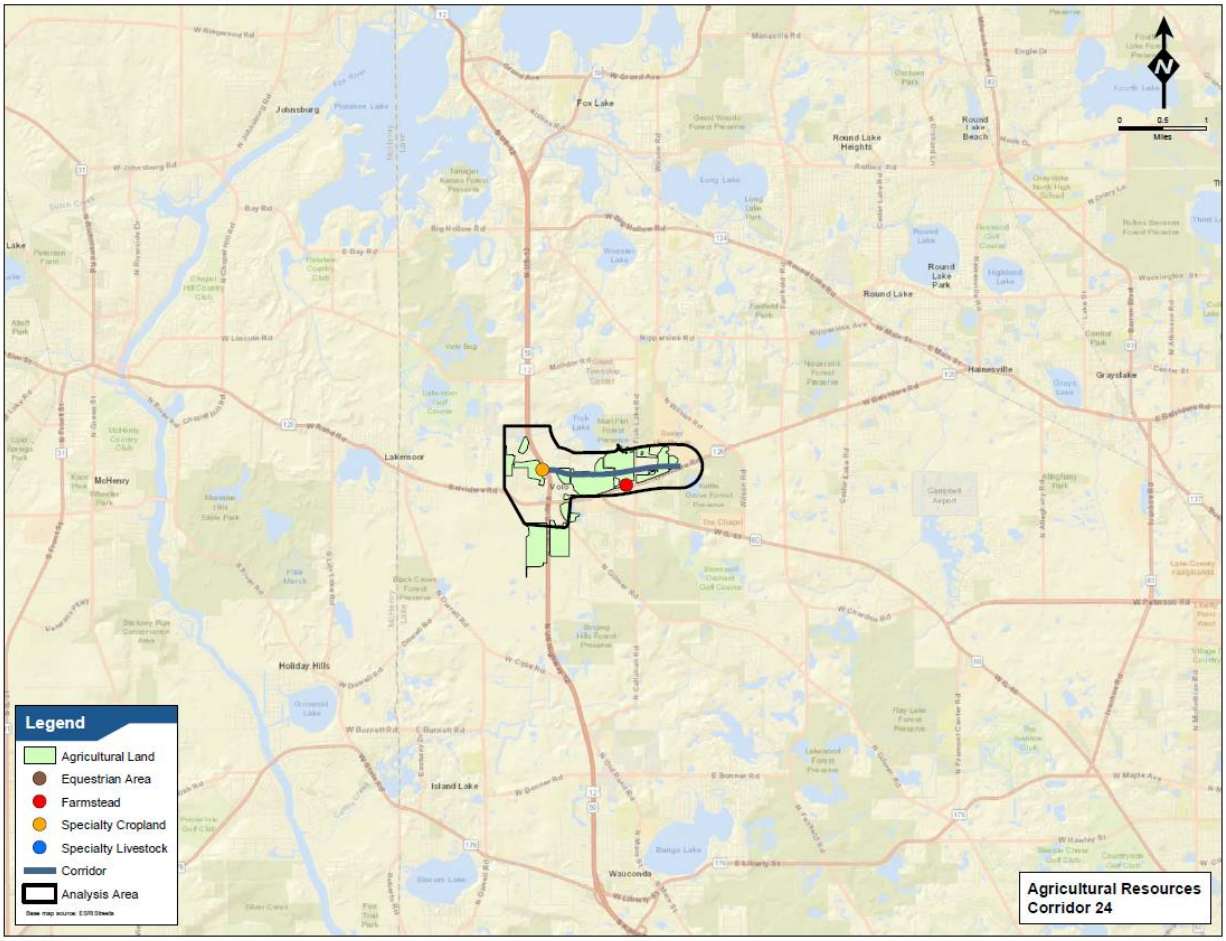
Table 4-36. Farmsteads – Corridor 24

Milepost	Farmstead
1.4	Farm residence and ancillary farm buildings

Equestrian Facilities

No equestrian facilities have been identified in Corridor 24.

Agricultural Resources Corridor 24 Figure



4.21 Corridor 25

Data related to the analysis for Corridor 25 is summarized in Table 4-37.

Table 4-37. Agricultural Resources – Corridor 25 Analysis Area

Total Land Acreage	1,806	
Agricultural Land (Acres/Percent)[a]	373	21%
Agricultural Land on Existing IDOT-owned land (Acres/Percent)	0	0%
Number of Specialty Areas	1	
Number of Farmsteads	7	
Number of Equestrian Areas	3	

Table 4-37. Agricultural Resources – Corridor 25 Analysis Area

Agricultural Related Property Parcels	49	
Prime Farmland Designations for All Land Uses (Acres/Percent)		
Prime Farmland[b]	1,512	84%
Farmland of Statewide Importance	143	8%
Not Prime Farmland	151	8%

[a] Does not include agricultural land identified on IDOT-owned land.

[b] Includes the following NRCS Farmland subcategories: All areas are prime farmland, Prime farmland if drained, and Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Farmland

Of the 1,806 acres included within the Corridor 25 analysis area, 373 acres have been identified as active farmland. In total, 21 percent of the land within Corridor 25 consists of active farmland.

A large concentration of agricultural land is in the western portion of the corridor (east of Wilson Road between MP 2.4-2.9). A smaller cluster of agricultural parcels occurs west of Fairfield Road between MP 3.35-3.8. In addition, a large portion of Corridor 22's analysis area is agricultural use from MP 6.0 to its eastern terminus. Other parcels are widely scattered throughout the remainder of the corridor.

Prime, Unique, and Important Farmland

Of the 1,806 acres included within Corridor 25, 1,512 acres (84 percent) are mapped as prime farmland, 143 acres (eight percent) are mapped as farmland of statewide importance, and 151 acres (eight percent) are mapped as nonprime farmland.

Specialty Areas

One specialty area has been identified within Corridor 25:

- Unnamed tree nursery (MP 2.4-2.75), Wilson Road, NE of IL 120

The unnamed tree nursery is located on Baxter Healthcare property in Round Lake.

Organic Farms and Community Supported Agriculture

No organic farms or CSAs have been identified within Corridor 25.

Farmsteads

Seven farmsteads were identified within Corridor 25, as detailed in Table 4-38.

Table 4-38. Farmsteads – Corridor 25

Milepost	Farmstead
3.6	Farm residence
3.6	Farm residence and ancillary farm buildings
3.6-3.8	Farm residence and ancillary farm buildings
6.0-6.1	Farm residence and ancillary farm buildings. Northbrook Sportsman Club land
6.7	Farm residence and ancillary farm buildings
6.7	Farm residence and ancillary farm buildings

Table 4-38. Farmsteads – Corridor 25

Milepost	Farmstead
6.7	Farm residence and barn

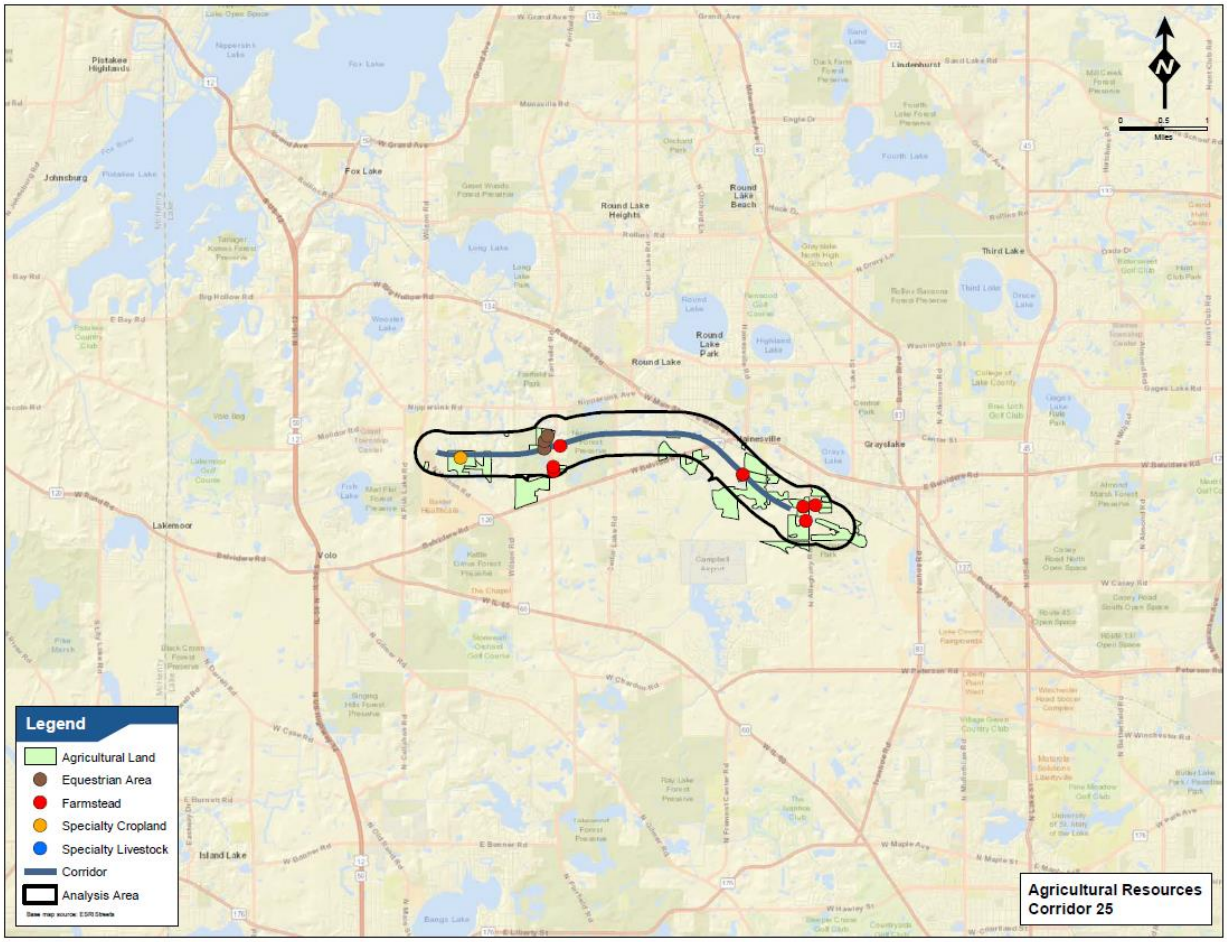
Equestrian Facilities

Three equestrian facilities are in this corridor:

- Toyland Falabella Miniature Horses International, 33222 N Fairfield Road, Round Lake, IL 60073.
- Unnamed equestrian parcel #2, N Fairfield Road, Round Lake, IL 60073
- Unnamed equestrian parcel #3, N Fairfield Road, Round Lake, IL 60073

The three equestrian parcels are located adjacent to each other at MP 3.35-3.6. Toyland Falabella Miniature Horses International is a horse breeder.

Agricultural Resources Corridor 25 Figure



5.0 References

Chicagoland CSA Coalition. 2018. *CSA Directory*. Accessed July 11, 2018. http://www.bandoffarmers.org/CSA-Directory.

Farmlandinfo.org. 2018. *Illinois Statistics*. Accessed July 26, 2018. https://www.farmlandinfo.org/statistics/illinois.

Illinois Department of Agriculture (IDOA). 2001. *Land Evaluation and Site Assessment*. Revised August.

Illinois Department of Agriculture (IDOA). 2018. *Facts About Illinois Agriculture*. Accessed July 10 and 13, 2018. https://www2.illinois.gov/sites/agr/About/History/Pages/default.aspx and https://www2.illinois.gov/sites/agr/About/Pages/Facts-About-Illinois-Agriculture.aspx.

Illinois Department of Agriculture (IDOA). 2018. *Centennial, Sesquicentennial & Bicentennial Farms*. Accessed July 24, 2018. https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/CentennialSesquicentennial/Pages/default.aspx.

Illinois Department of Agriculture (IDOA). 2018. *Centennial Agribusiness*. Accessed July 26, 2018. https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/Pages/Centennial-Agribusiness-Program.aspx.

Illinois Department of Agriculture (IDOA). 2018. *Illinois Farm Programs*. Accessed September 11, 2018. https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/Pages/default.aspx.

Illinois Department of Agriculture (IDOA). 2018. *Organic Certification*. Accessed September 11, 2018. https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/Pages/Organic-Certification.aspx.

Illinois Department of Agriculture (IDOA). 2018. *Specialty Crop Grant Recipients*. Accessed July 24, 2018. https://www2.illinois.gov/sites/agr/Assistance/IllinoisFarmPrograms/speciality-crop-grants/Pages/Crop-Grant-Recipients.aspx.

Illinois Department of Agriculture (IDOA). 2018. *Farmland Protection*. Accessed July 24, 2018. https://www2.illinois.gov/sites/agr/Resources/FarmlandProtection/Pages/default.aspx.

Illinois Department of Transportation (IDOT) and Illinois State Toll Highway Authority (ISTHA). 2001. *Draft Environmental Impact Statement, Lake County Transportation Improvement Project*. FHWA-IL-EIS-00-01-D. September.

Illinois Institute for Rural Affairs. 2018. *Illinois Community Supported Agriculture (CSA) Directory*. Western Illinois University. Accessed July 11, 2018. http://www.value-added.org/housing-2/local-foods/csa-directory/.

Localharvest.org. 2018. *CSAs in Illinois*. Accessed August 6, 2018.https://www.localharvest.org/chicago-il.

U.S. Department of Agriculture (USDA). 2018. *Organic 101: What the USDA Organic Label Means*. Accessed July 24, 2018. https://www.usda.gov/media/blog/2012/03/22/organic-101-what-usda-organic-label-means.

U.S. Department of Agriculture (USDA). 2018. *Local Food Directories: Community Supported Agriculture (CSA) Directory*. Accessed July 13, 2018. https://www.ams.usda.gov/local-food-directories/csas.

U.S. Department of Agriculture, Agricultural Marketing Service (USDA AMS). 2018. *USDA Definition of Specialty Crop*. Accessed July 24, 2018. https://www.ams.usda.gov/sites/default/files/media/USDASpecialtyCropDefinition.pdf.

U.S. Department of Agriculture, Agricultural Marketing Service (USDA AMS). 2018. *Specialty Crop Block Grant Program "What is a Specialty Crop?* Accessed July 24, 2018. https://www.ams.usda.gov/services/grants/scbgp/specialty-crop.

U.S. Department of Agriculture, Agricultural Marketing Service (USDA AMS). 2018. Organic Integrity Database. Accessed August 3, 2018, September 4, 2018, February 26, 2019. https://organic.ams.usda.gov/integrity//.

U.S. Department of Agriculture, National Agricultural Library, Alternative Farming Systems Information Center. 2018. *Community Supported Agriculture*. Accessed July 24, 2018. https://www.nal.usda.gov/afsic/community-supported-agriculture.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 1999. *1997 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Agriculture National Agricultural Statistics Service, ACH97-A-13. March. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1997&part_id=911&number=13&title=Illinois.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2004. *2002 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Agriculture National Agricultural Statistics Service, ACH02-A-13. June. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=2002&part_id=979&number=13&title=Illinois.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2009. *2007 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Agriculture National Agricultural Statistics Service, ACH07-A-13, February. Accessed July 9, 2018. https://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/Illinois/.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2014. *2012 Census of Agriculture Highlights, Hog and Pig Farming, United States Department of Agriculture National Agricultural Statistics Service*. ACH12-4. June. Accessed July 10, 2018. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Hog_and_Pig_Farming/Highlights_Hog_and_Pig_Farming.pdf.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2014. *2012 Census of Agriculture Highlights, Farmers Marketing, United States Department of Agriculture National Agricultural Statistics Service*. ACH12-7. August. Accessed August 2, 2018. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Farmers_Marketing/Highlights_Farmers_Marketing.pdf.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2014. *2012 Census of Agriculture, State and County Profiles*. State profiles accessed include Illinois and Wisconsin. Illinois county profiles accessed include Cook County, DuPage County, Lake County, and McHenry County. Wisconsin county profiles accessed include Kenosha County. Accessed July 16, 2018. https://www.nass.usda.gov/Publications/AgCensus/2012/Online_Resources/County_Profiles/.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2015. *2012 Census of Agriculture Highlights, Corn Farming, United States Department of Agriculture National Agricultural Statistics Service*. ACH12-22. March. Accessed July 10, 2018. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Corn%20Farming/Corn_Farming.pdf.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2015. *2012 Census of Agriculture Highlights, Soybean Farming, United States Department of Agriculture National Agricultural Statistics Service*. ACH12-24. March. Accessed July 10, 2018. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Soybean%20Farming/Soybean_Farming.pdf.

United States Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2015. *2012 Census of Agriculture Highlights, Wheat Farming*. ACH12-25. March. Accessed July 10, 2018. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Wheat%20Farming/Wheat_Farming.pdf.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2015. *2012 Census of Agriculture Highlights, Organic Farming Results of the 2014 Organic Survey*. ACH12-29. September. Accessed July 10, 2018. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Organics/2014_Organic_Survey_Highlights.pdf.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2016. *2012 Census of Agriculture Organic Survey (2014)*. Volume 3 *Special Studies*. Part 4 AC-12-SS-4. Updated April.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2016. *2012 Census of Agriculture Highlights, Direct Farm Sales of Food: Results from the 2015 Local Food Marketing Practices Survey*. United States Department of Agriculture National Agricultural Statistics Service, ACH12-35. December. Accessed August 1, 2018. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Local_Food/LocalFoodsMarketingPractices_Highlights.pdf.

U.S. Department of Agriculture, National Agricultural Statistics Service (USDA NASS). 2017. *Illinois Agricultural Statistics 2016 Annual Bulletin*. Compiled by the United States Department of Agriculture, National Agricultural Statistics Service, Illinois Field Office. Issued cooperatively by the Illinois Department of Agriculture and the United States Department of Agriculture, National Agricultural Statistics Service. September. Accessed July 31, 2018. https://www.nass.usda.gov/Statistics_by_State/Illinois/Publications/Annual_Statistical_Bulletin/2016/2016-IL_Annual_Bulletin_Entire_Report.pdf.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2000. *Prime Farmland 'Top Ten' States from 1997 National Resources Inventory*. December. Accessed July 13, 2018. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/nri/results/?cid=nrcs143_014069.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2000. *1997 National Resources Inventory Summary Report*. Iowa State University Statistical Laboratory. December. Accessed September 12, 2018. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_012094.pdf.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2014. *2012 Census of Agriculture, Wisconsin, State and County Data*. Volume 1, Geographic Area Series Part 49. United States Department of Agriculture National Agricultural Statistics Service, ACH12-A-49. May. Accessed July 16, 2018. https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Wisconsin/.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2015. *2012 National Resources Inventory Summary Report*. August. Center for Survey Statistics and Methodology, Iowa State University, Ames, Iowa. Accessed September 12, 2018. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd396218.pdf.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2016. *Farmland Protection Policy Act Annual Report for FY-2015*. December. Accessed July 6, 2018. https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/fppa/.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2017. *Farmland Protection Policy Act Annual Report for FY-2016*. April. Accessed July 6, 2018. https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/fppa/.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2018. *Farmland Protection Policy Act Annual Report for FY-2017*. April. Accessed July 6, 2018. https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/fppa/.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2018. *Field Office Technical Guide. Section II. Soil and Site Information, Prime and Important Farmland*. NRCS Lake County, IL. Accessed July 26, 2018. https://efotg.sc.egov.usda.gov/references/public/IL/Prime_and_other_Important_Farmland.html.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2018. *2017 Web Soil Survey*. Accessed August 28, 2018. https://websoilsurvey.sc.egov.usda.gov/.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1952. United States Census of Agriculture: 1950, Illinois. Volume 1 Counties and State Economic Areas, Part 5 Illinois. United States Department of Commerce, Bureau of the Census. 1952. Accessed July 18, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeTwoPart.do?volnum=1&year=1950&part_id=1045&number=5&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1956. *United States Census of Agriculture: 1954, Illinois*. Volume 1 Counties and State Economic Areas, , Part 5 Illinois. United States Department of Commerce, Bureau of the Census. 1956. Accessed July 18, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1954&part_id=517&number=12&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1961. *United States Census of Agriculture: 1959, Illinois*. Final Report Volume 1, Part 12 Counties. United States Department of Commerce, Bureau of the Census. 1961. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1959&part_id=439&number=12&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1967. *United States Census of Agriculture, 1964.* Illinois. Volume 1, Part 12. United States Department of Commerce, Bureau of the Census. 1967. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1964&part_id=366&number=12&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1972. *1969 Census of Agriculture, Illinois*. Volume 1 Area Reports, Part 12 Illinois, Section 1 Summary Data. United States Department of Commerce, Bureau of the Census. March. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1969&part_id=286&number=12&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1977. *1974 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Commerce, Bureau of the Census. June. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1974&part_id=215&number=13&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1981. *1978 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Commerce, Bureau of the Census. AC78-A-13. April. Accessed July 9, 2018. http://usda.mannlib.cornell.edu/usda/AgCensusImages/1978/01/13/1978-01-13.pdf.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1984. *1982 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Commerce, Bureau of the Census. ACH82-A-13. April. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1982&part_id=13&number=13&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1989. *1987 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Commerce, Bureau of the Census. ACH87-A-13. April. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1987&part_id=75&number=13&title=Illinois.

U.S. Department of Commerce (USDC), Economics and Statistics Administration (ESA), Bureau of the Census (BOC). 1994. *1992 Census of Agriculture, Illinois, State and County Data*. Volume 1, Geographic Area Series Part 13. United States Department of Commerce, Economics and Statistics Administration, Bureau of the Census. ACH92-A-13, February. Accessed July 9, 2018. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeOnePart.do?year=1992&part_id=849&number=13&title=Illinois.

TECHNICAL MEMORANDUM #2

Biological Resources and Threatened & Endangered Species

Biological Resources and Threatened and Endangered Species

This memo details the affected environment for biological resources (wildlife resources and upland habitats) and threatened and endangered (T&E) species.

1.0 Resource Introduction

Biological resources include, avian, mammal, reptile, amphibian, and aquatic (fish/mussels) wildlife species and their associated habitats. Habitat for biological resources include upland and aquatic plant communities, including areas of habitat connectivity, wildlife corridors, and flyways that may serve as significant features in the landscape.

2.0 Methodology

As indicated in the *Biological and Threatened and Endangered (T&E) Species Methodology* memo, biological and T&E species resources in the analysis area were identified and located using readily available information from secondary sources (see Section 5.0, References). A desktop survey of available geographic information system (GIS) information was conducted in September and October 2018, and January and February 2019. Field verifications were completed between September 26 and October 17, 2018. Based on the field verifications, modifications to the forested areas GIS layer were made.

The following analysis areas were used:

- For determining aquatic life and riparian habitat areas, streams that crossed the roadway corridor's approximate centerlines were assessed, as well as adjacent waterbodies that contained available data or were field visible. (In this memo, wetlands and waterbodies are discussed as they relate to biological and T&E species resources. Additional information regarding wetlands and waterbodies, including limited water quality data, is provided in the *Wetlands and Waterbodies Affected Environment Memorandum*.)
- T&E species (both federally-and state-listed) were identified within a defined analysis area of 1-mile from the roadway corridor's approximate centerline (2 miles total width) for all corridors. This distance is consistent with Illinois Department of Natural Resources' (IDNR's) current practice when initially evaluating the potential presence of listed species within a project area, and accounts for mobility of certain species. IDNR's element of occurrence representations (EOREP) dataset was used, which contained locations of state and federal endangered and threatened species, rookeries, bald eagle nests, and high-quality natural communities in the study area. US Fish and Wildlife Service's (USFWS') county data of T&E species was used in conjunction with the UFWS Environmental Conservation Online System (ECOS), aerial, and field review.
- Wildlife resources and wildlife corridors were identified within a defined analysis area of 0.25 mile from the roadway corridor's approximate centerline (0.5-mile total width) for all corridors. (in this memo, protected/public lands are discussed in terms of their wildlife and habitat values. Additional information regarding protected/public lands is provided in the *Special Lands Affected Environment Memorandum*.)

3.0 Tri-County Access Study Area

The Tri-County Access (TCA) Study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA Study area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA Study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

The TCA Study area encompasses a variety of land uses, from densely developed urban/suburban lands, to rural agricultural lands, to protected/public open space lands. As presented in the *Land Use Memorandum*, residential and agricultural are the two largest land uses (each approximately 26 percent of the total), with open space (recreation and conservation) being the next largest land use (16 percent). Generally, urbanized areas provide habitat for species more tolerant of human disturbances and activities (such as deer, racoon and various species of birds [e.g., Canadian geese]), while less developed and open space areas provide habitat for less urban-tolerant species (such as migratory bird species [e.g., bobolink or eastern meadowlark]) and T&E species.

Upland plant communities, including grasslands, forested areas, and riparian areas adjacent to stream corridors provide habitat for a wide variety of wildlife, including both urban-tolerant and intolerant species. Within the TCA study area, areas with the greatest potential for high-quality wildlife habitat are generally protected/public lands, including federally designated sites, state parks, forest preserves, nature preserves, Illinois Natural Area Inventory (INAI) sites, local publicly-owned parks and, lands protected in trust for conservation.

Much of the northern and western portions of the TCA Study area are located within the Lake-McHenry Wetland Complex Conservation Opportunity Area (COA). This area is identified in the Illinois Comprehensive Wildlife Action Plan (IWAP) as critical for conserving wildlife and habitat within Illinois. The IWAP is a planning tool that identifies COA and conservation strategies. COAs are identified in the IWAP as locations "(a) with significant existing or potential wildlife and habitat resources, (b) where partners are willing to plan, implement and evaluate conservation actions, (c) where financial and human resources are available, and (d) where conservation is motivated by an agreed upon conservation purpose and set of objectives" (IDNR, 2005). The TCA Study area is located within the eastern half of the Mississippi flyway, which is used by migratory birds, including neotropical migrants, in the US and Canada.

There are some climax forests (mature, old-growth communities) within the TCA study area; these are primarily oak (*Quercus*)/hickory (*Carya*) and oak/beech(*Fagus*)/maple (*Acer*) trees. Forested areas tend to be associated with open space/protected lands, which are dispersed throughout the study area, as well as along rivers and streams.

Wetlands in the TCA study area provide habitat for aquatic and semi-aquatic species, as well as provide water and stop-over locations for migratory wildlife and avian species (covered in the *Wetlands and Waters Affected Environment Memorandum*).

Generally, wildlife movement and dispersal occur along contiguous linear habitats, such as fence rows, vegetated edges of rights-of-way (ROWs), and stream/riparian corridors that have suitable habitat components present. A variety of wildlife species (such as wading birds, waterfowl, raptors, various songbird species, small and midsize mammals, and aquatic species) utilize wildlife corridors to travel throughout the area. Major rivers and streams that function as wildlife corridors within the study area include the Des Plaines River, Fox River, Squaw Creek, Indian Creek, Bull Creek, Nippersink Creek, and the North Branch Nippersink Creek; as well as the Fox River Chain O'Lakes in the northwest portion of the study area. Other linear corridors that are likely utilized by wildlife include rail corridors, of which there are 11 throughout the study area, and utility corridors (e.g., ComEd transmission towers).

Aquatic life resources include surface waters like rivers, creeks, lakes, and certain wetlands. Surface waters are abundant within the study area and generally provide habitat for aquatic life including mollusk, invertebrate, fish, and amphibian species. Stormwater ponds are present throughout the study area and generally provide limited aquatic life habitat but may provide water and stop-over locations for migratory wildlife and avian species.

The Illinois List of Endangered and Threatened Species by County (Illinois Endangered Species Protection Board, 2018) lists 143 T&E species in Lake County, 122 in Cook County, and 94 in McHenry County. Lake County has the largest concentration of T&E species within any county in Illinois.

4.0 System Alternative Corridors

4.1 Corridor 1

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.1.1 Land Use and Vegetation

Land use in the corridor is varied; the three largest land uses by acreage are residential, agricultural, and transportation/communications/utilities/waste (T/C/U/W)—which includes roadway ROW. Corridor 1 is highly urbanized/developed in the southern section of the corridor and less developed in the northern section of the corridor. Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types within Corridor 1 consist of urbanized land, agricultural land, forested areas, and riparian areas adjacent to stream corridors. The majority of Corridor 1 is located within the Lake-McHenry Wetland Complex Conservation Opportunity Area as identified within the IWAP.

There are 14 forested areas that are between 10 and 20 acres, and 29 forested areas that are greater than 20 acres within and adjacent to Corridor 1. Of those, 30 forested areas greater than 10 acres are associated with streams or bodies of water.

4.1.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 1 include federally designated sites, state parks, forest preserves, nature preserves, and INAI sites. Table 4.1-1 summarizes the characteristics of areas with potential for high-quality wildlife habitat within Corridor 1. Additionally, lake areas adjacent to the corridor, but not publicly owned or protected (including Lake Zurich, areas surrounding Pine Valley Lake and Ingleside Pond) may support wildlife tolerant of urban and/or degraded environments.

Corridor 1 contains limited suitable areas for migratory birds. Areas with potential for high-quality habitat are identified in Table 4.1-1, and likely contain suitable habitat for migratory bird species. Potential habitat for bald and golden eagles is present within the riparian corridor associated with the Chain O'Lakes (Pistakee Lake and Nippersink Lake) in Corridor 1.

4.1.3 Wildlife Corridors

Several wildlife corridors are present that may allow wildlife to travel between protected lands. The southern portion of the corridor (from Lake Cook Road to Bonner Road) as well as through Fox Lake (from IL 134 to State Park Road) is heavily developed, therefore, wildlife within these areas are more likely to contain species tolerant of urban land use. The remaining areas adjacent to Corridor 1 are less developed and are anticipated to support species less tolerant of urban land use. Locations along the corridor where wildlife may cross include:

- At milepost (MP) 3.5 (east of Richmond Road/IL 31), the North Branch Nippersink Creek and associated riparian area likely provides a wildlife corridor to wetland and forested riparian areas to the north and McHenry County Conservation District (MCCD) Glacial Park to the south.
- At MP 5.0 (south of Solon Road), Nippersink Creek, associated riparian area, and Solon Mills Fen from E. Solon Road to May Lane likely provides a wildlife corridor to Glacial Park to the southwest and undeveloped forested and wetland areas to the northeast.
- At MP 8.0 (west of Wilmot Road), wildlife likely crosses the corridor between north of Wilmot Road and State Park Road to access a large forested area to the west and Nippersink Canoe Base Conservation District, Spring Grove Fen, and Nippersink Creek to the east.
- At MP 9.9 (west of State Park Road), Nippersink Creek and associated riparian area provides a wildlife corridor that leads to Nippersink Canoe Base Conservation District north of the corridor to wetland areas and the Fox Chain O'Lakes on the south.
- At MP 12.6 (north of IL 59), wildlife likely crosses the corridor to access Pistakee Lake and the Fox Chain O'Lakes on the west and a large wetland complex and Duck Lake on the east.
- At MP 14.5 (south of Brandenberg Road), wildlife likely crosses the corridor between Brandenburg Road and Wilson Nursery Road in order to access Stanley Bog and Volo Bog to the west and wetland complexes to the east.
- At MP 16.2 (between Molidor Road and IL 120), the Unnamed Tributary to Fish Lake and associated wetland complex likely provide a wildlife corridor connecting Volo Bog, wetland, and forested areas on the west to Fish Lake and Marl Flat Forest Preserve on the east.
- At MP 16.5 (north of IL 120), the Unnamed Tributary to Fish Lake and associated wetland complex likely connect a large wetland complex on the west and Fish Lake and Marl Flat Forest Preserve on the east.
- At MP 18.6 (north of Case Road), wildlife likely crosses the corridor to access a wetland complex on east and west sides of the corridor as well as to access Singing Hills Forest Preserve to the east.
- At MP 19.1 (south of Case Road), an Unnamed Tributary to Mutton Creek and associated riparian area likely provides a wildlife corridor that leads to Mutton Creek and undeveloped forested and wetland areas to the west and Singing Hills Forest Preserve to the east.
- At MP 19.3 (between Case Road and Old Rand Road), Mutton Creek and associated riparian area likely provides a wildlife corridor to undeveloped forested and wetland areas east and west of Corridor 1.
- At MP 23.6 (between Main Street and Old McHenry Road), wildlife likely crosses the corridor to access Lakewood Forest Preserve to the east and undeveloped forested areas associated with residential areas to the west.

Table 4.1-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 1

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Lakewood Forest Preserve (LCFPD)	2.9		X	X	I, II, III		A, F, G, O, W	X	The LCFPD Wildlife Management Plan (WMP) notes the presence of five reptile, eight amphibian, nine invertebrate, 15 fish, 27 mammal, 115 avian, and 458 plant species including the presence of 24 T&E species (LCFPD 2018). A portion of the preserve, referred to as Wauconda Bog (70.9 acres), is an Advanced Identification ADID wetland, Illinois Nature Preserve and a National Natural Landmark that contains rare tamarack (*Larix laricina*) bog and marsh communities (USEPA 1992).
Hackmatack National Wildlife Refuge (NWR)	3.3					X	A, O, F, W, SS, G	X	Established in 2012, the NWR is intended to link and expand upon existing conservation areas to benefit migratory birds and endangered species. The NWR consists of a planned conservation core of 11,200 acres of land plus conservation corridors that connect to the core. The northern terminus of Corridor 1 is located adjacent to a proposed refuge conservation core area. The NWR consists of rare and sensitive habitat types, including moraines, bogs, kames, kettle marshes, sedge meadows, grasslands, tallgrass prairies, and oak savannas, and woodlands (Openlands 2010). The Environmental Assessment (EA) for the refuge identified 109 species of concern, including 49 bird, 47 plant, five fish, five mussels, two reptiles, and one amphibian species, many of which are state T&E species (Openlands 2019).
Glacial Park (MCCD)	3.5		X	X	I, II, III, IV		A, F, O, W, SS, G		Glacial Park covers 3,439 acres, including 490 acres of dedicated nature preserves (Nippersink Prairie NP [23 acres] and Glacial Park NP [330 acres]), are Illinois Nature Preserves. Glacial Park NP provides “scenic vistas of…undisturbed knob and basin topography” including the Delta Kames, an INAI Site. The IDNR reports over 420 plan species are present from distinct plant communities including tallgrass savannas, dry hill prairie, a high-quality low shrub bog, fed/sedge meadows, and marshes (IDNR

Table 4.1-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 1

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
									2009). MCCD reports the presences of 40 state T&E plant and animal species present (MCCD undated).
Orsolini Park (Village of Richmond)	3.5	X			I, II, III[c]		A, O, SS, W		Undeveloped land owned by the Village of Richmond (McHenry County undated) directly connected to MCCD Glacial Park
Solon Mills Fen	5.4						A, F, O, W		Privately held 82.7 acres of land that contains a high-quality section of Nippersink Creek, a graminoid fen, and a sedge meadow (Nippersink Watershed Plan 2008). Wildlife Corridor to Glacial Park.
Hatchery Park (Village of Spring Grove)	7.0	X					A, G, M, O, W		Originally a state fish hatchery, this is now a local park consisting of recreational open land, fishing ponds, hiking trails, and river shed habitat
Spring Grove Fen Nature Preserve	7.7		X	X	I, III		A, O, SS, W		Located north of the Canadian National (CN) rail tracks, this 37.3-acre site containing a diverse array of habitats including forests and wetlands. A portion of the site (33.4 acres) is a dedicated nature preserve. Spring Grove Fen supports prairie-like fen and sedge meadow plants adapted to alkaline conditions such as cotton grass (*Eriophorum* sp.), dwarf birch (*Betula nana*), northern fringed orchid *(Platanthera sp.)*, big bluestem (*Andropogon gerardi*), little bluestem (*Schizachyrium scoparium*), black-eyed Susan (*Rudbeckia hirta*), yellow star grass (*Hypoxis hirsuta*), and grass-of-parnassus (*Parnassia palustris*) (IDNR 2018).
Nippersink Canoe Base & Nippersink Marsh INAI site (MCCD)	8.7	X	X		I, II, III		A, O, W		377-acre site containing a diverse array of habitats including savanna, wetlands, and oak and hickory woodlands (MCCD undated). Site contains a high-quality section of Nippersink Creek, a bluff/ravine system, a graminoid fen, sedge meadows, streamside marshes, and mesic silt loam woodland (NCWPC 2008). Restoration of the wetlands, prairie, and woodlands within the Nippersink Canoe Base is on-going. Nippersink Creek is listed as an INAI site, flows through the Nippersink Canoe

Table 4.1-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 1

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
									Base, and is crossed by Corridor 1 in three separate locations.
Stanley Road Bog INAI site	14.3				I, II		A, O, SS, W		11.5-acre INAI site with a rare low shrub bog terrestrial community (INHS 2011), and T&E species. Site is also an ADID wetland.
Ingleside Pond and adjacent forested area	14.7						A, F, O, W		Undeveloped area; serves as wildlife corridor connecting Volo Bog and other large undeveloped wetland areas
Volo Bog (IDNR)	15.9			X	I, II, III		A, F, G, O, SS, W	X	Just beyond the analysis area, this 1,150-acre State Park/Natural Area contains an approximate 47.5-acre bog. The bog was designated a National Park Service (NPS) National Natural Landmark (NNL) in 1973 as the only remaining open-water quaking bog in Illinois (IDNR 2018, Openlands 2018). Portion is also a designated Illinois NP (Volo Bog NP) and INAI site (Volo Bog INAI 1005). The site contains woodlands, savanna, marshes, prairie restoration areas, shrublands and old fields (Openlands 2018). Several EORs for the state T&E species are present within Volo Bog (IDNR 2018).
YMCA Camp Duncan/Fish Lake	17.3						F, W, O		ADID for water quality which feeds Fish Lake (fully supporting aquatic life) and serves as a wildlife corridor between Marl Flats Forest Preserve and Volo Bog

[a] I = High-quality natural community and natural community restorations,

II = Specific suitable habitat for state-listed species or state-listed species relocations,

III = State dedicated NPs, Land and Water Reserves (LWRs), & Natural Heritage Landmarks (NHLs)

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

[c] Delta Kames portion only. The northeastern boundary of Delta Kames is located approximately 1.8 miles southwest of the northern terminus of Corridor 1.

4.1.4 Aquatic Life Resources

Table 4.1-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 1 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or macroinvertebrates) are known to be present within several surface waters and could be present within the remaining surface waters.

Table 4.1-2. Aquatic Life and Riparian Habitat within Corridor 1

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
North Branch of Nippersink Creek	3.5	X	--	--	F, W	Present	
Nippersink Creek	5.0, 9.9	X	X	--	F, M, W	Present	Records for 27 species of fish, including one T&E species, and 31 species of mollusk, including three T&E species
Hatchery Park Pond/Wetland	7.1	X	--	--	F, W	Present	The Village of Spring Grove stocks Hatchery Park Pond with trout and other game fish for recreational fishing and it is historically known as the "first state fish hatchery" of Illinois. (Village of Spring Grove 2019)
Pistakee Lake	10.8	X	--	--	M	Severely Limited	Records for two species of fish, including one T&E species, and two mollusk species
Nippersink Lake	10.9	X	X	--	M	Severely Limited	Records for two species of fish and two mollusk species
Illinois DOT - Ingleside Lake	14.3	--	--	--	F	Present	
Illinois DOT - Ingleside Pond	14.7	--	--	--	F	Present	
Fish Lake Tributary	16.2	--	--	--	F, W	Present	
Mutton Creek	19.4	X	--	X	AG, F, W	Limited	Records for six species of fish and two species of amphibians
Slocum Creek	21.3	X	--	--	M, F	Present	Records for four fish species
Lake Corner Creek	23.9	--	--	--	F	Limited	
North Branch Flint Creek	25.9	--	--	--	F	Limited	
Lake Zurich	26.9	X	X	--	M	Severely Limited	Records for 21 species of fish, including one threatened and one endangered species, and one mollusk species
Pine Valley Lake	30.2	--	--	--	F	Limited	
Serryse Creek	30.6	--	--	--	F	Severely Limited	Records of one mollusk specie

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

Table 4.1-2. Aquatic Life and Riparian Habitat within Corridor 1

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, M = Mowed Turf, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.1.5 T&E Species

The highest potential for T&E species to be present is within Lake County Forest Preserve and McHenry County Conservation District lands, as well as within Solon Mills Fen (privately held).

Federal T&E species and their habitat types are identified in Table 4.1-3.

Table 4.1-3. Federal T&E Species and their Habitat Types within Corridor 1

Species	County	Status	Habitat	Potential Habitat Present within Corridor 1	
				(Y/N)	Description
Rusty patched bumble bee (*Bombus affinis*)	L, M	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	Yes	A portion of Corridor 1 is located within a High Potential Area (Immediately south of Fox Chain O'Lakes area)
Karner blue butterfly (*Lycaeides melissa samuelis*)	L	E	Pine barrens and oak savannas on sandy soils and containing wild lupines (*Lupinus perennis*), the only known food plant of the larvae	Yes	Potentially present adjacent to the Nippersink Canoe Base
Eastern prairie fringed orchid (*Platanthera leucophaea*)	L, M	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Several high-quality (ADID) wetlands are present along Corridor 1, including Spring Grove Fen and Nippersink Marsh
Northern long-eared bat (*Myotis septentrionalis*)	L, M	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Numerous forested and forested riparian areas are located within and adjacent to Corridor 1. Suitable habitat for roosting/foraging is likely present
Rufa red knot (*Calidris canutus rufa*)	L	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	There are several large wetland complexes along the corridor, including Nippersink Marsh

Prairie bush clover *(Lespedeza leptostachya)*	M	T	Dry to mesic prairies with gravelly soil	No	Dry to mesic prairies with gravelly soil do not appear to be present within Corridor 1

Source: FWS, 2018.

[a] Corridor extends through two counties: Lake (L) and McHenry (M)

Table 4.1-4 details state-listed T&E species and their locations on the corridor.

Table 4.1-4. State T&E Species, Corridor 1

Species	Status	Location
Black tern (*Chlidonias niger*)	E	Deer Grove Forest Preserve
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	E	
Blanding's turtle (*Emydoidea bandingii*)	E	
Forked aster (*Aster furcatus*)	T	
Bulrush (*Scirpus hattorianus*)	E	
Marsh speedwell (*Veronica scutellate*)	T	
Yellow-headed blackbird	E	Motorola Deer Park
Mountain blue-eyed grass (*Sisyrinchium montanum*)	E	Agricultural land adjacent to IL 53
Tamarack	T	Cuba Marsh Forest Preserve
Blackchin shiner (*Notropis heterodon*)	T	Lake Zurich
Iowa darter (*Etheostoma exile*)	T	
Grass-leaved pondweed (*Potamogeton gramineus*)	T	
Forked aster	T	Citizens of Conservation Open Space
Iowa darter	T	Timber Lake
Brownish sedge (*Carex brunnescens*)	E	Lakewood Forest Preserve/Wauconda Bog
White-stemmed pondweed (*Potamogeton praelongus*)	E	
Dwarf raspberry (*Rubus pubescens*)	T	
Grass-leaved pondweed	T	
Showy lady's slipper (*Cypripedium reginae*)	E	
Small Yellow lady's slipper (*Cypripedium parviflorum*)	E	
Tamarack	T	
Downy willow herb (*Epilobium strictum*)	T	
Buckbean (*Menyanthes trifoliata*)	T	
Speckled alder (*Alnus incana ssp. rugosa*)	E	
Bunchberry (*Cornus canadensis*)	E	
Pitcher plant (*Sarracenia purpurea*)	E	
Banded killifish (*Fundulus diaphanous*)	T	Bangs Lake
Pitcher plant	E	
Blackchin shiner	T	
Blacknose shiner (*Notropis heterolepis*)	E	
White-stemmed pondweed	E	

Table 4.1-4. State T&E Species, Corridor 1

Species	Status	Location
Grass-leaved pondweed	T	
Iowa darter	T	
Bunchberry	E	
Least bittern (*Ixobrychus exilis*)	T	Singing Hills Forest Preserve
Blanding's turtle	E	
Blanding's turtle	E	Commercial land along IL 120, east of US 12
Black tern	E	Fish Lake/Marl Flat Forest Preserve
Golden sedge (*Carex aurea*)	T	
Richardson's rush (*Juncus alpinoarticulatus*)	T	
Little green sedge (*Carex viridula*)	T	
Sedge (*Carex cryptolepis*)	T	
Common gallinule (*Gallinula galeata*)	E	Marl Flat Forest Preserve
White-stemmed pondweed	E	Sullivan Lake
Iowa darter	T	
Snake-mouth (*Pogonia ophioglossoides*)	E	Volo Bog
Rusty patched bumble bee	E	
Smith's bulrush (*Schoenoplectus smithii*)	E	
Dwarf raspberry	T	
Leatherleaf (*Chamaedaphne calyculata*)	T	
Rusty cotton grass (*Eriophorum virginicum*)	E	
Cordroot sedge (*Carex chordorrhiza*)	E	
Round-leaved sundew (*Drosera rotundifolia*)	E	
Three-seeded sedge (*Carex trisperma*)	E	
Highbush blueberry (*Vaccinium corymbosum*)	E	
Star-flower (*Trientalis borealis*)	E	
Pitcher plant	E	
Autumn willow (*Salix serissima*)	E	
Few-seeded sedge (*Carex oligosperma*)	E	
Shortleaf sedge (*Carex disperma*)	E	
Sedge (*Carex canescens var. disjuncta*)	E	
Tamarack	T	
Downy willow herb	T	
Alder buckthorn (*Rhamnus alnifolia*)	E	
Buckbean	T	
Water arum (*Calla palustris*)	E	
Grass pink orchid (*Calopogon tuberosus*)	E	
Blanding's turtle	E	

Table 4.1-4. State T&E Species, Corridor 1

Species	Status	Location
Common gallinule	E	
Flat-leaved bladderwort (*Utricularia intermedia*)	T	
Beaked rush (*Rhynchospora alba*)	E	
Sedge (*Carex echinata*)	E	
Common tern (*Sterna hirundo*)	E	Fischer Lake
Tamarack	T	Undeveloped area north of Brandenburg Rd, west of IL 59
Starhead topminnow (*Fundulus dispar*)	T	Wooster Lake
White-stemmed pondweed	E	
Blackchin shiner	T	
Blacknose shiner	E	
Iowa darter	T	
Pugnose shiner (*Notropis anogenus*)	E	Pistakee Lake
Starhead topminnow	T	Nippersink Creek outlet to Pistakee Lake
Banded killifish	T	
Blanding's turtle (*Emydoidea blandingii*)	E	Area north of Lake Street Park
Blanding's turtle	E	Nippersink Lake
Blanding's turtle	E	Vacant/Residential land along State Park Road, north of US 12
Blackchin shiner	T	Dunn Lake
Iowa darter	T	
Blackchin shiner	T	Nippersink Canoe Base Conservation DIstrict
Starhead topminnow	T	
Pale vetchling (*Lathyrus ochroleucus*)	T	
Downy willow herb	T	Fox Lake Country Club/Leisure Village Golf Course
Blanding’s turtle	E	
Black sandshell (*Ligumia recta*)	T	Spring Grove Fen Nature Preserve/Nippersink Creek
Purple-flowering raspberry (*Rubus odoratus*)	T	
Buckbean	T	
Iowa darter	T	Nippersink Creek
Blanding's turtle	T	
Black sandshell	T	
Spike (*Elliptio dilatata*)	T	
Prairie buttercup (*Ranunculus rhomboideus*)	T	Agricultural area east of Glacial Park

Sources: INHS 2018a, IDNR 2019.

4.2 Corridor 2

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.2.1 Land Use and Vegetation

Land use in the corridor is varied; nearly half of the land in the analysis area is agricultural, with substantial areas of open space and residential. Further details and breakdown of land use can be found in the *Land Use Memorandum.*

Cover types consist of urban land, agricultural land, forested areas, and riparian areas adjacent to stream corridors. The majority of Corridor 2 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Seven forested areas between 10 and 20 acres in size and four forested areas greater than 20 acres in size are located within and adjacent to Corridor 2. Of the forested areas, seven areas greater than 10 acres are associated with streams or bodies of water.

4.2.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 2 include forest preserve land, Lake Betty and its associated riparian area, and Lakewood Grove Park and Homeowners' Association (HOA). Table 4.2-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within Corridor 2. Additional areas, including forest preserve lands adjacent to Corridor 2 may support wildlife intolerant of urban and/or degraded environments.

The areas with potential for high-quality habitat likely contain suitable habitat for migratory bird species. Other large, low-quality wetland complexes may provide suitable habitat for migratory bird species as well. Potential habitat for bald and golden eagles is not present within Corridor 2.

4.2.3 Wildlife Corridors

Within Corridor 2 several wildlife corridors are present that may allow wildlife resources to travel between protected lands as discussed above. In general, this corridor is relatively rural in nature, with large areas of open space and undeveloped areas. Locations where wildlife are likely to cross the corridor include:

- At MP 1.0 (east of Fish Lake Road), wildlife likely crosses the corridor west of Wilson Road between Kettle Grove Forest Preserve on the north and forested/wetland area and Singing Hills Forest Preserve on the south.
- At MP 3.4 (between Cedar Lake Road and Chardon Road), an Unnamed Tributary to Squaw Creek and associated riparian area likely provides a wildlife corridor crossing between various protected open space properties, including Lakewood Grove Park and Northbrook Sports Club north of the corridor and various forest preserves south of the corridor.
- At MP 4.3 (north of Peterson Road), Squaw Creek and associated riparian area provides a wildlife corridor that connects residential open space/water features north of the corridor with Ray Lake Forest Preserve south of the corridor.

Table 4.2-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 2

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Singing Hills Forest Preserve (LCFPD)	0.8		X				F, O, W		A 718-acre site containing 58 acres of natural oak woodlands and 171 acres of wetlands. The LCFPD WMP notes the presence of two invertebrate, four reptile, five fish, six amphibian, 13 mammal, 59 plant, and 78 avian species within the Preserve. LCFPD reports that Monahan Lake is a nesting site for sandhill cranes and other waterfowl (LCFPD 2018)
Kettle Grove Forest Preserve (LCFPD)	1.1		X		II		F		Includes high-quality wetland and aquatic habitats noted for their abundance of State T&E species as well as oak woodlands that are managed to restore open savanna/woodland structure (LCFPD 2015). The LCFPD WMP notes the presence of 19 avian, two mammal, and one amphibian species within Kettle Grove forest preserve (LCFPD 2018b). Sargent Marsh INAI Site (#1570) is an approximately 30-acre site within Preserve. Adjacent to Kettle Grove Forest Preserve is Village of Round Lake Open Space.
Lake Betty and associated riparian area	1.2						F, O, SS, W		Provides wildlife habitat and wildlife connection corridor between Kettle Grove and Singing Hills forest preserves
Lakewood Grove Park and Lakewood Grove HOA	3.3	X					G, O		Provides wildlife habitat and a wildlife connection corridor between Ray Lake Forest Preserve and privately-owned undeveloped land
Ray Lake Forest Preserve (LCFPD)	4.1		X				F, O, W, G, SS		1,010-acre preserve containing 120 acres of wetlands, 80 acres of bur oak, cherry, and hickory woodlands, and open prairies. LCFPD reports the presence of 91 plant, 19 bird, three mammal, six fish, three invertebrate, four amphibian, and three reptile species within Preserve (LCFPD, 2018)

[a] I = High quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.2.4 Aquatic Life Resources

Table 4.2-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 2 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and amphibians) are known to be present within Squaw Creek and could be present within the remaining surface waters.

Table 4.2-2. Aquatic Life and Riparian Habitat within Corridor 2

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Lake Betty	1.2	--	--	--	F, W	Present	
Lake Helen Drain	3.4	--	--	--	G, SS	Present	
Squaw Creek	4.3	X	X	X	F, AG	Present	Contains records for 11 species of fish (INHS 2018)

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, W = Wetland, SS = Scrub-shrub

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.2.5 T&E Species

The areas with the highest potential for T&E species to be present are within forest preserve lands adjacent to Corridor 2.

Federal T&E species and their habitat types are identified in Table 4.2-3.

Table 4.2-3. Federal T&E Species and their Habitat Types within Corridor 2

Species	Status	Habitat	Potential Habitat Present within Corridor 2	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	A portion of Corridor 2 is located within a low potential zone
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	Yes	Savanna areas within Kettle Grove Forest Preserve
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	ADID wetlands within Kettle Grove Forest Preserve

Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Large wooded areas are present within and adjacent to Corridor 2
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are present within and adjacent to Corridor 2

Source: FWS 2018.

Table 4.2-4 details state-listed T&E species and their locations on the corridor.

Table 4.2-4. State T&E Species, Corridor 2

Species	Status	Location
Black tern	E	Fish Lake and Marl Flat Forest Preserve
Golden sedge	T	
Richardson's rush	T	
Little green sedge	T	
Sedge	T	
Common gallinule	E	
Pale vetchling	T	
Blanding's turtle	E	Commercial land along IL 120, east of US 12
Black tern	E	Sargent Marsh/Kettle Grove Forest Preserve
Yellow-headed blackbird	E	
Common gallinule	T	
Least bittern	T	
Least Bittern	T	Singing Hills Forest Preserve and adjacent undeveloped land
Yellow-headed blackbird	E	Agricultural land north of IL 60, west of Fairfield Road, and east of Cedar Lake Road
Black-crowned night-heron (*Nycticorax nycticorax*)	E	Ray Lake Forest Preserve and adjacent residential/agricultural land
Yellow-headed blackbird	E	Grand Dominion Lake
Common gallinule	E	

Source: IDNR 2018a, IDNR 2019.

4.3 Corridor 3

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.3.1 Land Use and Vegetation

Corridor 3 is an urbanized/developed corridor with limited protected lands. The three largest land uses in the corridor are residential, T/C/U/W (which includes roadway ROW), and commercial. Relatively little land is undeveloped. Therefore, wildlife resources within Corridor 3 are limited. Further details and breakdown of land use can be found in the *Land Use Memorandum.*

Cover types within the corridor include urban land, forested areas, and riparian areas adjacent to stream corridors. Corridor 3 is not located within a COA as identified within the IWAP.

Two forested areas between 10 and 20 acres are located within and adjacent to Corridor 3 and are associated with Diamond Lake.

4.3.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat are not present due to the urban nature of the corridor. The two parks on the corridor (Clearbrook Park and Kracklauer Park) have creeks that flow through them, however, these parks are maintained as mowed turf sites with severely limited riparian areas adjacent to its surface waters. Diamond Lake, located just west of the corridor, is also limited in terms of its wildlife habitat potential.

Due to the developed nature of the corridor and limited natural areas, migratory birds intolerant of human disturbance are not likely present. Potential habitat for bald and golden eagles is not present within or adjacent to Corridor 3.

4.3.3 Wildlife Corridors

Within Corridor 3, wildlife corridors are likely limited to Metra's North Central Service Railroad (near MP 14.6). Wildlife tolerant of urban land use likely uses this corridor.

4.3.4 Aquatic Life Resources

Table 4.3-1 summarizes aquatic life and riparian features of the surface waters crossed by Corridor 3 and adjacent lakes that were assessed for habitat based on available data. Aquatic life (mollusk, fish, and/or macroinvertebrates) are known to be present within Diamond Lake and could be present within the remaining surface waters.

Table 4.3-1. Aquatic Life and Riparian Habitat within Corridor 3

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Seavey Drainage Ditch	13.0	--	--	--	P, W	Severely Limited	
Diamond Lake	13.7	--	--	--	M	Severely Limited	Lake County Health Department (LCHD) contains records of 13 species of common game fish and one species of invasive mollusk
Diamond Lake Drain	14.3	--	--	--	F	Severely Limited	

a Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

b X = INHS Information within 1 mile of Corridor, -- = No information available

c F = Forested, M = Mowed Turf, W = Wetland, D = Developed, P = Prairie

d Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.3.5 T&E Species

There is low potential for T&E species to be present within areas proximate to Corridor 3.

Federal T&E species and their habitat types are identified in Table 4.3-2.

Table 4.3-2. Federal T&E Species and their Habitat Types within Corridor 3

Species	Status	Habitat	Potential Habitat Present within Corridor 3	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 3 is not located within a low or high potential zone.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae.	No	Pine barren and oak savannas do not appear to be present within Corridor 3.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands may be present within Corridor 3.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 3.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30.	No	No coastal areas or large wetland complexes are located within or adjacent to Corridor 3.

Source: FWS 2018.

No EOREPs for state listed T&E species were found within the analysis area for Corridor 3.

4.4 Corridor 4

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.4.1 Land Use and Vegetation

Corridor 4 is largely an urbanized/developed corridor with some natural areas. Nearly half of the land area within the corridor is residential, with open space and agriculture also among the primary land uses. Further details and breakdown of land use can be found in the *Land Use Memorandum.*

Cover types consist of urban land, forested areas, and riparian areas adjacent to stream corridors, as well as scattered agricultural fields. A portion of Corridor 4 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Six forested areas between 10 and 20 acres in size, and 10 forested areas greater than 20 acres in size are located within, and adjacent, to Corridor 4. Of those, eight forested areas greater than 10 acres are associated with streams or bodies of water.

4.4.2 Wildlife Resources

Wildlife resources are likely limited in the more developed areas, and are likely present within the less developed, or natural areas. Areas with potential for high-quality wildlife habitat within Corridor 4 include Walnut Creek-Harriet B. Weber Nature Preserve, Village of Kildeer Open Space, Village of Long Grove Open Space, Reed-Turner Woodland Nature Preserve, and forest preserve lands. Table 4.4-1

summarizes the characteristics of the areas with potential for high-quality wildlife habitat. Additional areas that may support wildlife tolerant of urban environments include Kemper Lakes Golf Course, Woodland Park, Twin Orchard Golf Course and Country Club, Three Corners Park, Buffalo Creek Park, and Hawthorn Woods Community Park.

Corridor 4 contains suitable habitat for migratory birds. The areas identified in Table 4.4-1 likely contain suitable habitat for migratory bird species. Potential habitat for bald and golden eagles does not appear to be present within or adjacent to Corridor 4.

4.4.3 Wildlife Corridors

Within Corridor 4, several wildlife corridors are present that may allow wildlife to travel between protected lands. Locations where wildlife likely cross the corridor include:

- At MP 1.0 (in the vicinity of Redwood Lane), wildlife likely crosses Old McHenry Road between Land Conservancy of Lake County Open Space on the north side of the roadway and a forested area and open water pond area on the south side of the roadway.
- At MP 2.5 (west of Midlothian Road), wildlife likely crosses Old McHenry Road to access a wetland (on Foglia YMCA property) on the south side of the roadway and a forested and wetland area on the north side of the roadway.
- At MP 4.8 (between Hillcrest Drive and Corporate Drive), wildlife likely crosses Old McHenry Road between Kemper Lakes Golf Course on the south side of the roadway and a large wetland, forested, and grassland areas on the north side of the roadway.
- At MP 6.4 (south of IL 22), Reed Turner Woodland Nature Preserve and INAI site span both sides of Old McHenry Road, and therefore, wildlife likely crosses in this area. This area is forested and there is a tributary to Salem Lake that the roadway crosses.

Table 4.4-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 4

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Walnut Creek - Harriet B. Weber Nature Preserve (Land Conservancy of Lake County)	0.6						A, F, P, O, SS, W		A 29-acre site consists of wetland and forested areas (LCLC, 2016)
Village of Kildeer Open Space and Village of Long Grove Open Space	5.4						A, H, O, SS, W		Two adjacent properties create an approximate 41-acre site consisting of a hemi-marsh, forested, and scrub-shrub wetlands. Lake County ADID Wetland #169 is a high functional value wetland due to the presence of state T&E plant species (USEPA 1992). This wetland contains potential rookeries and habitat for waterfowl species.
Heron Creek Forest Preserve (LCFPD) & Lake County ADID Wetland #170	5.9		X				F, G, O, SS, W		A 242-acre site adjacent to Reed-Turner Woodland Nature Preserve and INAI site containing woodlands, wetlands (a portion of Lake County ADID Wetland #170), and open fields. More than 116 species of birds, including a resident population of waterfowl and herons and five state endangered bird species, are reported to have been found at or within the vicinity (LCFPD 2018). Lake County ADID Wetland #170 is associated with Kildeer Creek, a portion of which occurs within the Forest Preserve and Reed-Turner Woodland Nature Preserve. This 125-acre wetland is a high functional value wetland due to the presence of state T&E plant species and is also a designated INAI site within the Nature Preserve.
Reed-Turner Woodland Nature Preserve & Lake County ADID Wetland #170	6.4	X		X	II, III		A, F, O, W		A 49-acre site, of which 38.2 acres are designated INAI site and Nature Preserve. Nature Preserve includes a portion of Kildeer Creek, wetlands (a portion of Lake County ADID Wetland #170), sedge meadow, forest, savanna, and prairie habitats (IDNR 2018a, LGPD undated). Oaks and hickories are the dominant tree species present within upland forested areas, while riparian areas associated with Indian Creek contain American elm, green ash, and black walnut (IDNR 2018a). The INHS report (2018) contain records for the tiger salamander (*Ambystoma tigrinum*). More than 116 species of birds, including a resident population of waterfowl and herons, have been found within the Nature Preserve (IDNR 2018a).

[a] I = High-quality natural community and natural community restorations, II = Specific suitable habitat for state-listed species or state-listed species relocations, III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, H = Hemi-marsh, M = Mowed Turf, O = Open Water/Surface Water, P = Prairie, W = Wetland

4.4.4 Aquatic Life Resources

Table 4.4-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 4 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or macroinvertebrates) are known to be present within four of the surface waters and are potentially present within the remaining surface waters within and adjacent to Corridor 4.

Table 4.4-2. Aquatic Life and Riparian Habitat within Corridor 4

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comment
		Fish	Mollusk	Amphibian			
Lake Corner Creek	0.0	--	--	--	G, W	Limited	
Pond-a-Rudy	1.2	--	--	--	F, W	Present	Contains a record of one species of reptile, seven species of waterfowl or aquatic migratory birds, and two species of aquatic dwelling mammals (INHS, 2018)
Forest Lake	3.7	--	X	--	M	Limited	Contains records of two species of mollusks (INHS, 2018)
Forest Lake Drain	3.9	--	X	--	F, W	Limited	Contains records of 1 species of mollusk (INHS, 2018)
Kildeer Creek Tributary	5.6	--	X	--	F, M, W	Present	Contains records of two species of mollusks (INHS, 2018)
Kildeer Creek	6.4	--	X	--	F, W	Present	Contains records of one species of mollusk (INHS, 2018)

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] F = Forested, G = Grassland, M = Mowed Turf, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.4.5 T&E Species

The highest potential for T&E species to be present along the corridor is within the Villages of Kildeer and Long Grove Open Spaces, Lake County ADID Wetlands #169, #170, and #180, Heron Creek Forest Preserve, Reed-Turner Woodland Nature Preserve, and Pond-A-Rudy.

Federal T&E species and their habitat types are identified in Table 4.4-3.

Table 4.4-3. Federal T&E Species and their Habitat Types within Corridor 4

Species	Status	Habitat	Potential Habitat Present within Corridor 4	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter	No	Low and high potential zones are not present within Corridor 4.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barren and oak savannas do not appear to be present within Corridor 4.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands are likely present. The eastern prairie fringed orchid is present within Lake County ADID Wetland #170, adjacent to corridor (Illinois Tollway 2012 Study).
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Large forested areas are present within and adjacent to Corridor 4.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are present within Corridor 4.

Source: FWS 2018.

Table 4.4-4 details state-listed T&E species and their locations on the corridor.

Table 4.4-4. State T&E Species, Corridor 4

Species	Status	Location
Iowa darter	T	Timber Lake - Barrington
Yellow-headed blackbird	E	Agricultural/vacant land west of Fairfield Road, south of Milton Road
Black-crowned night-heron	E	Pond-a-Rudy
Sedge	T	Residential land east of Sylvan Lake, north of Midlothian Road
Black-crowned night-heron	E	Long Grove Open Space/Heron Creek Forest Preserve
Pale vetchling	T	Heron Creek Forest Preserve
Queen-of-the-prairie (*Filipendula rubra*)	T	Eastern Prairie Fringed Orchid Nature Preserve
Eastern prairie fringed orchid	E	

Source: IDNR 2018a, IDNR 2019.

4.5 Corridor 6

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.5.1 Land Use and Vegetation

Combined, approximately half of the area within Corridor 6 is residential or T/C/U/W (which includes roadway ROW). The corridor is a highly urbanized, developed corridor with limited protected lands and riparian corridors. Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, forested areas, and riparian areas adjacent to stream corridors. No agricultural fields are located within or adjacent to Corridor 6. Corridor 6 is not located within a COA as identified within the IWAP.

There are two forested areas greater than 20 acres are located within and adjacent to Corridor 6, both of which are associated streams or bodies of water.

4.5.2 Wildlife Resources

Because the corridor is highly developed, wildlife resources within are limited to protected open space areas. Areas with potential for high-quality wildlife habitat include Busse Woods/Ned Brown Forest Preserve, Twin Lakes Recreational Area and associated wetland and forested area, and Lake Louise/ Victoria. Table 4.5-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within the corridor.

Corridor 6 contains limited suitable areas for migratory birds, except within Busse Woods/Ned Brown Preserve. Potential habitat for bald and golden eagles is not present within or adjacent to Corridor 6.

4.5.3 Wildlife Corridors

Within Corridor 6 several wildlife corridors are present that may allow wildlife resources to travel between protected lands.

- At MP 2.2 (north of Central Road), Salt Creek crosses under the roadway and connects parks on the east and west sides of the corridor.
- At MP 6.7 (south of US 12), a utility ROW that crosses IL 53 provides a wildlife corridor that leads to Lake Louise, Lake Arlington, and Deer Grove Forest Preserve.

Table 4.5-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 6

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Busse Woods/Ned Brown Preserve (Forest Preserve of Cook County [FPCC])	0.4		X	X[c]	I, II, III*		A, F, G, W	X[c]	A 3,558-acre site containing a diverse array of habitats including forest, wetlands, open water, and grassland. The FPCC reports the presence of several wildlife species within Busse Woods including egrets, herons, terns, savannah sparrow (*Passerculus sandwichensis*), Henslow's sparrow (*Ammodramus henslowii*), and bobolinks. A portion of the Ned Brown Preserve, referred to as Busse Forest (440 acres) is an Illinois Nature Preserve and is "one of the richest and most diverse natural areas in the Cook County forest preserves" (FPCC Undated) which contains flatwoods, upland forest, and marsh communities. The western boundary of Busse Forest is defined by Salt Creek, located approximately 0.7 miles east of Corridor 6. A portion of Busse Forest is also a NPS NNL and an INAI site.
Salt Creek Rural Park District Twin Lakes Recreational Area	5.0	X					A, M, O		
Wetland, Forest, and Lake Louise/ Victoria Area	6.8						A, F, W		

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, W = Wetland

[c] Only applies to Busse Forest which is a small portion (440 acres) of the Ned Brown Preserve. The western boundary of Busse Forest is defined by Salt Creek and located approximately 0.7 miles east of Corridor 6.

4.5.4 Aquatic Life Resources

Table 4.5-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 6 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk and/or fish) are known to be present within Salt Creek and Doughnut Lake and could be present within the remaining surface waters. Generally, the stormwater detention ponds adjacent to Corridor 6 are open water areas surrounded by mowed turf grass that provide limited wildlife habitat but may provide water and stop-over locations for migratory wildlife and avian species.

Table 4.5-2. Aquatic Life and Riparian Habitat within Corridor 6

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comment
		Fish	Mollusk	Amphibian			
Unnamed Tributary to Salt Creek 1	0.3	--	--	--	F	Present	
Salt Creek	2.2	X	X	--	F, M	Limited	Contains records of two mollusk species and one fish species. (INHS 2018)
Unnamed Tributary to Salt Creek #2	4.6	--	--	--	W	Present	
Salt Creek	4.9	--	--	--	F, M	Limited	
Unnamed Lake	5.0	--	--	--	M	Limited	
Unnamed Lake	5.0	X	--	--	M	Limited	
Salt Creek	5.1	--	--	--	M	Limited	
Unnamed Lake (known as Lake Louise)	6.7	--	--	--	W, U	Present	
Unnamed Ponds	8.1	--	--	--	U	Severely limited	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] F = Forested, M = Mowed Turf, W = Wetland, U = Urban

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.5.5 T&E Species

The highest potential for T&E species to be present is within the Busse Woods/Ned Brown Forest Preserve adjacent to Corridor 6.

Federal T&E species and their habitat types are identified in Table 4.5-3.

Table 4.5-3. Federal T&E Species and their Habitat Types within Corridor 6

Species	Status	Habitat	Potential Habitat Present within Corridor 6	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter	Yes	Low potential area present within the Ned Brown forest preserve
Hine's emerald dragonfly (*Somatochlora hineana*)	E	Spring fed wetlands, wet meadows and marshes	No	No critical habitat mapped in or adjacent to Corridor 6
Leafy-prairie clover (*Dalea foliosa*)	E	Prairie remnants on thin soil over limestone	Yes	Potentially present within the Ned Brown forest preserve
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Potentially present within the Ned Brown forest preserve and within the Wetland, Forest, and Lake Louise/Victoria Area
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present adjacent to Corridor 6
Rufa red knot	T	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter	Yes	Potentially present within the Ned Brown forest preserve
Mead's milkweed (*Asclepias meadii*)	T	Late successional tallgrass prairie, tallgrass prairie converted to hay meadow, and glades or barrens with thin soil	Yes	Potentially present within the Ned Brown forest preserve
Prairie bush clover	T	Dry to mesic prairies with gravelly soil	Yes	Potentially present within the Ned Brown forest preserve
Rattlesnake-master borer moth (*Papaipema eryngii*)	C	Undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master	Yes	Potentially present within the Ned Brown forest preserve

Source: FWS 2018.

Table 4.5-4 details state-listed T&E species and their locations on the corridor.

Table 4.5-4. State T&E Species, Corridor 6

Species	Status	Location
Mountain blue-eyed grass (*Sisyrinchium montanum*)	E	Commercial/agricultural land along Hicks Road, north of Lake Cook Road
Osprey (*Pandion haliaetus*)	E	Busse Woods/Ned Brown Forest Preserve
Swollen sedge (*Carex intumescens*)	E	

Source: IDNR 2018a, IDNR 2019.

4.6 Corridor 7

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.6.1 Land Use and Vegetation

Residential is the largest land use within Corridor 7, followed by open space. The southern portion is residential with interspersed protected open space; while the northern portion is more agricultural in nature. Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, agricultural land, open space (publicly-owned), forested areas, and riparian areas adjacent to stream corridors. A portion of Corridor 7 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

A total of 15 forested areas between 10 and 20 acres, and 11 forested areas greater than 20 acres are located within and adjacent to Corridor 7. Of those, a total of 18 forested areas greater than 10 acres are associated with streams or bodies of water.

4.6.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 7 include forest preserve lands, Long Grove Site INAI site, and several local parks and designated open space areas (including Drexler Tavern Trail, Longview Meadows Park, Long Grove Open Space, Illinois Department of Transportation (IDOT) Mitigation Site/Bridgewater Farm/Gridley/Highland Pines Park/Stockbridge Wetland and Farms/Village of Vernon Hills Open Spaces), and private land adjacent to Longmeadow Park. Table 4.6-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within Corridor 7.

Additional local parks, private golf or country clubs, and densely wooded/vegetated residential areas along Corridor 7 also may support wildlife tolerant of urban and/or degraded environments.

Corridor 7 contains limited suitable areas for migratory birds. The areas with potential for high-quality habitat described in Table 4.6-1 likely contain suitable habitat for migratory bird species.

4.6.3 Wildlife Corridors

Within Corridor 7 several wildlife corridors are present that may allow wildlife resources to travel between protected lands, as detailed below:

- At MP 2.2 (on Lake Cook Road east of Schaeffer Road), Creekside Park and a tributary to Buffalo Creek on the south side of the roadway provides a wildlife crossing connection to Buffalo Creek Forest Preserve on the north side of the roadway.
- At MP 3.3 (on Arlington Heights Road north of Lake Cook Road), Village of Buffalo Grove Open Space and Buffalo Creek on the east side of the roadway provides a wildlife crossing connection to Buffalo Creek Forest Preserve on the west side of the roadway.
- At MP 2.8 (on IL 53, west of Old McHenry Road), Bridgewater Farm Open Space (on the south side of the roadway) and a tributary to Buffalo Creek provide a wildlife crossing connection to the north side of the roadway.
- At MP 5.7 (on IL 83, south of IL 22), Longview Meadows Park on the west side of the roadway and Village of Long Grove Open Space on the east side of the roadway provide a wildlife crossing connection along a tributary to Indian Creek.
- From MP 7.3 to MP 8.5 (on IL 83, between Gilmer Road and US 45), a string of local parks and open space properties (Gridley Farm, Highland Pines Park, and Stockbridge Wetland and Farm, and Village

of Vernon Hills Open Space) together with an IDOT mitigation site, and Indian Creek and associated tributary, provide a wildlife crossing connections between the east and west sides of the roadway.

Table 4.6-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 7

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Long Grove INAI Site	0.4				II		A, F, O, W		Approximate 25-acre forested wetland and marsh complex consisting of suitable habitat for state-listed species or state-listed species relocations. This site is currently listed as an ADID Site (#184) due to its high functional value. An EOR for the state endangered mountain blue-eyed grass is present within the area (IDNR 2018)
Drexler Tavern Trail	1.4	X					F, W		Protected area adjacent to privately owned open space areas
Buffalo Creek Forest Preserve (LCFPD)	2.4		X				A, F, G, O, SS, W		A 408-acre site consisting of restored tallgrass prairie, wetland mitigation bank, and a flood control reservoir for Buffalo Creek. The site is managed for flood control as indicated by a dam and reservoir. The LCFPD WMP noted the presence of one amphibian, seven mammal, 14 fish, 19 butterfly and moth, and 62 avian species, including the eastern meadowlark and bobolink (which are obligate grassland species), within the Preserve (LCFPD 2018). LCFPD, Metropolitan Water Reclamation District (MWRD), and the Village of Buffalo Grove are expanding the Buffalo Creek reservoir as well as restoring 30 acres of upland. In addition, the Lake County Division of Transportation (LCDOT) has constructed a wetland mitigation bank within the western 65 acres of the Forest Preserve.
Longview Meadows Park and Village of Long Grove Open Space	5.9	X					A, F, G, O, W		Restored prairie, wetland, and forested riparian areas. Significant migratory bird site (LGPD Undated).
IDOT Wetland Mitigation Site, Gridley Farm, Highland Pines Park, Stockbridge Wetland and Farm, Village of Vernon Hills Open Space	6.9	X					A, F, G, O, W		Protected land along Indian Creek and an associated tributary that provides a wildlife corridor to other protected lands.
Private Land Adjacent to Longmeadow Park	13.6						A, F, W		Privately owned land adjacent to protected land.

[a] I = High quality natural community and natural community restorations
II = Specific suitable habitat for state-listed species or state-listed species relocations
III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.6.4 Aquatic Life Resources

Table 4.6-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 7 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk and fish) are known to be present within Buffalo Creek, Indian Creek, and Diamond Lake Drain and could be present within the remaining surface waters.

Table 4.6-2. Aquatic Life and Riparian Habitat within Corridor 7

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Unnamed Lake	**0.3**	--	--	--	F, W	Limited	
Buffalo Creek Reservoir Tributary	2.2	--	--	--	F	Limited	
Buffalo Creek Reservoir	2.5	--	--	--	G	Present	
Unnamed Tributary to Buffalo Creek	2.5	--	--	--	G, W	Limited	
Buffalo Creek	2.7, 3.1	--	X	--	F, G, W	Present	Contains records of four mollusk species within Buffalo Creek (INHS, 2018). Buffalo Creek has a B rating for Diversity and Integrity as part of the Biological Stream Characterization Study (IDNR 2008)
Kildeer Creek	**5.7**	--	--	--	F, W	Present	
Indian Creek	7.3	X	--	--	F, G, W	Present	
Unnamed Tributary to Indian Creek 1 (Westmoreland Drive)	7.5	--	--	--	F, W	Present	
Diamond Lake Drain	8.4	--	X	--	F, G, W	Present	Contains records of 13 species of fish and one species of mollusk (INHS, 2018). Indian Creek has an E rating for Diversity and Integrity as part of the Biological Stream Characterization Study (IDNR 2008)
Unnamed Tributary to Bull Creek	13.7	--	--	--	F	Limited	
Countryside Landfill North Ditch	15.9	--	--	--	G, W	Present	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.6.5 T&E Species

The highest potential for T&E species to be present are within the Buffalo Grove Forest Preserve and the Long Grove INAI Site.

Federal T&E species and their habitat types are identified in Table 4.6-3.

Table 4.6-3. Federal T&E Species and Their Habitat Types within Corridor 7

Species	County[a]	Status	Habitat	Potential Habitat Present within Corridor 7	
				(Y/N)	Description
Rusty patched bumble bee	C, L	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 7 is not located within a low or high potential zone
Karner blue butterfly	L	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas do not appear to be present within Corridor 7
Hine's emerald dragonfly	C	E	Spring fed wetlands, wet meadows and marshes	No	No critical habitat mapped in or adjacent to Corridor 7
Leafy-prairie clover	C	E	Prairie remnants on thin soil over limestone	No	Prairie remnants do not appear to be present within Corridor 7
Eastern prairie fringed orchid	C, L	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	A known population is located on IDOT Wetland Mitigation property approximately 0.7 mile west of the IL 83/IL 22 intersection. Potentially present within the Buffalo Creek FP, the Long Grove INAI Site, and other high-quality wetlands adjacent to Corridor 7
Northern long-eared bat	C, L	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 7
Rufa red knot	C, L	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Potentially present within the numerous large wetland complexes within and adjacent to Corridor 7
Mead's milkweed	C	T	Late successional tallgrass prairie, tallgrass prairie converted to hay meadow, and glades or barrens with thin soil	No	Tallgrass prairies do not appear to be present within Corridor 7
Eastern massasauga (*Sistrurus catenatus*)	C	T	Graminoid dominated plant communities (fens, sedge meadows, peatlands, wet prairies, open woodlands, and shrublands)	Yes	IDOT Wetland Mitigation property, Buffalo Creek Forest Preserve, and Long Grove INAI Site

Table 4.6-3. Federal T&E Species and Their Habitat Types within Corridor 7

Species	County[a]	Status	Habitat	Potential Habitat Present within Corridor 7	
				(Y/N)	Description
Prairie bush clover	C	T	Dry to mesic prairies with gravelly soil	No	Dry to mesic prairies with gravelly soil do not appear to be present within Corridor 7
Rattlesnake-master borer moth	C	C	Undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master	No	Undisturbed prairie and woodland openings do not appear to be present within Corridor 7

Source: FWS 2018.

[a] This corridor spans two counties: Cook (C) and Lake (L)

Table 4.5-4 details state-listed T&E species and their locations on the corridor.

Table 4.5-4. State T&E Species, Corridor 7

Species	Status	Location
Black tern	E	Deer Grove Forest Preserve
Yellow-headed blackbird	E	
Blanding's turtle	E	
Forked aster	T	
Bulrush	E	
Marsh speedwell	T	
Yellow-headed blackbird	E	Motorola Deer Park
Mountain blue-eyed grass	E	Agricultural land adjacent to IL-53
Queen-of-the-prairie	T	Eastern Prairie Fringed Orchid Nature Preserve
Eastern prairie fringed orchid	E	
Yellow-headed blackbird	E	Grand Dominion Lake
Common gallinule	E	
Pugnose shiner	E	Leopold Lake
Starhead topminnow	T	
Blacknose shiner	E	
Banded killifish	T	
Blackchin shiner	T	
Iowa darter	T	
Iowa darter	T	Prairie Crossing Pond
Blackchin shiner	T	

Table 4.5-4. State T&E Species, Corridor 7

Species	Status	Location
Blacknose shiner	E	
Banded killifish	T	
Blackchin shiner	T	Grays Lake
Grass-leaved pondweed	T	
Banded killifish	T	
Water marigold (*Megalodonta beckii*)	E	
Fern pondweed (*Potamogeton robbinsii*)	E	

Source: IDNR 2018a, IDNR 2019.

4.7 Corridor 8

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.7.1 Land Use and Vegetation

Approximately half of the land within Corridor 8 is residential. Other large land use categories within the corridor include T/C/U/W (which includes roadway ROW), open space, and commercial. The corridor is largely developed; Deer Grove Forest Preserve is largest protected area. Wildlife resources are likely limited in developed areas and likely present within protected open space and undeveloped areas. Further details and breakdown of land use can be found in the Land Use Memorandum.

Cover types consist of developed uses, forested areas, and riparian areas adjacent to stream corridors and ponds. The majority of Corridor 8 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Two forested areas between 10 and 20 acres in size, and three forested areas greater than 20 acres in size are located within, and adjacent to, Corridor 8. Of those, a total of three forested areas greater than 10 acres are associated with streams or bodies of water.

4.7.2 Wildlife Resources

Along Corridor 8, Deer Grove Forest Preserve is the primary area with potential for high-quality wildlife habitat and contains suitable areas for migratory birds—see Table 4.7-1. Potential habitat for bald and golden eagles is not present within, or adjacent to, Corridor 8.

4.7.3 Wildlife Corridors

Within Corridor 8, corridors for wildlife movement are limited due to surrounding development. The Unnamed Tributary to Lake Louise Tributary (east of Valley Road at MP 1.2) is the only riparian area that may serve as a wildlife corridor.

Table 4.7-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 8

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Deer Grove Forest Preserve (FPDCC)	3.5		X	X	II, III				Preserve is an 1,800 acre forest preserve (FPCC undated) containing a diverse array of habitats including savanna, dry-mesic upland forest, mesic upland forest, wet floodplain forest, sedge meadow, and wetland communities, which include groundwater seeps. A portion of FPCC Deer Grove, known as Deer Grove West Woodland and Wetland, is a 1,035-acre dedicated Nature Preserve, which also includes the Deer Grove West INAI site. A large and diverse array of wildlife species have been recorded within the Nature Preserve, including 16 bird species that are either highly or moderately sensitive to forest fragmentation and 18 species considered wildlife species in greatest need of conservation. The IDNR reports the presence of several wildlife species within the Preserve, including the state threatened forked aster, pale vetchling, and marsh speedwell, and the state endangered mosquito bulrush. State T&E wildlife species reported from the site include the black tern, yellow-headed blackbird, cerulean warbler (*Dendroica cerulea*), and Blanding's turtle. (IDNR 2018a) The Deer Grove West Woodland and Wetland Nature Preserve "supports several action steps identified in the IWAP, including management of area sensitive wildlife species in forests greater than 1,000 acres and support of a specific recommendation for the Northeastern Morainal Natural Division to restore and manage four to five forested sites between 800-1,000 acres in size" (IDNR 2008b). The Tollway's O'Hare Wetland Mitigation Bank is located within Deer Grove East Forest Preserve (east of Quentin Road), approximately 2,000 feet south of the corridor, just beyond the analysis area.

[a] I = High-quality natural community and natural community restorations
II = Specific suitable habitat for state-listed species or state-listed species relocations
III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.7.4 Aquatic Life Resources

One surface water, Lake Louise Tributary, crosses Corridor 8 at MP 1.2 (east of Valley Road). The INHS does not contain records for this corridor for aquatic life. The riparian area consists of forest, landscaped trees, and mowed turf.

4.7.5 T&E Species

The highest potential for T&E species to be present is within Deer Grove Forest Preserve.

Federal T&E species and their habitat types are identified in Table 4.7-2.

Table 4.7-2. Federal T&E Species and their Habitat Types within Corridor 8

Species	County[a]	Status	Habitat	Potential Habitat Present within Corridor 8	
				(Y/N)	Description
Rusty patched bumble bee	C, L	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	A portion of Corridor 8 is located within a Low Potential Area
Karner blue butterfly	L	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas do not appear to be present within Corridor 8
Hine's emerald dragonfly	C	E	Spring fed wetlands, wet meadows and marshes	Yes	Potentially present within FPCC Deer Grove
Leafy-prairie clover	C	E	Prairie remnants on thin soil over limestone	No	Prairie remnants do not appear to be present within Corridor 8
Eastern prairie fringed orchid	C, L	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Potentially present within grassland area near Plum Grove Road and Deer Grove
Northern long-eared bat	C, L	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present adjacent to Corridor 8
Rufa red knot	C, L	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	No	Coastal areas and large wetland complexes are not present within Corridor 8
Mead's milkweed	C	T	Late successional tallgrass prairie, tallgrass prairie converted to hay meadow, and glades or barrens with thin soil	No	Tallgrass prairies do not appear to be present within Corridor 8
Prairie bush clover	C	T	Dry to mesic prairies with gravelly soil	No	Dry to mesic prairies do not appear to be present within Corridor 8
Eastern massasauga	C	T	Graminoid dominated plant communities (fens, sedge	Yes	Potentially present within FPCC Deer Grove

Table 4.7-2. Federal T&E Species and their Habitat Types within Corridor 8

Species	County[a]	Status	Habitat	Potential Habitat Present within Corridor 8	
				(Y/N)	Description
			meadows, peatlands, wet prairies, open woodlands, and shrublands)		
Rattlesnake-master borer moth	C	C	Undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master	Yes	Potentially present within FPCC Deer Grove

Source: FWS 2018.

[a] This corridor spans two counties: Cook (C) and Lake (L)

Table 4.7-3 depicts the state T&E species located within or adjacent to Corridor 8.

Table 4.7-3. State T&E Species, Corridor 8

Species	Status	Location
Black-crowned night-heron	E	Baker's Lake Forest Preserve/Nature Preserve
Least bittern	T	
Common gallinule	E	
Black-crowned night-heron	E	Cuba Marsh Forest Preserve
Least bittern	T	
Common gallinule	E	
Yellow-headed blackbird	E	
Tamarack	T	
Black tern	E	Deer Grove Forest Preserve
Yellow-headed blackbird	E	
Blanding's turtle	E	
Forked aster	T	
Bulrush	E	
Marsh speedwell	T	
Pale vetchling	T	
Mosquito bulrush	E	
Cerulean warbler	T	
Yellow-headed blackbird	E	Motorola Deer Park
Mountain blue-eyed grass	E	Agricultural land adjacent to IL 53

Source: IDNR 2018a, IDNR 2019.

4.8 Corridor 9

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.8.1 Land Use and Vegetation

Nearly half of the lands within the Corridor 9 analysis area are devoted to residential uses. Other major land uses are open space and T/C/U/W (which includes roadway ROW). Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, forested areas, and riparian areas adjacent to stream corridors. A portion of Corridor 9 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Six forested areas between 10 and 20 acres in size, and nine forested areas greater than 20 acres in size are located within, and adjacent to, Corridor 11. Of those, a total of 12 forested areas greater than 10 acres are associated with streams or bodies of water.

4.8.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat include forest preserve lands, municipal lands, privately held land for conservation, and undeveloped portions of privately held land adjacent protected lands. Table 4.8-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat. In addition to the areas summarized in Table 4.8-1, numerous areas of open space, including lands likely to be developed in the future and common open space areas of residential developments may support wildlife tolerant of urban environments.

Corridor 9 contains suitable areas for migratory birds requiring large areas of forest and wetlands. Limited grassland areas are present within and adjacent to Corridor 9, therefore, obligate grassland species are likely not present. Potential habitat for bald and golden eagles is not present within or adjacent to Corridor 9.

4.8.3 Wildlife Corridors

Several wildlife corridors are present that may allow wildlife resources to travel between protected lands. The large areas of protected lands adjacent to Corridor 9, as well as the undeveloped private lands that provide corridor connections to protected lands, are anticipated to support species not tolerant of urban land use, such as certain migratory bird species.

- Around MP 3.0 to 3.2 (at Palatine Road), there is potential for wildlife crossing between Crabtree Nature Center Forest Preserve (on the west side of the roadway) along two separate tributaries to Poplar Creek that connect to Poplar Creek and its associated wetland complex (on the east side of the roadway), and to Palatine Road Marsh INAI Site.
- At MP 6.5 (south of US 14), a tributary to Flint Creek provides a wildlife corridor connection between Langendorf Park (on the west side of roadway) and Cuba Marsh Forest Preserve (on east side of roadway).
- At MP 8.2 (south of IL 22), there is potential for wildlife crossing between Haverton Conservation Area (on the west side of the roadway) and an ADID wetland (on the east side of the roadway).
- At MP 8.9 (between IL 22 and Signal Hill Road), potential wildlife crossing via a large wetland complex along a tributary to Binzel Pond (on the west side of the roadway) to Honey Lake (on the east side of the roadway).
- At MP 10.6 (north of Grandview Drive), there is a potential wildlife crossing connection between Barrington Bog Nature Preserve and INAI Site (on the east side of the roadway) along a forested area

(on the west side of the roadway) that leads to Lake Barrington and its associated wetland complexes.

- At MP 12.2 (north of Roberts Road), there is a wildlife corridor connection between Fox Run of Barrington Lake (on the east side of the roadway) and Tower Lake and Lakewood Forest Preserve (on the west side of the roadway) via a large wetland complex and ADID wetlands.

Table 4.8-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 9

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
AMC Movie Theaters Wetland and Unnamed Tributary to Poplar Creek	0.2						G, O, W		Surrounded by commercial development and I-90, limited corridor to Poplar Creek Forest Preserve via agricultural land and Poplar Creek.
Poplar Creek and privately owned open space	1.8 – 3.0						F, G, O, SS, W		Privately held land with connection to the Crabtree Forest Preserve and Poplar Creek riparian corridor.
Crabtree Forest Preserve and Crabtree Nature Center INAI site	3.3		X		II		F, O, SS, W		A 1,182-acre preserve (a portion of it is an INAI site) containing a diverse array of habitats including woodland, wetland, and prairie. FPDCC reports the presence of 260 species of birds within the INAI site, with at least 89 species breeding on-site (FPDCC undated). Approximately 35 acres have been restored to increase breeding habitat for the Illinois endangered king rail (*Rallus elegans*), a secretive marsh bird (FPCC 2018). It is unknown whether the king rail restoration is located within the vicinity of the corridor.
Privately owned wetland and marsh area	6.9						F, W		Surrounded by residential development (likely neighborhood HOA common areas); extends to Cuba Marsh Forest Preserve.
Haverton Conservation Area (North Barrington)	8.2	X					W		Owned by Village of North Barrington, this 17.5-acre open space is surrounded by residential development. Connects to Cuba Marsh Forest Preserve via adjacent neighborhood open space.
Grassy Lake Forest Preserve and privately owned adjacent open space	9.7		X				F, W		Includes privately owned (residential and commercial land) along IL 59, extending from IL 22 to Grassy Lake Forest Preserve. The open space serves as a wildlife corridor between the Haverton Conservation Area and Preserve, as well as to Cuba Marsh Forest Preserve. Grassy Lake Forest Preserve is 689 acres and extends from Corridor 9 to the Fox River, generally following the East Branch of Flint Creek and Flint Creek

Table 4.8-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 9

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Barrington Bog Nature Preserve and INAI Site (Citizens for Conservation [CFC])	10.6			X	II, III		W		A 44.7-acre Nature Preserve and INAI site. Bogs are rare resources within Northern Illinois and characterized by cold, acidic, and low oxygen water and a thick mat of sphagnum moss. The Barrington Bog is a graminoid and quaking bog (CFC 2018). The Barrington Bog supports the State endangered large cranberry plant (*Vaccinium macrocarpon*) and the Baltimore checkerspot butterfly (*Euphydryas phaeton*), a rare butterfly in Illinois (CFC 2018, IDNR 2018a).
Lake Barrington and Village of Tower Lakes Open Space	11.3						F, O, W		Open water and forested area, adjacent to the northern portion of the Barrington Bog.
Lake Fairview	12.5						F, G, O, W		Lake and privately held undeveloped land consisting of a large wetland complex. Unlikely to be developed. Has limited connection to other natural areas.

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, W = Wetland

4.8.4 Aquatic Life Resources

Table 4.8-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 9 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusks) are known to be present within the East Branch Flint Creek and could be present within the remaining surface waters.

Table 4.8-2. Aquatic Life and Riparian Habitat within Corridor 9

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Poplar Creek	1.8	--	--	--	F, W	High	
Unnamed Tributary to Poplar Creek	2.3	--	--	--	F, M, W	High	
Poplar Creek	3.0	--	--	--	F	High	
Unnamed Tributary 3	3.9	--	--	--	F, M, W	Limited	
East Branch Flint Creek	6.5	--	X	--	D	Limited	Contains records of one species of mollusk (INHS, 2018)
Grassy Lake	9.9	--	--	--	F, W	High	
Honey Lake Drain	9.9	--	--	--	F, M	Present	
North Branch Flint Creek	10.1	--	--	--	F, W	High	
Fox Run of Barrington Lake	12.2	--	--	--	F, M, W	Present	
Lake Fairview	12.8	--	--	--	M, W	Limited	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] D = Developed, F = Forested, G = Grassland, M = Mowed Turf, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

Numerous wetlands are located within, and adjacent to, Corridor 9. Several of these wetlands are large wetland complexes consisting of multiple wetland types. The large wetland complexes are included in the areas with potential for high-quality habitat. These wetlands likely provide habitat for species both tolerant and intolerant of human disturbances and activities.

4.8.5 T&E Species

The highest potential for T&E species to be present is within the protected lands adjacent to Corridor 9.

Federal T&E species and their habitat types are identified in Table 4.8-3.

Table 4.8-3. Federal T&E Species and their Habitat Types within Corridor 9

Species	County[a]	Status	Habitat	Potential Habitat Present within Corridor 9	
				(Y/N)	Description
Rusty patched bumble bee	C, L	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 9 is located within a low potential area
Karner blue butterfly	L	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	Yes	Potentially present
Hine's emerald dragonfly	C	E	Spring fed wetlands, wet meadows and marshes	No	Critical habitat not within or adjacent to Corridor 9
Leafy-prairie clover	C	E	Prairie remnants on thin soil over limestone	Yes	Potentially present within Crabtree Forest Preserve/ Nature Preserve/INAI Site
Eastern prairie fringed orchid	C, L	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Numerous wetlands are located within and adjacent to Corridor 9, however, the quality of the habitat is not known at this time
Northern long-eared bat	C, L	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Numerous forested and forested riparian areas located within and adjacent to corridor. Suitable habitat for roosting/foraging is likely present
Rufa red knot	C, L	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Potentially present within the numerous large wetland complexes within and adjacent to Corridor 9
Mead's milkweed	C	T	Late successional tallgrass prairie, tallgrass prairie converted to hay meadow, and glades or barrens with thin soil	Yes	Potentially present within Crabtree Forest Preserve/ Nature Preserve/INAI Site
Rattlesnake-master borer moth	C	C	Undisturbed prairie and woodland openings that contain their only food plant, rattlesnake-master	Yes	Potentially present within Crabtree Forest Preserve/ Nature Preserve/INAI Site

Source: FWS 2018.

[a] This corridor spans two counties: Cook (C) and Lake (L)

Table 4.8-4 details state-listed T&E species and their locations on the corridor.

Table 4.8-4. State T&E Species, Corridor 9

Species	Status	Location
Black-crowned night-heron	E	Commercial land north of I-90, within AT&T Center Drive
Black-crowned night-heron	E	Residential land south of Mundhank Road and east of Barrington Road
Yellow-headed blackbird	E	
King rail	E	Crabtree Forest Preserve/Nature Preserve/INAI Site
Yellow-headed blackbird	E	
Black-crowned night-heron	E	
Common gallinule	E	
Osprey	E	
Black tern	E	
Black tern	E	Residential land north of Palatine Road, east of Barrington Road
Black-crowned night-heron	E	Baker's Lake Forest Preserve/Nature Preserve
Least bittern	T	
Common gallinule	E	
Blanding's turtle	E	
Tamarack	T	Cuba Marsh Forest Preserve
Downy willow herb	T	Barrington Bog Nature Preserve
Large cranberry	E	
Buckbean	T	
Pale vetchling	T	The Commons Recreation Park/Lake Barrington
Slender bog arrow grass (*Triglochin palustris*)	T	Grassy Lake Forest Preserve/Wagner Fen Nature Preserve/ Tower Lakes Fen Nature Preserve and adjacent residential land
False asphodel (*Tofieldia glutinosa*)	T	
Snake-mouth	E	
Showy lady's slipper	E	
Beaked spike rush (*Eleocharis rostellata*)	T	
Blanding's turtle	E	
Grass pink orchid	E	
Beaked spike rush	T	CFC Open Space/Farm Trails North Nature Preserve
Autumn willow	E	Lakewood Forest Preserve/Wauconda Bog Nature Preserve
Northern gooseberry (*Ribes hirtellum*)	E	
White-stemmed pondweed	E	
Dwarf raspberry	T	

Table 4.8-4. State T&E Species, Corridor 9

Species	Status	Location
Grass-leaved pondweed	T	
Showy lady's slipper	E	
Small yellow lady's slipper	E	
Tamarack	T	
Shortleaf sedge	E	
Downy willow herb	T	
Buckbean	T	
Speckled alder	E	
Bunchberry	E	
Pitcher plant	E	

Source: IDNR 2018a, IDNR 2019.

4.9 Corridor 11

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.9.1 Land Use and Vegetation

The three largest land uses within Corridor 11 are residential, agriculture, and open space. Further detail and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types within Corridor 11 consist of urbanized land; forested, wetland, and grassland areas; and riparian areas adjacent to stream corridors. Limited agricultural fields surrounded by development are located within and adjacent to Corridor 11. A portion of Corridor 11 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Seven forested areas between 10 and 20 acres in size, and 14 forested areas greater than 20 acres in size are is located within and adjacent to Corridor 11. Of those, a total of 12 forested areas greater than 10 acres are associated with streams or bodies of water.

4.9.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 11 include forest preserve lands, privately held lands for conservation, and undeveloped lands. Table 4.9-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within Corridor 11. In addition to the areas summarized in Table 4.9-1, numerous open space areas are present, including areas likely to be developed in the future and common open space areas of residential developments. These areas may support wildlife tolerant of urban environments, however, they do not always provide corridors for wildlife to move between protected natural areas.

Corridor 11 contains suitable areas for migratory birds requiring large areas of forest and wetland. Limited grassland areas are present within and adjacent to Corridor 11. Therefore, obligate grassland species are likely not present. The areas with potential for high-quality habitat likely contain suitable habitat for migratory bird species. Potential habitat for bald and golden eagles is present within Corridor 11 along the Des Plaines River.

4.9.3 Wildlife Corridors

Within Corridor 11, several wildlife corridors are present that may allow wildlife resources to travel between protected lands, as discussed below.

- At MP 1.4 (at Fish Lake Road), the Millennium Trail provides a potential wildlife corridor connection between Singing Hills Forest Preserve and Fish Lake and Marl Flat Forest Preserve/INAI Site.
- At MP 2.0 (west of Wilson Road), a potential wildlife corridor crossing exists between Kettle Grove Forest Preserve on the south side and undeveloped areas of Baxter Healthcare's facility, and then further northwest to Marl Flat Forest Preserve – both on the north side of the roadway.
- At MP 3.5 (west of Bacon Road) is a potential wildlife corridor connecting Nippersink Forest Preserve/Round Lake Marsh INAI site on the north side of the roadway to an ADID wetland on the south side of the roadway.
- At MP 4.8 (west of Porter Drive), Squaw Creek provides a potential wildlife crossing connection between a forested area surrounded by agricultural land (on the north) and a large ADID wetland complex further downstream along the creek.
- At MP 5.8 (at Misty Hill Lane), Village of Hainesville Open Space (north of Corridor 11) provides a wildlife corridor connection along a wetland complex that leads to Squaw Creek and its associated wetlands.
- Around MP 7.2 - 7.4 (west of IL 83), Avon-Freemont Drainage Ditch provides a potential wildlife crossing connection between Eastlake Park on the south side of the roadway and Grayslake Park Foundation Open Space and Jaycee Park on the north side of the roadway.
- At MP 8.5 (Bobolink Drive), the Grayslake Bike Path crosses the corridor. While the path consists of mowed turf and pavement, this corridor could provide a wildlife connection from Almond Marsh Forest Preserve (to the south and east) to Rollins Savanna Forest Preserve (to the north and west).
- At MP 9.6 (at John Mogg Road), an unnamed tributary to Almond Marsh provides a potential wildlife crossing connection between Almond Marsh Forest Preserve on the south side of the roadway and an ADID wetland on the north side.
- At MM 10.6 (west of Almond Road), there is potential for wildlife to cross the corridor between an ADID wetland on the north side to Almond Marsh Forest Preserve on the south side.
- At MM 11.9 (east of IL 21), the Des Plaines River provides a wildlife crossing connection between Independence Grove Forest Preserve on the south side and Lake Carina Forest Preserve on the north side.

Table 4.9-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 11

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Kettle Grove Forest Preserve (LCFPD) and Village of Round Lake Open Space	2.0		X		II		A, F, G, SS, O, W		Includes high-quality wetland and aquatic habitats noted for their abundance of State T&E species as well as oak woodlands that are managed to restore open savanna/ woodland structure (LCFPD 2015). The LCFPD WMP has noted the presence of 19 avian, two mammal, and one amphibian species the Preserve (LCFPD 2018b). Sargent Marsh INAI Site (#1570) is an approximately 30-acre site within the Preserve. Round Lake Open Space is adjacent to the preserve.
Nippersink Forest Preserve (LCFPD)	3.6		X	X	II		A, SS, W		A 329-acre site that contains oak-hickory woodlands, two man-made lakes, wetlands, and marshes-- including Round Lake Marsh INAI site (LCFPD, 2018). Nippersink Lake, one of the man-made lakes within the forest preserve, is occasionally stocked with fish. The LCFPD WMP has noted the presence of one macroinvertebrate, three reptile, four amphibian, nine fish, 17 mammal, and 67 avian species (LCFPD 2018b).
Northbrook Sports Club and adjacent private land	5.1						A, F, G, SS, O, W		Private recreational target-shooting club with large undeveloped land holdings that provide habitat and wildlife corridor to protected lands.
Grays Lake	6.8						A, O		Approximate 80-acre lake listed as a High Functional value ADID wetland due to the presence of T&E fish species (USEPA 1992). INHS (2018) contains records for common mollusk (giant floater and fatmucket) and fish (yellow perch and emerald shiner) species. The LCHD (2011) reports the IDNR conducted a fish survey in 2006 and collected 16 fish species.
Grays Lake Park Foundation Open Space	7.4								Forested area with Avon-Fremont Drainage Ditch that functions as a wildlife corridor.
Almond Marsh Forest Preserve (LCFPD)	9.6		X	X			A, F, SS, O, W		A 503-acre site that is part of the larger 2,500-acre Liberty Prairie Reserve, a collaboration of public agencies and private landowners to create a significant landscape

Table 4.9-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 11

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
									of contiguous open space in Libertyville Township (IDNR, 2018a; LCFPD, 2018a). Almond Marsh Forest Preserve is noted for migrating waterfowl and its great blue heron (*Ardea herodias*) rookery (LCFPD 2018a). The LCFPD WMP has noted the presence of two macroinvertebrate, three reptile, seven amphibian, 11 fish, 14 mammal, and 88 avian species within the Preserve (LCFPD 2018b). There are two dedicated nature preserves within or overlapping Almond Marsh Forest Preserve – Almond Marsh Nature Preserve and Oak Openings Nature Preserve. These nature preserves contain oak woodlands, savanna, and wetlands comprised of marsh and sedge meadow dominated by tussock sedge (*Carex stricta*) with at least nine other sedge species (IDNR 2018a).
Merit Club private golf club	11.0						A, F, AG, G, SS, O, W		Golf club with dedicated conservation easement (easement held by Openlands). Property contains native oak savannas, prairies and wetlands and is located adjacent to LCFPD Almond Marsh.
Lake Carina Forest Preserve (LCFPD)	11.9		X				A, F, O, SS, W		A 481-acre site containing Lake Carina, a 23-acre former gravel pit, woodlands, and open fields located along the Des Plaines River (LCFPD 2018). Lake Carina is stocked with yellow perch, largemouth bass, northern pike, bluegill, and crappie (LCFPD 2018a). The LCFPD WMP has noted the presence of two macroinvertebrate, 7 mammal, 24 fish, and 42 avian species (LCFPD, 2018b).
Des Plaines River	11.9						A, O		Wildlife corridor and habitat for aquatic species.
Independence Grove Forest Preserve (LCFPD)	12.0		X				A, F, SS, O, W		A 1,151-acre site containing a diverse array of habitats including prairies, woodlands, the Des Plaines River, and multiple lakes that support wildlife species, including owls, muskrats, beavers, minks, raccoons, possums, and deer (LCFPD 2018a). The LCFPD Wildlife Monitoring Program has noted the presence of 343 plant, 82 bird, 23

Table 4.9-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 11

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
									mammal, 23 fish, 6 invertebrate, 7 amphibian, and 5 reptile species (LCFPD 2018b).
Oak Grove Botanical Area INAI site and Dokum Mskoda Sedge Meadow Nature Preserve	14.0			X			F, G, H, A, SS, W		Approximately 415-acre INAI Site, a portion of which (100 acres) is the Dokum Mskoda Sedge Meadow Nature Preserve, much of which is an ADID wetland. The site consists of wet prairie and sedge meadow areas (Daily Herald 2012). Oak Grove Botanical Area is listed as an INAI site for specific suitable habitat for state-listed species or state-listed species relocations. The Dokum Mskoda Sedge Meadow is home to at least 98 native plants, including the federally threatened eastern prairie fringed orchid, which occurs throughout the site (Conserve Lake County 2016).

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agricultural, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub/Shrub, W = Wetland

4.9.4 Aquatic Life Resources

Table 4.9-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 11 and adjacent lakes that were assessed for habitat based on available data or field visibility; however, limited aquatic information is available. Generally, the stormwater detention ponds adjacent to Corridor 11 are open water areas surrounded by mowed turf grass that provide limited wildlife habitat but may provide water and stop-over locations for migratory wildlife and avian species.

Table 4.9-2. Aquatic Life and Riparian Habitat within Corridor 11

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Squaw Creek	4.8	X	X	X	AG, F, G	Present	Contains records of one species of aquatic amphibian, one species of mollusk, and three species of fish (INHS, 2018)
Grays Lake	6.8	X	X	X	M	Severely limited	Contains records for two species of mollusk and two species of fish (INHS, 2018). The LCHD (2011) reports the IDNR conducted a fish survey in 2006 and collected 16 fish species. The Des Plaines River Watershed Plan (LCSMC 2018) indicates of total of 13 native species collected within Grays Lake in 2011. Grays Lake is listed as a High Functional value wetland due to the presence of T&E fish (USEPA 1992)
Avon-Fremont Drainage Ditch	7.3	--	X	--	T	Limited	Contains records for four species of mollusk (INHS 2018)
LCFPD Pond	10.1	--	X	X	F	High	The LCFPD has documented migratory bird nesting sites and the INHS contains records of two mollusk species
Sherman Corners Creek	12	X	X	--	M, W	Limited	The INHS contains records for 9 species of fish, including one T&E species, and 5 species of mollusks (INHS, 2018). The INHS contains records for 16 species of fish, including one T&E species, and seven species of mollusk within the Des Plains River. The Des Plaines River has been rated as D for Diversity and Integrity as part of the Biological Stream Characterization Study (IDNR 2008a)
Des Plaines River	12.4	X	X	--	F	High	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, T = Tree line, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.9.5 T&E Species

The highest potential for T&E species to be present is within the protected lands adjacent to Corridor 11.

Federal T&E species and their habitat types are identified in Table 4.9-3.

Table 4. 9-3. Federal T&E Species and their Habitat Types within Corridor 11

Species	Status	Habitat	Potential Habitat Present within Corridor 11	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	A portion of Corridor 11 is located within a low potential zone
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	Yes	Savanna areas within Kettle Grove and Almond Marsh forest preserves, and the Merit Club golf course
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	ADID wetlands and prairie areas within Independence Grove Forest Preserve
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Large wooded areas are present within and adjacent to Corridor 11
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are located throughout Corridor 11

Source: FWS 2018.

Table 4.9-4 details state-listed T&E species and their locations on the corridor.

Table 4.9-4. State T&E Species, Corridor 11

Species	Status	Location
Least bittern	T	Singing Hills Forest Preserve
Blanding's turtle	E	
Blanding's turtle	**E**	Commercial land along IL 120, east of US 12
Black tern	E	Fish Lake and Marl Flat Forest Preserve
Golden sedge	T	
Richardson's rush	T	
Little green sedge	T	
Sedge (*Carex cryptolepis*)	T	
Common gallinule	E	
Black tern	E	Sargent Marsh/Kettle Grove Forest Preserve

Table 4.9-4. State T&E Species, Corridor 11

Species	Status	Location
Yellow-headed blackbird	E	
Common gallinule	T	
Least Bittern	T	
Common gallinule	**E**	Nippersink Forest Preserve
Least bittern	**T**	
Yellow-headed blackbird	**E**	
Common gallinule	E	Round Lake Marsh
Least bittern	T	
Yellow-headed blackbird	E	
Black tern	E	
Yellow-headed blackbird	E	Village of Hainesville Open Space (north of Campbell Airport)
Sedge	E	
Small bladderwort (*Utricularia minor*)	E	Cranberry Lake
Grass-leaved pondweed	T	
Little green sedge	T	Village of Hainesville Open Space (south of Highland Lake)
Blackchin shiner	**T**	Grays Lake
Fern pondweed	E	
Grass-leaved pondweed	T	
Banded killifish	T	
Water marigold	E	
Iowa darter	T	Pond within residential land south of Osage Orange Road, east of Harris Road
Blackchin shiner	T	
Blacknose shiner	E	
Banded killifish	T	
Pugnose shiner	E	Leopold Lake
Starhead topminnow	T	
Blacknose shiner	E	
Banded killifish	T	
Blackchin shiner	T	
Iowa darter	T	
Least bittern	T	Rhyan Tract Land and Water Reserve/Almond Marsh Forest Preserve/Casey Road North Open Space
Yellow-headed blackbird	E	

Table 4.9-4. State T&E Species, Corridor 11

Species	Status	Location
Common gallinule	E	
Black-crowned night-heron	E	
Blanding's turtle	E	Almond Marsh Forest Preserve
Least bittern	T	
Yellow-headed blackbird	E	
Common gallinule	E	
Black-crowned night-heron	E	
Yellow-headed blackbird	E	Residential land along Belvidere Road, west of Stone Manor Drive
Pale vetchling	T	Agricultural land southwest of Merit Club Golf Course
Iowa darter	T	Sherman Corners Creek
Downy Solomon's seal (*Polygonatum pubescens*)	T	Independence Grove Forest Preserve
Blackchin shiner	T	
Iowa darter	T	
Richardson's rush	T	Lake Carina Forest Preserve
Eastern prairie fringed orchid	E	Rudd Farm Park
Eastern prairie fringed orchid	E	Dokum Mskoda Sedge Meadow Nature Preserve

Bold text indicates EOR is located within 150 feet of the roadway corridor's approximate centerline**.**

Source: IDNR 2018a, IDNR 2019.

4.10 Corridor 13

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.10.1 Land Use and Vegetation

Corridor 13 is a moderately developed corridor with a significant portion of protected open land that provides habitat for wildlife resources. The largest land use within Corridor 13 is open space, followed by residential and agriculture uses. Further details and breakdown of land use can be found in the *Land Use Memorandum.*

Cover types consist of urbanized areas, agricultural lands, forested areas, and riparian areas adjacent to stream corridors. Corridor 13 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Ten forested areas between 10 and 20 acres in size, and 11 forested areas greater than 20 acres in size are located within and adjacent to Corridor 13. Of those, 11 forested areas greater than 10 acres are associated with streams or bodies of water.

4.10.2 Wildlife Resources

Lakewood Forest Preserve, located on both sides of the roadways' corridor segments, is the primary area with potential for high-quality wildlife habitat. Contained within this forest preserve are two areas

that are dedicated nature preserve/INAI sites (Wauconda Bog and McLean Woods and Wetlands). Table 4.10-1 summarizes the characteristics of this preserve.

Corridor 13 contains suitable areas for migratory birds requiring large areas of forest, wetland, and open water. Grassland areas are present within Lakewood Forest Preserve and adjacent to Corridor 13, therefore, obligate grassland species may be present. Lakewood Forest Preserve likely contains suitable habitat for migratory bird species. Potential habitat for bald and golden eagles is not present within or adjacent to Corridor 13. Agricultural areas within the corridor often contain wetlands, which likely provide foraging and nesting habitat as well as stopover locations for transient wildlife.

4.10.3 Wildlife Corridors

Within Corridor 13, several wildlife corridors are present that may allow wildlife resources to travel between protected lands, as discussed below.

- At MP 1.6 on IL 176 (east of Main Street) a tributary to Bangs Lake connects Lakewood Forest Preserve (on the south side of the roadway) with Wauconda Bog/Bangs Lake (on the north side of the roadway). This is a potential wildlife crossing corridor.
- Between MP 2.4 and 4.2 on IL 176 (from Grand Boulevard to west of Hawley Street), for the most part, Lakewood Forest Preserve spans both the north and south sides of the roadway so there are numerous potential wildlife crossing location opportunities. Notable locations include where Millennium Trail and the Fort Hill Bike Trail cross the roadway (MP 2.9 and 3.5, respectively), Banana Lake and associated smaller ponds (MP 3.1), and Davis Lake/ADID wetland (MP 3.9).
- At MP 1.3 on Fairfield Road (at Bonner Road), McLean Woods and Wetlands Nature Preserve/INAI Site on the east side of the roadway provides a wildlife corridor connection via an ADID wetland complex to Lakewood Forest Preserve lands on the west side of the roadway.
- At MP 2.3 on Fairfield Road (just south of Gilmer Road), a large ADID wetland complex on the west side of the roadway provides a potential wildlife corridor connection to open areas, McLean Woods and Wetlands Nature Preserve/INAI Site, and Lakewood Forest Preserve on the east side of the roadway.

Table 4.10-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 13

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Lakewood Forest Preserve (LCFPD)	2.5		x		III		A, F, G, O, W	X	Preserve is a 2,835-acre site containing a diverse array of habitats including forests, wetlands, open water, and grasslands. There are 24 T&E species present within the preserve (LCFPD 2018a). The INHS Collected Databases (2018a) contains records for the common box turtle (*Terrapene carolina*), brown snake (*Storeria dekayi*), common garter snake (*Thamnophis sirtalis*), and redbellied snake (*Storeria occipitomaculata*). A portion of the preserve-- referred to as Wauconda Bog (70 acres) -- is a dedicated nature preserve, INAI Site, and a NPS National Natural Landmark. The southwestern boundary of Wauconda Bog is located approximately 0.3-miles northeast of the IL 176 portion of Corridor 13. A portion of the preserve along the Fairfield Road portion of the corridor--referred to as McLean Woods and Wetlands (533 acres) -- is a dedicated nature preserve and INAI site. The site is described as a dry-mesic forest, freshwater marsh, savanna, wetland, and prairie (IDNR 2018a).

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.10.4 Aquatic Life Resources

Table 4.10-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 13 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or macroinvertebrates) are known to be present within Bangs Lake and could be present within the remaining surface waters.

Table 4.10-2. Aquatic Life and Riparian Habitat within Corridor 13

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Summer Hill Estates Lake	1.2				G	Present	
Bangs Lake	1.6	X	X	X	M	Severely Limited	Contains records for 22 species of fish, including four T&E species, four species of mollusks, one species of endangered migratory bird, and one species of amphibian (INHS 2018). Bangs Lake is consistently stocked with game fish.
Drummond Lake	1.6	--	--	--	G	Present	The LCHD reports three species of migratory birds, including one T&E species.
Oak Lake	2.3	--	--	--	F, M	Present	
Broberg Marsh	2.5	--	--	--	G, W	Present	
North Pond	3.0	--	--	--	G	Present	
South Pond	3.0	--	--	--	G, F	Present	
Banana Lake	3.1	X	--	--	F	Present	The LCHD reports three species of stocked fish (2005) and six species of migratory birds
Davis Lake	3.9	--	--	--	F, G, W	Present	The LCHD reports two T&E species of migratory birds.
Thorngate Country Club Pond 15	5.7	--	--	--	M	Limited	
Grand Dominion Lake	6.3	--	--	--	F, M	Severely Limited	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, T = Tree line, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.10.5 T&E Species

The highest potential for T&E species to be present is within Lakewood Forest Preserve.

Federal T&E species and their habitat types are identified in Table 4.10-3.

Table 4.10-3. Federal T&E Species and their Habitat Types within Corridor 13

Species	Status	Habitat	Potential Habitat Present within Corridor 13	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 13 is located within a low potential zone
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	Yes	Savanna area in McLean Woods and Wetlands Nature Preserve within Lakewood Forest Preserve
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Wauconda Bog, mesic prairie areas within Lakewood Forest Preserve
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Large wooded areas within the corridor and Lakewood Forest Preserve
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Lakewood Forest Preserve features multiple large wetland complexes, including Wauconda Bog

Source: FWS 2018.

Table 4.10-4 details state T&E species and their locations on the corridor.

Table 4.10-4. State T&E Species, Corridor 13

Species	Status	Location
Black-crowned night-heron	**E**	Lakewood Forest Preserve/McLean Woods and Wetlands Nature Preserve
Common gallinule	E	
Yellow-headed blackbird	E	
Blanding's turtle	**E**	
Common gallinule	E	Summer Hill Estates Pond
Black tern	E	
Black-crowned night-heron	E	
Black tern	**E**	Lakewood Forest Preserve
Black tern	E	Broberg Marsh/Lakewood Forest Preserve
Least bittern	T	

Table 4.10-4. State T&E Species, Corridor 13

Species	Status	Location
Common gallinule	E	
White-stemmed pondweed	E	
Yellow-headed blackbird	E	
Grass-leaved pondweed	T	
Bunchberry	E	
Pitcher plant	E	
Banded killifish	**T**	Bangs Lake
Pitcher plant	**E**	
Bunchberry	**E**	
Blackchin shiner	**T**	
Blacknose shiner	**E**	
White-stemmed pondweed	**E**	
Grass-leaved pondweed	**T**	
Iowa darter	**T**	
Brownish sedge	E	Lakewood Forest Preserve /Wauconda Bog
White-stemmed pondweed	E	
Dwarf raspberry	T	
Grass-leaved pondweed	T	
Showy lady's slipper	E	
Small yellow lady's slipper	E	
Tamarack	T	
Downy willow herb	T	
Buckbean	T	
Speckled alder	E	
Bunchberry	E	
Pitcher plant	E	
Small cranberry	E	Taylor Lake/Lakewood Forest Preserve
Sedge	E	Schreiber Lake/Lakewood Forest Preserve
Fern pondweed	E	
Round-leaved sundew	E	
Cordroot sedge	E	
White-stemmed pondweed	E	
Beaked rush	E	

Table 4.10-4. State T&E Species, Corridor 13

Species	Status	Location
Large cranberry	E	
Black-crowned night-heron	**E**	Davis Lake/Lakewood Forest Preserve
Black-crowned night-heron	E	Owens Lake/Lakewood Forest Preserve
Yellow-headed blackbird	E	Grand Dominion Lake
Common gallinule	**E**	

Bold text indicates EOR is located within 150 feet of the roadway corridor's approximate centerline.

Source: IDNR 2018a, IDNR 2019.

4.11 Corridor 14

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.11.1 Land Use and Vegetation

Residential is the largest land use within Corridor 14, followed by open space and T/C/U/W (which includes roadway ROW). Corridor 14 contains more open space areas along the west portion of the corridor and is more urbanized/developed in the east portion of the corridor. Therefore, wildlife resources within are likely present within the west portion and limited within the east portion of Corridor 14. Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, forested areas, and riparian areas adjacent to stream corridors. Corridor 14 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

A total of four forested areas between 10 and 20 acres in size, and five forested areas greater than 20 acres in size are located within and adjacent to Corridor 14. Of those, seven forested areas greater than 10 acres are associated with streams or bodies of water.

4.11.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 14 include Duck Lake and associated wetlands, Squaw Creek and associated wetlands, Grant Woods Forest Preserve lands, and Fairfield Marsh Pond. Table 4.12-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within the corridor.

Corridor 14 contains suitable areas for migratory birds requiring large areas of forest and wetland. Limited grassland areas are present within and adjacent to Corridor 14. Therefore, obligate grassland species are likely not present. The areas with potential for high-quality habitat likely contain suitable habitat for migratory bird species. Potential habitat for bald and golden eagles is present adjacent to Corridor 14 within Long Lake and Fox Chain O'Lakes.

4.11.3 Wildlife Corridors

Within Corridor 14 several wildlife corridors are present that may allow wildlife resources to travel between protected lands. Duck Lake and Eagle Creek likely function as wildlife corridors due to their adjacent riparian areas. The riparian corridor associated with Squaw Creek is limiting for terrestrial species due to adjacent residential development. In addition, the ComEd corridor connects to other undeveloped natural areas and likely provides some limited wildlife movement potential. Other specific wildlife corridor crossing locations are noted below.

- At MP 0.6 on IL 59 (south of Rollins Road), a tributary to Duck Lake potentially provides a wildlife corridor that leads to Pistakee Lake and its associated wetlands.
- At MP 1.6 on Rollins Road (west of Wilson Road), a large ADID wetland complex north of Corridor 14 provides a wildlife corridor along Squaw Creek that leads to Long Lake and Duck Lake.
- Between MP 2.2 and 3.0 on Rollins Road (from Franklin to Grove Avenues), Grant Woods Forest Preserve spans both the north and south sides of the roadway so there are numerous potential wildlife crossing location opportunities. Notable locations include where Chain O'Lakes trail and Eagle Creek cross the roadway and connect to Gavin Bog and Prairie Nature Preserve/INAI site (MP 2.7 and 2.9, respectively).
- At MP 3.5 on Rollins Road (at Fairfield Road), the Fairfield Marsh North ADID wetland on the north side of the corridor and a wetland area on the south side of the corridor create a potential wildlife crossing area.

Table 4.11-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 14

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Duck Lake and associated wetlands	1.3						A, O, SS, W		Privately held land, unlikely to be developed due to the extent of the wetland area, and contains corridors to adjacent Fox Chain O'Lakes and Grant Woods Forest Preserve.
Squaw Creek and associated wetlands	1.4						A, O, W		Privately held land, unlikely to be developed due to the extent of the wetland area, and contains corridors to adjacent Fox Chain O'Lakes and Grant Woods Forest Preserve.
Grant Woods Forest Preserve (LCFPD)	2.4		X	X	I, II, III		A, F, O, SS, W		A 1,226-acre site containing a diverse array of habitats including open prairies, woodlands, and marshes (LCFPD 2018a). The LCFPD WMP has noted the presence of two macroinvertebrate, six reptile, eight amphibian, 15 fish, 20 mammal, 113 avian, and 502 plants species within Grant Woods forest preserve (LCFPD 2018b). A portion of Grant Woods Forest Preserve, known as Gavin Bog and Prairie, is a dedicated 104.7-acre nature preserve (IDNR 2018a), INAI site, and Lake County ADID wetland. The ADID designation is due to its status as an INAI site as well as the high-quality plant community and presence of state T&E plants (USEPA 1992). The Gavin Bog and Prairie supports marsh, sedge meadow, forest, prairie and bog communities that provide habitat for rare plant species as well as many common animal species (IDNR 2018a). The Gavin Bog and Prairie, which was never farmed, supports approximately 246 species (Taft & Solecki 1990), including numerous rare native plants. The forested bog is dominated by tamarack trees (Taft & Solecki 1990). Taft and Solecki (1990) found 12 Illinois listed T&E species.
Fairfield Marsh	3.5						H, O, W		A 33-acre shallow water marsh formed from a clogged drain tile (LCHD 2004). Except for one small parcel owned by the Village of Round Lake Heights, the marsh is privately owned. Fairfield Marsh connects to Grant Woods Forest Preserve, which then connects to Long Lake and the Fox Chain O'Lakes area. Fairfield Marsh is listed as a Lake County ADID site due to presence of State T&E bird species and high-quality wildlife habitat (USEPA, 1992). The Lake County ADID study (USEPA 1992) and LCHD (2004) lists 43 species of birds, 4 mammals, 3 reptiles, 3 fish, 1 amphibian, and 1 mollusk.

Table 4.11-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 14

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments

[a] I = High-quality natural community and natural community restorations, II = Specific suitable habitat for state-listed species or state-listed species relocations, III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, H = Hemimarsh, M = Mowed Turf, O = Open Water/Surface Water, W = Wetland

4.11.4 Aquatic Life Resources

Table 4.11-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 14 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, amphibians, and/or macroinvertebrates) are known to be present within Duck Lake. Generally, the stormwater detention ponds adjacent to Corridor 14 are open water areas surrounded by mowed turf that provides limited wildlife habitat but may provide water and stop-over locations for migratory wildlife and avian species.

Table 4.11-2. Aquatic Life and Riparian Habitat within Corridor 14

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Unnamed Pond	0.6	--	--	--	F, W	High	
Duck Lake	1.1	X	--	--	F, M, W	High	Contains records of three species of fish and one species of mollusk (INHS 2018). Duck Lake also shares a hydrological connection with the Fox Chain O'Lakes and aquatic life is anticipated to be present
Duck Lake Drain	1.5	--	--	--	F, M	Present	Contains records three species of fish and one species of mollusk (INHS 2018). Duck Lake Drain is hydrologically connected to Duck Lake and the Fox Chain O'Lakes. Therefore, additional aquatic life is likely present within Duck Lake Drain.
Squaw Creek	1.7	--	--	--	M	Limited	Squaw Creek is a listed as a Lake County ADID Wetland due to water quality and hydrology values. In addition, Squaw Creek is connected to Long Lake and the Fox Chain O'Lakes which are known to contain aquatic life. Therefore, Squaw Creek likely contains aquatic life.
Eagle Creek	2.9	--	--	--	M, F	Present	
Fairfield Marsh North	3.5	--	--	--	M, F	Present	
Indian Hill Creek	4.3	--	--	--	M	Severely Limited	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] F = Forested, M = Mowed Turf, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.11.5 T&E Species

The highest potential for T&E species to be present is within the protected lands adjacent to Corridor 14.

Federal T&E species and their habitat types are identified in Table 4.11-3.

Table 4.11-3. Federal T&E Species and their Habitat Types within Corridor 14

Species	Status	Habitat	Potential Habitat Present within Corridor 13	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	Yes	Corridor 14 is located within a low potential area.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae.	No	Pine barrens and oak savannas do not appear to be present within Corridor 14.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands are present within Grant Woods Forest Preserve and Fairfield Marsh.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several large forested areas are present within and adjacent to Corridor 14.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 – September 30.	Yes	Coastal areas are not present; however, large wetland complexes are present within Corridor 14.

Source: FWS 2018.

Table 4.11-4 details state T&E species and their locations on the corridor.

Table 4.11-4. State T&E Species, Corridor 14

Species	Status	Location
Starhead topminnow	T	Wooster Lake
White-stemmed pondweed	E	
Blackchin shiner	T	
Blacknose shiner	E	
Iowa darter	T	
Small yellow lady's slipper	**E**	

Table 4.11-4. State T&E Species, Corridor 14

Species	Status	Location
Shortleaf sedge	E	Grant Woods Forest Preserve /Gavin Bog and Prairie Nature Preserve
Northern gooseberry	E	
Tamarack	T	
Pitcher plant	E	
Leatherleaf	T	
Small cranberry	E	
Highbush blueberry	E	
Large cranberry	E	
Blanding's turtle	E	
Brownish sedge	E	
Three-seeded sedge	E	
Rusty cotton grass	E	
Star-flower	E	
Banded killifish	T	
Bearded wheat grass	E	
Pale vetchling	T	
Iowa darter	T	Round Lake
Grass-leaved pondweed	T	
Black tern	E	Grayslake North High School Property east of Avon Centre Cemetery

Bold text indicates EOR is located within 150 feet of the roadway corridor's approximate centerline.

Source: IDNR 2018a, IDNR 2019.

4.12 Corridor 15

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.12.1 Land Use and Vegetation

Residential land is the largest land use category within Corridor 15, followed by open space, T/C/U/W (which includes roadway right-of-way), and institutional. Corridor 15 is an urbanized/developed corridor; therefore, wildlife resources within Corridor 15 are likely limited. Urbanized areas generally provide habitat for species tolerant of human disturbance and activities. Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, forested areas, and riparian areas adjacent to stream corridors. Corridor 15 is not located within a COA as identified within the IWAP.

A total of four forested areas greater than 20 acres in size are located within and adjacent to Corridor 15, all of which are associated with streams or bodies of water.

4.12.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 15 include a large forested area associated with University of St. Mary of the Lake (Mundelein Seminary), Independence Grove Forest Preserve lands, and Bull Creek (which is designated as a Lake County ADID waterway/ADID Wetland). Table 4.12-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within Corridor 15.

Corridor 15 contains suitable areas for migratory birds. The areas with potential for high-quality habitat contain suitable habitat for migratory bird species. Potential habitat for bald and golden eagles is not present within or adjacent to Corridor 15.

4.12.3 Wildlife Corridors

Within Corridor 15 several wildlife corridors are present that may allow wildlife resources to travel between protected lands. The riparian corridor of Bull Creek likely functions as a wildlife corridor due to its adjacent forested riparian area. In addition, a ComEd corridor crosses Corridor 15 in two locations and likely provides some limited wildlife movement potential. Other specific wildlife corridor crossing locations are noted below.

- At MP 0.5 to 1.3 on IL 176 (between Prospect Ave and Butterfield Road), forested area associated with University of St. Mary of the Lake (Mundelein Seminary) provides a potential wildlife corridor connection to Butterfield Road Open Space property on the south side of the roadway.
- At three locations along the corridor (MP 1.4 [on IL 176, west of Butterfield Road], 2.2 [on Butterfield Road, between IL 176 and Lake Street] and 3.8 [on IL 137/Peterson Road, east of Butterfield Road]), the ComEd ROW corridor provides three potential wildlife corridor connections to the Liberty Prairie ADID wetland complex north of the IL 137/Peterson Road segment, to the Butler Lake ADID wetland complex east of the Butterfield Road segment, and to Saint Mary Lake and open areas along both the Butterfield Road and IL 176 segments.
- At MP 2.0 on Butterfield Road(north of IL 176), an unnamed tributary that connects Butler Lake and Saint Mary Lake, its adjacent wetlands and open space, and Pine Meadows Golf Club provides a wildlife corridor connection.

Table 4.12-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 15

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
University of St. Mary of the Lake (Mundelein Seminary)	0.8						F, SS, W		Approximate 380-acre site that surrounds St. Mary's Lake. LCHD (2015) reports 23 species of trees within the forested area, including oak and hickory species. The large forested area contributes to the large number of wildlife, including two common amphibian, three common mammal, and 40 avian species, including two Illinois listed T&E species (LCHD 2015).
Bull Creek, associated ADID waterway/wetland	2.0	X					A, F, O, W, R		ADID for state T&E species water and quality/hydrology values.
Independence Grove Forest Preserve (LCFPD)	4.8		X				G, O, SS, W		A 1,151-acre site containing a diverse array of habitats including prairie, woodlands, the Des Plaines River, and multiple lakes that support wildlife species, including owls, muskrats, beavers, minks, raccoons, possums, and deer (LCFPD 2018a). The LCFPD Wildlife Monitoring Program has noted the presence of 343 plant, 82 bird, 23 mammal, 23 fish, 6 invertebrate, 7 amphibian, and 5 reptile species (LCFPD 2018).

[a] I = High-quality natural community and natural community restorations, II = Specific suitable habitat for state-listed species or state-listed species relocations, III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, W = Wetland, R = Riparian Habitat

4.12.4 Aquatic Life Resources

The INHS contains records of 16 species of fish, including one T&E species, and one species of mollusk within the Corridor 15 crossings of Bull Creek (MP 2.1). The northern crossing of Bull Creek (MP 4.4) has been rated as E for Diversity and Integrity as part of the Biological Stream Characterization Study (IDNR 2008).

4.12.5 T&E Species

The highest potential for T&E species to be present is within the protected lands adjacent to Corridor 15.

Federal T&E species and their habitat types are identified in Table 4.12-2. The highest potential for T&E species to be present is within the forested area at University of St. Mary of the Lake as well as within Bull Creek.

Table 4.12-2. Federal T&E Species and their Habitat Types within Corridor 15

Species	Status	Habitat	Potential Habitat Present within Corridor 15	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 15 is not located within a high or a low potential.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae.	No	Pine barrens and oak savannas do not appear to be present within Corridor 15.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands may be present within Corridor 15.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several large forested areas are present within and adjacent to Corridor 15.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30.	No	Coastal areas and large wetland complexes are not located within Corridor 15.

Source: FWS 2018.

Table 4.12-3 details state-listed T&E species and their locations on the corridor.

Table 4.12-3. State T&E Species, Corridor 15

Species	Status	Location
Black-crowned night-heron	E	Loch Lomond Lake
Black-crowned night-heron	E	Saint Mary Lake

Table 4.12-3. State T&E Species, Corridor 15

Species	Status	Location
Iowa darter	T	Butler Lake
Iowa darter	T	Liberty Prairie Nature Preserve/Casey Road South Open Space
Slender bog arrow grass	T	
Iowa darter	**T**	Unnamed tributary along Peterson Rd, west of Cass Ave
Downy Solomon's seal	**T**	Independence Grove Forest Preserve
Blackchin shiner	T	
Iowa darter	T	
Banded killifish	T	

Bold text indicates EOR is located within 150 feet of the roadway corridor's approximate centerline.

Source: IDNR 2018a, IDNR 2019.

4.13 Corridor 16

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.13.1 Land Use and Vegetation

The predominant land uses within Corridor 16 include residential and agricultural ROW. Much of Corridor 16 is IDOT-owned ROW, with development abutting the corridor. The southern portion of the corridor is more urbanized while the northern portion is less developed and contains agricultural land. There are also forest preserves adjacent to portions of the corridor. Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, agricultural land, recreational areas, forested areas, and riparian areas adjacent to stream corridors. A portion of Corridor 16 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Twenty forested areas between 10 and 20 acres in size, and 10 forested areas greater than 20 acres in size are located within and adjacent to Corridor 16. Of those, 18 forested areas greater than 10 acres are associated with streams or bodies of water.

4.13.2 Wildlife Resources

Areas with potential high-quality wildlife habitat within Corridor 16 include forest preserve sites, IDOT-owned ROW, municipally-owned designated open space, and riparian areas. Table 4.13-1 summarizes the characteristics of the areas with potential high-quality wildlife habitat within Corridor 16. Additional areas including municipal parks may support wildlife tolerant of urban and/or degraded environments.

Corridor 16 contains suitable areas for migratory birds requiring large areas of forest and wetland and migratory birds that use agricultural land.

4.13.3 Wildlife Corridors

Within Corridor 16 are several wildlife corridors that may allow wildlife resources to travel between protected lands.

- Between MP 9.6 and 10.2 (Dorothy Lane to Long Grove Road), wildlife likely crosses the corridor (and existing IL 53) to access wetland areas east and west of Corridor 16 and the Long Grove INAI Site.

- At MP 9.8 (west of Hicks Road), the Buffalo Creek Wetland Complex likely provides wildlife habitat and corridor crossing opportunities and connections between forest preserves on the east side of the corridor (Heron Creek and Buffalo Creek forest preserves) and those on the west (Egret Marsh Forest Preserve).
- At MP 11.2 (at Cuba Road), wildlife likely travels between Glenstone Park and undeveloped lands to Heron Creek Forest Preserve to the east, to Egret Marsh Forest Preserve and Village of Kildeer Open Space to the west.
- At MP 14.2 (north of Gilmer Road), Indian Creek Riparian Area & Conservatory of Indian Creek likely provides a corridor for wildlife movement east and west of Corridor 16.
- At MP 22.0 (at IL 120), the Avon-Fremont Drainage Ditch, unnamed tributary, and associated riparian area likely provide a wildlife corridor to a large wetland complex within agricultural areas to the southwest and undeveloped land and Rollins Savanna Forest Preserve to the north.

Table 4.13-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 16

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Buffalo Creek Forest Preserve (LCFPD)	9.0		X				A, F, O, SS		A 408-acre site consisting of restored tallgrass prairie, wetland mitigation bank, and a flood control reservoir for Buffalo Creek. The site is managed for flood control. The LCFPD WMP has noted the presence of one amphibian, seven mammal, 14 fish, 19 butterfly and moth, and 62 avian species, including the eastern meadowlark and bobolink -- which are obligate grassland species -- within the Preserve (LCFPD 2018). LCFPD, the Metropolitan Water Reclamation District (MWRD) and the Village of Buffalo Grove are expanding the Buffalo Creek reservoir as well as restoring 30 acres of upland. In addition, the LCDOT has constructed a wetland mitigation bank within the western 65 acres of the Buffalo Creek forest preserve.
Long Grove INAI Site	9.6				II		F, SS, W		Forested wetland and marsh complex. An approximate 25-acre site consisting of specific suitable habitat for state-listed species or state-listed species relocations. This site is currently listed as an ADID Site (#184) due to its high functional value. An EOR for the state endangered mountain blue-eyed grass is present within the area (IDNR 2019).
Buffalo Creek Wetland Complex	9.8						F, SS, W		Undeveloped privately held land that is a riparian (forested and wetland) area adjacent to Buffalo Creek.
Heron Creek Forest Preserve (LCFPD) & Lake County ADID Wetland #170	11.9		X		II, III		F, O, SS, W		A 242-acre site adjacent to Kildeer Creek and Woodland Land and Water Reserve (LWR) and Reed Turner Woodland Nature Preserve and INAI site -- containing woodlands, wetlands (a portion of Lake County ADID Wetland #170), and open fields (LCFPD 2018). More than 116 species of birds, including a resident population of waterfowl and herons, five state endangered bird species are reported to have been found at or within the vicinity (LCFPD 2018). Lake County ADID Wetland #170 is associated with Kildeer Creek LWR with a portion occurring within Heron Creek Forest Preserve and Reed-Turner Woodland INAI site. ADID Wetland #170 is approximately 125 acres and listed as a high functional value

Table 4.13-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 16

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
									wetland due to the presence of state T&E plant species and its designated as an INAI site.
Egret Marsh Forest Preserve	11.9		X				F, G, O, SS, W		Approximate 120-acre forest preserve. Contains ADID #170
Villages of Kildeer and Long Grove Open Spaces	12.1						A, H, O, SS, W		Approximate 41-acre site consisting of a hemi-marsh, forested, and scrub-shrub wetlands. The wetland is listed in the ADID Study of Lake County (USEPA 1992), as ADID Wetland #169, a high functional value wetland due to the presence of state T&E plant species. This wetland contains potential rookeries and habitat for waterfowl species.
IDOT ROW	12.2 – 14.2						AG, F, G, SS, W		Functions as a wildlife corridor between LCFPD land and Indian Creek Riparian Corridor.
Indian Creek Riparian Area & Conservatory of Indian Creek	14.2						A, F, O, SS, W		ADID #143 (Indian Creek/Kildeer Creek) High Function Value due to T&E species, includes sedge meadow. Portion of land owned by Village of Hawthorn Woods. Rookery present within the wetland and open water area.
Countryside Golf Course (LCFPD)	16.1		X				F, O, SS, M		A 476-acre site containing an array of habitats alongside the golf course, including prairies and woodlands. The site is managed to allow plants and wildlife to thrive alongside the gold course setting. Course habitats provide food, water and shelter. There are nesting boxes for birds, ducks and bats. Fields are planted with native wildflowers and grasses (LCFPD 2014). The course has been certified since 1996 as a Certified Audubon Cooperative Sanctuary for Golf which works to contribute to the conservation of environmental resources. The LCFPD Wildlife Monitoring Program has noted the presence of 17 species of native birds within the site including American coot, yellow warbler, marsh wren, and ruddy duck (LCFPD 2018). An EOR for the federally protected Bald Eagle was identified at the Countryside Golf Club located within one mile of Corridor 16 (IDNR 2018).

Table 4.13-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 16

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.13.4 Aquatic Life Resources

Table 4.13-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 16 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or macroinvertebrates) are known to be present within South Branch Buffalo Creek, Buffalo Creek, Indian Creek, and Avon-Freemont Drainage Ditch, and could be present within the remaining surface waters.

Table 4.13-2. Aquatic Life and Riparian Habitat within Corridor 16

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
South Branch Buffalo Creek	10.3	X	X	X	F, SS	Yes	
Buffalo Creek	10.6	X	X	X	F, SS, W	Yes	Contains reports for seven common fish species, two mollusk, and one amphibian species (INHS 2018).
State of Illinois Dept of Public Works Pond	10.9				F, O, W	Present	
Forest Lake Drain	13.6	--	X	--	F, SS	Yes	
West Branch Indian Creek	14.2	--	--	--	SS, W	Yes	
Indian Creek	15.3	X	X	X	F, SS, W	Yes	Rated as D for Integrity as part of the Biological Stream Characterization Study (IDNR 2008). Contains records for two amphibian and 11 mollusk species (INHS 2018).
LCFPD Pond	16.4	--	--	--	M	No	
Leo Leathers Park Pond 1	17.5	--	--	--	F, M	No	
Bull Creek	18.4	--	--	--	F, M	No	
Countryside Landfill North Ditch	21.6	--	--	--	AG, F	Limited	
Avon-Fremont Drainage Ditch	22.0	--	X	--	F, M	Limited	Contains records for four mollusk species (INHS 2018).

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.13.5 T&E Species

The highest potential for T&E species to be present is within forest preserve lands.

Federal T&E species and their habitat types are identified in Table 4.13-3.

Table 4.13-3. Federal T&E Species and their Habitat Types within Corridor 16

Species	County[a]	Status	Habitat	Potential Habitat Present within Project Limits?	
				(Y/N)	Description
Rusty patched bumble bee	C, L	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	Yes	Corridor 16 lies within 1 mile of a Low Potential Zone.
Karner blue butterfly	L	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas on sandy soils do not appear to be present within or adjacent to Corridor 16.
Eastern prairie fringed orchid	C, L	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	The EPFO is potentially present within the Buffalo Creek Forest Preserve, the Long Grove Site INAI, Heron Creek Forest Preserve, and other wetlands adjacent to Corridor 16.
Northern long-eared bat	C, L	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 16.
Rufa red knot	C, L	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are present within and adjacent to Corridor 16.

Source: FWS 2018.

[a] Corridor spans two counties: Cook (C) and Lake (L)

Table 4.14-4 details state-listed T&E species and their locations on the corridor.

Table 4.14-4. State T&E Species, Corridor 16

Species	Status	Location
Black tern	E	Deer Grove Forest Preserve
Yellow-headed blackbird	E	
Mountain blue-eyed grass (*Sisyrinchium montanum*)	E	Long Grove Site (INAI #1233)
Pale vetchling	T	Reed-Turner Woodland Nature Preserve and INAI site
Black-crowned night-heron	E	Heron Creek Forest Preserve
Blanding's turtle	E	Agricultural/vacant land south of CN (formerly Elgin, Joliet and Eastern [EJ&E]) railway, west of IL 83
Sedge (*Carex cryptolepis*)	T	Residential land north of Midlothian Road, east of Highland Avenue
Black-crowned night-heron	E	Loch Lomond Lake
Blackchin shiner	T	Grays Lake

Table 4.14-4. State T&E Species, Corridor 16

Species	Status	Location
Grass-leaved pondweed	T	
Banded killifish	T	
Water marigold	E	
Fern pondweed	E	

Source: IDNR 2018a, IDNR 2019.

4.14 Corridor 17

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.14.1 Land Use and Vegetation

The predominant land uses within Corridor 17 are residential, open space, and T/C/U/W (which includes roadway ROW). Forest Preserve lands are present at the northern and southern termini of Corridor 17, and Buffalo Creek and an associated large wetland complex are present at the northern portion of Corridor 17. Further detail and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of residential and recreational areas, forested areas, and riparian areas adjacent to stream corridors. A portion of Corridor 17 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Six forested areas between 10 and 20 acres in size, and four forested areas greater than 20 acres in size are located within and adjacent to Corridor 17. Of those, six forested areas greater than 10 acres are associated with streams or bodies of water.

4.14.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat include Buffalo Creek Forest Preserve, Heron Creek Forest Preserve, Long Grove INAI Site, and two wetland complexes. Table 4.14-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within Corridor 17.

Corridor 17 contains suitable areas for migratory birds requiring large areas of wetland and migratory birds that use forested and agricultural land.

4.14.3 Wildlife Corridors

Within Corridor 17 several wildlife corridors are present that may allow wildlife resources to travel between protected lands.

- At MP 9.7 (north of Dorothy Lane), a large wetland complex provides a wildlife corridor that connects to Long Grove INAI Site.
- Between MP 10.4 – 11.1 (between Hicks and Cuba Roads), the Buffalo Creek ADID wetland complex provides a potential wildlife corridor connection to other nearby streams and lakes.

Table 4.14-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 17

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Buffalo Creek Forest Preserve (LCFPD)	9.3		X				A, F, O, SS		408-acre site consisting of restored tallgrass prairie, wetland mitigation bank, and a flood control reservoir for Buffalo Creek. The LCFPD WMP has noted the presence of 1 amphibian, 7 mammal, 14 fish, 19 butterfly and moth, and 62 avian species, including the eastern meadowlark and bobolink -- which are obligate grassland species-- within the Preserve (LCFPD 2018). LCFPD, Metropolitan Water Reclamation District (MWRD), and the Village of Buffalo Grove are expanding the Buffalo Creek reservoir as well as restoring 30 acres of upland. In addition, the LCDOT has constructed a wetland mitigation bank within the western 65 acres of the Preserve.
Unnamed Wetland Complex	9.8						F, SS, W		Privately owned land between Hicks Road and IL 53 containing large wetland areas with connection to public land.
Buffalo Creek Wetland Complex	10.4 – 11.1						F, SS, W		Undeveloped privately held land that is a riparian (forested and wetland) area adjacent to Buffalo Creek.
Heron Creek Forest Preserve (LCFPD) & Lake County ADID Wetland #170	11.2		X	X	II, III		F, O, SS, W		242-acre site adjacent to Reed Turner Woodland Nature Preserve and INAI site containing woodlands, wetlands (a portion of Lake County ADID Wetland #170), and open fields (LCFPD 2018). More than 116 species of birds, including a resident population of waterfowl and herons, five state endangered bird species are reported to have been found at or within the vicinity (LCFPD 2018). Lake County ADID Wetland #170 is associated with Kildeer Creek with a portion occurring within Heron Creek Forest Preserve and Reed-Turner Woodland Nature Preserve/INAI site. ADID Wetland #170 is approximately 125 acres and listed as a high functional value wetland due to the presence of state T&E plant species and its INAI designation.

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.14.4 Aquatic Life Resources

Table 4.14-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 17 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or macroinvertebrates) are known to be present within Hidden Valley Lake, Buffalo Creek, Mardon Oaks Pond, Deerwood Estates Pond, and could be present within the remaining surface waters.

Table 4.14-2. Aquatic Life and Riparian Habitat within Corridor 17

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Hidden Valley Lake	10.6	X	X	X	F, SS, W	Limited	Contains records for six fish species, one mollusk specie, and one amphibian specie (INHS 2018)
Buffalo Creek	10.7	X	X	X	F, SS, W	Yes	Contains reports for seven common fish species, two mollusk, and one amphibian species (INHS 2018)
Mardon Oaks Pond	10.8	--	--	--	F, SS, W	Limited	
Deerwood Estates Pond	11.2	--	--	--	F, SS	Yes	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, SS = Scrub-shrub, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.14.5 T&E Species

The highest potential for T&E species to be present is within forest preserve lands and the Buffalo Creek Wetland complex.

Federal T&E species and their habitat types are identified in Table 4.14-3.

Table 4.14-3. Federal T&E Species and Their Habitat Types within Corridor 17

Species	Status	Habitat	Potential Habitat Present within Project Limits?	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 17 Is not located within a low or high probability zone.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas on sandy soils do not appear to be present within or adjacent to Corridor 17.

Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Potentially present within the Heron Creek Forest Preserve.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 17.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	No	

Source: FWS 2018.

Table 4.14-4 details state-listed T&E species and their locations on the corridor.

Table 4.14-4. State T&E Species, Corridor 17

Species	Status	Location
Mountain Blue-eyed grass	E	Long Grove Site (INAI #1233)
Pale vetchling	T	Reed-Turner Woodland Nature Preserve
Black-crowned night-heron	E	Heron Creek Forest Preserve

Source: IDNR 2018a, IDNR 2019.

4.15 Corridor 18

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.15.1 Land Use and Vegetation

The predominant land uses within Corridor 18 are agricultural and residential. Portions of lands that are agricultural include the areas owned by IDOT (south of Gilmer Road and north of the CN [formerly EJ&E] railway), and privately-owned areas between Gilmer and Indian Creek roads. Further detail and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, agricultural land, forested areas, and riparian areas adjacent to stream corridors. A portion of Corridor 18 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Ten forested areas between 10 and 20 acres in size, and two forested areas greater than 20 acres in size are located within and adjacent to Corridor 1. Of those, a total of three forested areas greater than 10 acres are associated with streams or bodies of water.

4.15.2 Wildlife Resources

Areas with potential high-quality wildlife habitat within Corridor 18 include Countryside Golf Course (owned by LCFPD), IDOT-owned ROW, municipally-owned dedicated open space, and wetland and stream riparian areas. Table 4.15-1 summarizes the characteristics of the areas with potential high-quality wildlife habitat. Additional areas, including municipal parks, may support wildlife tolerant of urban and/or degraded environments.

The protected open space lands adjacent to Corridor 18, combined with undeveloped lands that provide connections to protected lands, are anticipated to support species not tolerant of urban land use, such as migratory bird and aquatic species.

4.15.3 Wildlife Corridors

Within Corridor 18 is one wildlife corridor that may allow wildlife resources to travel between protected lands:

- At MP 14.4 (between Gilmer Road and Indian Creek Road), Indian Creek provides a wildlife corridor crossing along a large ADID wetland complex that connects Bensen Lake (west of the Corridor) and an expansive wetland complex associated with Indian Creek (east of the Corridor).

Table 4.15-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 18

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Indian Creek Wetland Complex #1	15.4						AG, F, SS, W		ADID (#143)
Indian Creek Wetland Complex #2	15.6						AG, O, SS, W		ADID (#143)
Countryside Golf Course (LCFPD)	16.1		X				F, O, SS, M		476-acre site containing an array of habitats alongside the golf course. including prairies and woodlands. The site is managed to allow plants and wildlife to thrive alongside the gold course setting. Course habitats provide food, water and shelter; there are nesting boxes for birds, ducks and bats. Fields are planted with native wildflowers and grasses (LCFPD 2014). The course has been certified since 1996 as a Certified Audubon Cooperative Sanctuary for Golf which works to contribute to the conservation of environmental resources. The LCFPD Wildlife Monitoring Program has noted the presence of 17 species of native birds within the site including American coot, yellow warbler, marsh wren, and ruddy duck (LCFPD 2018). An EOR for the federally protected Bald Eagle was identified at the Countryside Golf Club located within one mile of Corridor 16 (IDNR 2018).

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State-dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.15.4 Aquatic Life

Table 4.15-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 18 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or macroinvertebrates) are known to be present within surface waters.

Table 4.15-2. Aquatic Life and Riparian Habitat within Corridor 18

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Forest Lake Drain	13.6	--	--	X	F, SS	Limited	Contains records for two amphibian species (INHS 2018)
Indian Creek	14.4	X	X	X	F, SS W	Yes	Rated as D for Integrity as part of the Biological Stream Characterization Study (IDNR 2008) and contains records for 10 mollusk and two amphibian species (INHS 2018)
Unnamed Lake/Wetland (Between September Boulevard and Ellis Avenue)	15.0	--	X	X	F, SS W	Very Limited	Contains records for eight mollusk species and two amphibian species (INHS 2018)
LCFPD Pond	16.4	--	X	--	F, SS	Limited	Contains records for five mollusk species (INHS 2018)

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, W = Wetland, SS = Scrub-shrub

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.15.5 T&E Species

The highest potential for T&E species to be present is within Lake County Forest Preserve land (Countryside Golf Course) land and the Indian Creek Wetland Complexes.

Federal T&E species and their habitat types are identified in Table 4.15-3.

Table 4.15-3. Federal T&E Species and Their Habitat Types within Corridor 18

Species	Status	Habitat	Potential Habitat Present within Project Limits?	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for	No	Corridor 17 is not located within a low or high probability zone.

		hibernating queens to overwinter.		
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas on sandy soils do not appear to be present within or adjacent to Corridor 18.
Hine's emerald dragonfly	E	Spring fed wetlands, wet meadows and marshes	Yes	Potentially present within the Indian Creek wetland complexes.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Potentially present within the Indian Creek wetland complexes.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 18.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	No	Potentially present within the Indian Creek wetland complexes.

Source: FWS 2018.

Table 4.15-4 details state-listed T&E species and their locations on the corridor.

Table 4.15-4. State T&E Species, Corridor 18

Species	Status	Location
Blanding's turtle	E	Agricultural/Vacant land south of Elgin Joliet and Eastern Railway, west of IL 83
Sedge (*Carex cryptolepis*)	T	Residential land north of Midlothian Road, east of Highland Avenue

Source: IDNR 2018a, IDNR 2019.

4.16 Corridor 20

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.16.1 Land Use and Vegetation

The land use within Corridor 20 is varied and is a mix of residential, agriculture, T/C/U/W (which includes roadway ROW), and open space. The western portion of Corridor 20 consists of primarily residential and agricultural uses, while the central and eastern portions consist mostly of residential areas and forest preserve or other public lands. Further detail and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, agricultural land, forested areas, and riparian areas adjacent to stream corridors. The western portion of Corridor 20 is located within the Lake-McHenry Wetland Complex COA Area as identified within the IWAP.

Six forested areas between 10 and 20 acres in size, and eight forested areas greater than 20 acres in size are located within and adjacent to Corridor 20. Of those, seven forested areas greater than 10 acres are associated with streams or bodies of water.

4.16.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 20 include forest preserve lands, the Des Plaines River, and private lands protected by conservation easement. Table 4.16-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within Corridor 20.

The protected lands adjacent to Corridor 20, as well as the undeveloped private lands that provide corridors to protected lands, are anticipated to support species not tolerant of urban land use, such as migratory bird and aquatic species. Potential habitat for bald eagles is present within Corridor 20 along the Des Plaines River.

4.16.3 Wildlife Corridors

Within Corridor 20, several wildlife corridors are present that may allow wildlife resources to travel between protected lands.

- At MP 7.9 (west of Ivanhoe Road), a tributary to Mill Creek provides a potential wildlife corridor crossing to a large wetland complex within agricultural land south and west of the corridor.
- Between MP 10.1 and 10.6 (east of US 45) are several potential wildlife corridor crossing locations of Almond Marsh Forest Preserve, including in the vicinity of a wetland complex (north of the corridor) and along an unnamed tributary to Almond Marsh that connects to an ADID wetland (south of the corridor).
- At MP 11.1 (east of Almond Road) is a potential wildlife corridor crossing between an ADID wetland on the north side of the corridor and Almond Marsh Forest Preserve on the south side of the corridor.
- At MP 12.9 (east of Milwaukee Avenue), the Des Plaines River provides a wildlife corridor crossing connection between the forest preserve lands that are north and south of IL 120. It also connects to Village of Gurnee Open Space (north of Corridor 20) and Lake Carina Forest Preserve.

Table 4.16-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 20

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Almond Marsh Forest Preserve (LCFPD)	10.1		X		I, II, III		A, F, G, O, SS, W		503-acre site that is part of the larger 2,500-acre Liberty Prairie Reserve, a collaboration of public agencies and private landowners to create a significant landscape of contiguous open space in Libertyville Township (IDNR 2018a; LCFPD, 2018a). The Preserve is noted for migrating waterfowl and its great blue heron (*Ardea herodias*) rookery (LCFPD 2018a). The LCFPD WMP has noted the presence of 2 macroinvertebrate, 3 reptile, 7 amphibian, 11 fish, 14 mammal, and 88 avian species within the Preserve (LCFPD 2018b). Approximately 110 acres of wetland, oak woodlands, savanna, and old fields are dedicated nature preserve (IDNR 2018a). The wetland includes an approximately 80-acre marsh and sedge meadow dominated by tussock sedge (*Carex stricta*) with at least nine other sedge species (IDNR 2018a).
The Merit Club private golf course	11.6						A, F, AG, G, SS, O, W		Golf club and preserved open space, including native oak savannas, prairies and wetlands, for perpetuity by a conservation easement (held by Openlands) and located adjacent to Almond Marsh Forest Preserve.
Des Plaines River	12.9						A, O		Wildlife corridor and habitat for aquatic species.
Independence Grove Forest Preserve (LCFPD)	13.0		X				A, F, O, SS, W		A 1,151-acre site containing a diverse array of habitats including prairie, woodlands, the Des Plaines River, and multiple lakes that support wildlife species, including owls, muskrats, beavers, minks, raccoons, possums, and deer (LCFPD 2018a). The LCFPD WMP has noted the presence of 343 plant, 82 bird, 23 mammal, 23 fish, 6 invertebrate, 7 amphibian, and 5 reptile species (LCFPD 2018).
Lake Carina Forest Preserve (LCFPD)	13.2		X				A, F, O, SS, W		A 481-acre site containing Lake Carina, a 23-acre former gravel pit, woodlands, and open fields located along the Des Plaines River (LCFPD, 2018). Lake Carina is stocked with yellow perch, largemouth bass, northern pike, bluegill, and crappie (LCFPD 2018a). The LCFPD WMP has noted the presence of two macroinvertebrate, seven mammal, 24 fish, and 42 avian species (LCFPD 2018b).
Rudd Farm Park	14.2	X					F, SS		Record of occurrence for the Eastern prairie fringed orchid.

Table 4.16-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 20

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Oak Grove Botanical Area & Dokum Mskoda Sedge Meadow Nature Preserve	14.2			X			A, F, G, H, SS, W		Approximately 415-acre INAI Site that is home to the 100-acre Dokum Mskoda Sedge Meadow Nature Preserve, much of which is an ADID wetland. The site consists of wet prairie and sedge meadow areas (Daily Herald 2012). Oak Grove Botanical Area is listed as an INAI site for specific suitable habitat for state-listed species or state-listed species relocations. Dokum Mskoda Sedge Meadow is home to at least 98 native plants, including the federally threatened eastern prairie fringed orchid, which occurs throughout the site (Conserve Lake County 2016)

[a] I = High-quality natural community and natural community restorations

I = Specific suitable habitat for state-listed species or state-listed species relocations

III = State-dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.16.4 Aquatic Life Resources

Table 4.16-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 20 and adjacent lakes that were assessed for habitat based on available data or field visibility; however, limited aquatic information is available.

Table 4.16-2. Aquatic Life and Riparian Habitat within Corridor 20

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Countryside Landfill North Ditch	7.9	--	X	--	F	Limited	Contains records for five mollusk species (INHS 2018)
LCFPD Pond	10.6	--	X	X	F	High	Contains records for two mollusk and one amphibian species (INHS 2018)
Sherman Corners Creek	12.5	X	X	--	M, W	Limited	Contains records for nine species of fish, including one T&E species, and five species of mollusks within Sherman Corners Creek (INHS 2018)
Des Plaines River	12.9	X	X	--	F	High	Rated as D for Diversity and Integrity as part of the Biological Stream Characterization Study (IDNR 2008a) and contains records for 16 species of fish, including one T&E species, and seven species of mollusk (INHS 2018)
Lake Carina	13.3	--	--	--	F	High	

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, W = Wetland, SS = Shrub-scrub

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.16.5 T&E Species

The highest potential for T&E species to be present is within the forest preserve lands, Rudd Farm Park, and Oak Grove Botanical Area INAI site, and Dokum Mzkoda Sedge Meadow Nature Preserve adjacent to Corridor 20.

Federal T&E species and their habitat types are identified in Table 4.16-3.

Table 4.16-3. Federal T&E Species and their Habitat Types within Corridor 20

Species	Status	Habitat	Potential Habitat Present within Project Limits?	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for	No	Corridor 20 is not located within a low or high probability zone.

		hibernating queens to overwinter.		
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas on sandy soils do not appear to be present within or adjacent to Corridor 20.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Potentially present within Almond Marsh, Independence Grove, and Lake Carina forest preserves ; EORs within Rudd Farm Park, Dokum Mskoda Sedge Meadow Nature Preserve.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 20.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	No	Large wetland complexes are located throughout Corridor 20.

Source: FWS 2018.

Table 4.16-4 details state-listed T&E species and their locations on the corridor.

Table 4.16-4. State T&E Species, Corridor 20

Species	Status	Location
Least bittern	T	Singing Hills Forest Preserve
Blanding's turtle	E	
Blanding's turtle	**E**	Commercial land along IL-120, east of US 12
Black tern	E	Fish Lake & Marl Flat Forest Preserve
Golden sedge	T	
Richardson's rush	T	
Blackchin shiner	**T**	Grays Lake
Fern pondweed	E	
Grass-leaved pondweed	T	
Banded killifish	T	
Water marigold	E	
Iowa darter	T	Pond within residential land south of Osage Orange Road, east of Harris Road
Blackchin shiner	T	
Blacknose shiner	E	
Banded killifish	T	
Pugnose shiner	E	Leopold Lake

Table 4.16-4. State T&E Species, Corridor 20

Species	Status	Location
Starhead topminnow	T	
Blacknose shiner	E	
Banded killifish	T	
Blackchin shiner	T	
Iowa darter	T	
Least bittern	T	Rhyan Tract Land and Water Reserve/Almond Marsh Forest Preserve/Casey Road North Open Space
Yellow-headed blackbird	E	
Common gallinule	E	
Black-crowned night-heron	E	
Blanding's turtle	E	Almond Marsh Forest Preserve
Least bittern	T	
Yellow-headed blackbird	E	
Common gallinule	E	
Black-crowned night-heron	E	
Yellow-headed blackbird	**E**	Residential Land along Belvidere Road, west of Stone Manor Drive
Pale vetchling	T	Agricultural land southwest of Merit Club Golf Course
Iowa darter	**T**	Sherman Corners Creek
Downy Solomon's seal	T	Independence Grove Forest Preserve
Blackchin shiner	T	
Iowa darter	**T**	
Richardson's rush	T	Lake Carina Forest Preserve
Eastern prairie fringed orchid	E	Rudd Farm Park
Eastern prairie fringed orchid	E	Dokum Mskoda Sedge Meadow Nature Preserve

Bold text indicates EOR is located within 150 feet of the roadway corridor's approximate centerline.

Source: IDNR 2018a, IDNR 2019.

4.17 Corridor 21

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.17.1 Land Use and Vegetation

The land use within Corridor 21 is a mix of residential, agriculture, and open space. The eastern portion of Corridor 21 is primarily agricultural with several undeveloped areas, and the western portion of Corridor 21 consists mostly of residential land with some agricultural and undeveloped areas. Further details and breakdown of land use can be found in the *Land Use Memorandum.*

Cover types consist of urbanized land, agricultural land, recreational areas, forested areas, and riparian areas adjacent to stream corridors. A portion of Corridor 21 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Four forested areas between 10 and 20 acres in size, and eight forested areas are greater than 20 acres in size are located within and adjacent to Corridor 21. Of those, eight forested areas greater than 10 acres are associated with streams or bodies of water.

4.17.2 Wildlife Resources

Areas with potential high-quality wildlife habitat within Corridor 21 include forest preserve lands and wetland and water riparian areas. Table 4.17-1 summarizes the characteristics of the areas with potential high-quality wildlife habitat within Corridor 21. Additional areas along the corridor, including municipal parks, may support wildlife tolerant of urban and/or degraded environments.

Corridor 21 contains suitable areas for migratory birds requiring large areas of wetlands, and for migratory birds that use agricultural land. Protected open spaces, as well as undeveloped areas that provide connections to protected lands, are anticipated to support species not tolerant of urban land use, such as migratory bird and aquatic species.

4.17.3 Wildlife Corridors

Within Corridor 21 are several wildlife corridors that which may allow wildlife resources to travel between protected lands.

- At MP 0.5 (at US 12), wildlife likely crosses US 12 between Brandenburg Road and Wilson Nursery Road in order to access Stanley Bog and Volo Bog to the west and wetland complexes to the east.
- At MP 1.1 (between US 12 and Fish Lake Road), the Fish Lake Drain crossing and associated riparian area likely serves as a wildlife corridor connecting Wooster Lake and a large wetland complex that connects to Fish Lake and Marl Flat Forest Preserve.
- At MP 2.1 (at Wilson Road), Marl Flat Forest Preserve is on both the north and south sides of the roadway; therefore, a this is area is likely a wildlife crossing area. It also connects a large wetland complex on the north side of the corridor to the rest of Marl Flat Forest Preserve to the south.
- At MP 3.0 (west of IL 120), the unnamed tributary to Squaw Creek Wetland Complex provides a wildlife corridor connection to open spaces both north and south of the corridor, including Nippersink Forest Preserve, Village of Round Lake Open Space, Kettle Grove Forest Preserve, and Mud Lake/Squaw Creek wetland complex.
- At MP 3.3 (west of IL 120), the ComEd corridor likely provides a connection for wildlife movement between Kettle Grove Forest Preserve to the south and Kestrel Ridge Forest Preserve to the north.
- At MP 5.6 (between Cedar Lake Road and Alleghany Road), the Northbrook Sports Club and adjacent private land likely provides a wildlife crossing corridor connecting to Squaw Creek and forest preserve lands to the north and west and undeveloped land to the south.
- At MP 5.7 (between Cedar Lake Road and Alleghany Road), the Squaw Creek crossing and associated riparian area likely serves as a wildlife corridor connecting Nippersink Forest Preserve and Round Lake Marsh to Northbrook Sports Club and adjacent private land and Ray Lake Forest Preserve.
- At MP 7.5 (between Alleghany Road and Ivanhoe Road), the Avon-Fremont Drainage Ditch and associated riparian area likely provides a wildlife corridor connection between a large wetland complex within an agricultural area to undeveloped land and Rollins Savanna Forest Preserve.

Table 4.17-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 21

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Ingleside Pond and Adjacent Forested Area	0.5						A, F, O, W		Undeveloped area with a wildlife corridor to Volo Bog and other large undeveloped wetland areas.
Kestrel Ridge Forest Preserve (LCFPD)	2.2		X				A, F, O, SS, W		110-acre preserve consisting of scrub-shrub and forested areas, as well as grasslands. Much of the preserve proximate to the corridor consists of a narrow strip surrounding the Millennium Trail through agricultural and residential areas (this corridor connects Kestrel Ridge Forest Preserve and Marl Flat Forest Preserve). The main part of this preserve is northeast of the corridor (on existing IL 120). The LCFPD WMP has noted the presence of 24 avian, 10 mammal, five amphibians, one invertebrate, and one reptile species within the Preserve (LCFPD 2018).
Unnamed Tributary to Squaw Creek Wetland Complex	3.0						G, SS, W		Privately held undeveloped land with ADID #75 and #84.
Northbrook Sports Club and Adjacent Private Land	5.7						A, F, G, SS, O, W		Private recreational club with large undeveloped land holdings that provide habitat and wildlife corridor to protected lands.
Marl Flat Forest Preserve (LCFPD)	2.2		X		I, II		A, F, O, SS, W		A 208 acre preserve consisting of oak-dominated forested areas and a large fen and wetland system, as well as a portion of Fish Lake. The LCFPD WMP has noted the presence of 191 plant, 51 avian, 17 invertebrate, 13 mammal, eight fish, five amphibian, and three reptile species within the Preserve (LCFPD 2018).

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State-dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, AG = Agriculture, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.17.4 Aquatic Life

Table 4.17-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 21 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or amphibians) are known to be present within the Des Plaines River, Squaw Creek, and Fish Lake Drain and could be present within the remaining surface waters.

Table 4.17-2. Aquatic Life and Riparian Habitat within Corridor 21

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Illinois DOT - Ingleside Lake	0.5	--	--	X	F, SS, W	Yes	
Fish Lake Drain	1.1	X	X	--	F, SS	Yes	
Squaw Creek	5.7	X	X	X	F	Present	Contains records for 10 fish and three mollusk species (INHS 2018)
Avon-Fremont Drainage Ditch	7.5	X	X	--	F	Limited	Contains records for four mollusk species (INHS 2018)

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, SS = Shrub-scrub, W = Wetland

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.17.5 T&E Species

The highest potential for T&E species to be present is within forest preserve lands and the Northbrook Sports Club and adjacent lands.

Federal T&E species and their habitat types are identified in Table 4.17-3.

Table 4.17-3. Federal T&E Species and their Habitat Types within Corridor 21

Species	Status	Habitat	Potential Habitat Present within Project Limits?	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 21 is located within a Low Potential (Primary Dispersal) Zone and partially within a High Potential Zone.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas on sandy soils do not appear to be present within or adjacent to Corridor 21.

Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands are potentially present within Corridor 21.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 21.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are located throughout Corridor 21.

Source: FWS 2018.

Table 4.17-4 details state-listed T&E species and their locations on the corridor.

Table 4.17-4. State T&E Species, Corridor 21

Species	Status	Location
Star-flower	E	Pistakee Bog Nature Preserve
Highbush blueberry	E	
Shortleaf sedge	E	
Tamarack	T	
Showy lady's slipper	E	
Snake-mouth	E	IDNR Volo Bog
Rusty patched bumble bee	E	
Smith’s bulrush	E	
Dwarf raspberry	T	
Leatherleaf	T	
Rusty cotton grass	E	
Cordroot sedge	E	
Round-leaved sundew	E	
Beaked rush	E	
Sedge	E	
Common tern	E	
Tamarack	T	Undeveloped area north of Brandenburg Rd, west of US 12/IL 59
Starhead topminnow	T	Wooster Lake
White-stemmed pondweed	E	
Blackchin	T	
Blacknose	E	
Iowa darter	T	
Beaked rush	E	
Large cranberry	E	

Table 4.17-4. State T&E Species, Corridor 21

Species	Status	Location
White-stemmed pondweed	E	Sullivan Lake
Iowa darter	T	
Grass-leaved pondweed	T	
Common tern	E	Fischer Lake
Black tern	E	Fish Lake/Marl Flat Forest Preserve
Golden sedge	T	
Richardson's rush	T	
Little green sedge	T	
Sedge (*Carex cryptolepis*)	T	
Common gallinule	E	Marl Flat Forest Preserve
Black Tern	E	Sargent Marsh/Kettle Grove Forest Preserve
Yellow-headed blackbird	E	
Common gallinule	T	
Least bittern	T	
Yellow-headed blackbird	E	Agricultural land north of IL 60, west of Cedar Lake Road
Common gallinule	E	Nippersink Forest Preserve
Least bittern	T	
Yellow-headed blackbird	E	
Yellow-headed blackbird	E	Village of Hainesville Open Space (north of Campbell Airport)
Sedge (*Carex crawfordii*)	E	
Blackchin shiner	T	Grays Lake
Fern pondweed	E	
Grass-leaved pondweed	T	
Banded killifish	T	
Water marigold	E	

Source: IDNR 2018a, IDNR 2019.

4.18 Corridor 22

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.18.1 Land Use and Vegetation

The predominant land uses within Corridor 22 are T/C/U/W (which includes roadway ROW), open space, and agricultural. Most of the Corridor crosses the Northbrook Sports Club and other private property, both of which contain large areas of undeveloped land. Further details and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, agricultural land, forested areas, and riparian areas adjacent to stream corridors. Corridor 22 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Five forested areas are greater than 20 acres in size are located within and adjacent to Corridor 23. Of those, four forested areas are associated with streams or bodies of water.

4.18.2 Wildlife Resources

Areas with potential for high-quality wildlife habitat within Corridor 22 include Northbrook Sports Club and adjacent private land and wetland areas. These areas may support wildlife tolerant of urban environments. Table 4.18-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat within Corridor 22.

Corridor 22 contains suitable areas for migratory birds requiring large areas of wetlands, and for migratory birds that use agricultural land.

4.18.3 Wildlife Corridors

Within Corridor 22 several wildlife corridors are present that may allow wildlife resources to travel between protected lands.

- At MP 5.6 (between Cedar Lake Road and Alleghany Road), the Squaw Creek crossing and associated riparian area likely serves as a wildlife corridor connecting Nippersink Forest Preserve and Round Lake Marsh to Northbrook Sports Club and adjacent private land, and Ray Lake Forest Preserve.
- At MP 7.5 (between Alleghany Road and Ivanhoe Road), the Avon-Fremont Drainage Ditch and associated riparian area likely provides a wildlife corridor to a large wetland complex within an agricultural area to the and undeveloped land and Rollins Savanna Forest Preserve.

Table 4.18-1. Areas with Potential for High Quality Wildlife Habitat within Corridor 22

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Northbrook Sports Club and adjacent private land	5.6						A, F, G, O, SS, W		Private recreational club with large undeveloped land holdings that provide habitat and wildlife corridor to protected lands; ADID #193

[a] I = High quality natural community and natural community restorations,

II = Specific suitable habitat for state-listed species or state-listed species relocations,

III = State-dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.18.4 Aquatic Life Resources

Table 4.18-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 22 and adjacent lakes that were assessed for habitat based on available data or field visibility. Aquatic life (mollusk, fish, and/or amphibians) are known to be present within Squaw Creek and could be present within the remaining surface waters. Generally, the stormwater detention ponds adjacent to Corridor 22 are open water areas surrounded by wetland vegetation and/or mowed turf grass that

provide limited wildlife habitat but may provide water and stop-over locations for migratory wildlife and avian species.

Table 4.18-2. Aquatic Life and Riparian Habitat within Corridor 22

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Squaw Creek	5.6	X	X	X	F	Limited	Contains records for 10 fish and three mollusk species (INHS 2018)
Avon-Fremont Drainage Ditch	7.5	X	X	--	W, SS	Limited	Contains records for four mollusk species (INHS 2018)

[a] Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

[b] X = INHS Information within 1 mile of Corridor, -- = No information available

[c] AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, W = Wetland, SS = Shrub-scrub

[d] Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands

4.18.5 T&E Species

The highest potential for T&E species to be present is within Northbrook Sports Club and adjacent private lands, and forested areas adjacent to Corridor 22.

Federal T&E species and their habitat types are identified in Table 4.18-3.

Table 4.18-3. Federal T&E Species and their Habitat Types within Corridor 22

Species	Status	Habitat	Potential Habitat Present within Project Limits?	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 22 is located within a Low Potential (Primary Dispersal) Zone.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas on sandy soils do not appear to be present within or adjacent to Corridor 22.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands are potentially present within Corridor 22.

Table 4.18-3. Federal T&E Species and their Habitat Types within Corridor 22

Species	Status	Habitat	Potential Habitat Present within Project Limits?	
			(Y/N)	Description
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Several forested areas are present within and adjacent to Corridor 22.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are located throughout Corridor 22.

Source: FWS 2018.

Table 4.18-4 details state-listed T&E species and their locations on the corridor.

Table 4.18-4. State T&E Species, Corridor 22

Species	Status	Location
Yellow-headed blackbird	E	Village of Hainesville Open Space (north of Campbell Airport)
Sedge	E	
Blackchin shiner	T	Grays Lake
Fern pondweed	E	
Grass-leaved pondweed	T	
Banded killifish	T	
Water marigold	E	

Bold text indicates EOR is located within 150 feet of the roadway corridor's approximate centerline.

Source: IDNR 2018a, IDNR 2019.

4.19 Corridor 23

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.19.1 Land Use and Vegetation

The predominant land uses within Corridor 23 are agricultural and protected open space lands (forest preserves). Agricultural uses are dispersed throughout the corridor, with protected open space lands generally concentrated in the middle portion of the corridor. Further details and breakdown of land use can be found in the *Land Use Memorandum.*

Cover types consist of urbanized land, agricultural land, forested areas, and riparian areas adjacent to stream corridors. Corridor 23 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Five forested areas greater than 20 acres in size are located within and adjacent to Corridor 23. Of those, four forested areas are associated with streams or bodies of water.

4.19.2 Wildlife Resources

Areas with potential high-quality wildlife habitat within Corridor 23 include Volo Bog (State Park), forest preserve lands, and Village of Round Lake Open Space. Table 4.19-1 summarizes the characteristics. Additional areas, including municipal parks, may support wildlife tolerant of urban and/or degraded environments.

Corridor 23 contains suitable areas for migratory birds requiring large areas of forest and wetland and migratory birds that use agricultural land.

4.19.3 Wildlife Corridors

Within Corridor 23 are several wildlife corridors that offer opportunity for wildlife to travel between protected lands.

- At MP 1.2, Fish Lake Drain and associated riparian area likely function as a wildlife corridor between Fish Lake/Marl Flat Forest Preserve to the south and YMCA Camp Duncan to the north; as well as to large wetland complexes leading to the Fox Chain O'Lakes further north.
- At MP 2.0 (Fish Lake Road), Marl Flat Forest Preserve spans both sides of the Fish Lake Road, therefore, wildlife likely cross between the two areas of the preserve.
- At MP 3.0 (Belvidere Road), wildlife likely travels between Kettle Grove Forest Preserve and the adjacent Round Lake Open Space to connect to other protected open spaces north and south of the corridor (including Singing Hills Forest Preserve, the unnamed tributary to Squaw Creek Wetland Complex, Nippersink Forest Preserve, and Mud Lake/Squaw Creek wetland complex).

Table 4.19-1. Areas with Potential for High Quality Wildlife Habitat within Corridor 23

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Volo Bog (IDNR)	0.5			X	I, II, III		A, F, G, O, SS, W	X	Volo Bog is a 1,150-acre state natural area containing an approximately 47.5-acre bog. The bog was designated a NPS NNL in 1973 and is the only remaining open-water quaking bog in Illinois (IDNR 2018, Openlands 2018). The site also contains woodlands, savanna, marshes, prairie restoration areas, shrublands and old fields (Openlands 2018). Several EORs for the state T&E species are present within Volo Bog (IDNR 2018).
Stanley Road Bog	0.5				I, II		A, O, SS, W		ADID Wetland and 11.5-acre INAI site with a rare low shrub bog terrestrial community (INHS 2011) and T&E species.
Marl Flat Forest Preserve (LCFPD)	1.9		X		I, II		A, F, O, SS, W		A 208 acre preserve consisting of oak-dominated forested areas and a large fen and wetland system, as well as a portion of Fish Lake. The LCFPD WMP has noted the presence of 191 plant, 51 avian, 17 invertebrate, 13 mammal, eight fish, five amphibian, and three reptile species within the Preserve (LCFPD 2018).
Kettle Grove Forest Preserve (LCFPD) and Village of Round Lake Open Space	3.1		X		II		A, F, G, SS, O, W		Includes high-quality wetland and aquatic habitats noted for their abundance of State T&E species as well as oak woodlands that are managed to restore open savanna/woodland structure (LCFPD 2015). The LCFPD WMP has noted the presence of 19 avian, two mammal, and one amphibian species within Kettle Grove forest preserve (LCFPD 2018b). Sargent Marsh INAI Site (#1570) is an approximately 30 acres site within Kettle Grove Forest Preserve.

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State-dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.19.4 Aquatic Life

There is one surface water crossed by Corridor 23. Fish Lake Drain (MP 1.2) is a tributary to Fischer Lake, Wooster Lake, and Duck Lake, ultimately entering the Fox Chain O'Lakes. The INHS collections database does not contain records for fish mollusk or amphibians within Fish Lake Drain in the vicinity of Corridor 23.

4.19.5 T&E Species

The highest potential for T&E species to be present is within the protected lands adjacent to Corridor 23.

Federal T&E species and their habitat types are identified in Table 4.19-2.

Table 4.19-2. Federal T&E Species and their Habitat Types within Corridor 23

Species	Status	Habitat	Potential Habitat Present within Corridor 23	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	Yes	The western terminus of Corridor 23 is located within a high potential zone. An EOR is located within Volo Bog.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	Yes	Savanna areas are present within Kettle Grove Forest Preserve.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands may be present within Corridor 23.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Large wooded areas are present within and adjacent to Corridor 23.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are located within portions of Corridor 23.

Source: FWS 2018.

Table 4.19-3 details state-listed T&E species and their locations on the corridor.

Table 4.19-3. State T&E Species, Corridor 23

Species	Status	Location
Snake-mouth	E	IDNR Volo Bog
Rusty patched bumble bee	E	
Smith's bulrush	E	
Dwarf raspberry	T	
Leatherleaf	T	
Rusty cotton grass	E	

Table 4.19-3. State T&E Species, Corridor 23

Species	Status	Location
Cordroot sedge	E	
Round-leaved sundew	E	
Beaked rush	E	
Sedge	E	
Common tern	E	
White-stemmed pondweed	E	Sullivan Lake
Iowa darter	T	
Grass-leaved pondweed	T	
Black tern	E	Fish Lake/Marl Flat Forest Preserve
Golden sedge	T	
Richardson's rush	T	
Little green sedge	T	
Sedge	T	
Common gallinule	E	Marl Flat Forest Preserve
Black tern	E	Sargent Marsh/Kettle Grove Forest Preserve
Yellow-headed blackbird	E	
Common gallinule	T	
Least bittern	T	
Yellow-headed blackbird	E	Agricultural land north of IL 60, west of Cedar Lake Road
Common gallinule	E	Nippersink Forest Preserve
Least bittern	T	
Yellow-headed blackbird	E	
Yellow-headed blackbird	E	Village of Hainesville Open Space (north of Campbell Airport)
Sedge	E	

Source: IDNR 2018a, IDNR 2019.

4.20 Corridor 24

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.20.1 Land Use and Vegetation

The predominant land uses within Corridor 24 are open space and agricultural, but the corridor is also proximate to commercial, institutional, residential, and industrial land uses. Further details and breakdown of land use can be found in the *Land Use Memorandum.*

Cover types consist of urbanized land and agricultural land. Corridor 24 is within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

One forested area between 10 and 20 acres in size, and four forested areas greater than 20 acres in size are located within and adjacent to Corridor 24. Of those, four forested areas greater than 10 acres are associated with streams or bodies of water.

4.20.2 Wildlife Resources

Areas with potential high-quality wildlife habitat within Corridor 24 include forest preserve lands and undeveloped lands. Table 4.20-1 summarizes the characteristics of the areas with potential high-quality wildlife habitat within Corridor 24.

Corridor 24 contains suitable areas for migratory birds that use agricultural land.

4.20.3 Wildlife Corridors

Within Corridor 24 one wildlife corridor is present that may allow wildlife resources to travel between protected lands.

- At MM 1.5 (at Fish Lake Road), the Millennium Trail bike path connects Marl Flat Forest preserve to the north and Singing Hills Forest Preserve to the south. While the bike path consists of impervious area and mowed turf grass, wildlife may use this trail to travel between undeveloped/natural areas.

Table 4.20-1. Areas with Potential for High Quality Wildlife Habitat within Corridor 24

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
YMCA Camp Duncan/Fish Lake	0.5						F, W, O		ADID for water quality that feeds Fish Lake (fully supporting aquatic life) and serves as a wildlife corridor between Marl Flat Forest Preserve and Volo Bog.
Marl Flat Forest Preserve (LCFPD)	1.0		X		I, II		A, F, O, SS, W		A 208-acre preserve site consisting of oak-dominated forested areas and a large fen and wetland system, as well as a portion of Fish Lake. The LCFPD WMP has noted the presence of 191 plant, 51 avian, 17 invertebrate, 13 mammal, 8 fish, 5 amphibian, and 3 reptile species within the Marl Flats Forest Preserve (LCFPD 2018)
Kettle Grove Forest Preserve (LCFPD) and Village of Round Lake Open Space	2.0		X		II		A, F, G, SS, O, W		Includes high-quality wetland and aquatic habitats noted for their abundance of State T&E species as well as oak woodlands that are managed to restore open savanna/woodland structure (LCFPD 2015). The LCFPD WMP has noted the presence of 19 avian, 2 mammal, and 1 amphibian species within Kettle Grove forest preserve (LCFPD 2018b). Sargent Marsh INAI Site (#1570) is an approximately 30 acres site within Kettle Grove Forest Preserve.

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State-dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.20.4 Aquatic Life Resources

There are no surface waters crossed by Corridor 24 or adjacent lakes.

4.20.5 T&E Species

The highest potential for T&E species to be present is within the protected lands adjacent to Corridor 24.

Federal T&E species and their habitat types are identified in Table 4.20-2.

Table 4.20-2. Federal T&E Species and their Habitat Types within Corridor 24

Species	Status	Habitat	Potential Habitat Present within Corridor 11	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 23 is located within a low potential zone.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	Yes	Savanna areas are present within Kettle Grove Forest Preserve.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands may be present within Corridor 24.
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Large wooded areas are present within and adjacent to Corridor 23.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	No	Large wetland complexes are located adjacent to Corridor 24.

Source: FWS 2018.

Table 4.20-3 details state-listed T&E species and their locations on the corridor.

Table 4.20-3. State T&E Species, Corridor 24

Species	Status	Location
White-stemmed pondweed	E	Sullivan Lake
Iowa darter	T	
Grass-leaved pondweed	T	
Common gallinule	E	Lakemoor Farm Pond and adjacent wetland area
Least bittern	T	
Snake-mouth	E	Volo Bog
Rusty patched bumble bee	E	
Smith's bulrush	E	

Table 4.20-3. State T&E Species, Corridor 24

Species	Status	Location
Dwarf raspberry	T	
Leatherleaf	T	
Rusty cotton grass	E	
Cordroot sedge	E	
Round-leaved sundew	E	
Beaked rush	E	
Sedge	E	
Common tern	E	
Blanding's turtle	E	Commercial land along IL 120, east of US 12
Black tern	E	Fish Lake/Marl Flat Forest Preserve
Golden sedge	T	
Richardson's rush	T	
Little Green sedge	T	
Sedge	T	
Common gallinule	E	Marl Flat Forest Preserve
Least bittern	T	Singing Hills Forest Preserve and surrounding wetland area
Black tern	E	Sargent Marsh/Kettle Grove Forest Preserve
Yellow-headed blackbird	E	
Common gallinule	T	
Least bittern	T	
Common gallinule	E	Nippersink Forest Preserve
Least bittern	T	
Yellow-headed blackbird	E	
Yellow-headed blackbird	E	Agricultural land north of IL 60, west of Cedar Lake Road
Yellow-headed blackbird	E	Village of Hainesville Open Space (north of Campbell Airport)
Sedge	E	

Source: IDNR 2018a, IDNR 2019.

4.21 Corridor 25

Figures depicting relevant resources along the corridor can be found in Attachment A.

4.21.1 Land Use and Vegetation

Land use within Corridor 25 is varied and is a mix of residential, open space, industrial, and agricultural uses. The western portion of Corridor 25 consists primarily of residential use with some undeveloped/natural areas, including forest preserve lands. The eastern portion of Corridor 25 is

primarily agricultural with residential uses at the far eastern end of the corridor. Further detail and breakdown of land use can be found in the *Land Use Memorandum*.

Cover types consist of urbanized land, agricultural land, forested areas, and riparian areas adjacent to stream corridors. Corridor 25 is located within the Lake-McHenry Wetland Complex COA as identified within the IWAP.

Three forested areas between 10 and 20 acres in size, and three forested areas greater than 20 acres in size are located within and adjacent to Corridor 25. Of those, two forested areas greater than 10 acres are associated with streams or bodies of water.

4.21.2 Wildlife Resources

Areas with potential high-quality wildlife habitat include forest preserve lands, local parks, and wetland areas adjacent to Corridor 25. Table 4.21-1 summarizes the characteristics of the areas with potential for high-quality wildlife habitat.

Corridor 25 contains suitable areas for migratory birds requiring large areas of forest and wetland and migratory birds that use agricultural land.

4.21.3 Wildlife Corridors

Within Corridor 25 are several wildlife corridors that may allow wildlife resources to travel between protected lands.

- From MP 3.2 to 3.5 (west of Fairfield Road), the corridor bisects Kestrel Ridge Forest Preserve; wildlife is expected to travel throughout the preserve currently. In addition, this forest preserve connects to other preserves, local parks and open space areas in all directions.
- Between MP 3.8 and 4.4 (between Fairfield Road and Cedar Lake Road), the corridor bisects Nippersink Forest Preserve; wildlife likely travels throughout the preserve. In addition, undeveloped and agricultural land north and south of Nippersink Forest Preserve lead to other forest preserve lands and the Mud Lake/Squaw Creek wetland complex (ADID #166) to the north.
- At MP 4.9 (between Cedar Lake Road and IL 120), the Squaw Creek crossing and associated riparian area likely serves as a wildlife corridor connecting Nippersink Forest Preserve to the Northbrook Sports Club. It also connects to Bright Angels Natural Area Park just west of the creek.
- At MP 5.9 (east of IL 120), The Northbrook Sports Club and adjacent private lands likely provide a wildlife corridor connection to Squaw Creek and forest preserve lands to the north and west, and to undeveloped lands to the south.

Table 4.21-1. Areas with Potential for High-quality Wildlife Habitat within Corridor 25

Name	Mile Post	Park District	Forest Preserve	Nature Preserve	INAI[a]	Wildlife Refuge	Habitat Type[b]	National Natural Landmark	Comments
Kestrel Ridge Forest Preserve (LCFPD)	2.3		X				A, F, O, SS, W		110-acre preserve consisting of scrub-shrub and forested areas and grassland areas. The LCFPD WMP has noted the presence of 24 avian, 10 mammal, five amphibians, one invertebrate, and one reptile species within the Preserve (LCFPD 2018b).
Unnamed Tributary to Squaw Creek Wetland Complex	3.0						F, SS, W		Privately held undeveloped land with ADID wetlands (#75 and #84).
Nippersink Forest Preserve (LCFPD)	3.8 – 4.4		X	X	II		A, SS, W		329-acre preserve that contains oak-hickory woodlands, two man-made lakes, wetlands, and marshes, including Round Lake Marsh (LCFPD, 2018). Nippersink Lake, one of the man-made lakes within the forest preserve, is occasionally stocked with fish. The LCFPD WMP has noted the presence of one macroinvertebrate, three reptile, four amphibian, nine fish, 17 mammal, and 67 avian species (LCFPD 2018b).
Bright Meadows Natural Area Park (Round Lake Park District)	4.6	X					F, SS		Local park.
Northbrook Sports Club and Adjacent Private Land	6.6						A, F, G, SS, O, W		Private recreational club with large undeveloped land holdings that provide habitat and wildlife corridor to protected lands.

[a] I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State-dedicated NPs, LWRs, and NHLs

[b] A = Aquatic, F = Forest, G = Grassland, M = Mowed Turf, O = Open Water/Surface Water, SS = Scrub-shrub, W = Wetland

4.21.4 Aquatic Life Resources

Table 4.21-2 summarizes the aquatic life and riparian features of the surface waters crossed by Corridor 25 and adjacent lakes that were assessed for habitat based on available data or field visibility; however, limited aquatic information is available.

Table 4.21-2. Aquatic Life and Riparian Habitat within Corridor 25

Surface Water[a]	Mile Post	Aquatic Life[b]			Riparian Habitat[c]	Wildlife Corridor Function[d]	Comments
		Fish	Mollusk	Amphibian			
Fort Hill Creek	3.0	--	--	--	F	Yes	
Squaw Creek	4.9	X	X	X	F	Yes	Contains records for three fish, two mollusk, and one amphibian species (INHS 2018)

a Only streams that cross the roadway corridor's approximate centerline and adjacent lakes that contain available data or were field visible were assessed for aquatic life and riparian habitat.

b X = INHS Information within 1 mile of Corridor, -- = No information available

c AG = Agricultural, F = Forested, G = Grassland, M = Mowed Turf, SS = Shrub-scrub, W = Wetland

d Wildlife Corridor function of riparian areas determined by the Project Team based on factors such as riparian width, riparian vegetation, and connection to public/protected lands.

4.21.5 T&E Species

Federal T&E species and their habitat types are identified in Table 4.21-3.

Table 4.21-3. Federal T&E Species and their Habitat Types within Corridor 25

Species	Status	Habitat	Potential Habitat Present within Corridor 25	
			(Y/N)	Description
Rusty patched bumble bee	E	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	No	Corridor 25 is not located within a high potential zone.
Karner blue butterfly	E	Pine barrens and oak savannas on sandy soils and containing wild lupines, the only known food plant of the larvae	No	Pine barrens and oak savannas on sandy soils and containing wild lupines do not appear to be present within Corridor 25.
Eastern prairie fringed orchid	T	Moderate- to high-quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Yes	Moderate- to high-quality wetlands may be present within Corridor 25.

Table 4.21-3. Federal T&E Species and their Habitat Types within Corridor 25

Species	Status	Habitat	Potential Habitat Present within Corridor 25	
			(Y/N)	Description
Northern long-eared bat	T	Caves, mines (hibernacula); wooded areas surrounding hibernacula; upland forests (foraging)	Yes	Large wooded areas are present within and adjacent to Corridor 25.
Rufa red knot	T	Only actions that occur along coastal areas or large wetland complexes during migratory window of May 1 - September 30	Yes	Large wetland complexes are located within portions of Corridor 25.

Source: FWS 2018.

Table 4.21-4 details state-listed T&E species and their locations on the corridor.

Table 4.21-4. State T&E Species, Corridor 25

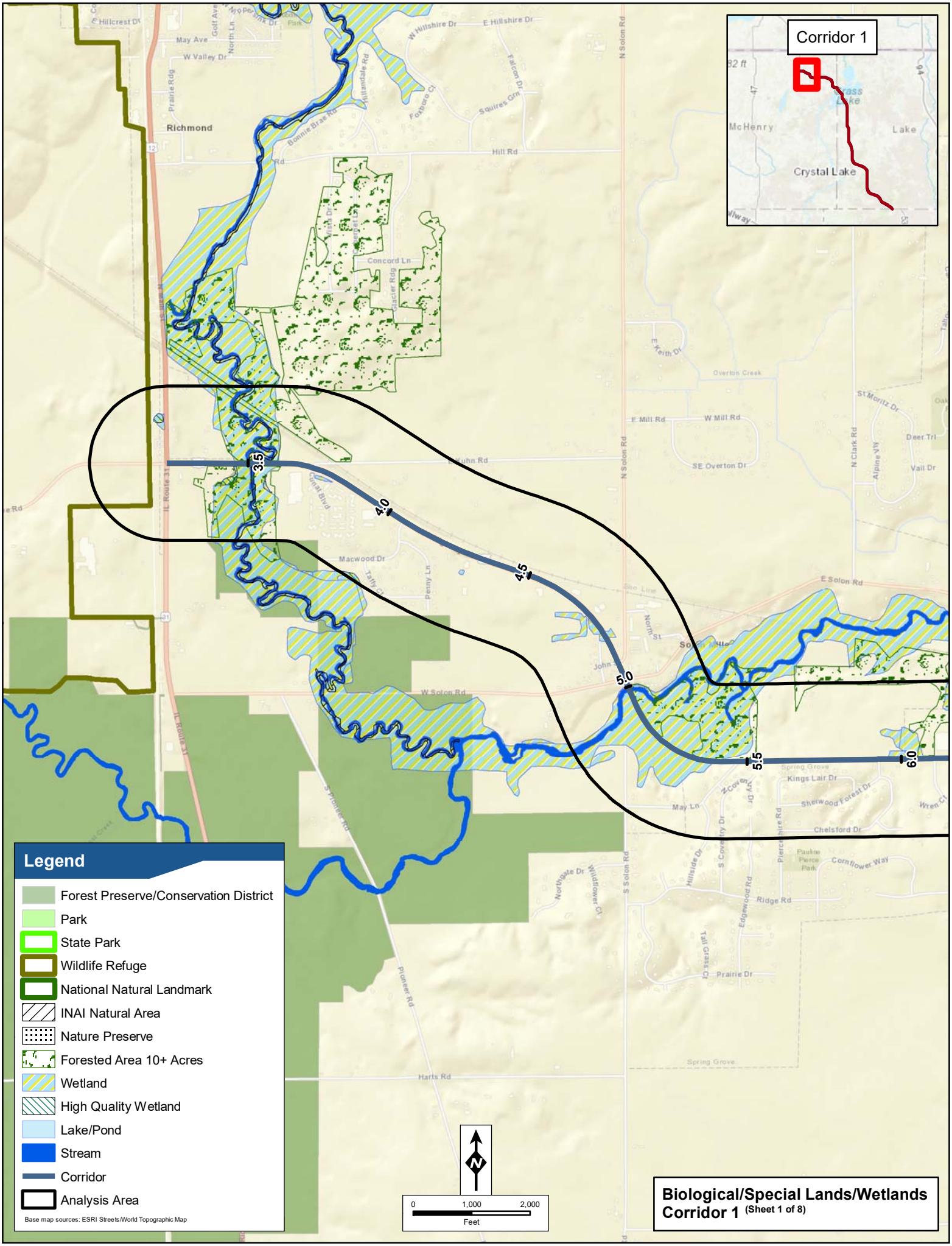
Species	Status	Location
Star-flower	E	Pistakee Bog Nature Preserve
Highbush blueberry	E	
Shortleaf sedge	E	
Tamarack	T	
Showy lady's slipper	E	
Snake-mouth	E	Volo Bog
Rusty patched bumble bee	E	
Smith’s bulrush	E	
Dwarf raspberry	T	
Leatherleaf	T	
Rusty cotton grass	E	
Cordroot sedge	E	
Round-leaved sundew	E	
Beaked rush	E	
Sedge	E	
Common tern	E	
Tamarack	T	Undeveloped area north of Brandenburg Rd, west of IL 59
Starhead topminnow	T	Wooster Lake
White-stemmed pondweed	E	
Blackchin shiner	T	
Blacknose shiner	E	
Iowa darter	T	

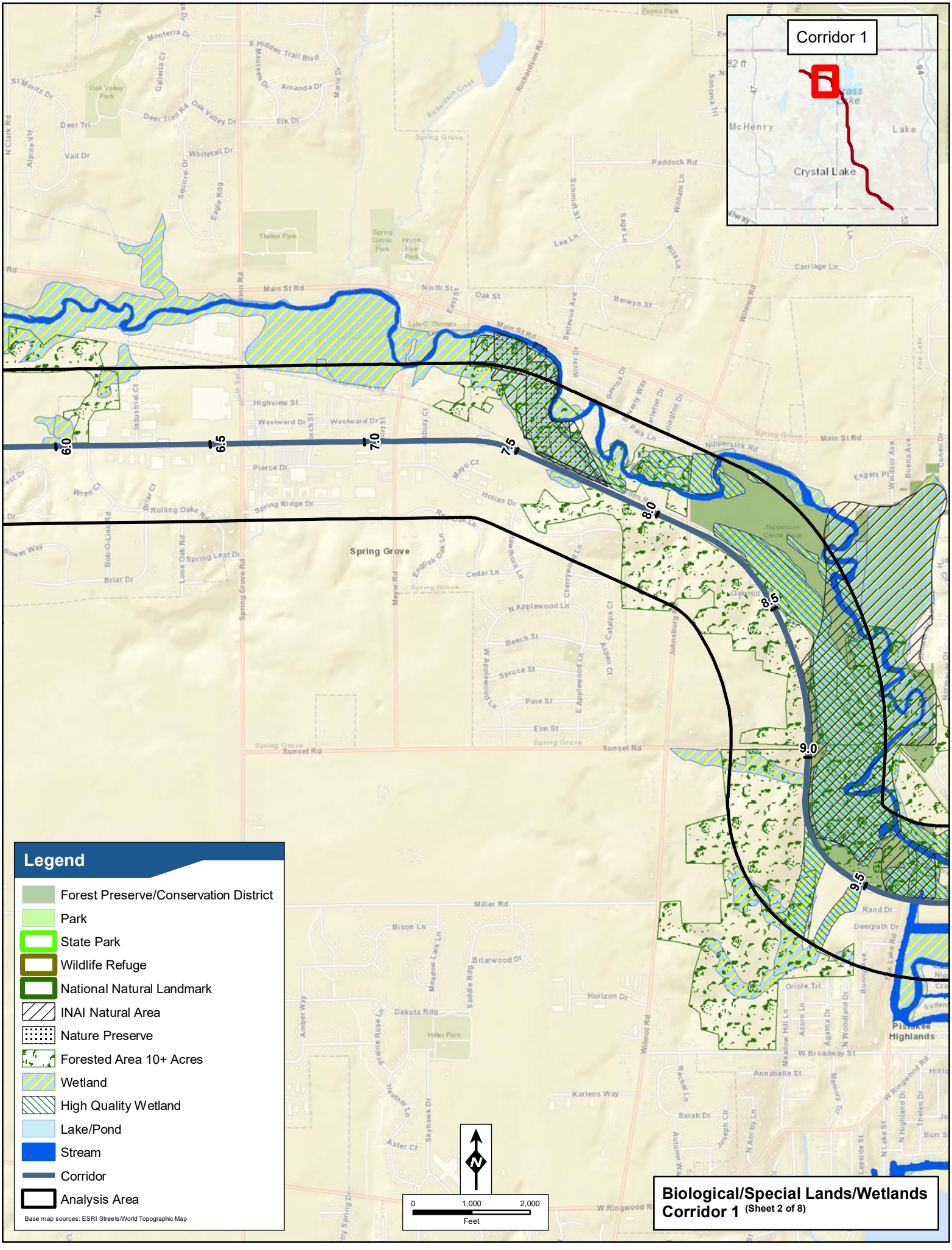
Table 4.21-4. State T&E Species, Corridor 25

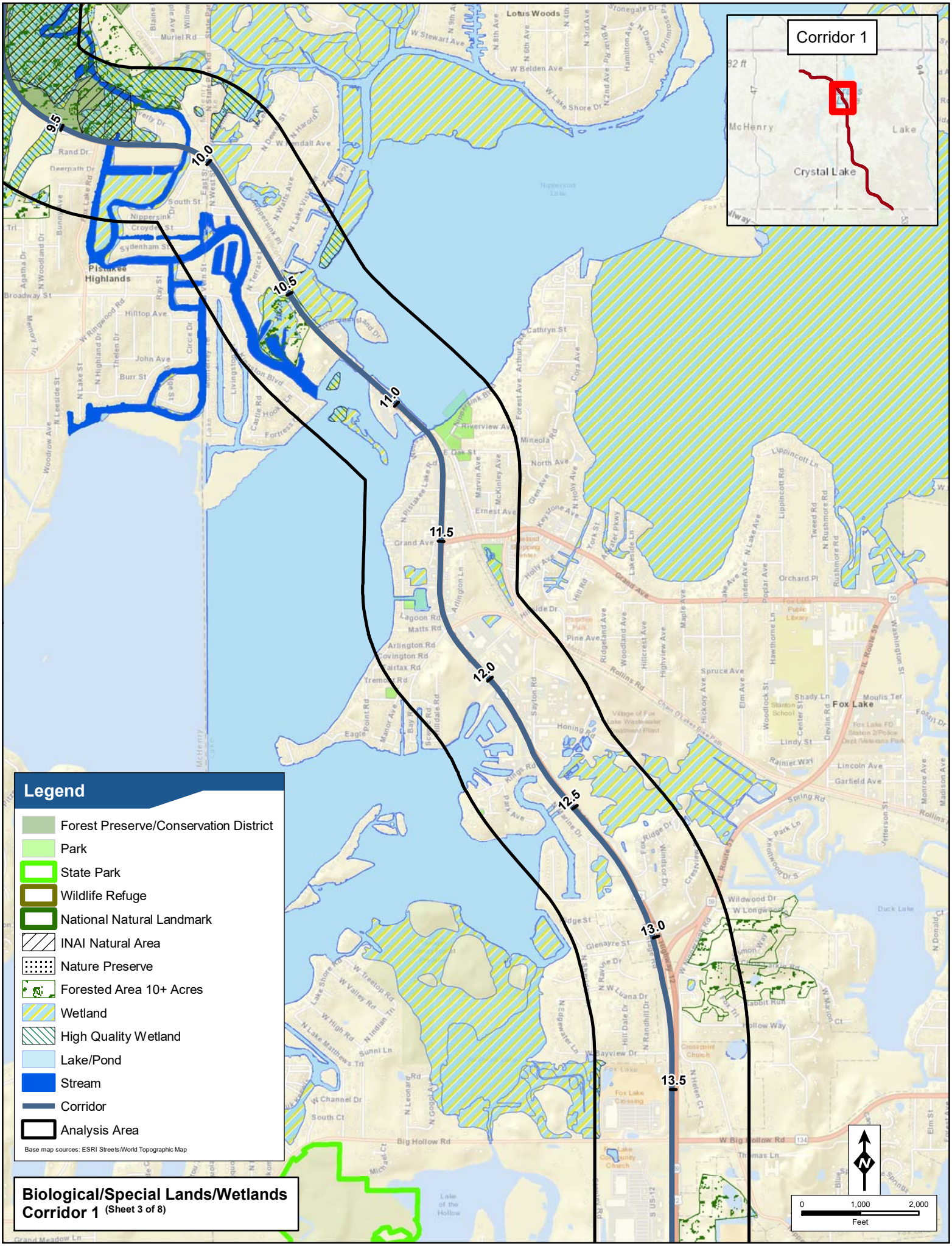
Species	Status	Location
Beaked rush	E	
Large cranberry	E	
White-stemmed pondweed	E	Sullivan Lake
Iowa darter	T	
Grass-leaved pondweed	T	
Common tern	E	Fischer Lake
Black tern	E	Fish Lake/Marl Flat Forest Preserve
Golden sedge	T	
Richardson's rush	T	
Little green sedge	T	
Sedge	T	
Common gallinule	E	Marl Flat Forest Preserve
Black tern	E	Sargent Marsh/Kettle Grove Forest Preserve
Yellow-headed blackbird	E	
Common gallinule	T	
Least bittern	T	
Yellow-headed blackbird	E	Agricultural land north of IL 60, west of Cedar Lake Road
Common gallinule	E	Nippersink Forest Preserve
Least bittern	T	
Yellow-headed blackbird	E	
Yellow-headed blackbird	E	Village of Hainesville Open Space (north of Campbell Airport)
Sedge sp.	E	
Blackchin shiner	T	Grays Lake
Fern pondweed	E	
Grass-leaved pondweed	T	
Banded killifish	T	
Water marigold	E	

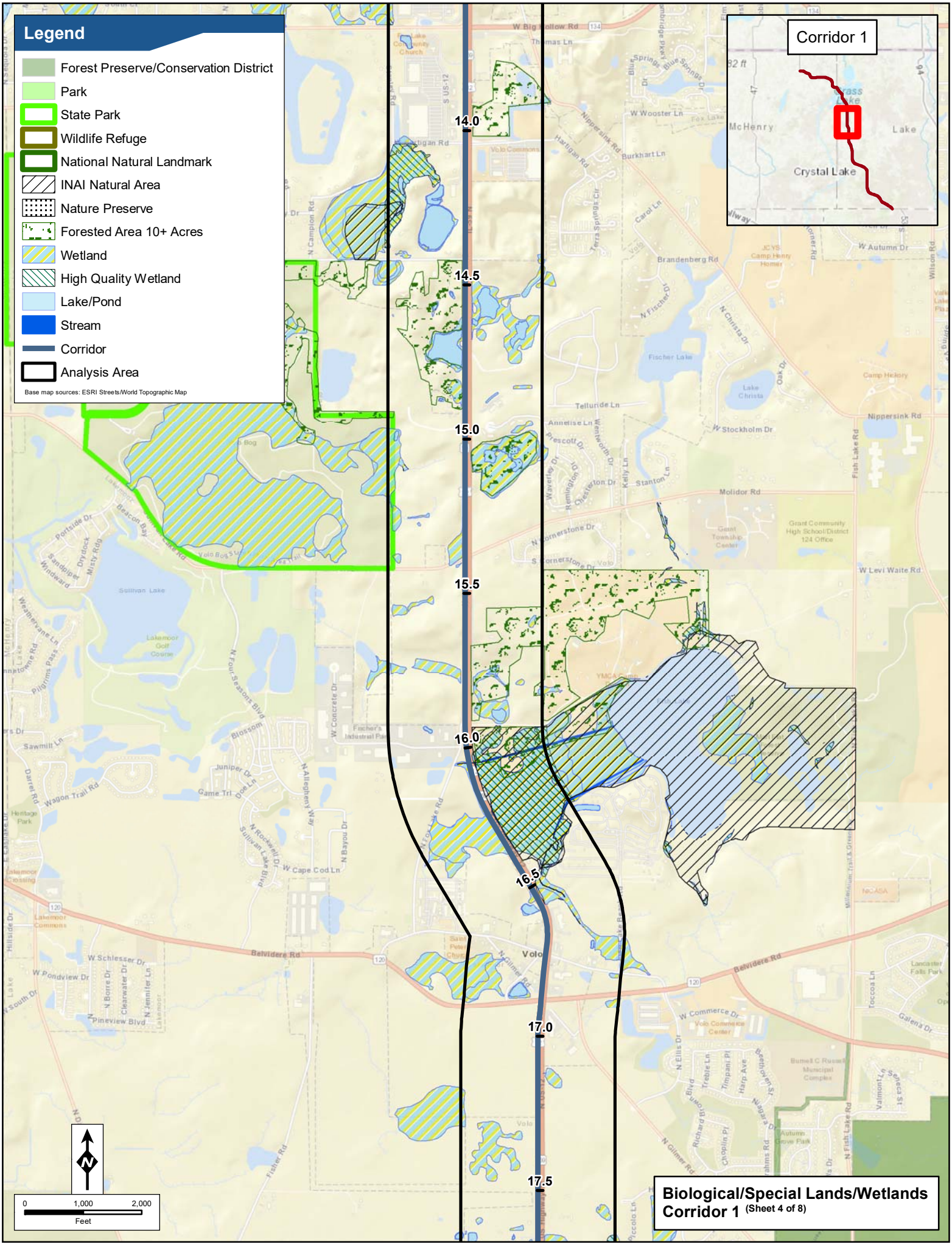
Source: IDNR 2018a, IDNR 2019.

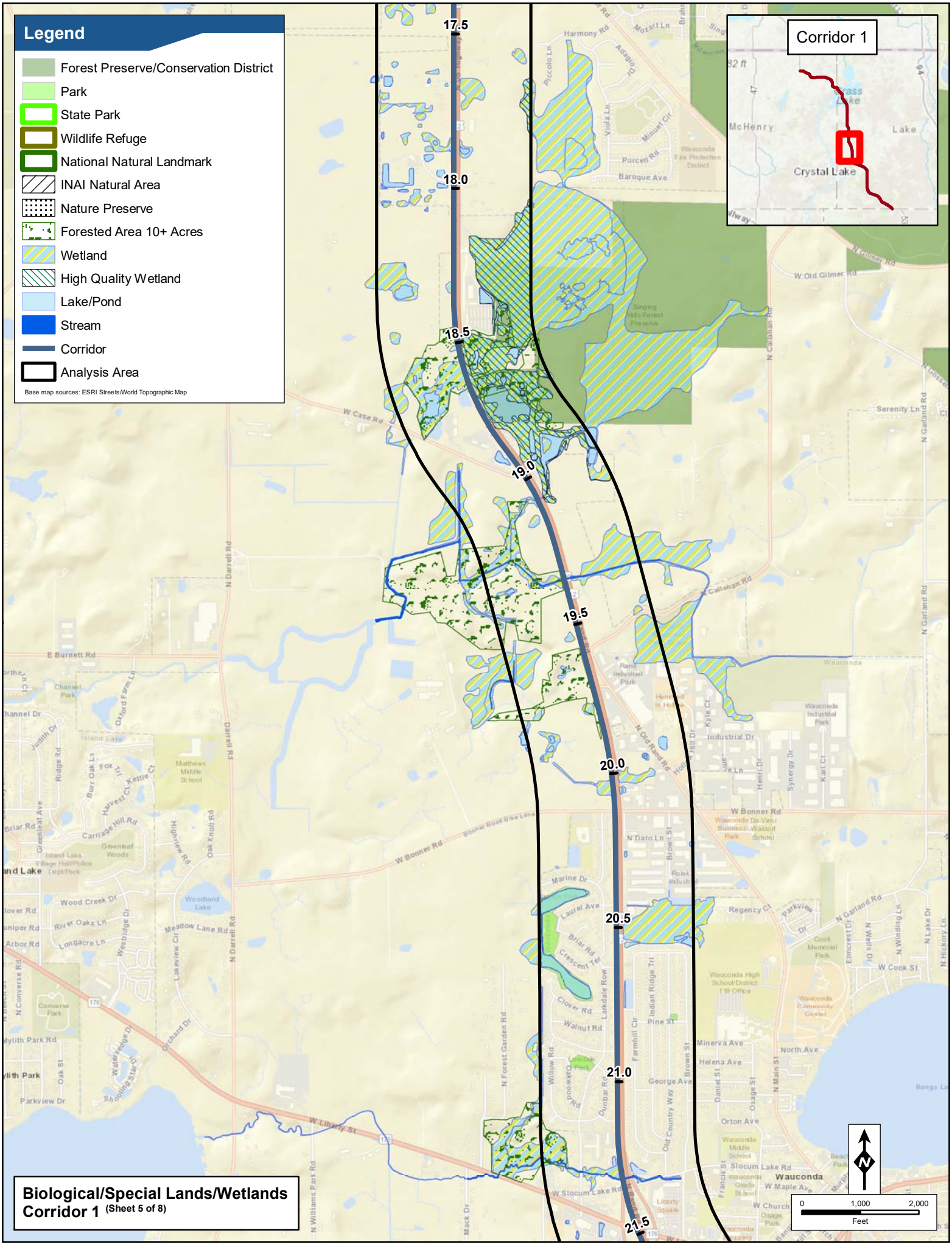
Attachment A: Biological Resources and Threatened and Endangered Species Figures

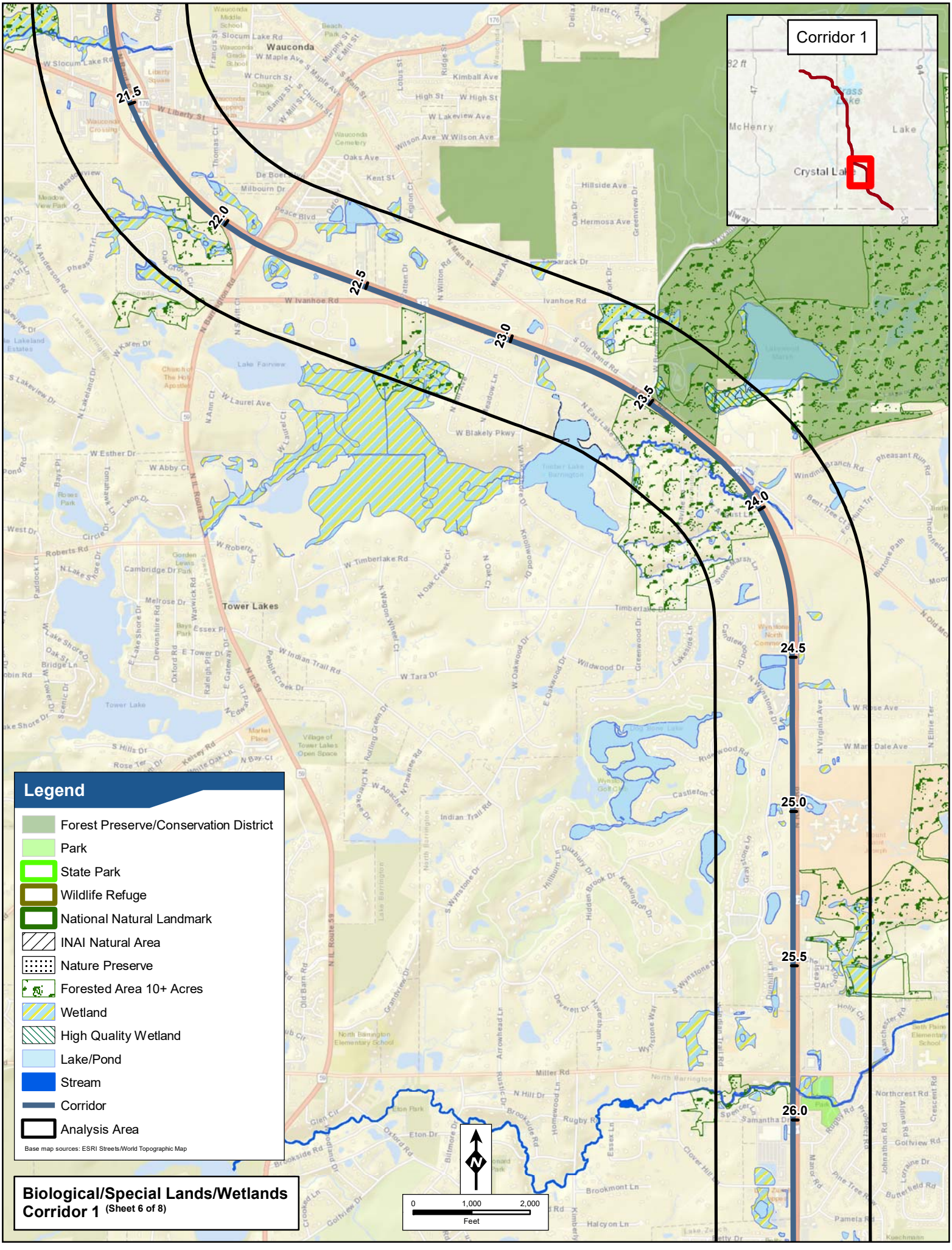

Corridor 1
Richmond
Crystal Lake
McHenry
Lake
3.5
4.0
4.5
5.0
5.5
6.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 1 of 8)

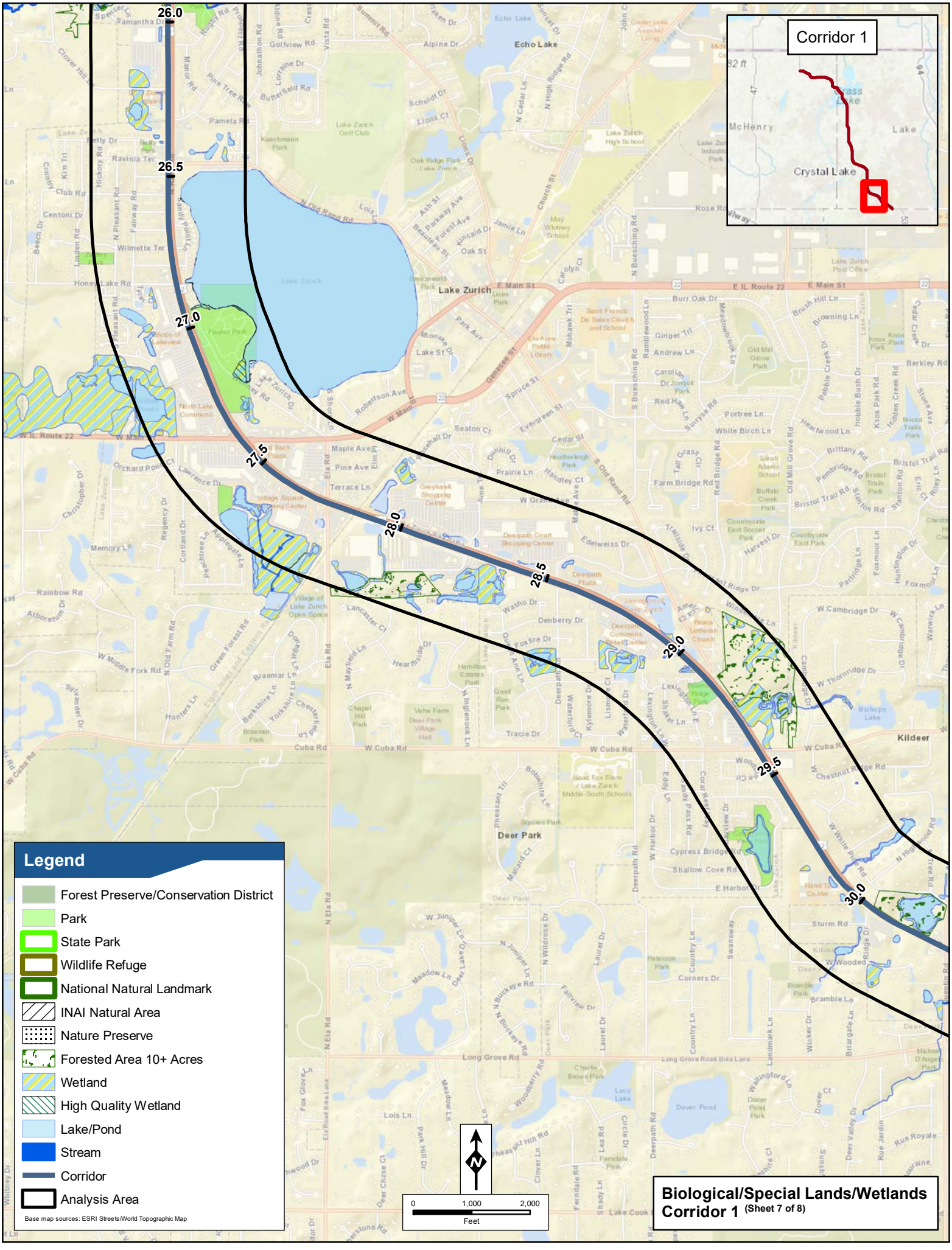

Corridor 1
McHenry
Lake
Crystal Lake
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
Spring Grove
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 2 of 8)

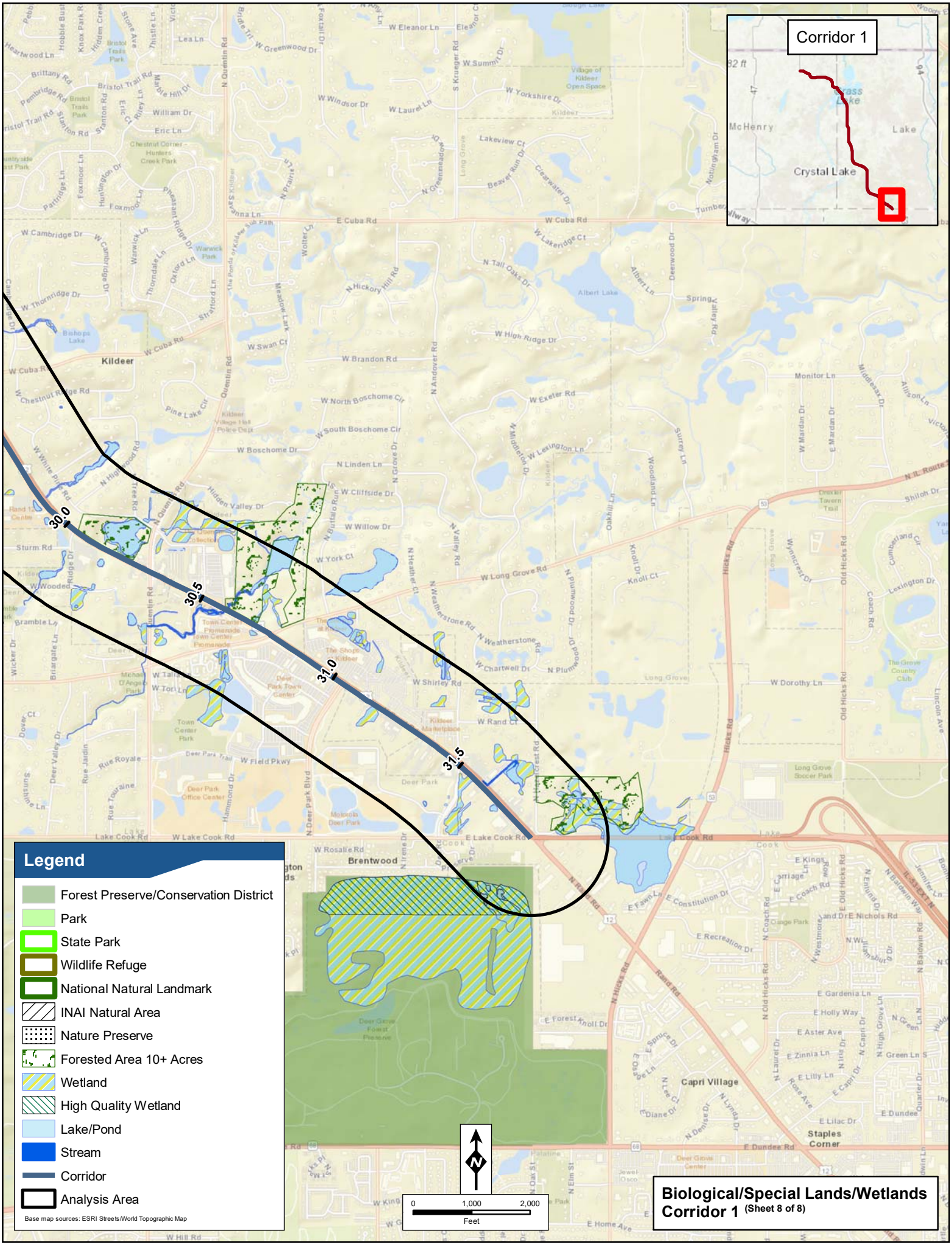

Corridor 1
82 ft
McHenry
Lake
Crystal Lake
9.5
10.0
10.5
11.0
11.5
12.0
12.5
13.0
13.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 3 of 8)
N
0
1,000
2,000
Feet

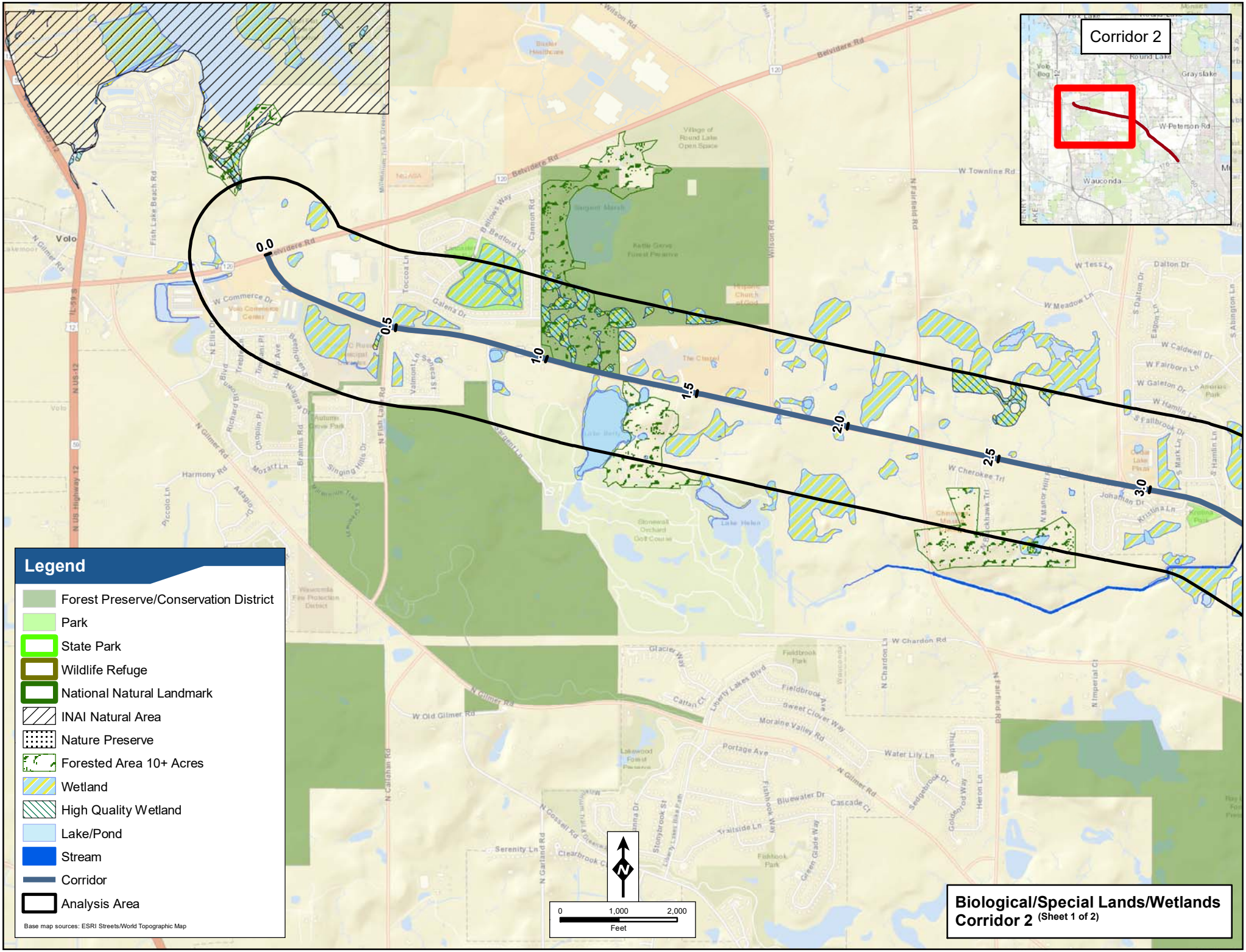

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 1
14.0
14.5
15.0
15.5
16.0
16.5
17.0
17.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 4 of 8)

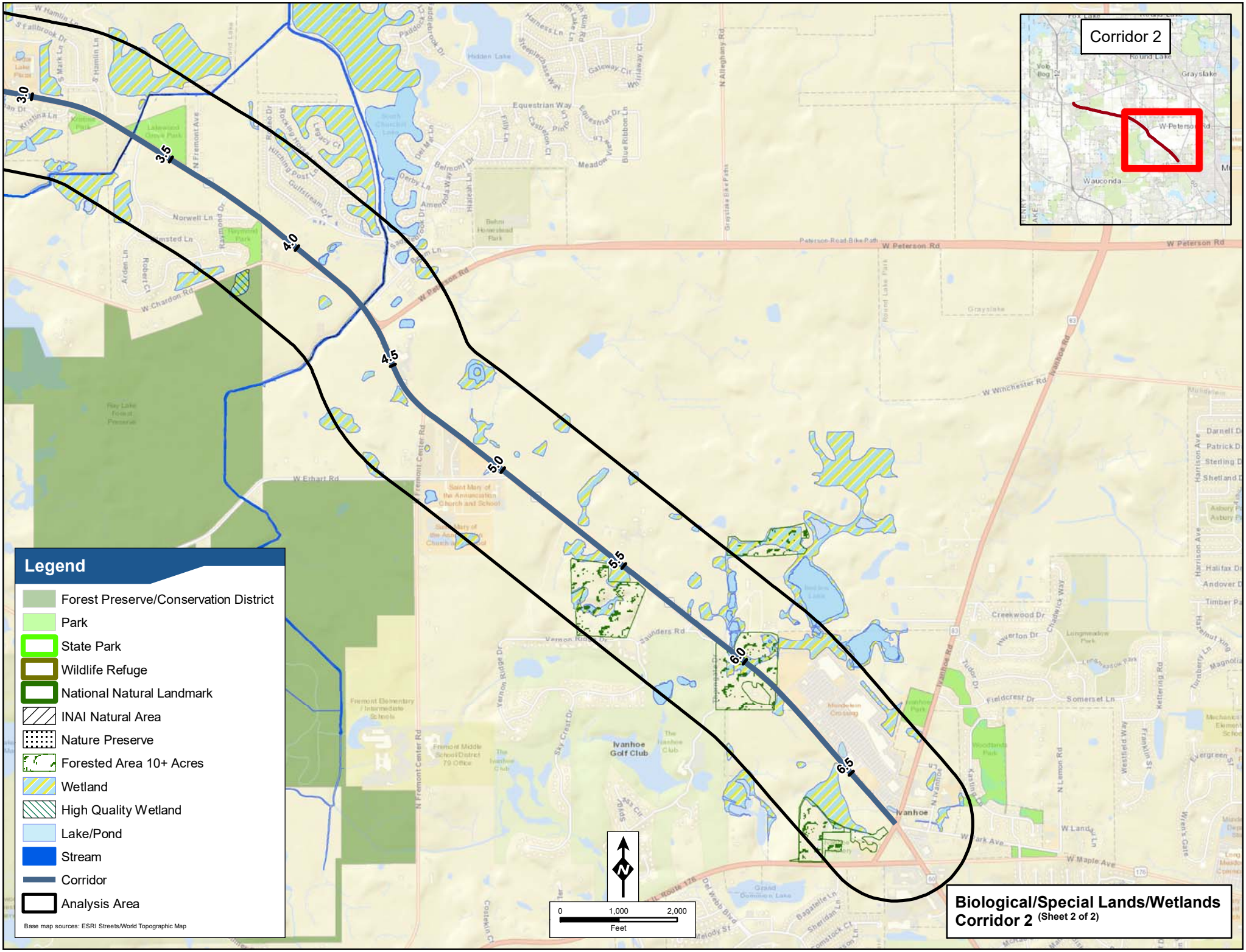

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 1
Crystal Lake
17.5
18.0
18.5
19.0
19.5
20.0
20.5
21.0
21.5
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 5 of 8)
0
1,000
2,000
Feet

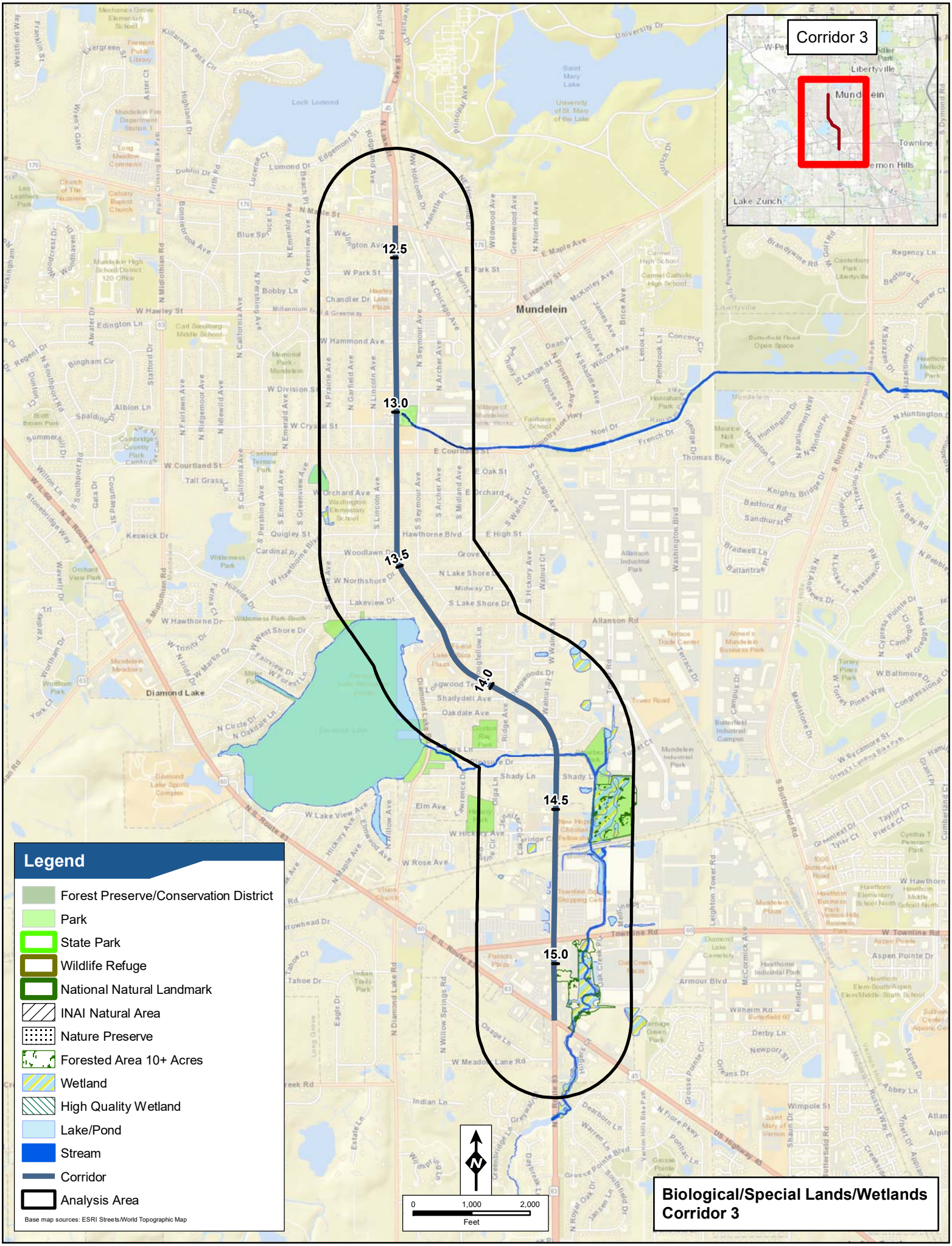

Corridor 1
21.5
22.0
22.5
23.0
23.5
24.0
24.5
25.0
25.5
26.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 6 of 8)

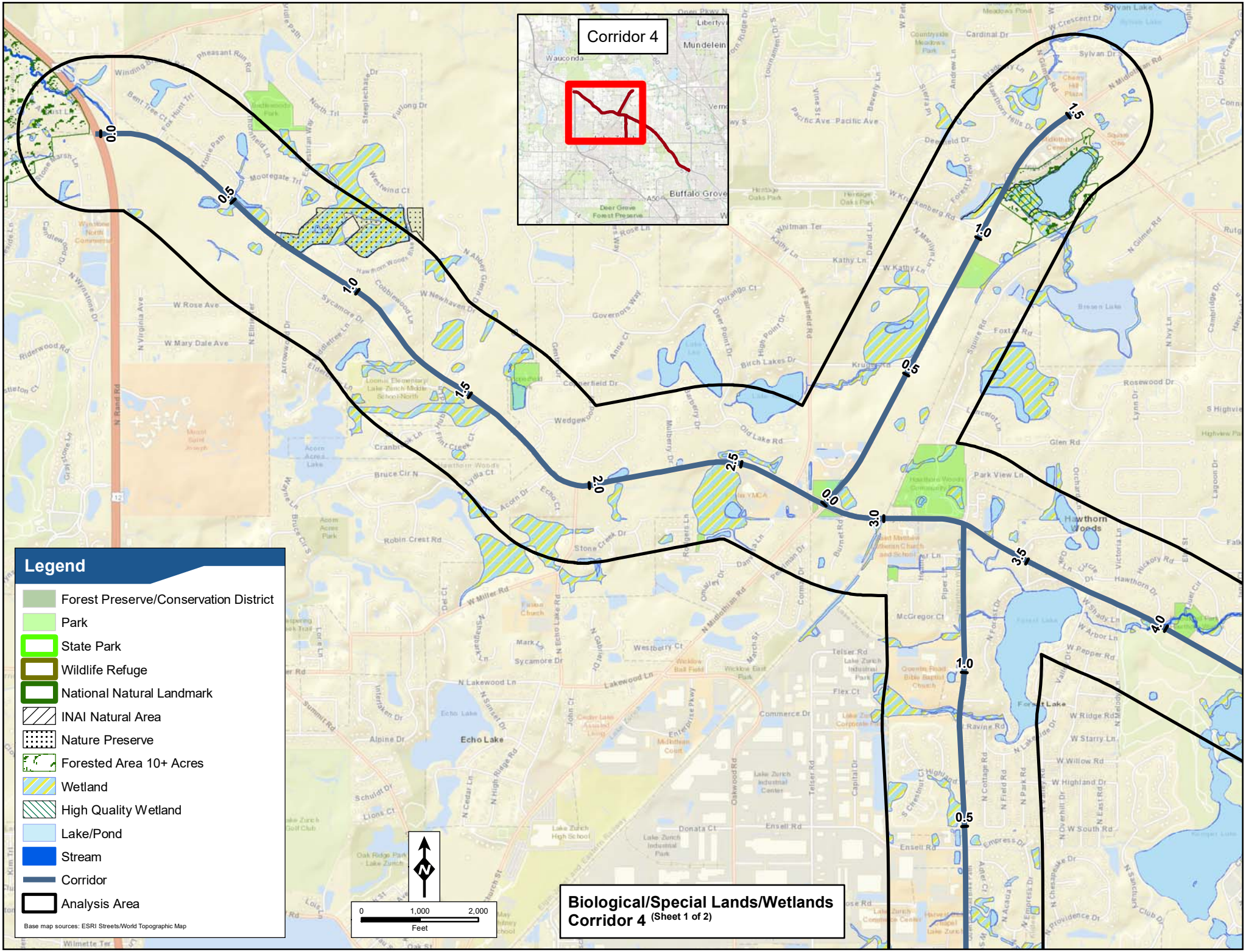

Corridor 1
26.0
26.5
27.0
27.5
28.0
28.5
29.0
29.5
30.0
Echo Lake
Lake Zurich
Crystal Lake
Deer Park
Kildeer
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 7 of 8)

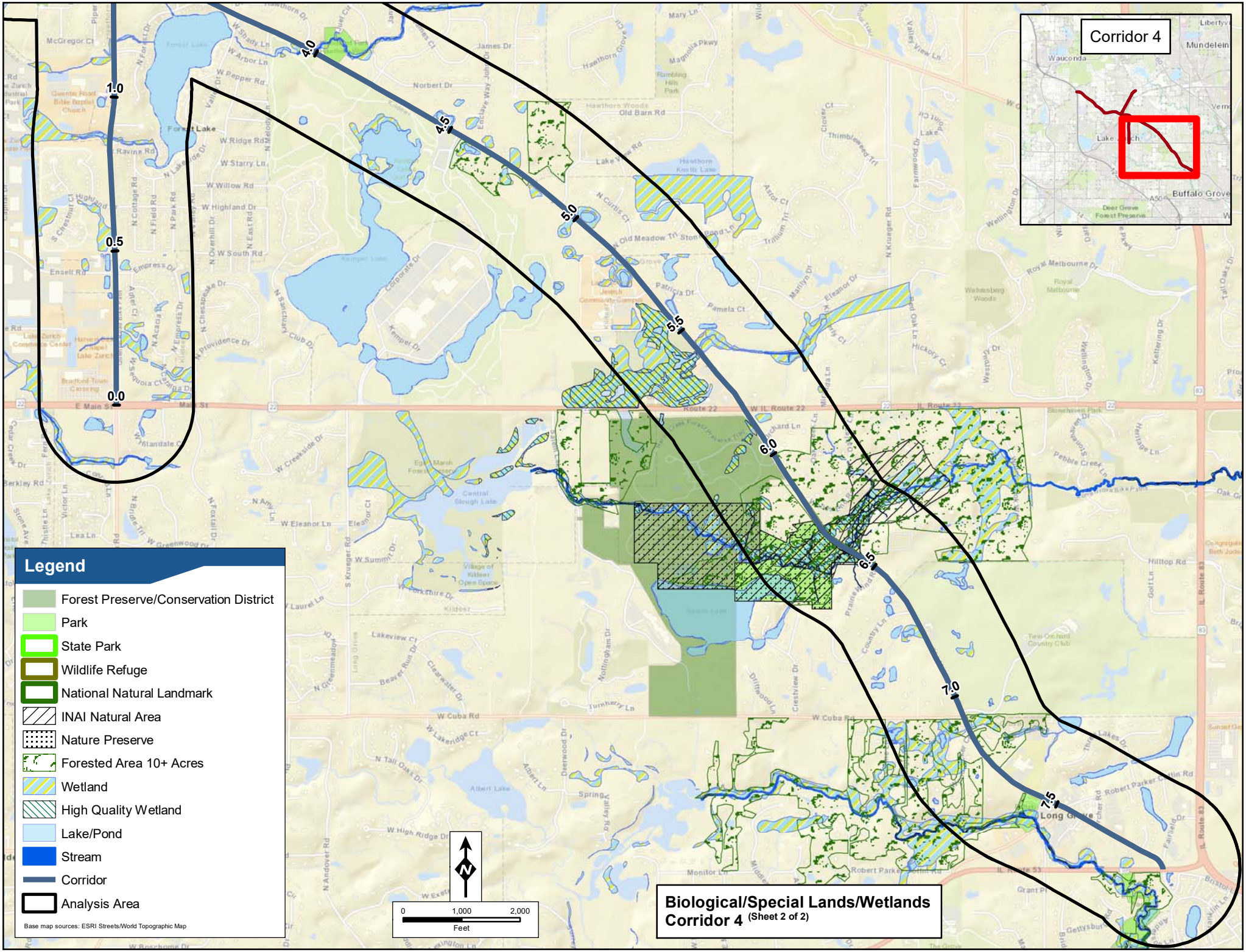

Corridor 1
McHenry
Lake
Crystal Lake
30.0
30.5
31.0
31.5
Kildeer
Brentwood
Capri Village
Staples Corner
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 8 of 8)

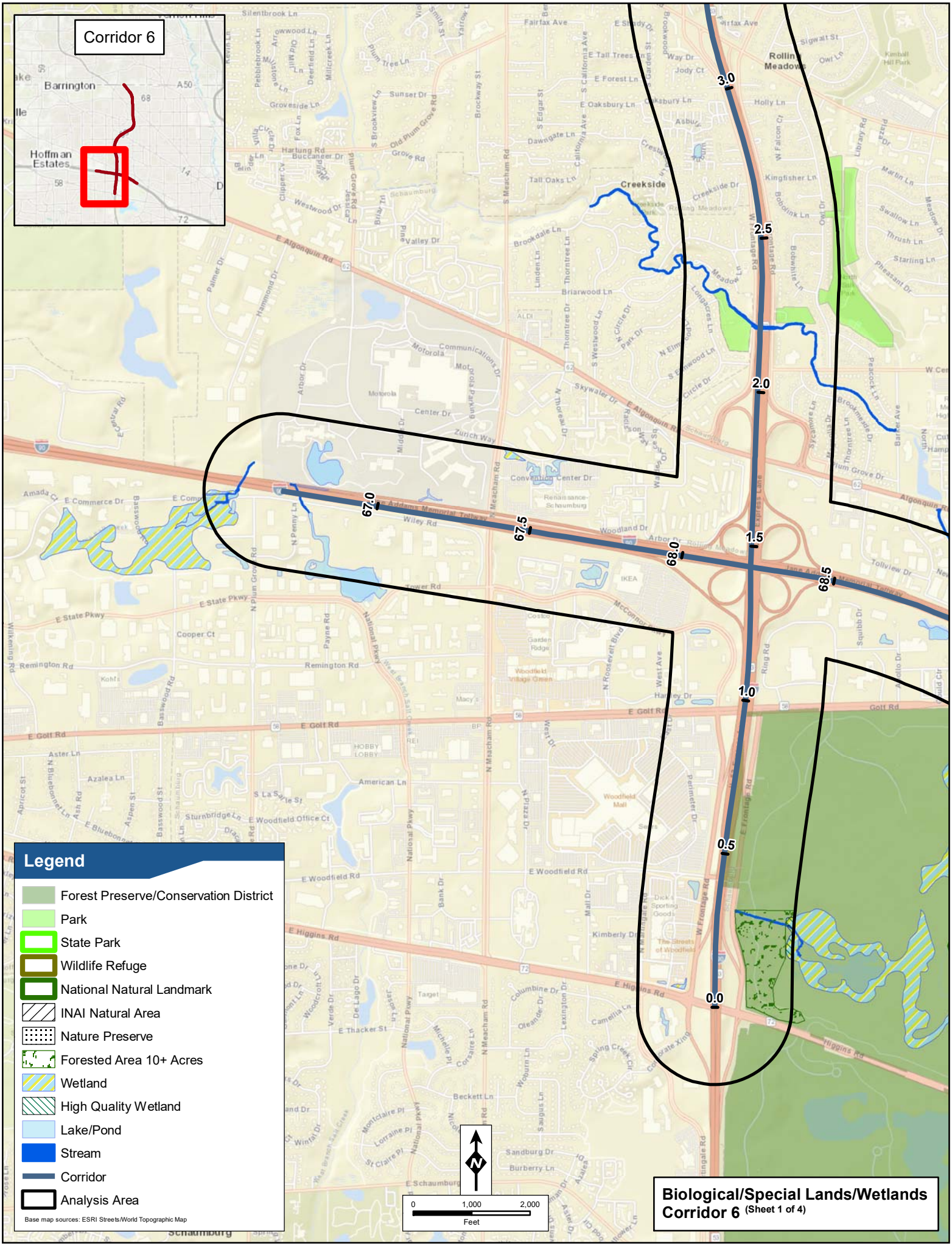

Corridor 2
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 2 (Sheet 1 of 2)

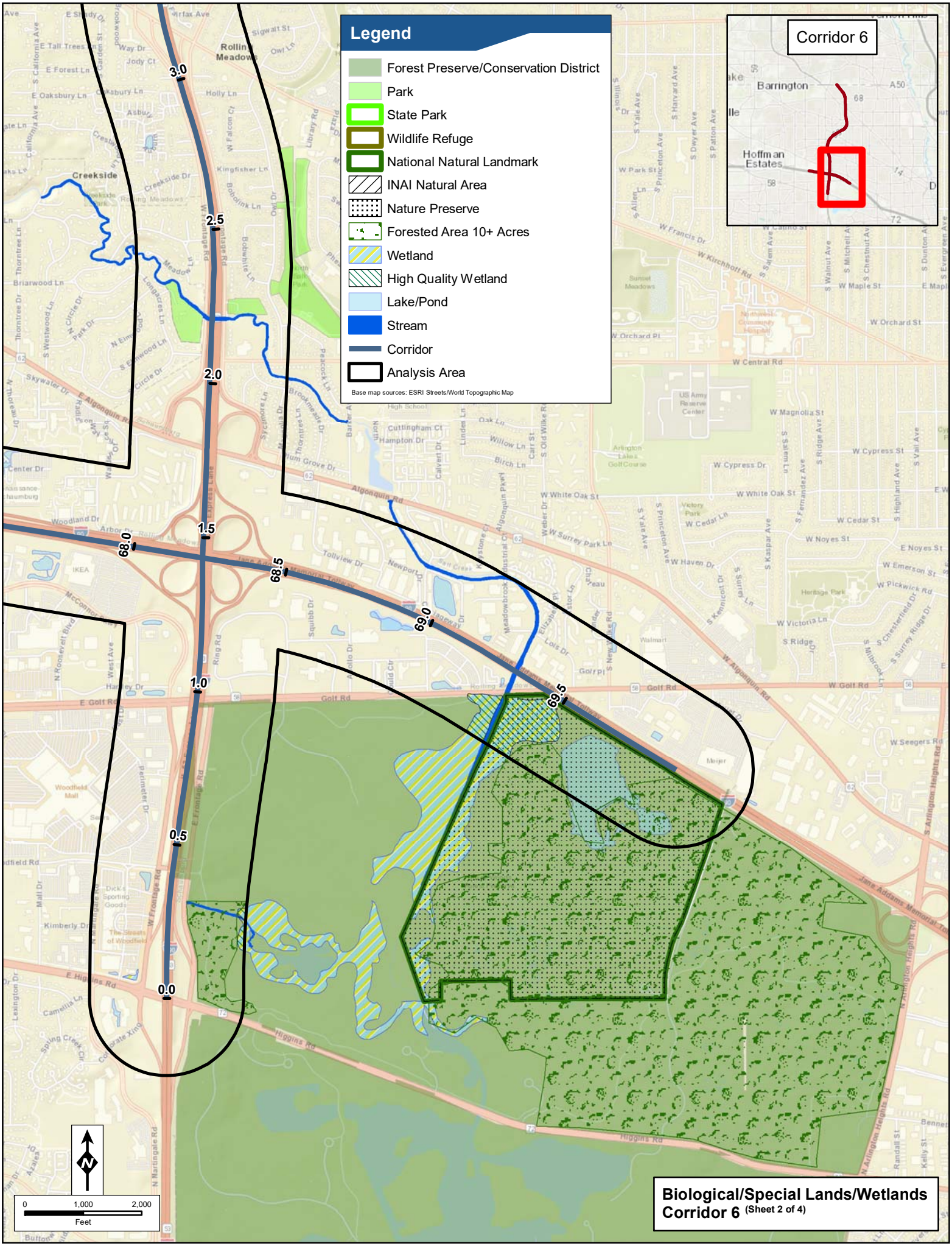

Corridor 2
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Ivanhoe Golf Club
Ivanhoe
W Peterson Rd
W Chardon Rd
W Erhart Rd
W Winchester Rd
Biological/Special Lands/Wetlands
Corridor 2 (Sheet 2 of 2)

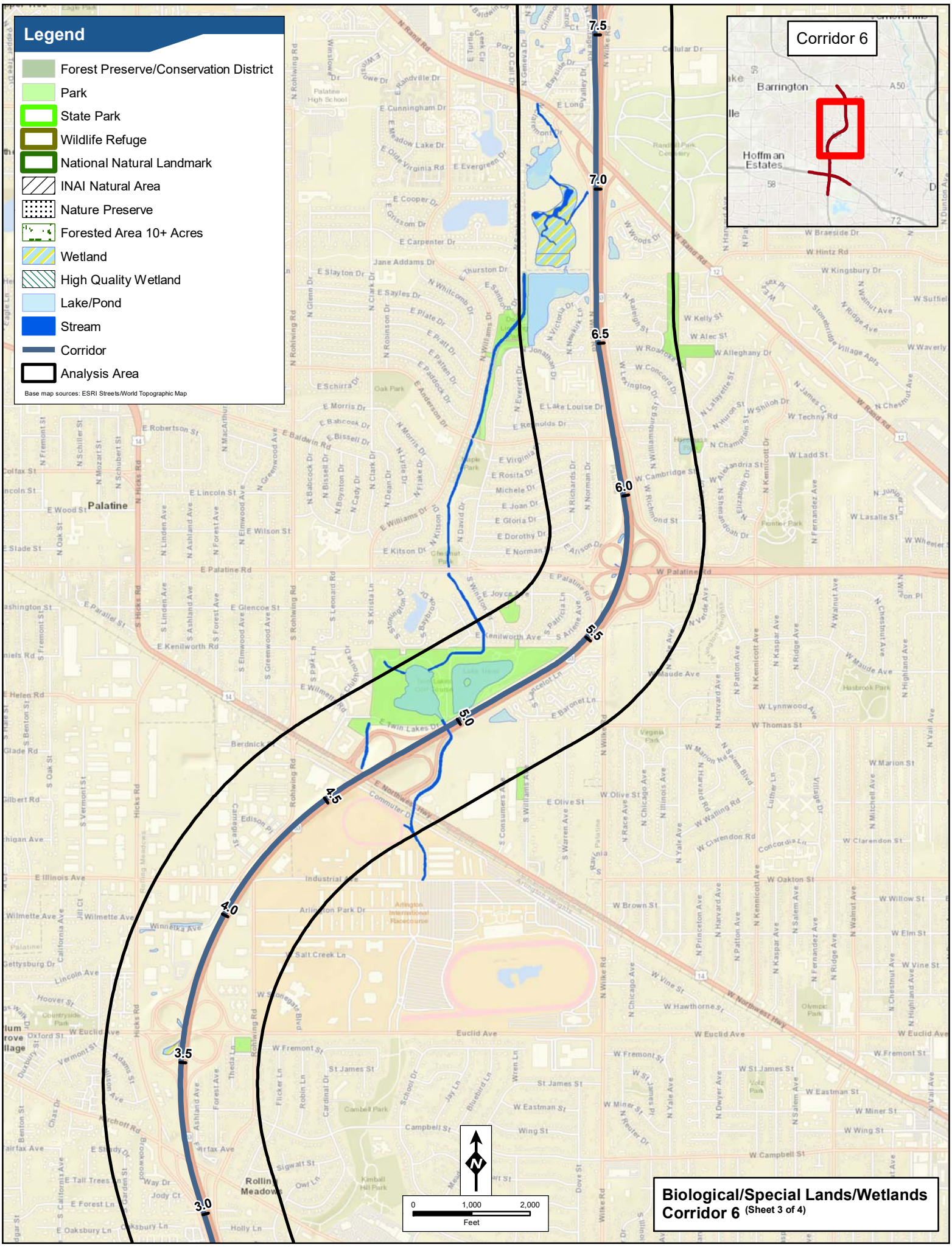

Corridor 3
Libertyville
Mundelein
Lake Zurich
12.5
13.0
13.5
14.0
14.5
15.0
Diamond Lake
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 3

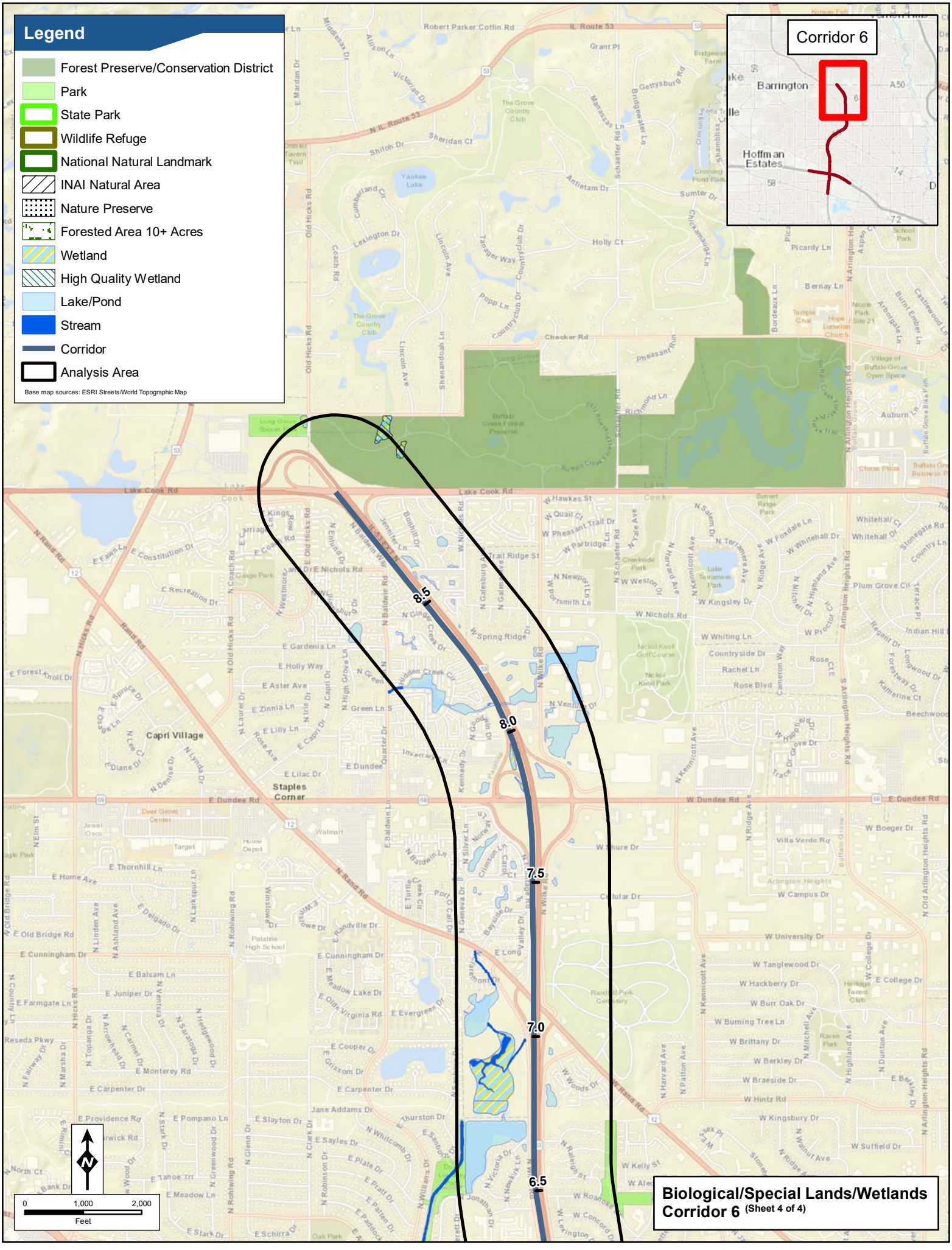

Corridor 4
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 4 (Sheet 1 of 2)
0.0
0.5
1.0
1.5
0.2
2.5
0.0
3.0
3.5
4.0
1.0
0.5
1.5
1.0
0.5
Echo Lake
Hawthorn Woods

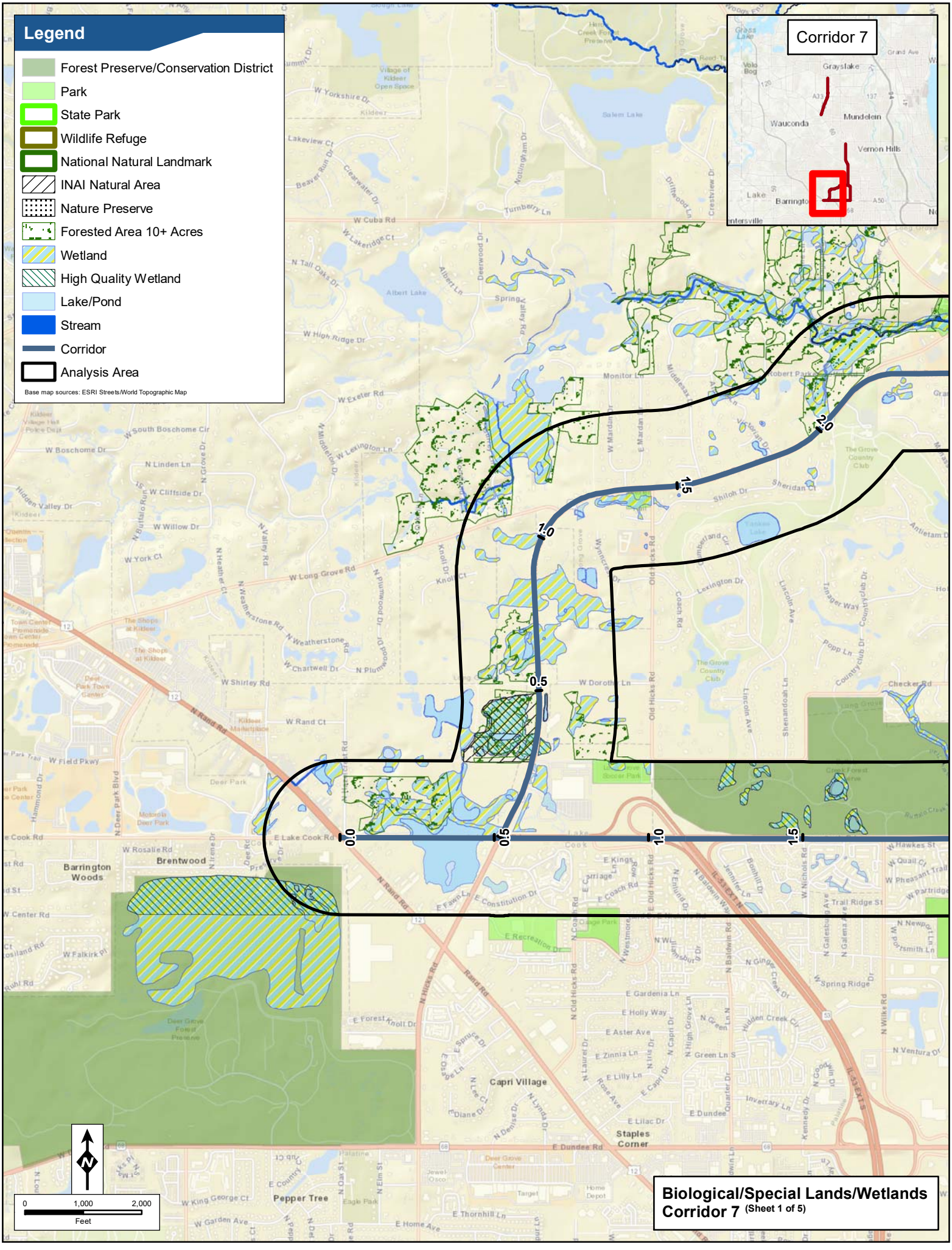

Corridor 4
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 4 (Sheet 2 of 2)
0.0
0.5
1.0
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5

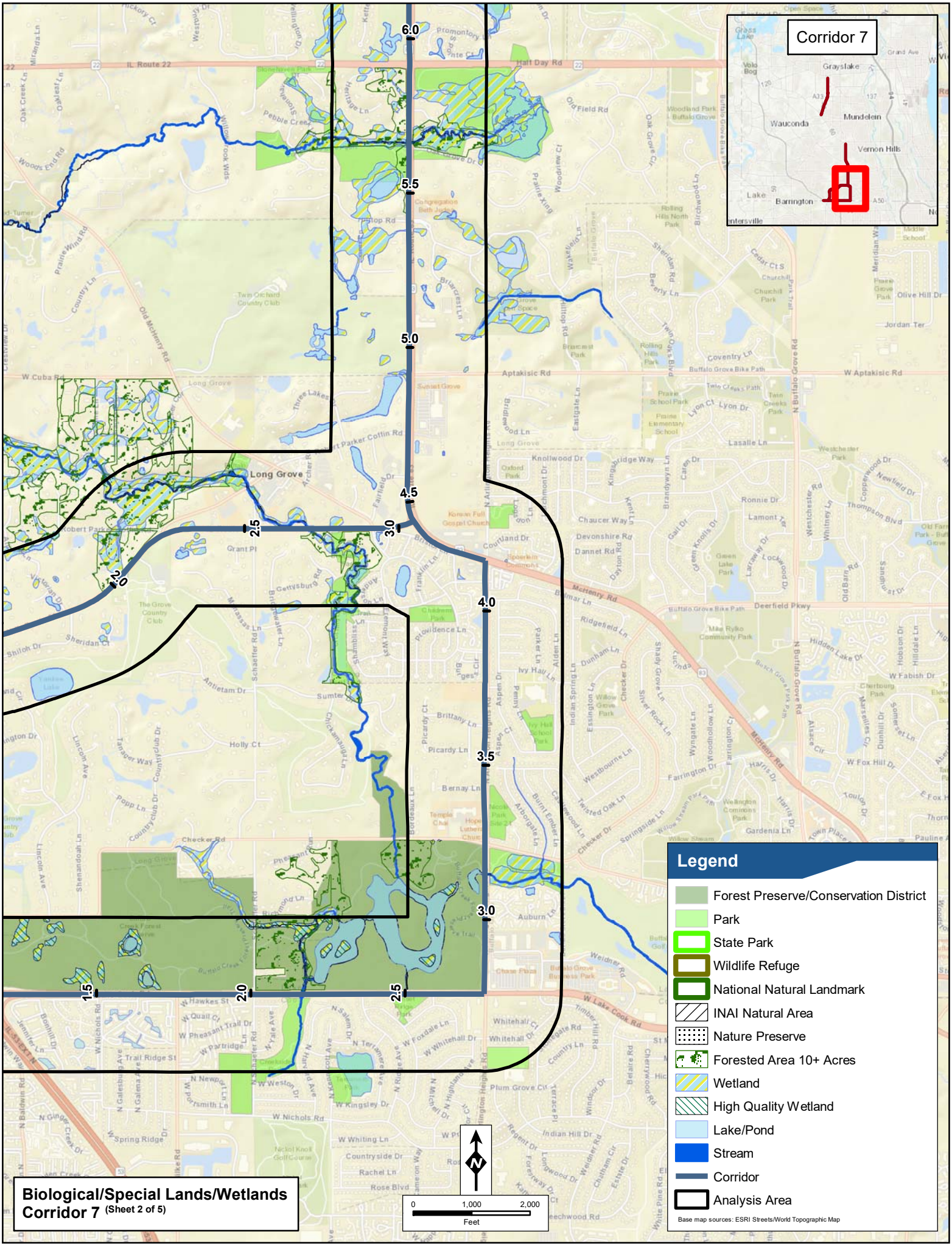

Corridor 6
Barrington
Hoffman Estates
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.9
2.7
5.7
6.8.0
6.8.5
Creekside
Rolling Meadows
Schaumburg
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 1 of 4)


Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
3.0
2.5
2.0
1.5
1.0
0.5
0.0
68.0
68.5
69.0
69.5
Creekside
Rollin Meadows
Algonquin Rd
Golf Rd
Higgins Rd
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 2 of 4)

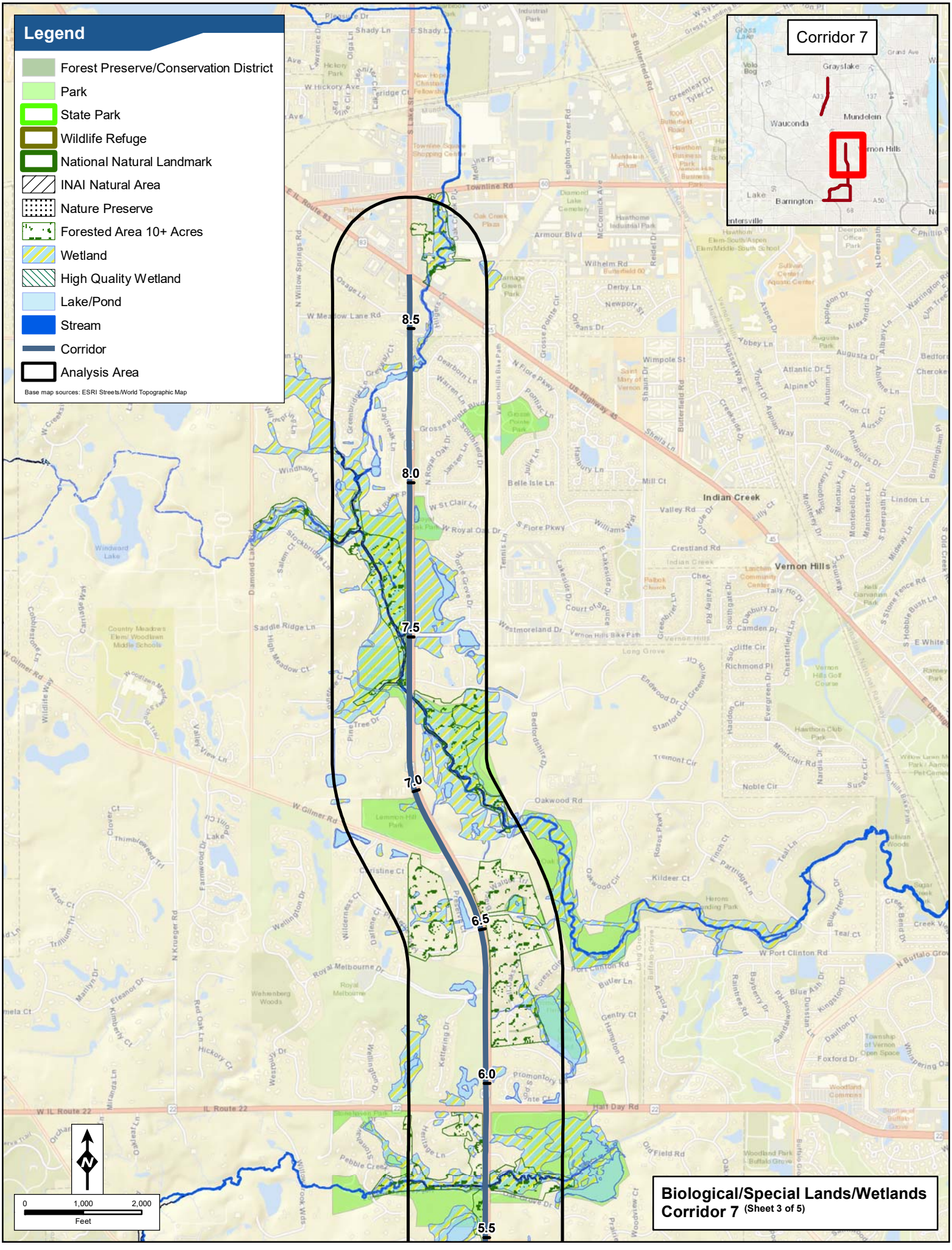

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
Palatine
Rolling Meadows
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 3 of 4)

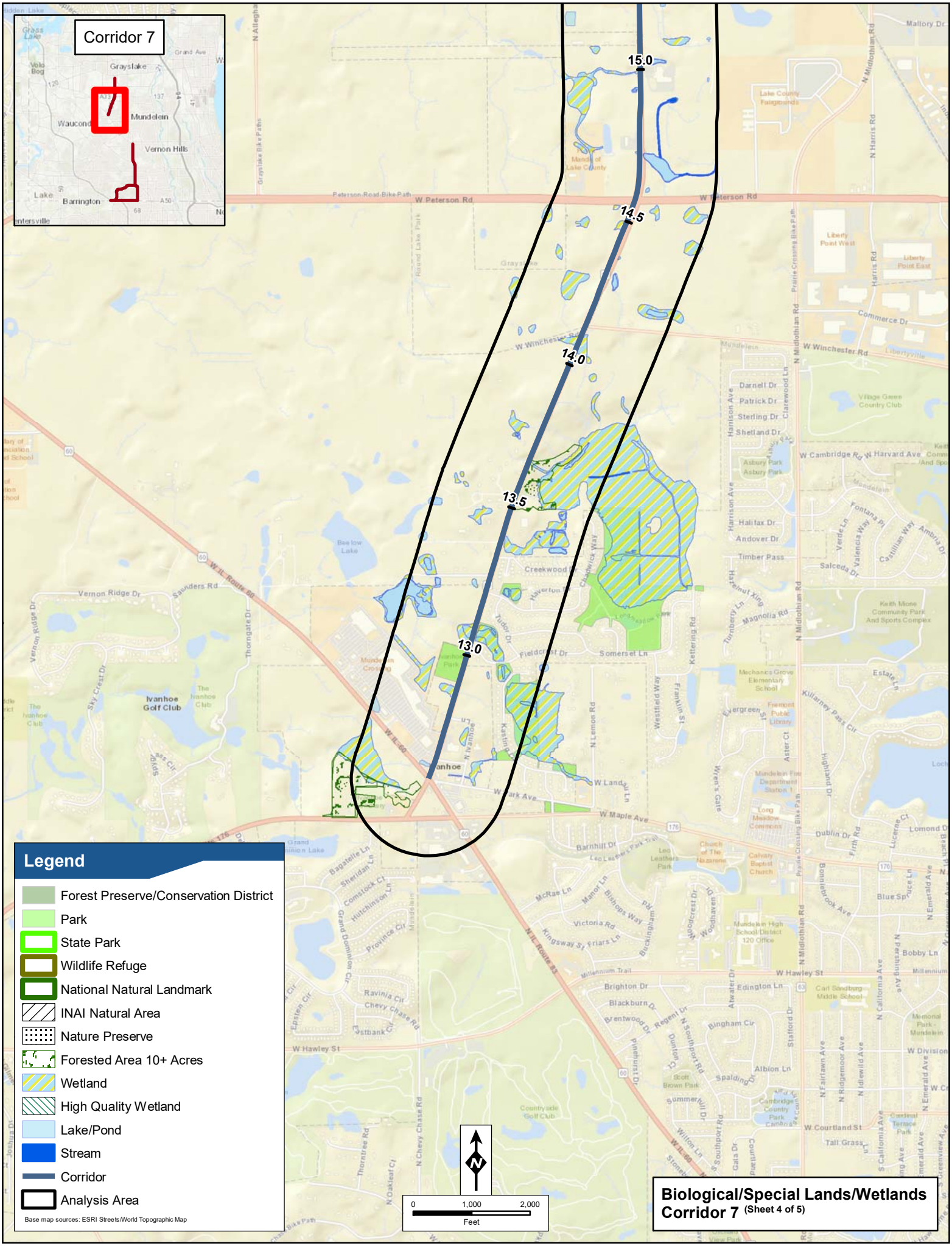

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
8.5
8.0
7.5
7.0
6.5
Capri Village
Staples Corner
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 4 of 4)

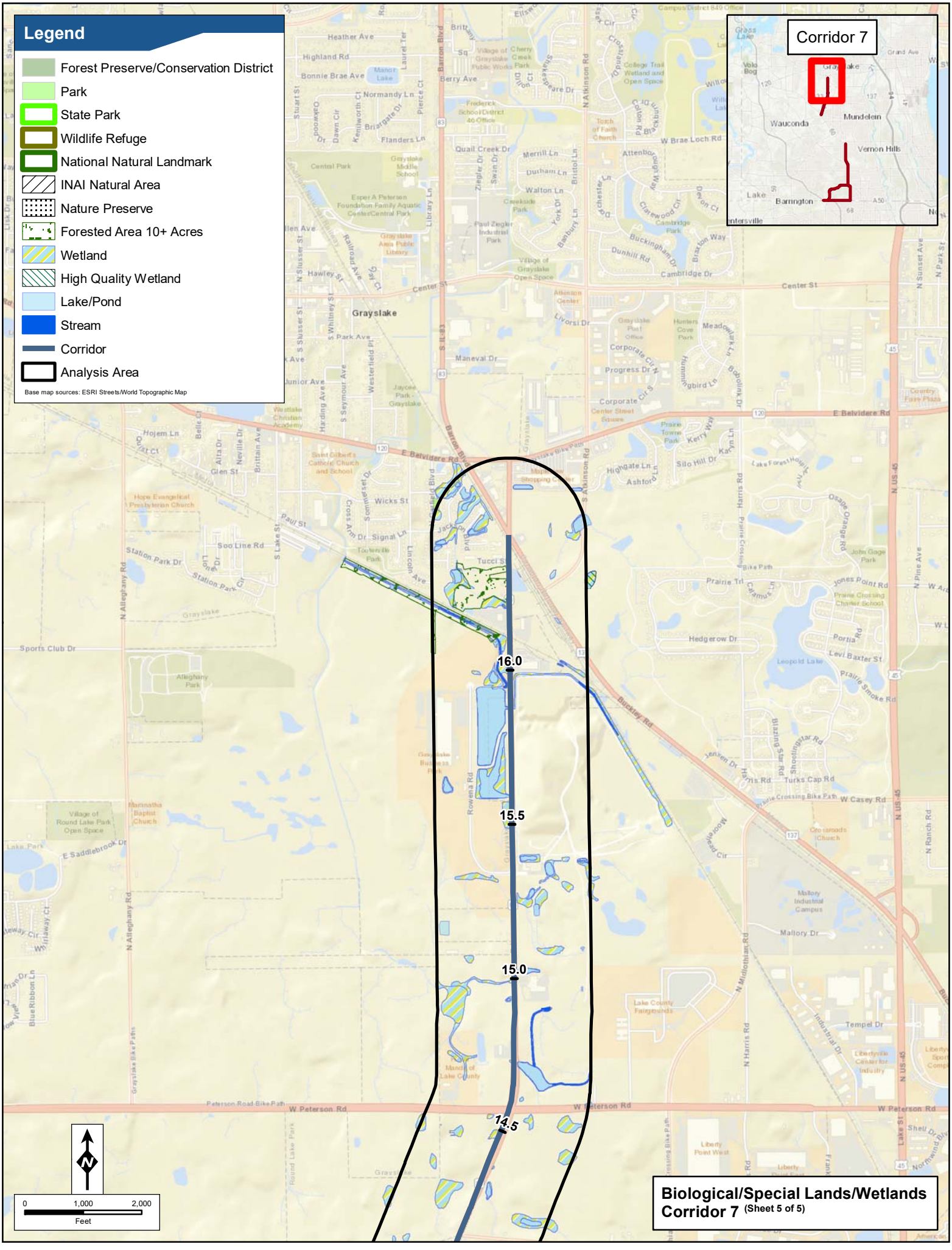

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Mundelein
Wauconda
Vernon Hills
Barrington
0.0
0.5
1.0
1.5
2.0
Barrington Woods
Brentwood
Capri Village
Staples Corner
Pepper Tree
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 1 of 5)

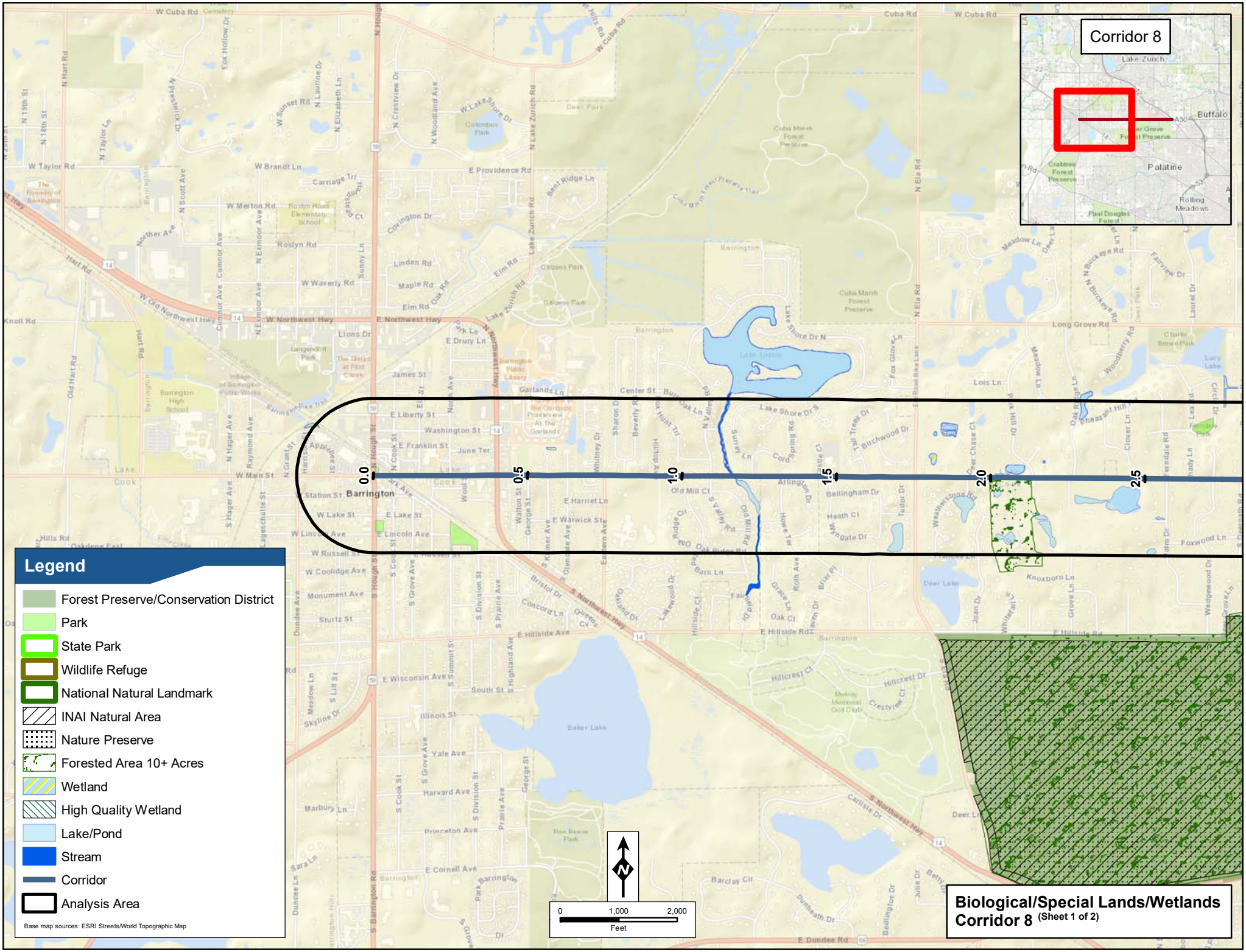


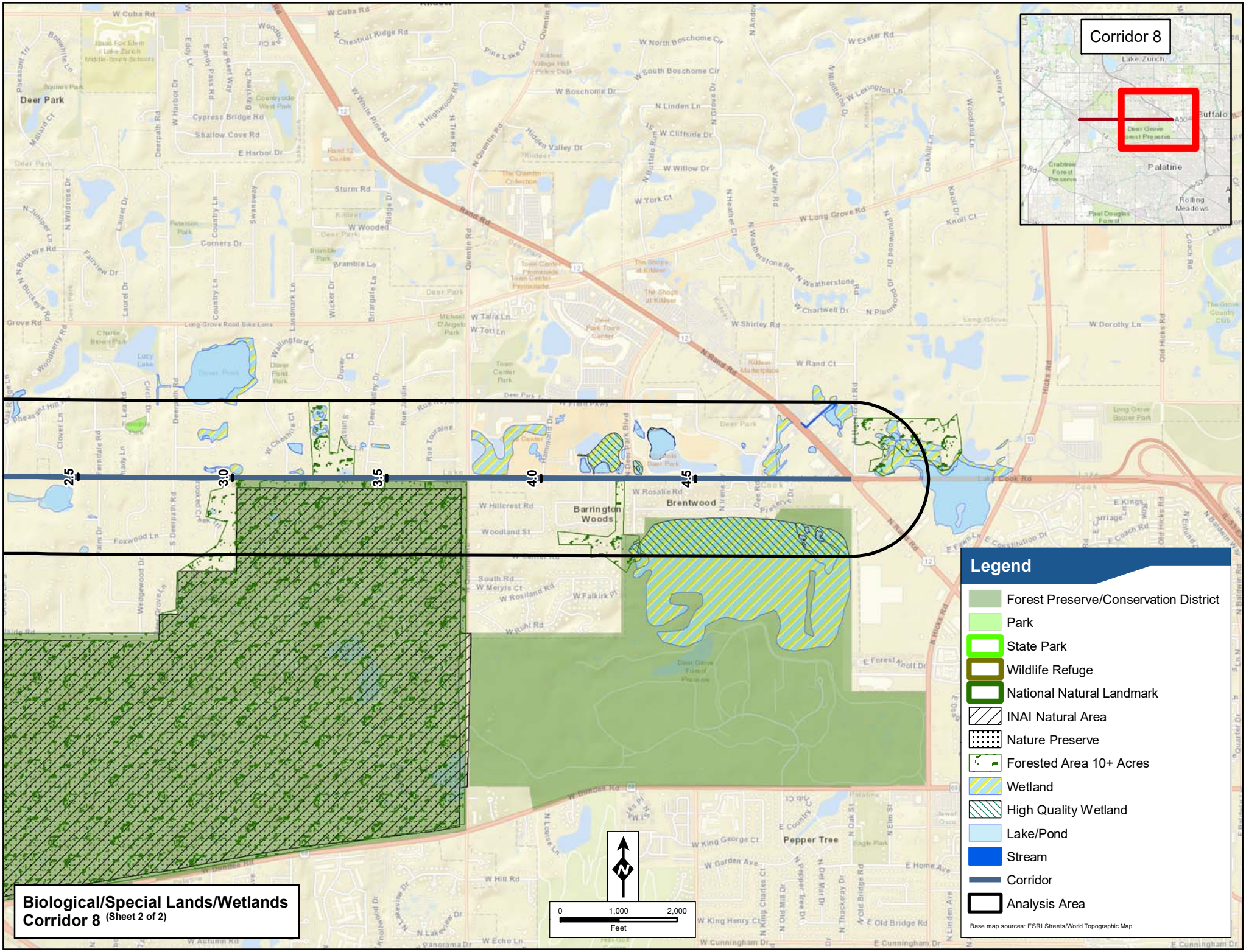
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 2 of 5)

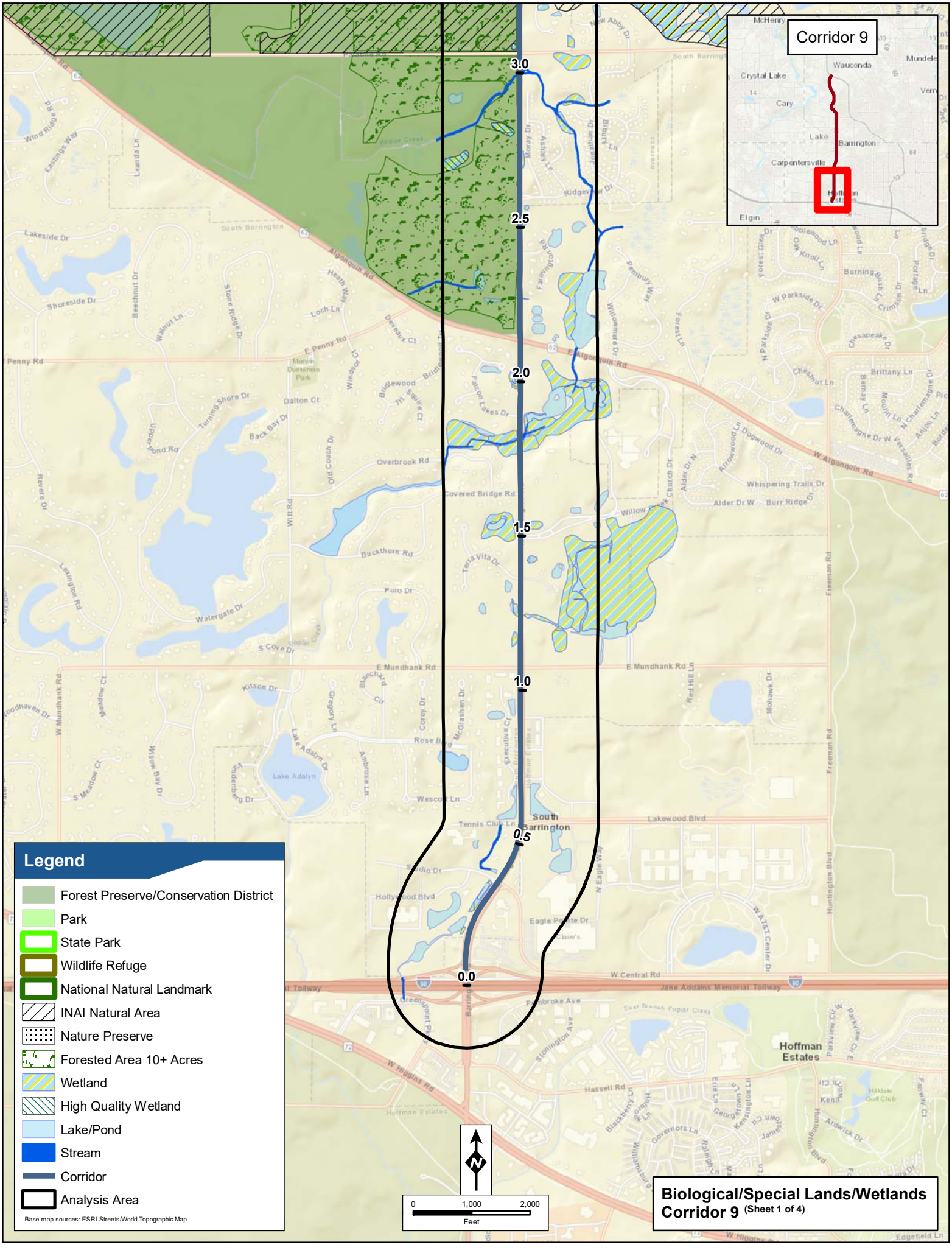

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Mundelein
Wauconda
Vernon Hills
Lake Barrington
8.5
8.0
7.5
7.0
6.5
6.0
5.5
Indian Creek
Vernon Hills
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 3 of 5)

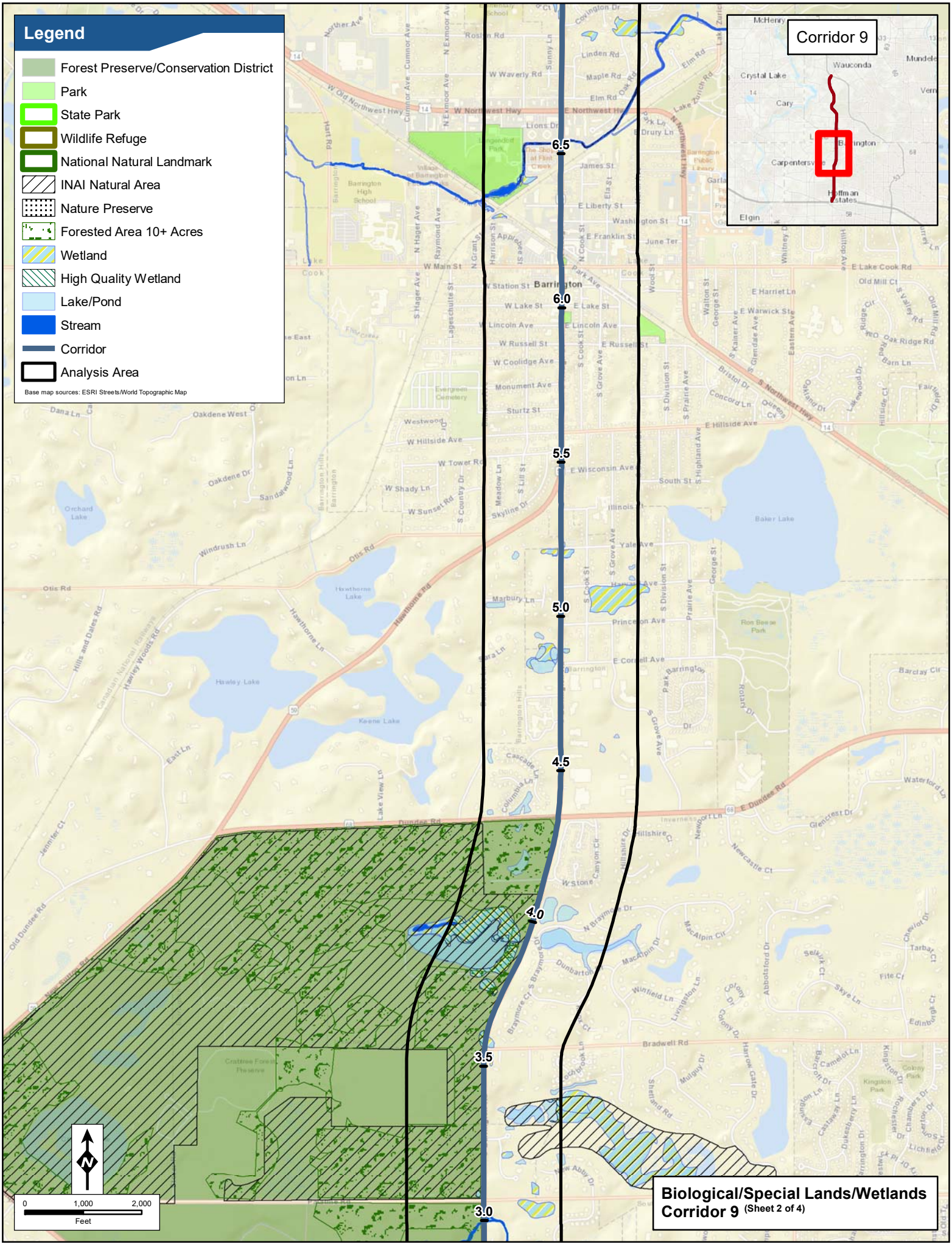

Corridor 7
Grayslake
Mundelein
Vernon Hills
Barrington
15.0
14.5
14.0
13.5
13.0
W Peterson Rd
W Winchester Rd
W Maple Ave
W Hawley St
Ivanhoe Golf Club
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 4 of 5)

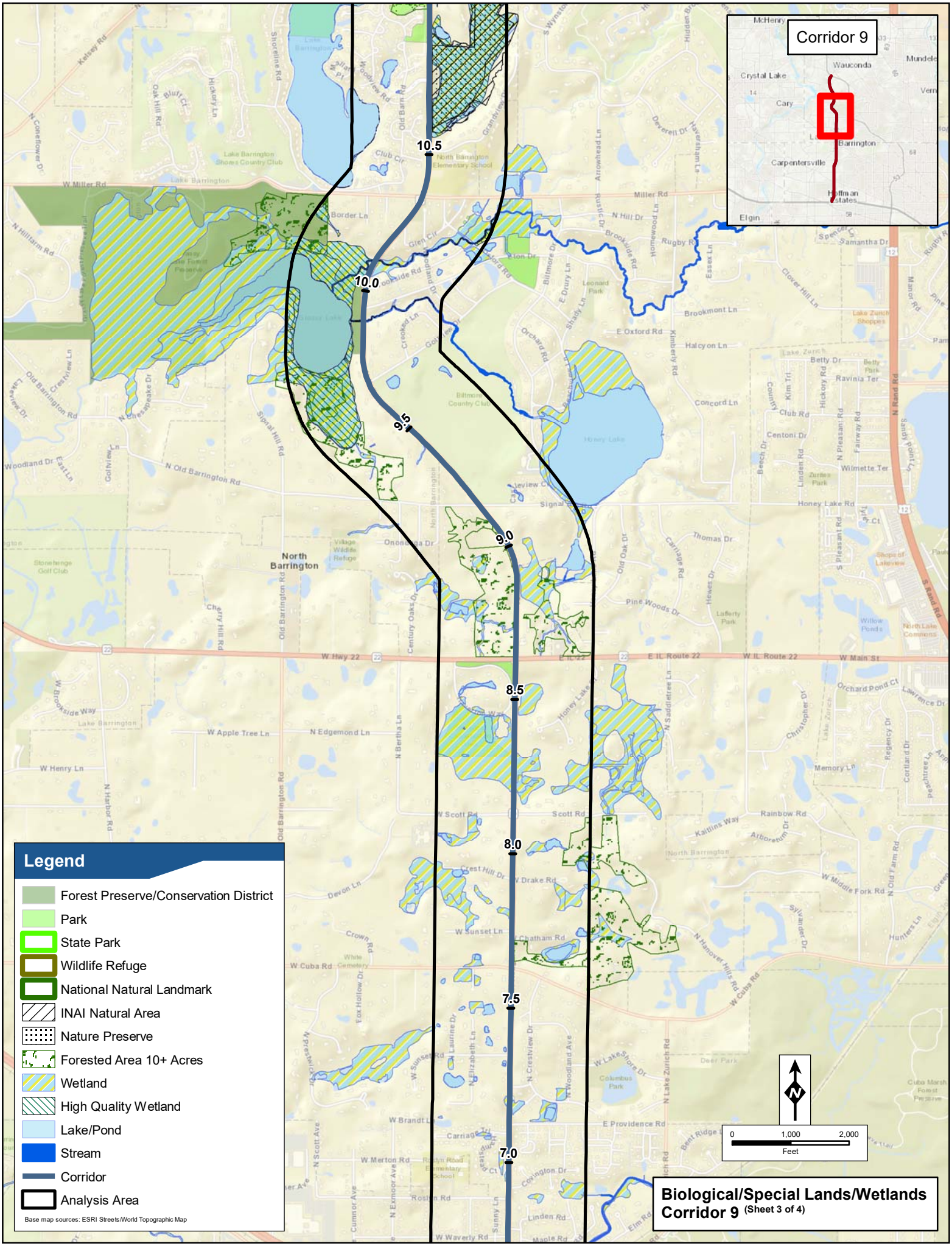

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Wauconda
Mundelein
Vernon Hills
Lake Barrington
16.0
15.5
15.0
14.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 5 of 5)

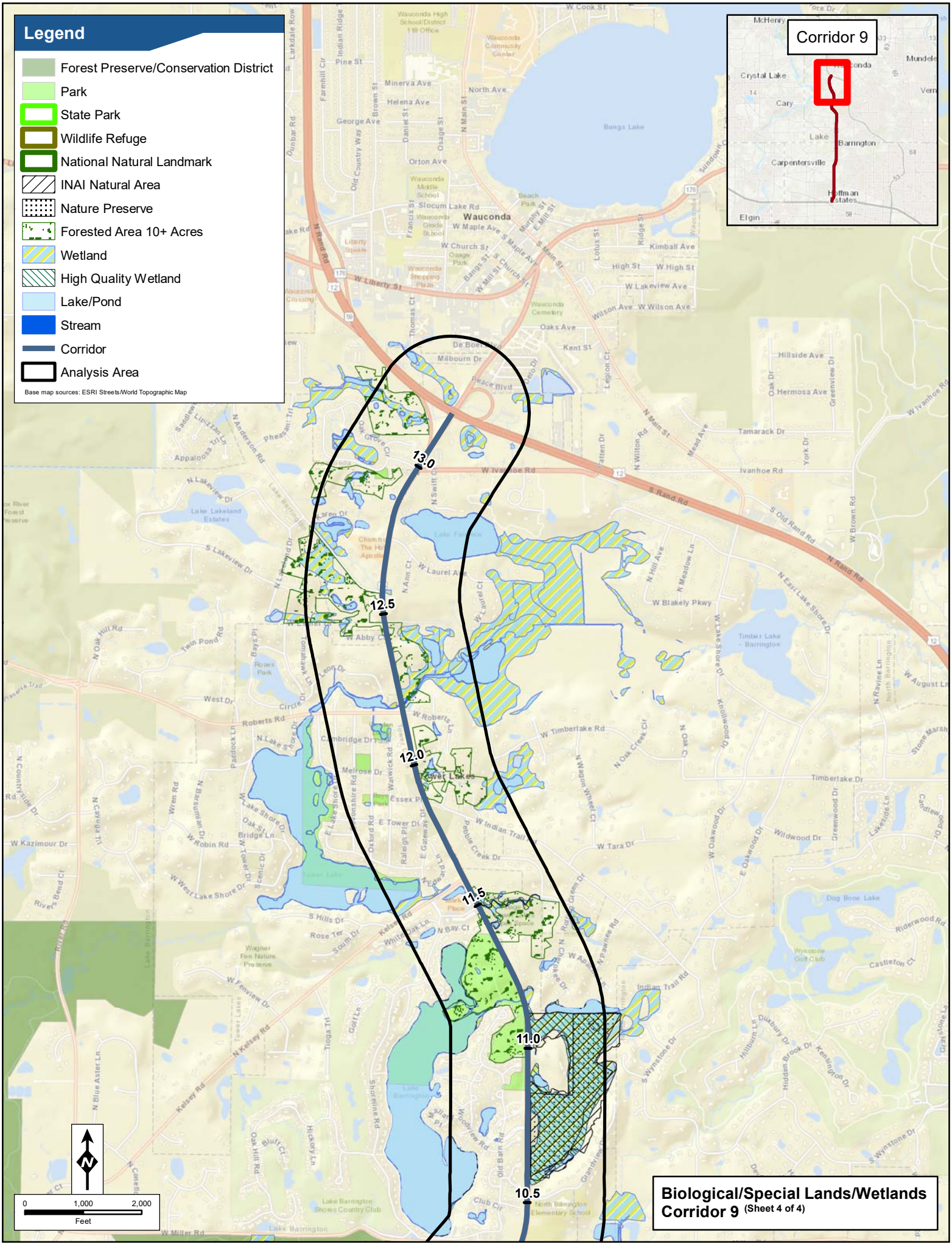

Corridor 8
Lake Zurich
Buffalo
Palatine
Rolling Meadows
0.0
0.5
1.0
1.5
2.0
2.5
Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 8 (Sheet 1 of 2)

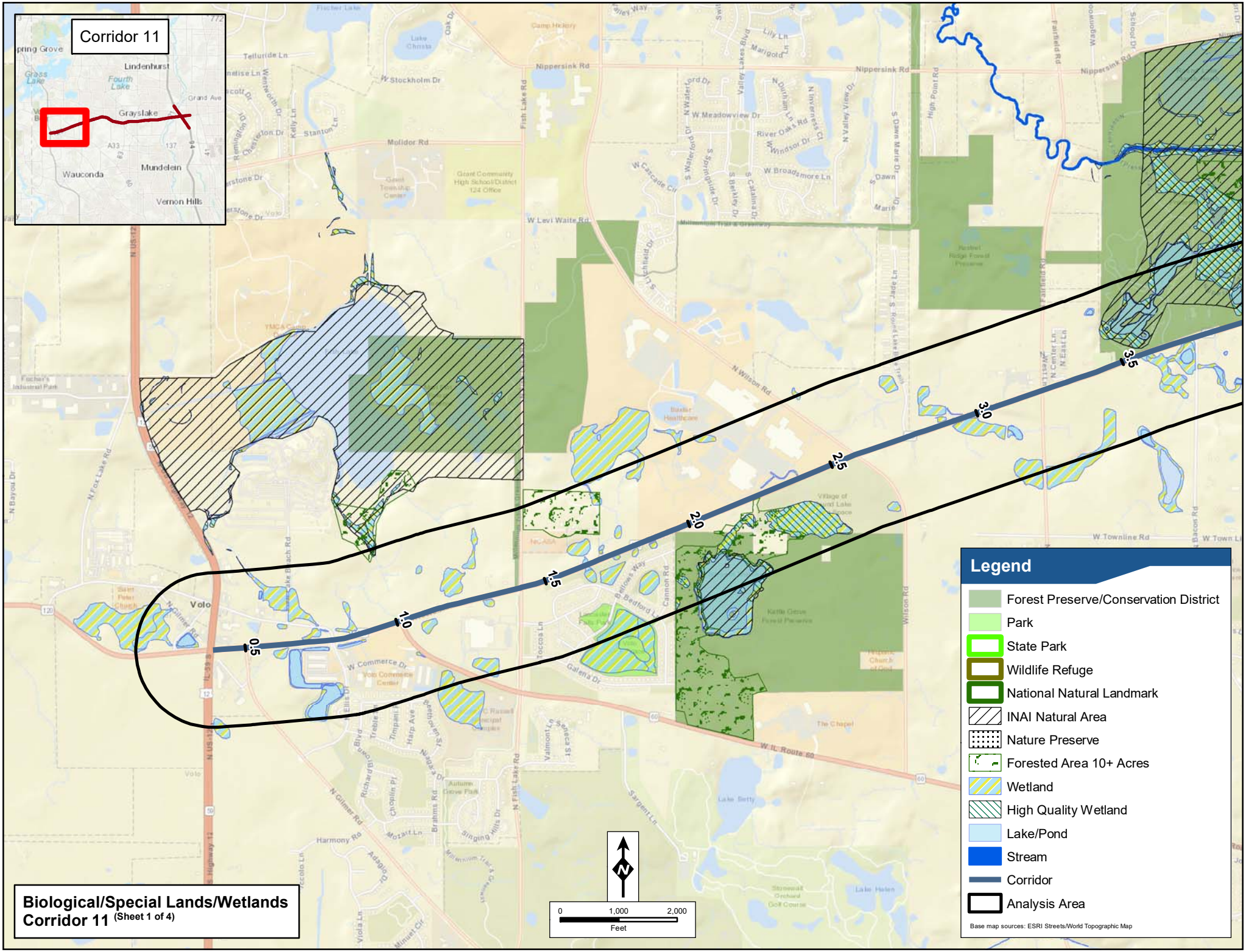

Corridor 8
Lake Zurich
Buffalo
Palatine
Deer Grove Forest Preserve
Crabtree Forest Preserve
Rolling Meadows
Paul Douglas Forest
2.5
3.0
3.5
4.0
4.5
Deer Park
Barrington Woods
Brentwood
Pepper Tree
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 8 (Sheet 2 of 2)


Corridor 9
McHenry
Wauconda
Mundelein
Crystal Lake
Cary
Lake Barrington
Carpentersville
Hoffman Estates
Elgin
3.0
2.5
2.0
1.5
1.0
0.5
0.0
South Barrington
Hoffman Estates
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 1 of 4)

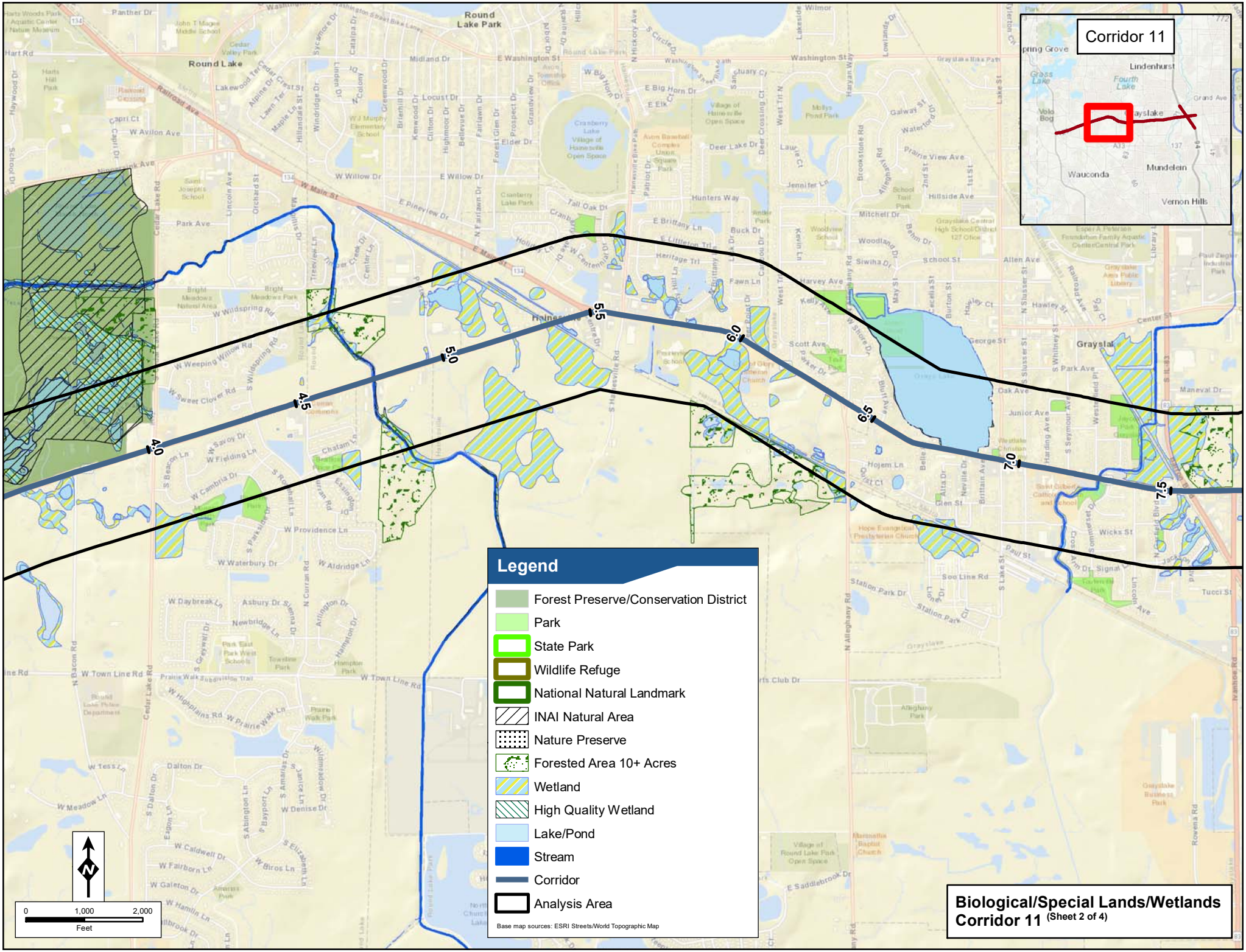

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 9
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 2 of 4)

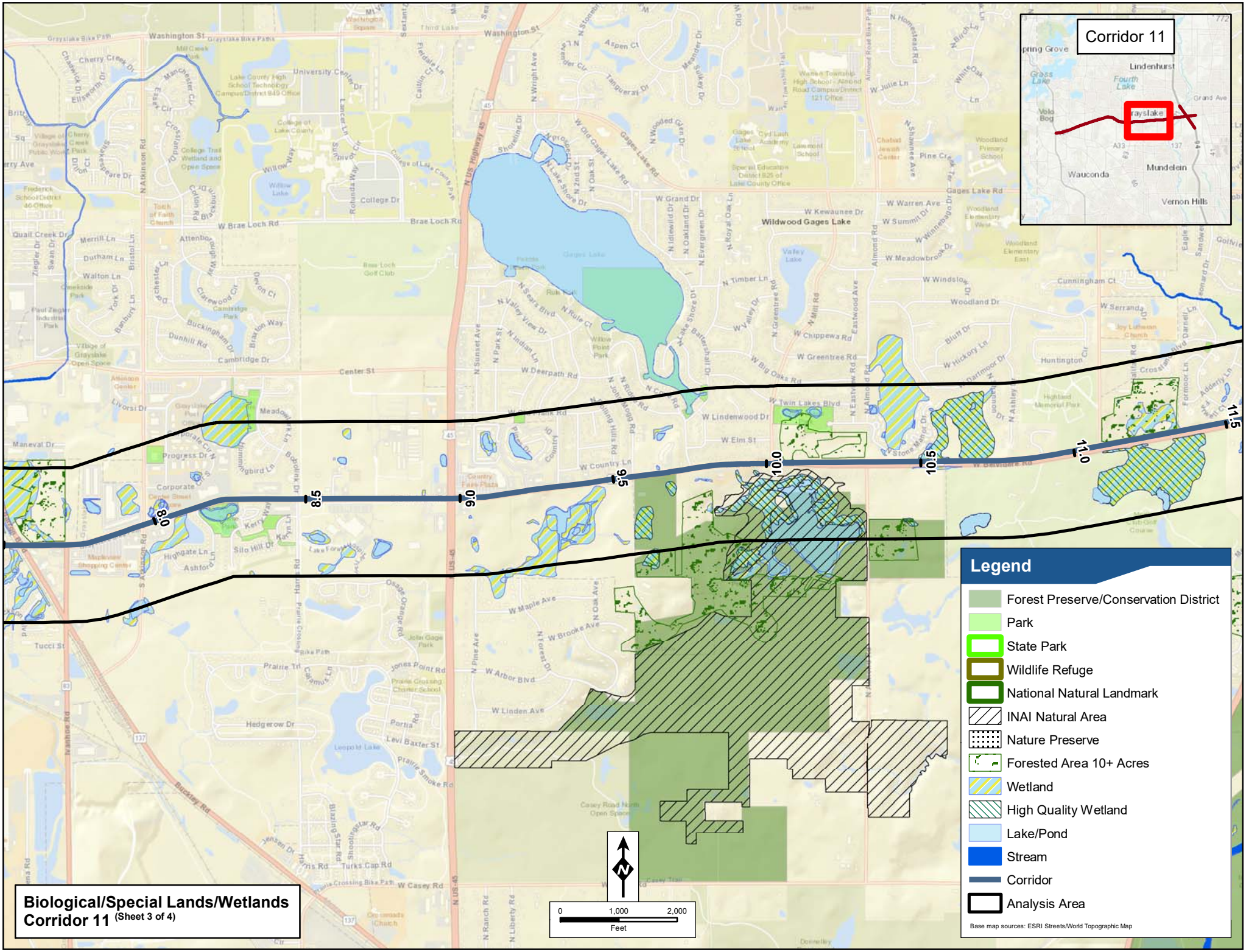

Corridor 9
McHenry
Wauconda
Crystal Lake
Cary
Barrington
Carpentersville
Hoffman Estates
Elgin
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
North Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 3 of 4)


Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 9
13.0
12.5
12.0
11.5
11.0
10.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 4 of 4)

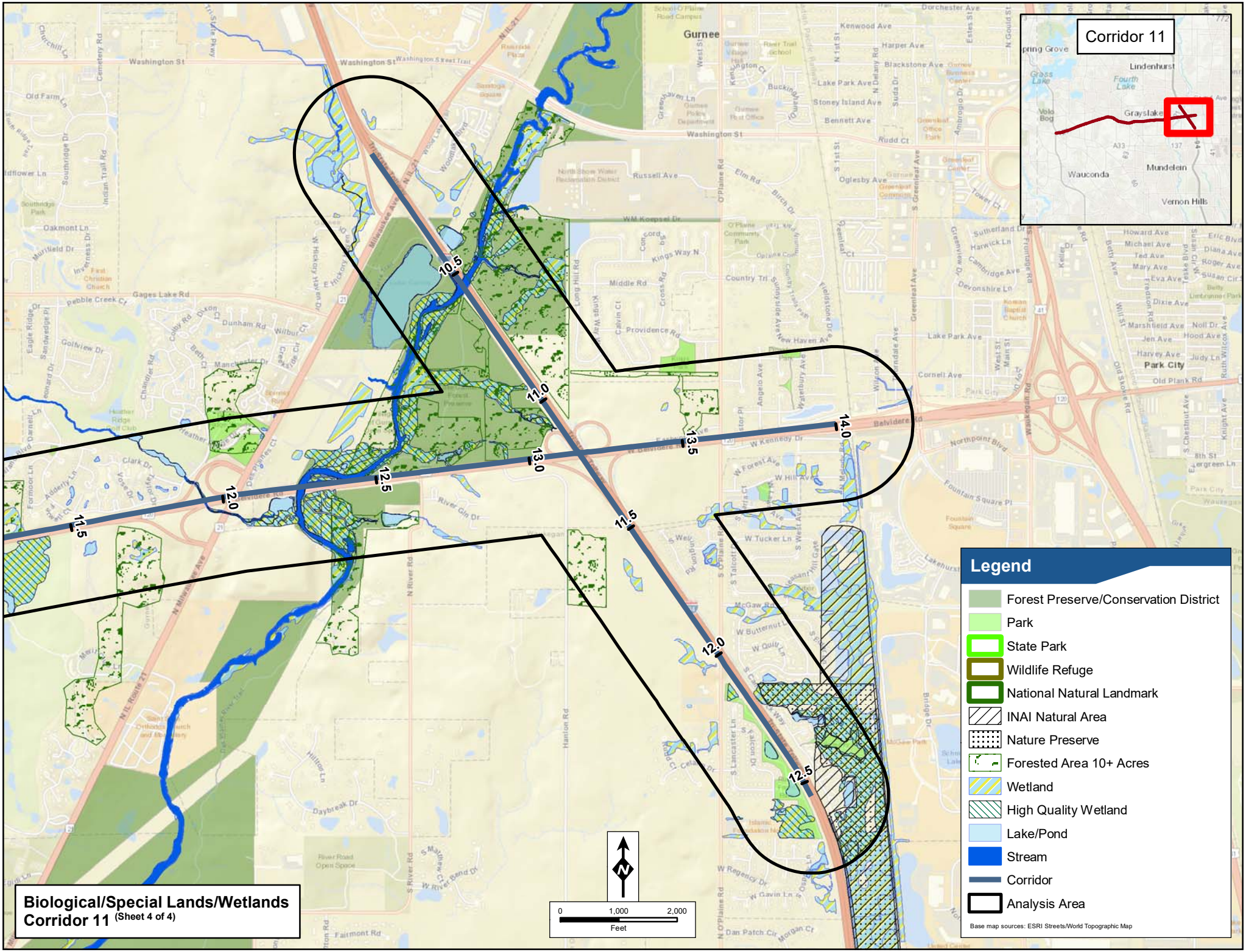


Biological/Special Lands/Wetlands
Corridor 11 (Sheet 1 of 4)

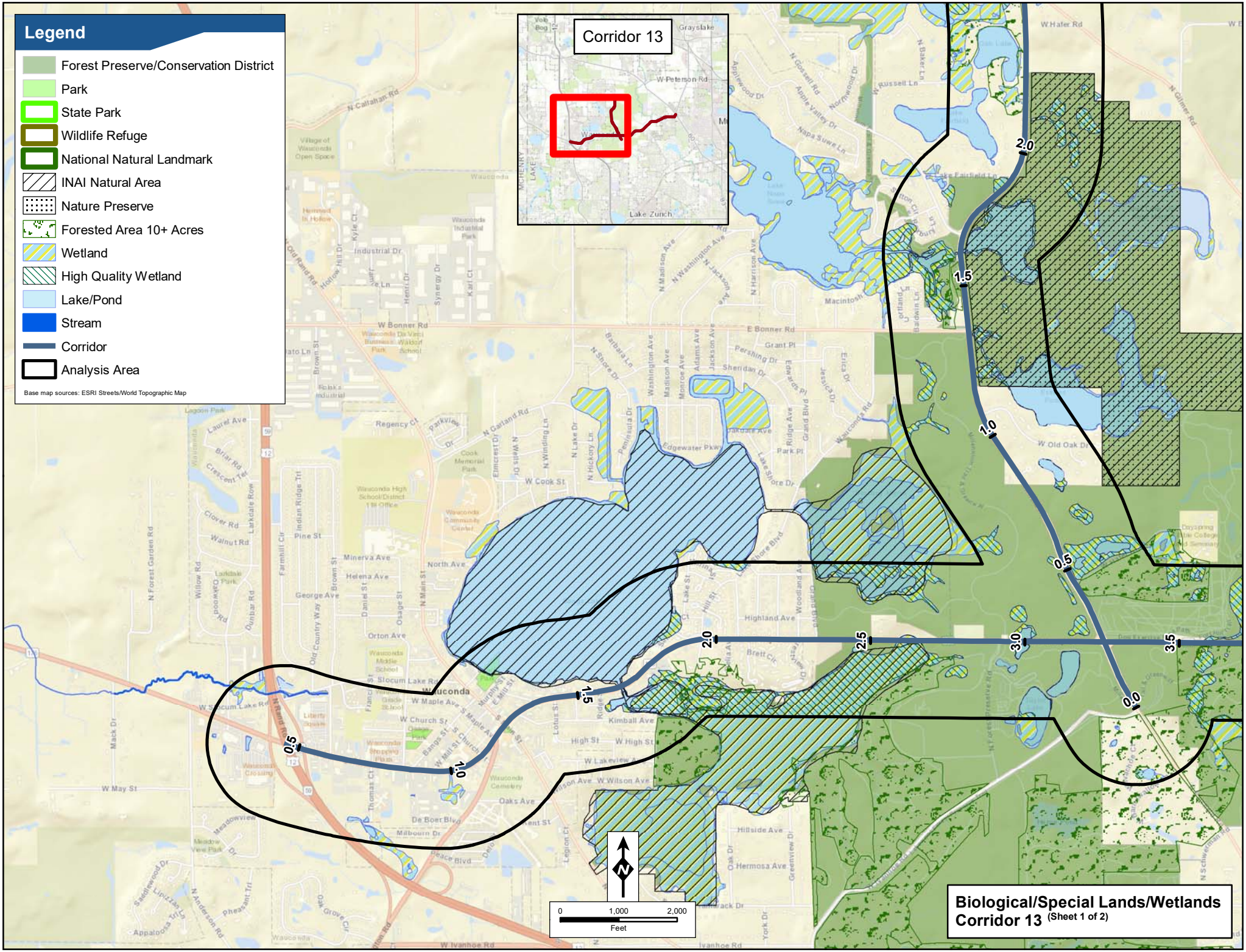

Corridor 11
Lindenhurst
Fourth Lake
Grayslake
Wauconda
Mundelein
Vernon Hills
Round Lake Park
Round Lake
Hainesville
Grayslake
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 2 of 4)

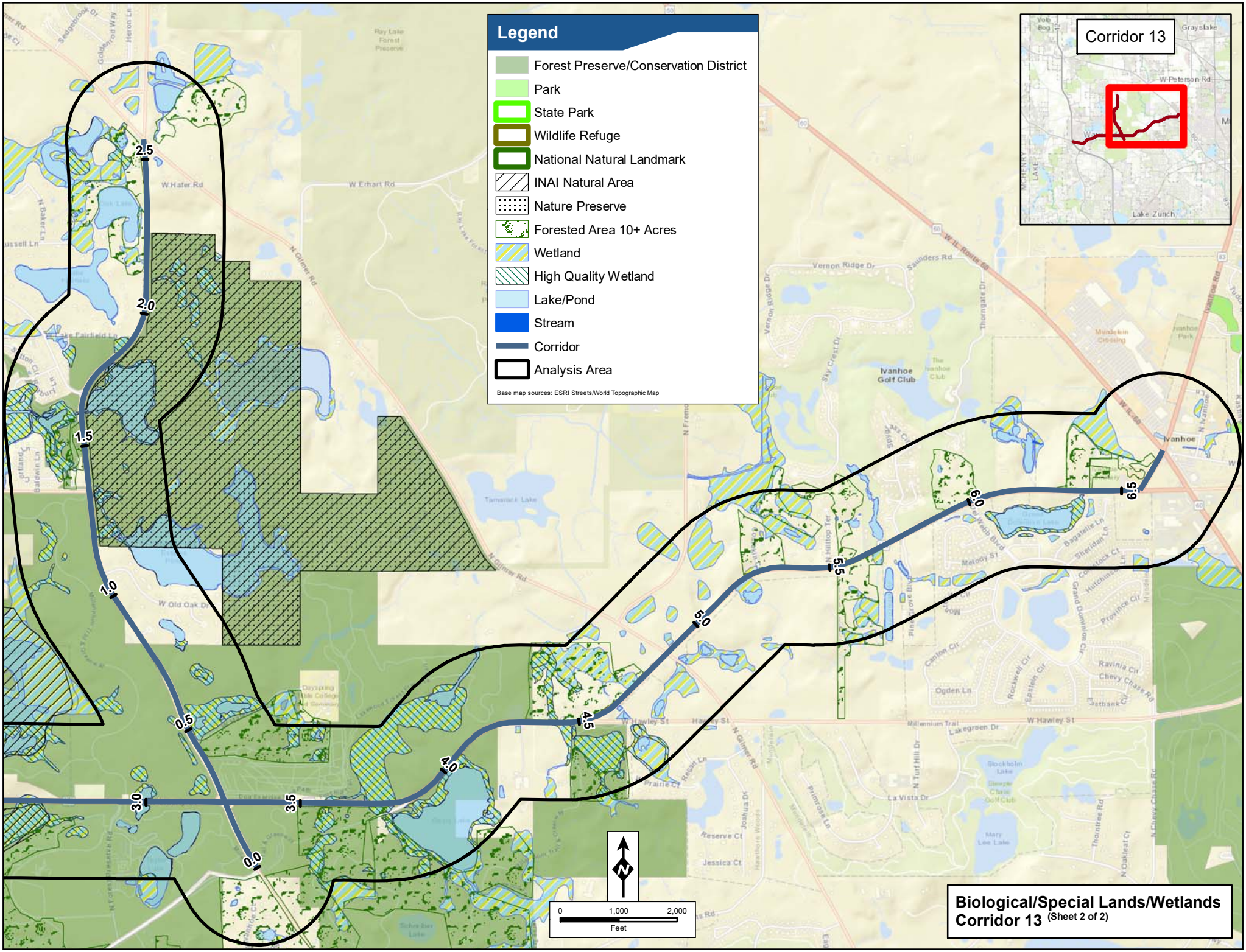


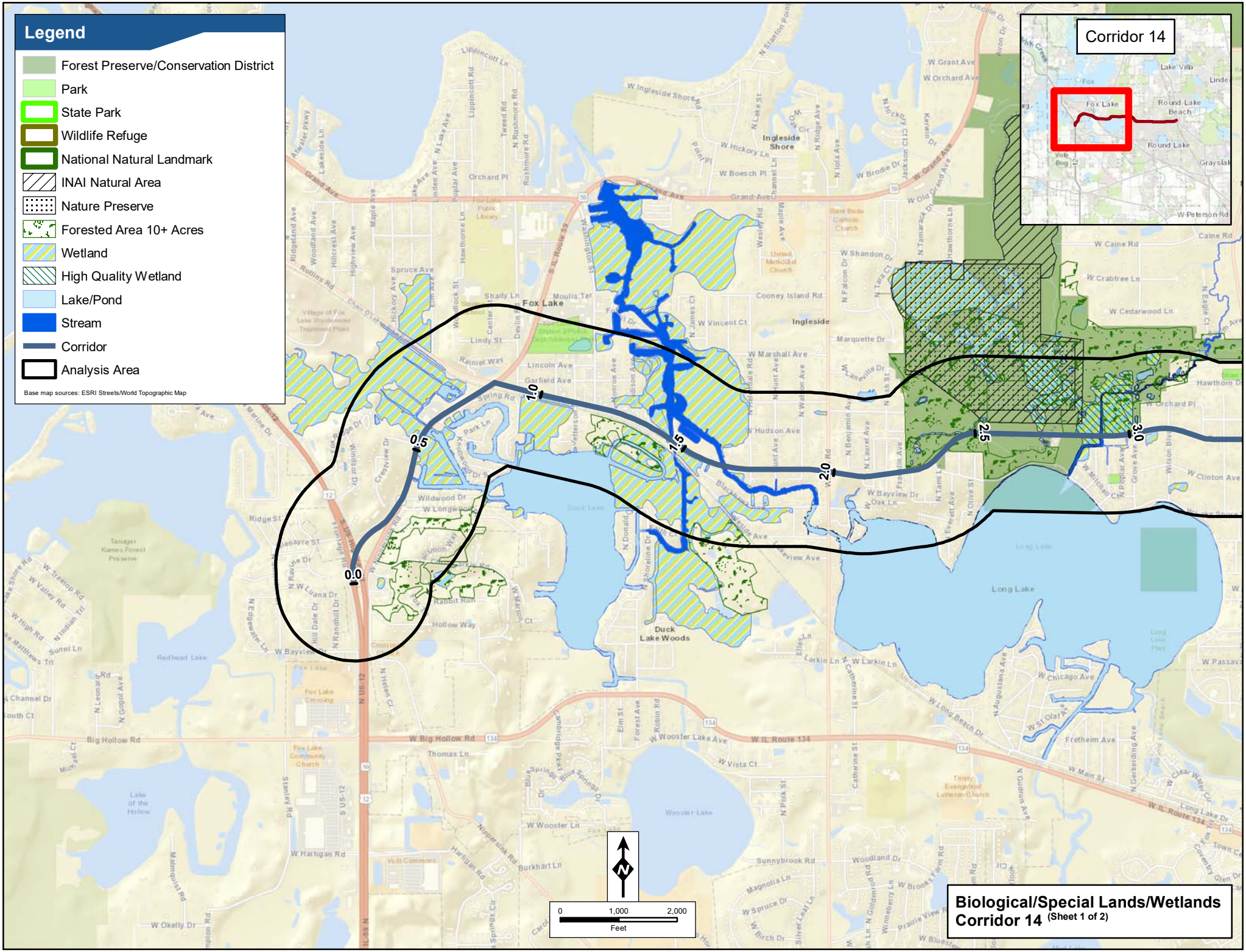
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 3 of 4)

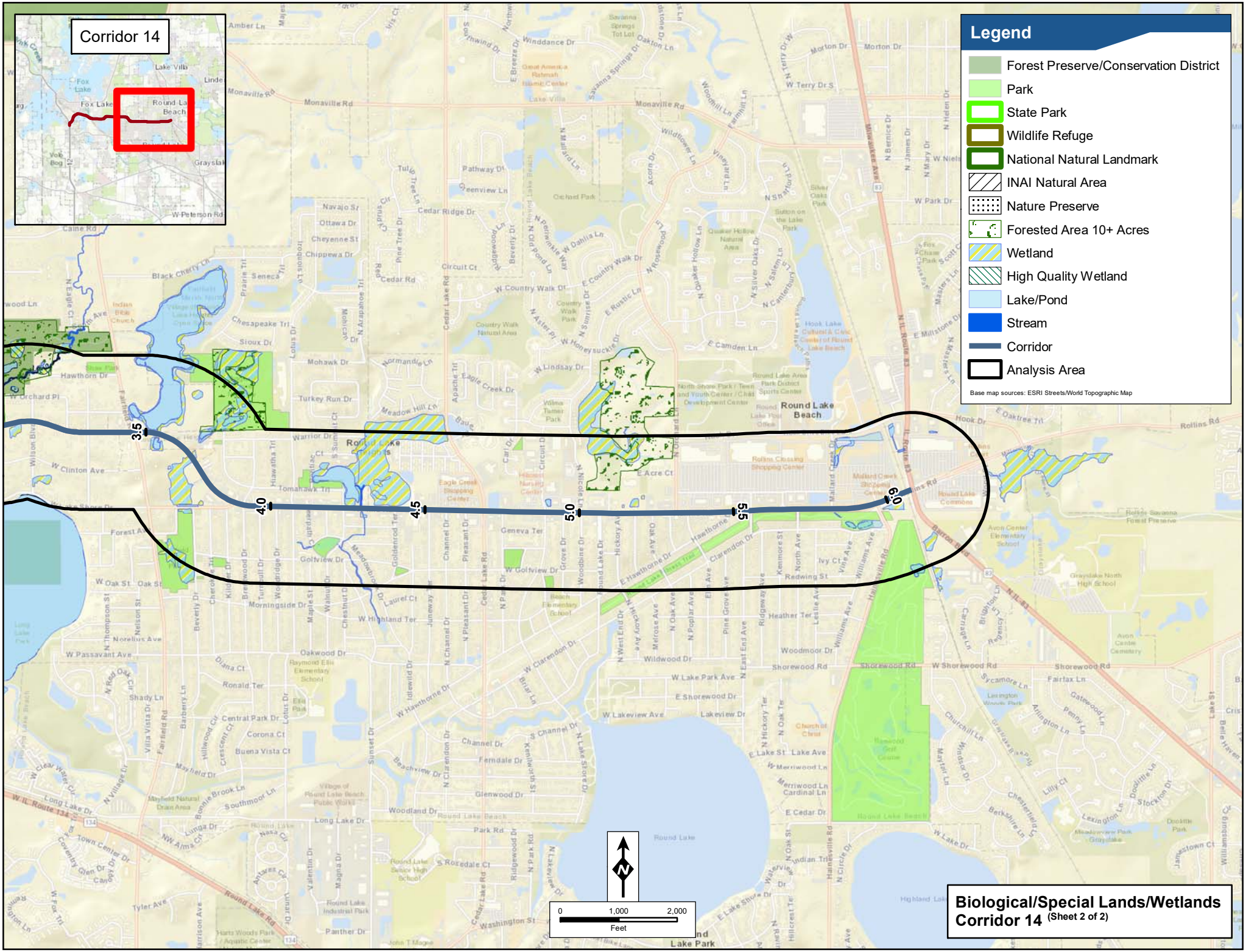


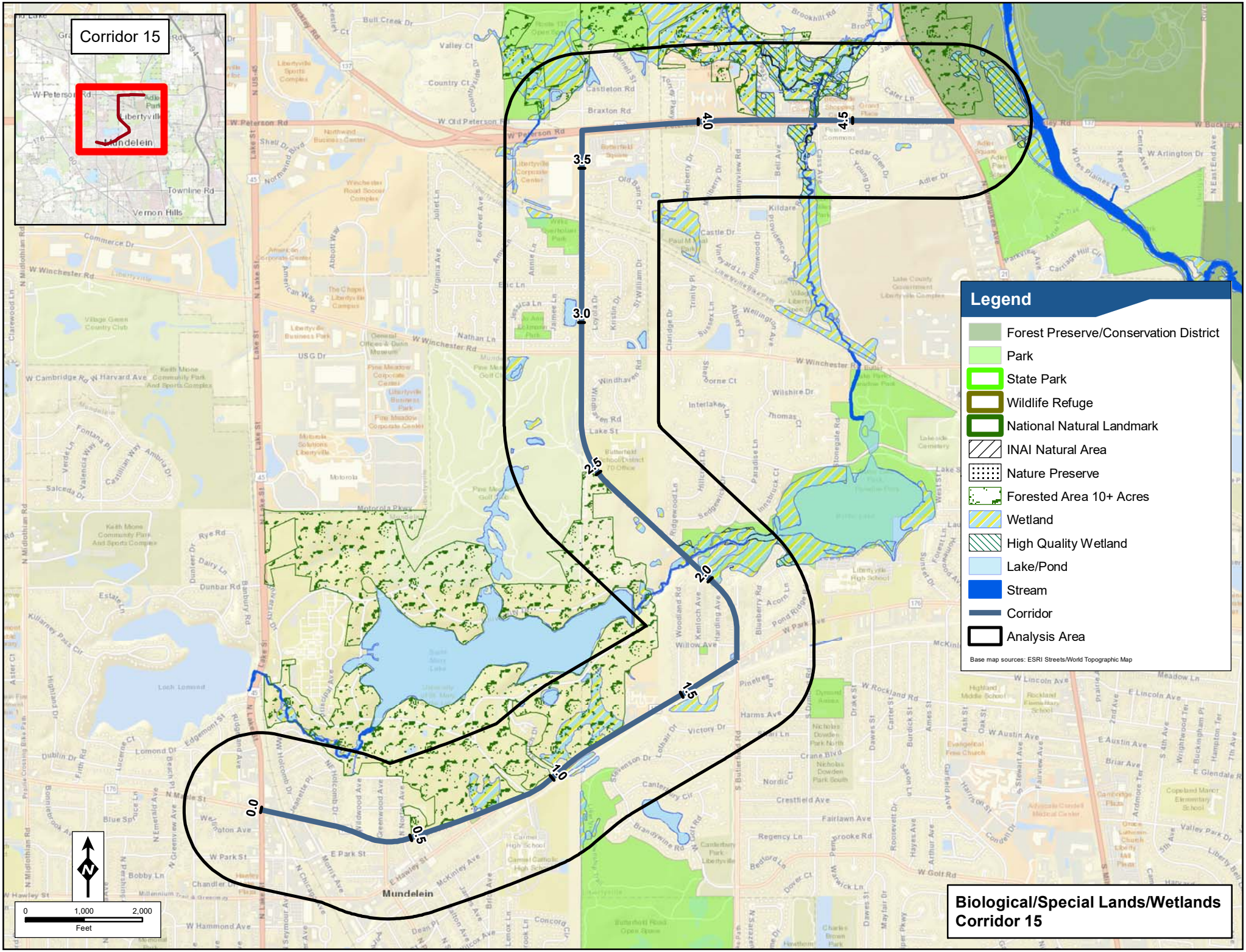
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 4 of 4)

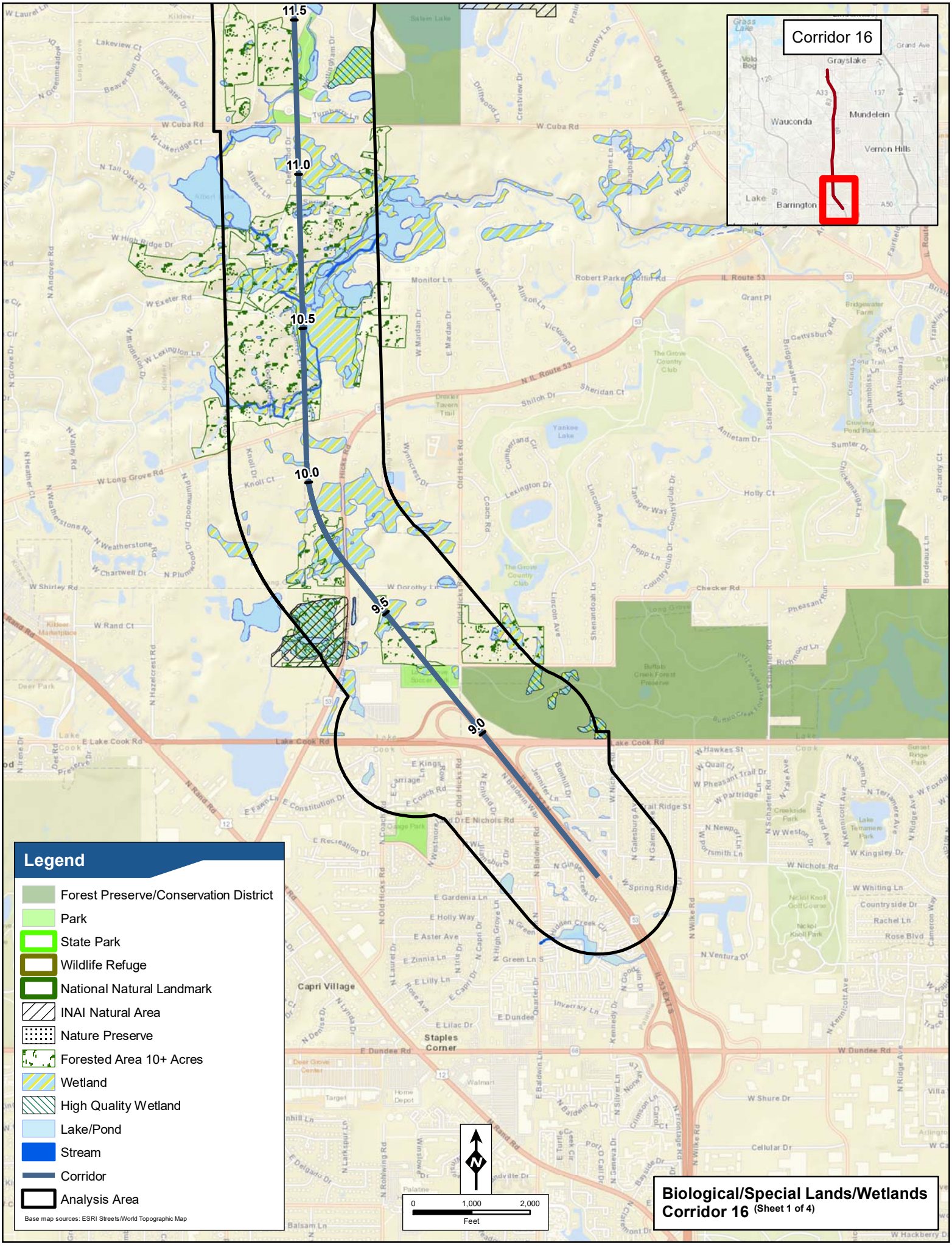

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 13
Grayslake
Lake Zurich
W Peterson Rd
Wauconda
W Hafer Rd
W Bonner Rd
E Bonner Rd
W Cook St
Highland Ave
W Maple Ave
W Church St
W Lakeview Ave
W Wilson Ave
Oaks Ave
W May St
W Ivanhoe Rd
Hillside Ave
Hermosa Ave
W Old Oak Dr
Edgewater Pkwy
Kimball Ave
High St
W High St
Peace Blvd
De Boer Blvd
Milbourn Dr
Orton Ave
North Ave
Minerva Ave
Helena Ave
George Ave
Pine St
W Stocum Lake Rd
N Main St
N Rand Rd
Old Country Way
Dunbar Rd
N Forest Garden Rd
Willow Rd
Lakedale Row
Clover Rd
Walnut Rd
Briar Rd
Laurel Ave
Lagoon Park
Regency Ct
N Gartland Rd
Parkview Dr
Industrial Dr
Hollow Hill Dr
Kyle Ct
Synergy Dr
Karl Ct
N Callahan Rd
Village of Wauconda Open Space
Wauconda Industrial Park
Wauconda High School/District 118 Office
Wauconda Community Center
Cook Memorial Park
Wauconda Middle School
Wauconda Shopping Plaza
Wauconda Cemetery
Wauconda Crossing
Liberty Square
Meadowview Park Dr
Meadowview
Appaloosa Trl
Saddlewood Dr
Lipizzan Trl
N Anderson Rd
Pheasant Trl
Oak Grove Cir
Ivanhoe Rd
Macintosh
Lake Fairfield Ln
Napa Suwe Ln
Apple Valley Dr
Applewood Dr
N Goosell Rd
Northwood Dr
W Russell Ln
N Baker Ln
N Glimer Rd
N Madison Ave
N Washington Ave
N Jackson Ave
N Harrison Ave
Barbara Ln
N Shore Dr
Washington Ave
Madison Ave
Monroe Ave
Adams Ave
Jackson Ave
Pershing Dr
Sheridan Dr
Grant Pl
Erica Dr
Jessica Dr
Grand Blvd
Park Pl
Lake Shore Dr
Wauconda
N Lake Dr
N Hickory Ln
Peninsula Dr
N Winding Ln
Emcrest Dr
N Wells Dr
Parkview Dr
Brown St
Farmhill Cir
Indian Ridge Trl
Daniel St
Osage St
Lotus St
Hill St
Woodland Ave
Brett Ct
Kimball Ave
Thomas Ct
Mack Dr
Legion Ct
Oak Dr
Greenview Dr
York Dr
Hillside Ave
Hermosa Ave
N Schwerman Rd
Deerpath Middle College Preparatory School
2.0
1.5
1.0
0.5
0.0
2.0
2.5
3.0
3.5
1.5
1.0
0.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 13 (Sheet 1 of 2)

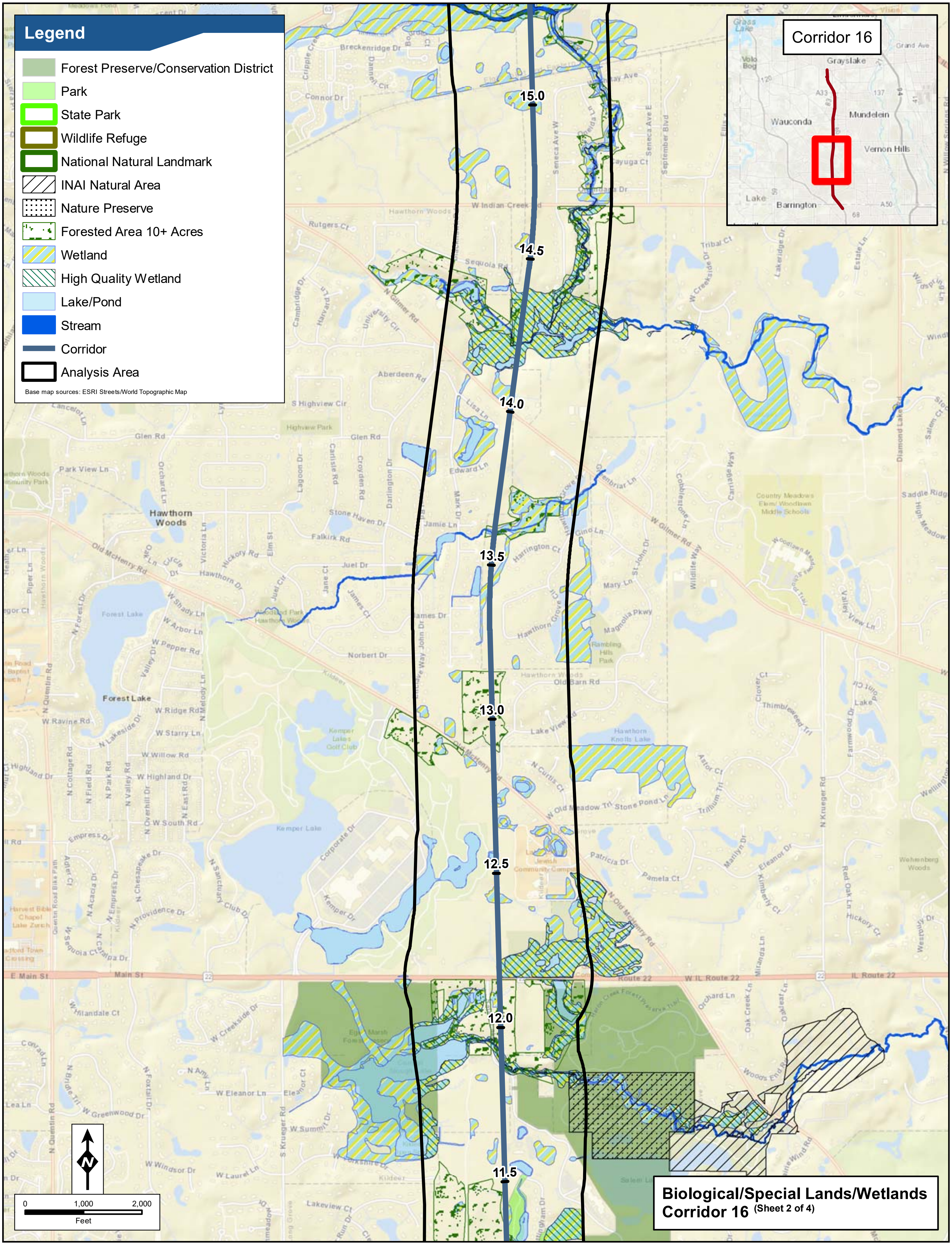

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 13
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 13 (Sheet 2 of 2)


Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 14
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 14 (Sheet 1 of 2)

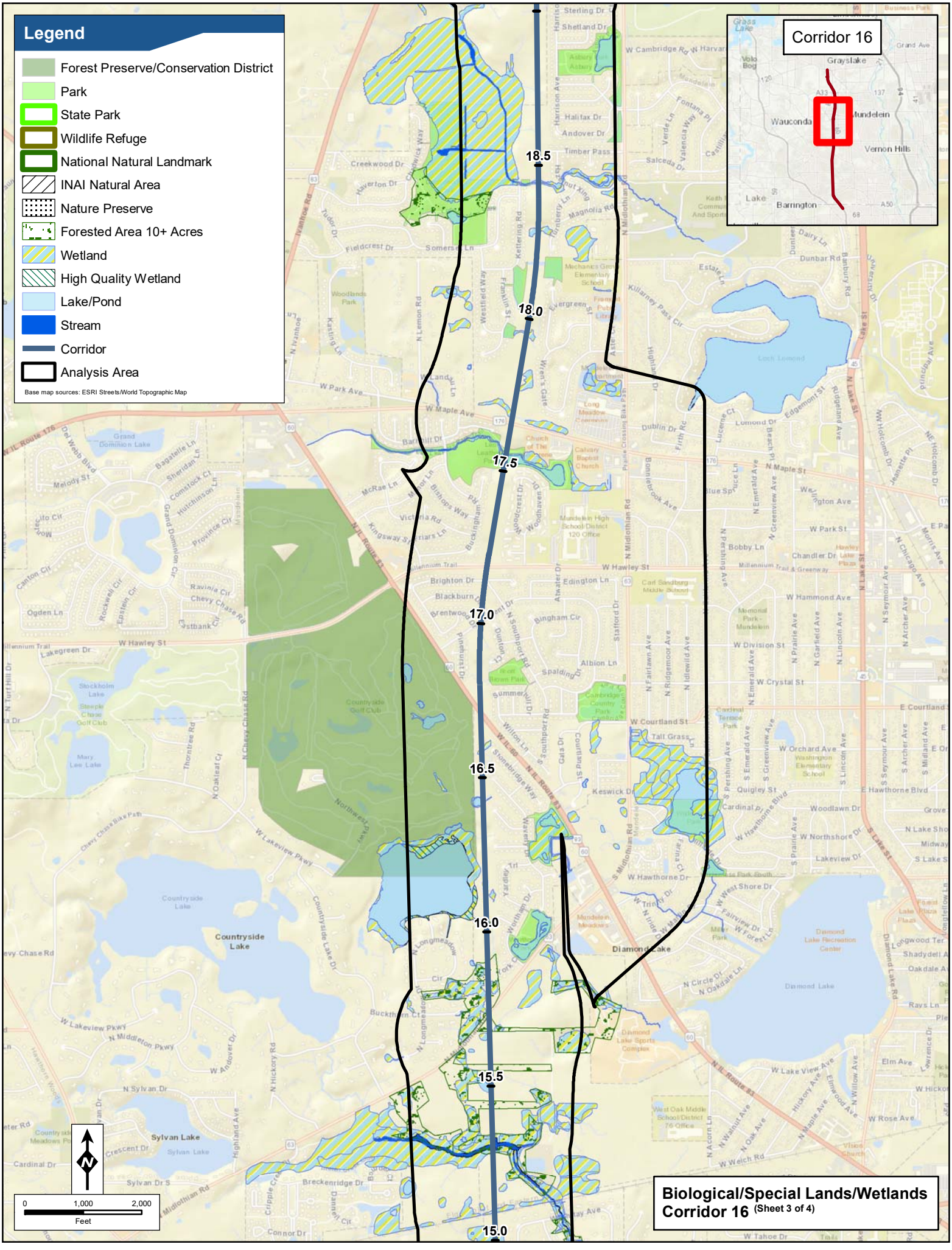

Corridor 14
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
3.5
4.0
4.5
5.0
5.5
6.0
Round Lake Beach
Round Lake
Round Lake Park
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 14 (Sheet 2 of 2)

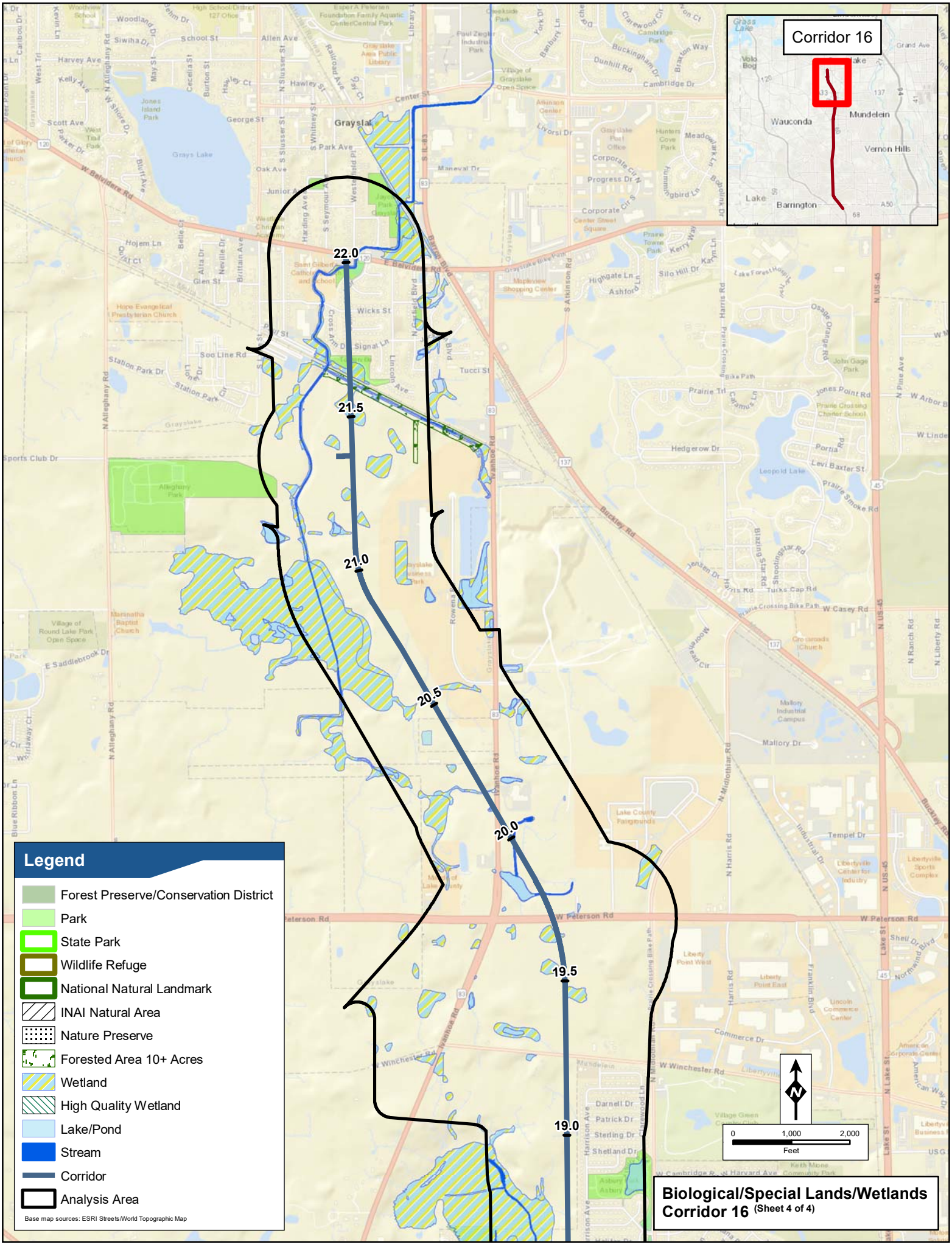

Corridor 15
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Mundelein
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 15

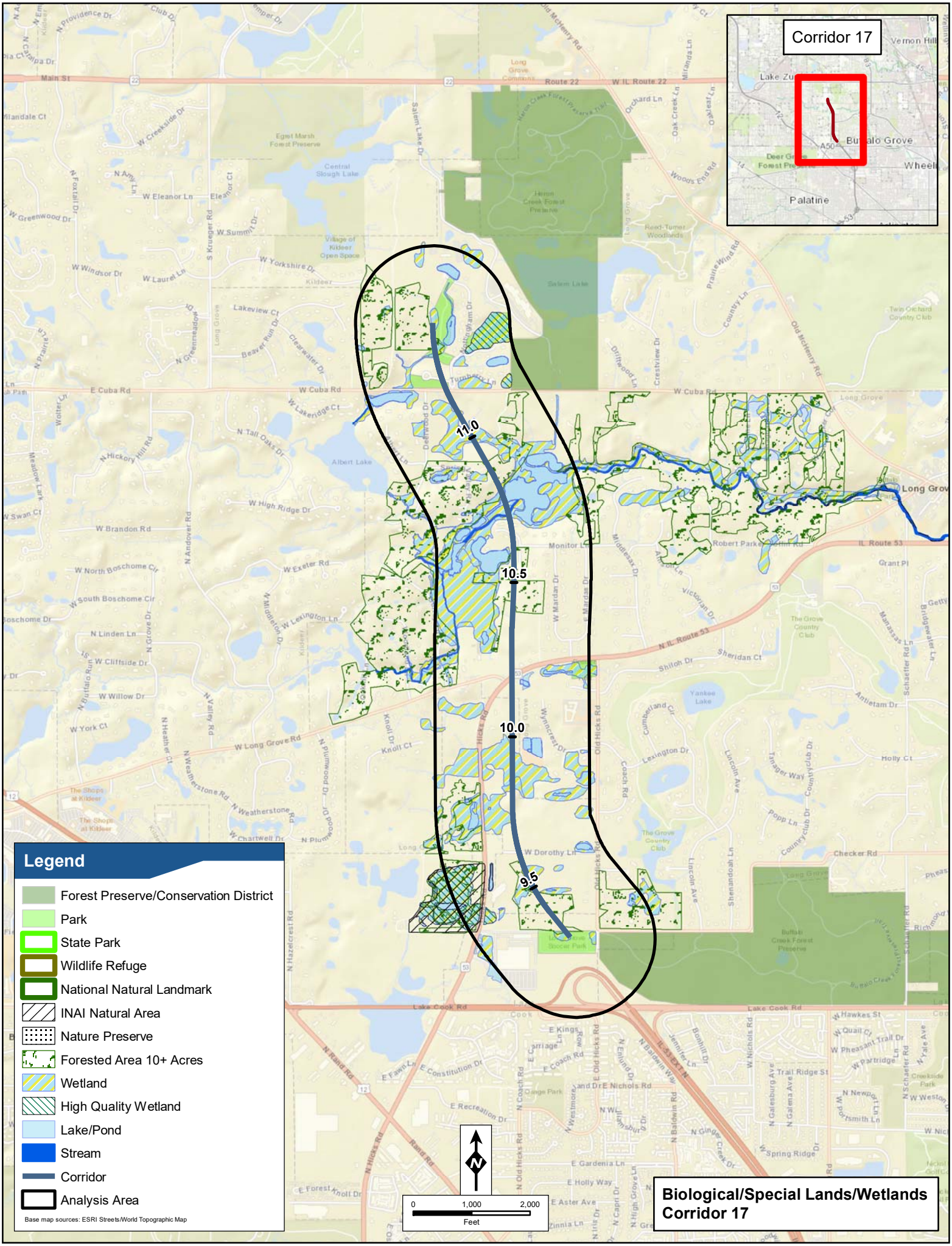

11.5
11.0
10.5
10.0
9.5
9.0
Corridor 16
Grayslake
Wauconda
Mundelein
Vernon Hills
Lake Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Capri Village
Staples Corner
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 1 of 4)

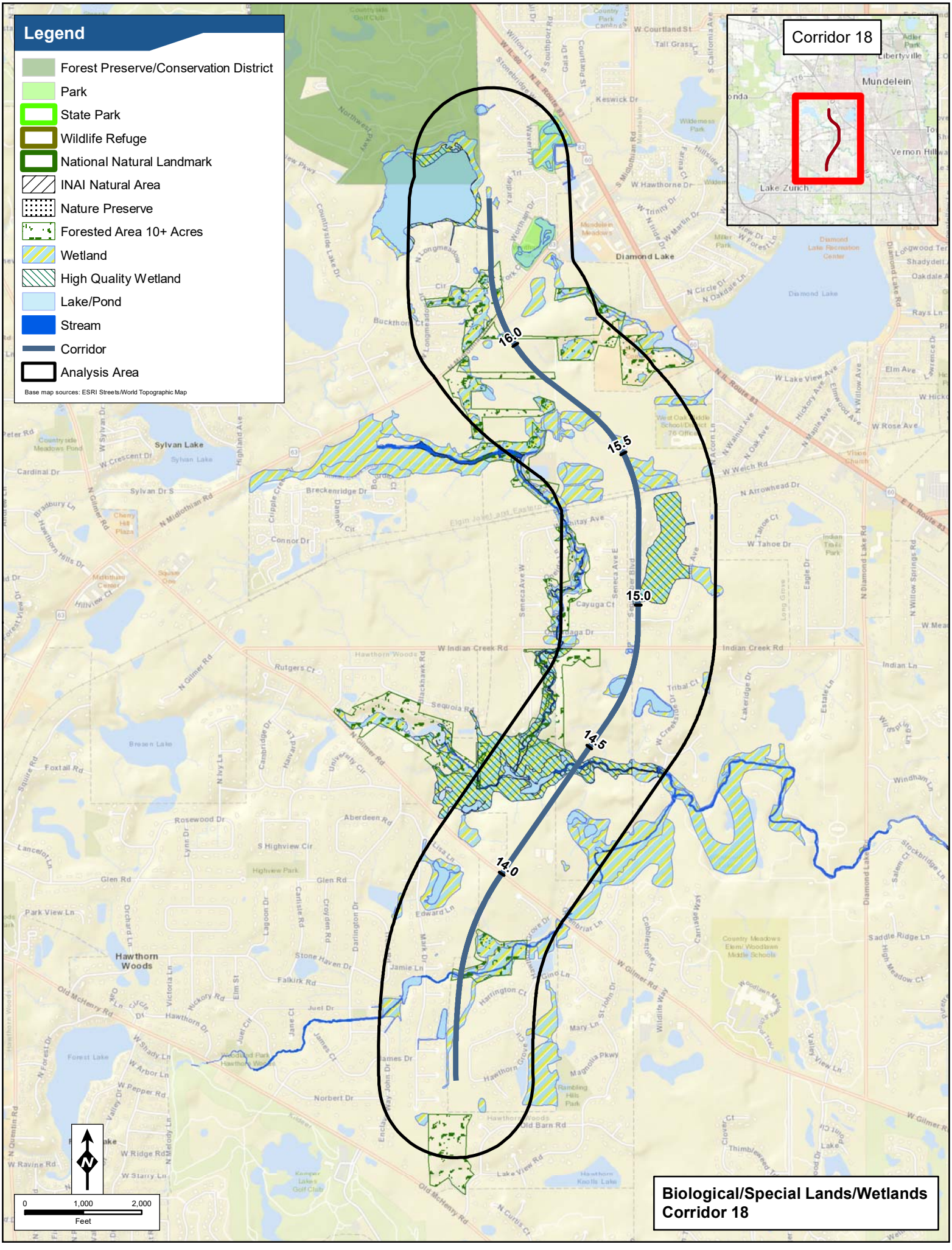


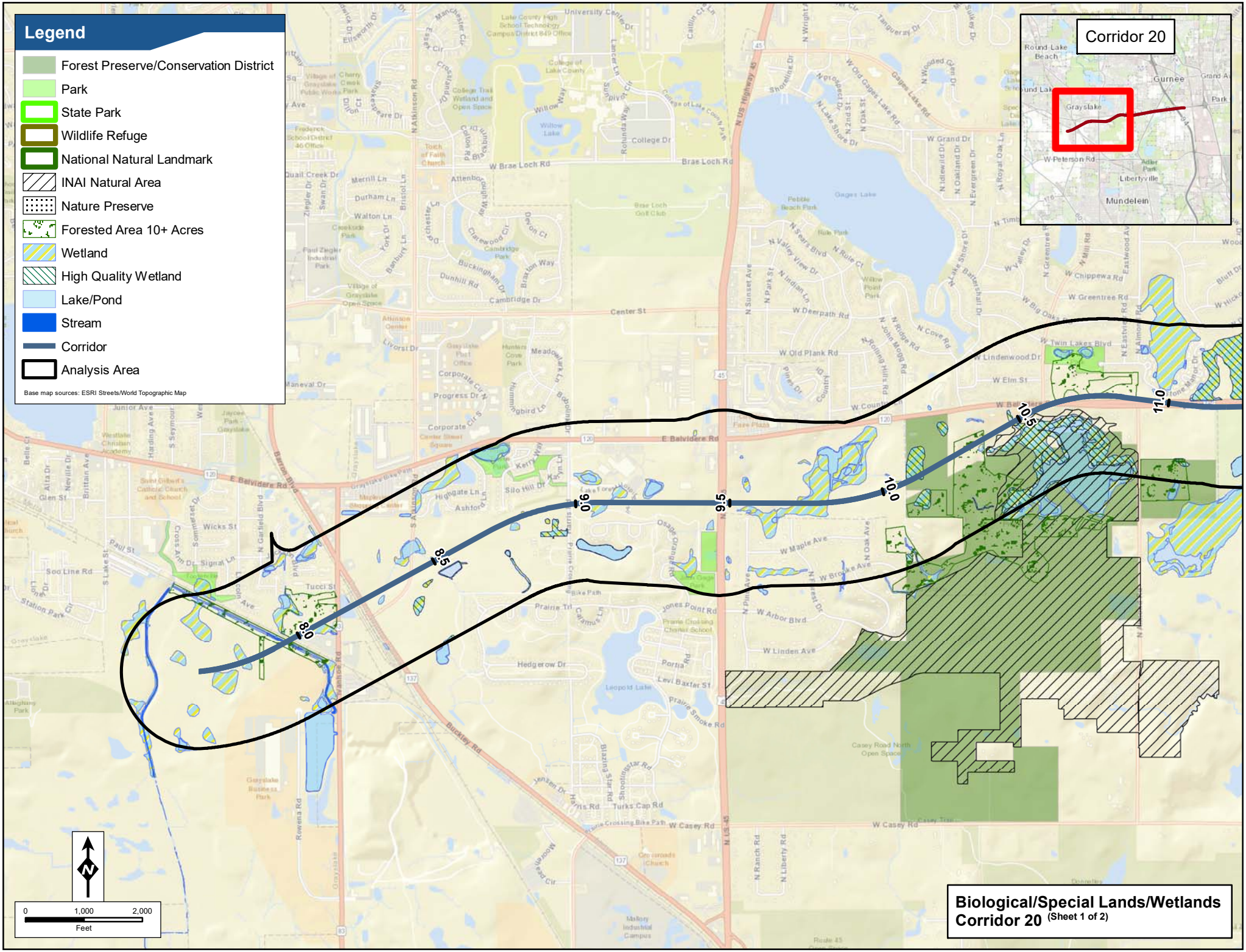
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 16
Grayslake
Volo Bog
Wauconda
Mundelein
Vernon Hills
Lake Barrington
Grand Ave
15.0
14.5
14.0
13.5
13.0
12.5
12.0
11.5
Hawthorn Woods
Forest Lake
Kemper Lake
Highview Park
Glen Rd
W Indian Creek Rd
Old McHenry Rd
W Gilmer Rd
E Main St
Main St
Route 22
W IL Route 22
IL Route 22
N Quentin Rd
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 2 of 4)

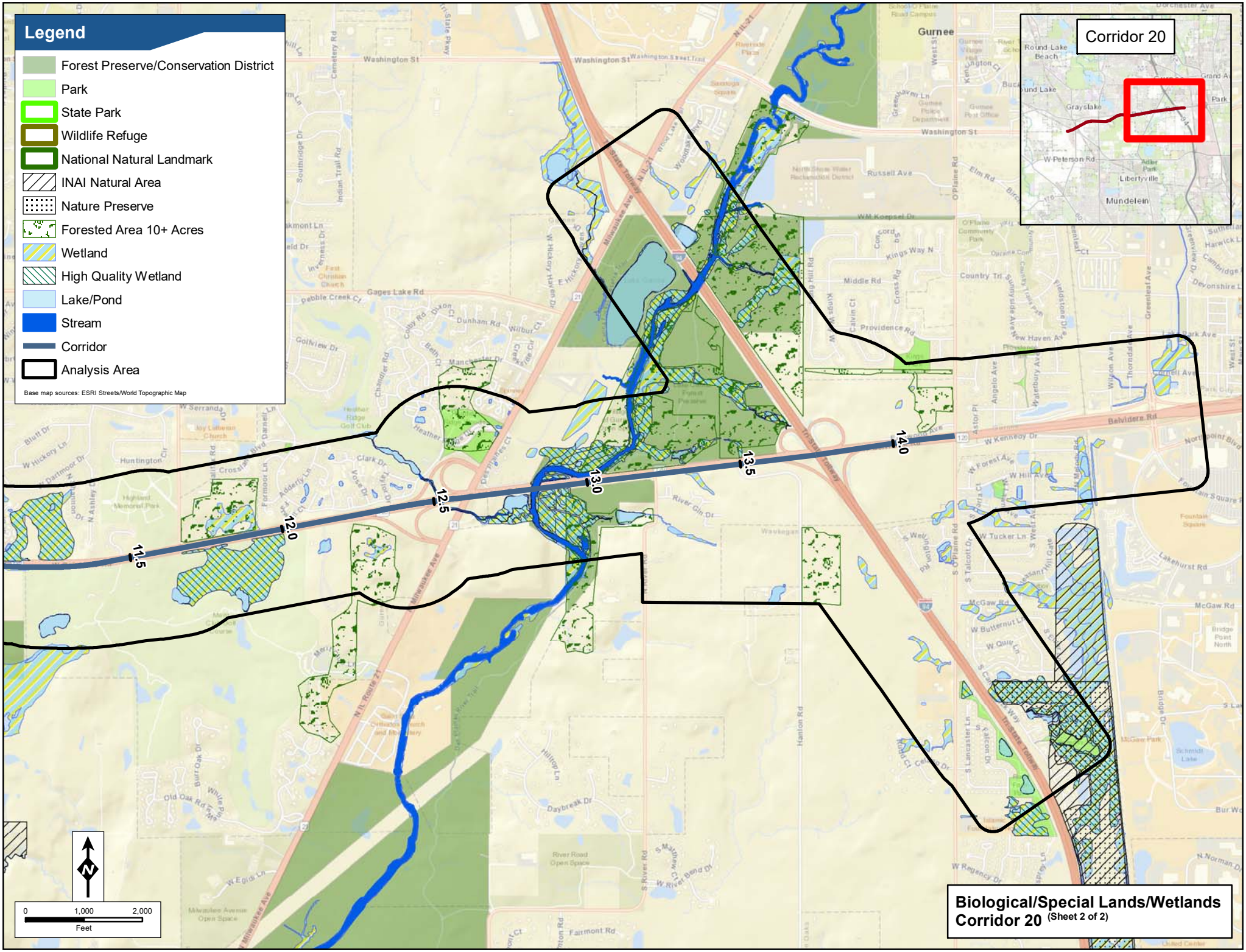

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 16
Grayslake
Wauconda
Mundelein
Vernon Hills
Barrington
18.5
18.0
17.5
17.0
16.5
16.0
15.5
15.0
Countryside Lake
Diamond Lake
Sylvan Lake
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 3 of 4)

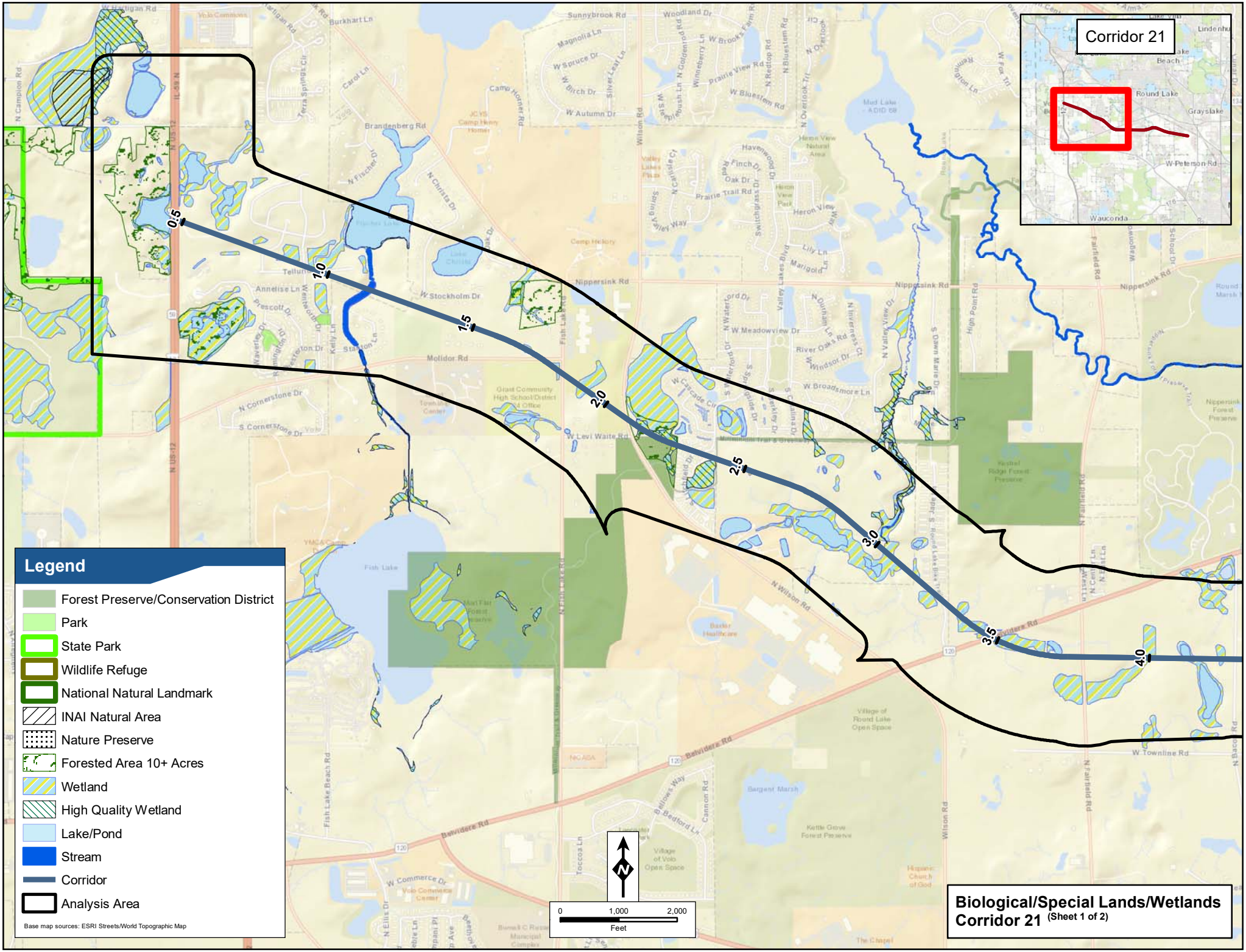

Corridor 16
Wauconda
Mundelein
Vernon Hills
Lake
Barrington
22.0
21.5
21.0
20.5
20.0
19.5
19.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 4 of 4)

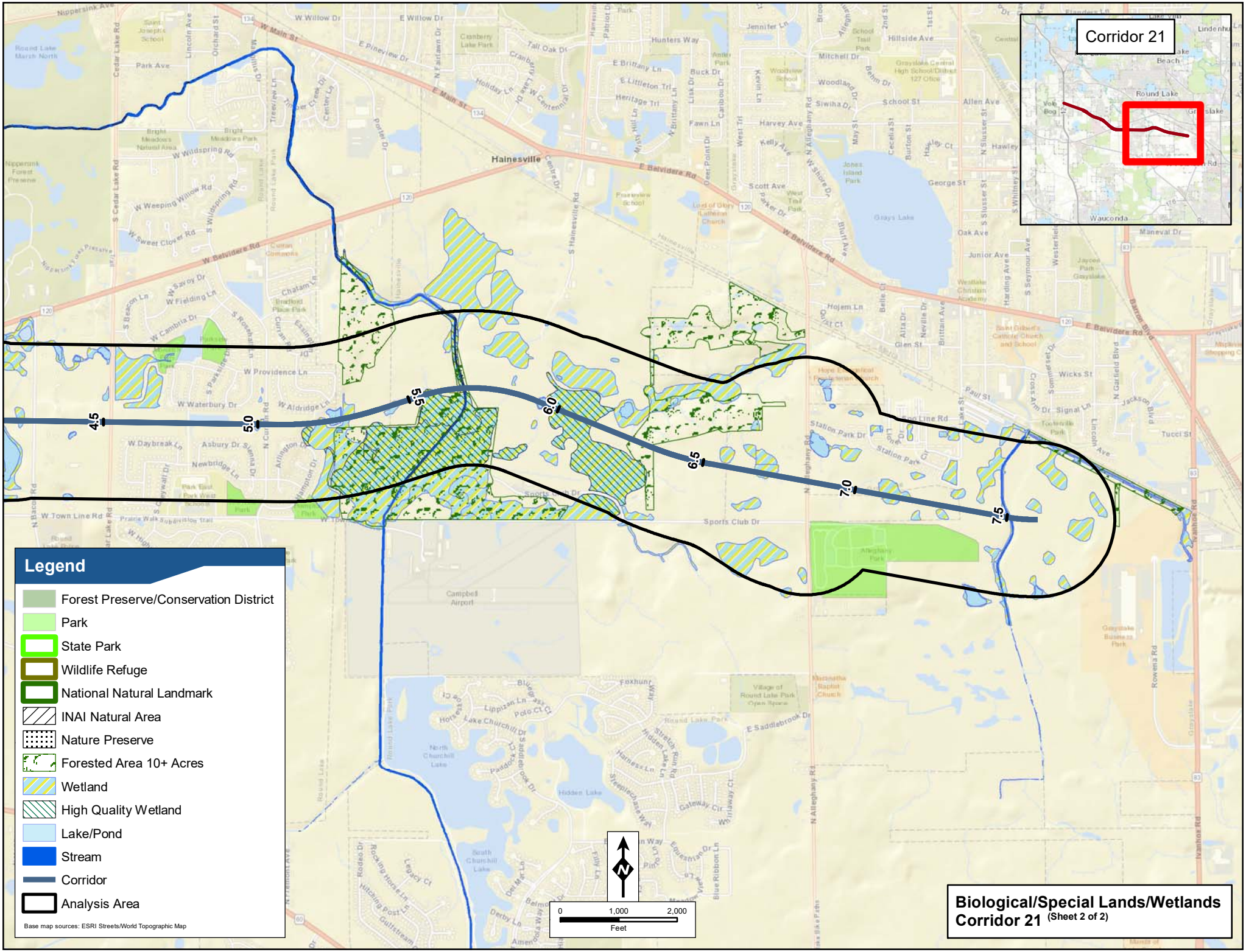

Corridor 17
Buffalo Grove
Palatine
11.0
10.5
10.0
9.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 17

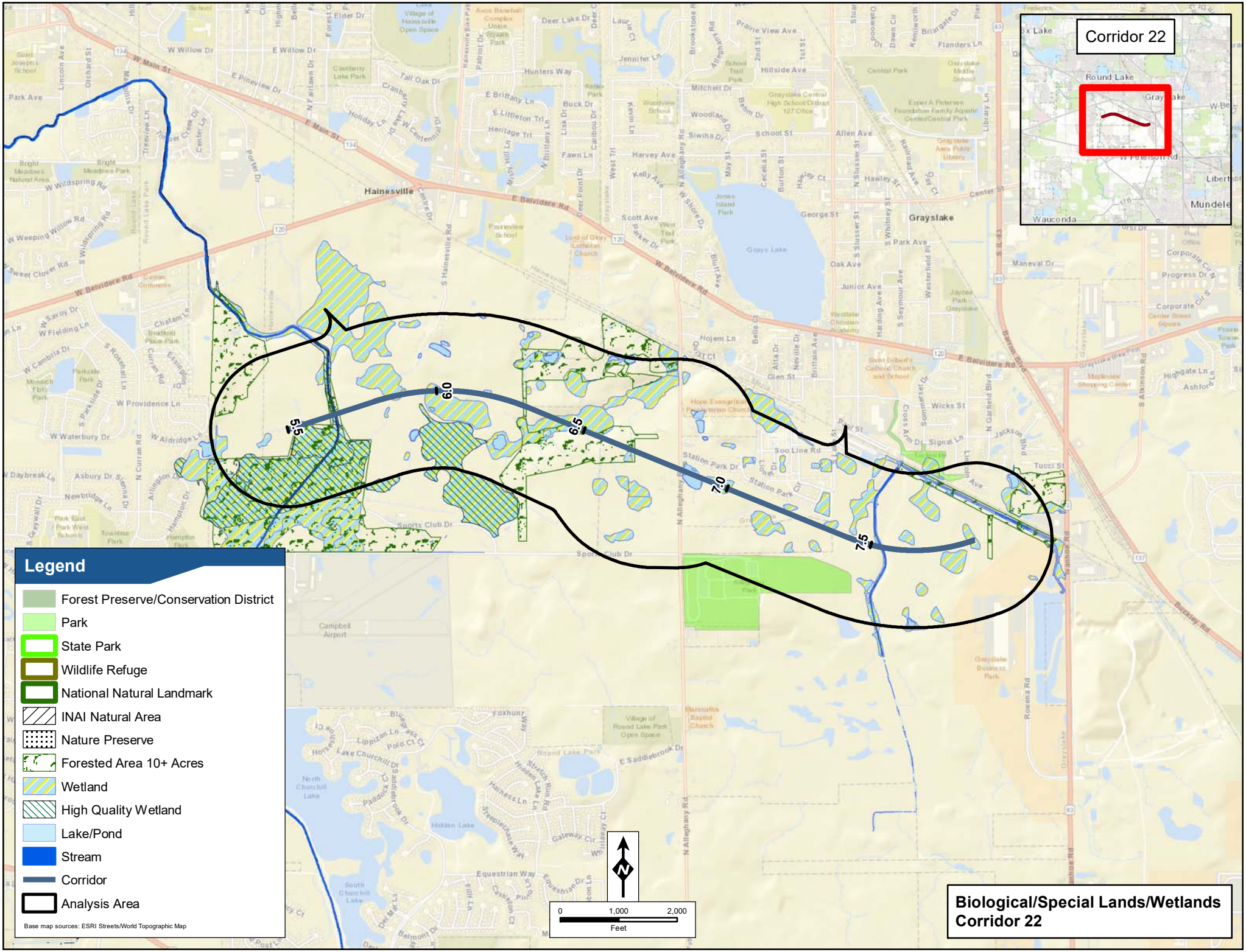

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 18
16.0
15.5
15.0
14.5
14.0
Diamond Lake
Sylvan Lake
Hawthorn Woods
Mundelein
Lake Zurich
Vernon Hills
Libertyville
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 18

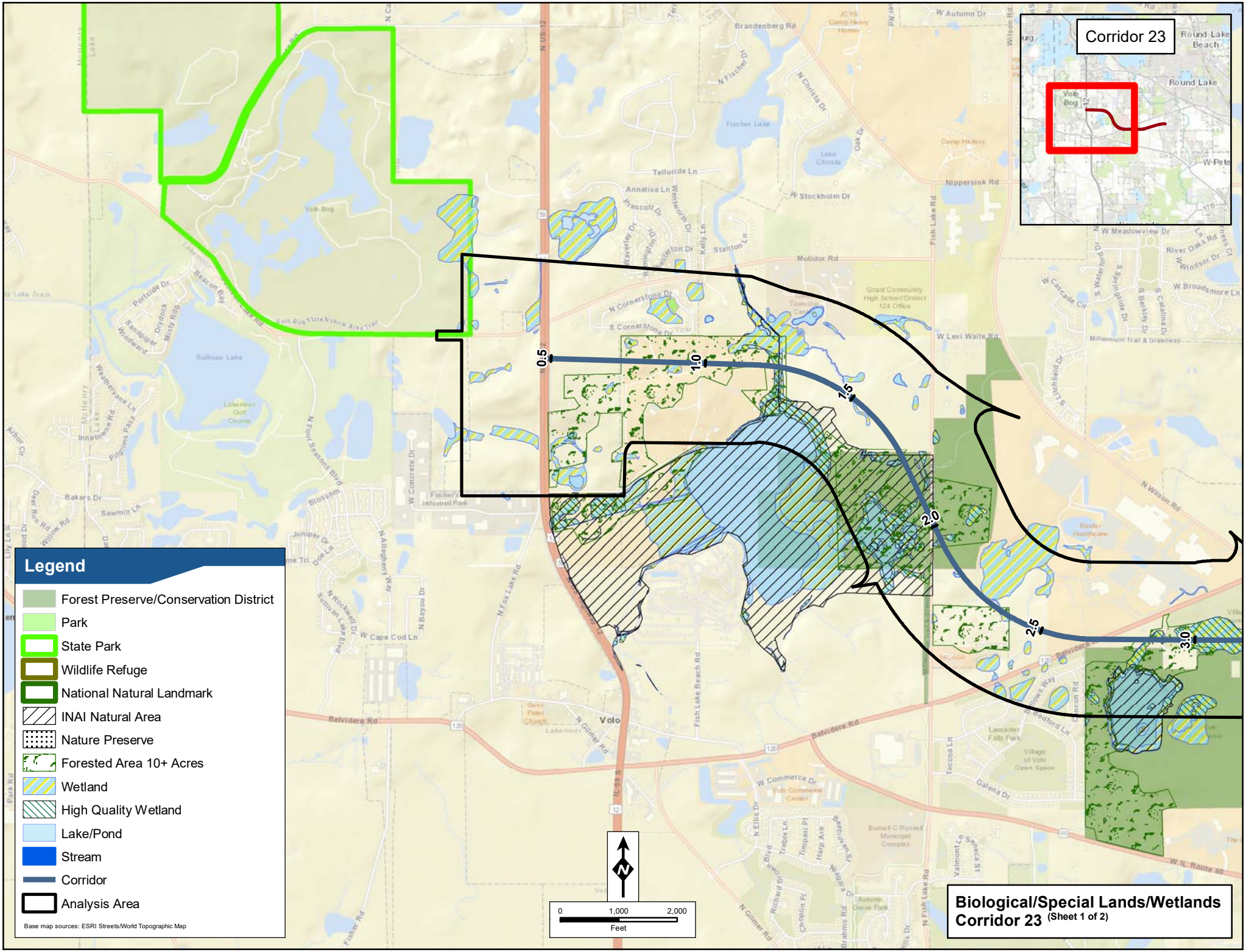

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 20
8.0
8.5
9.0
9.5
10.0
10.5
11.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 20 (Sheet 1 of 2)

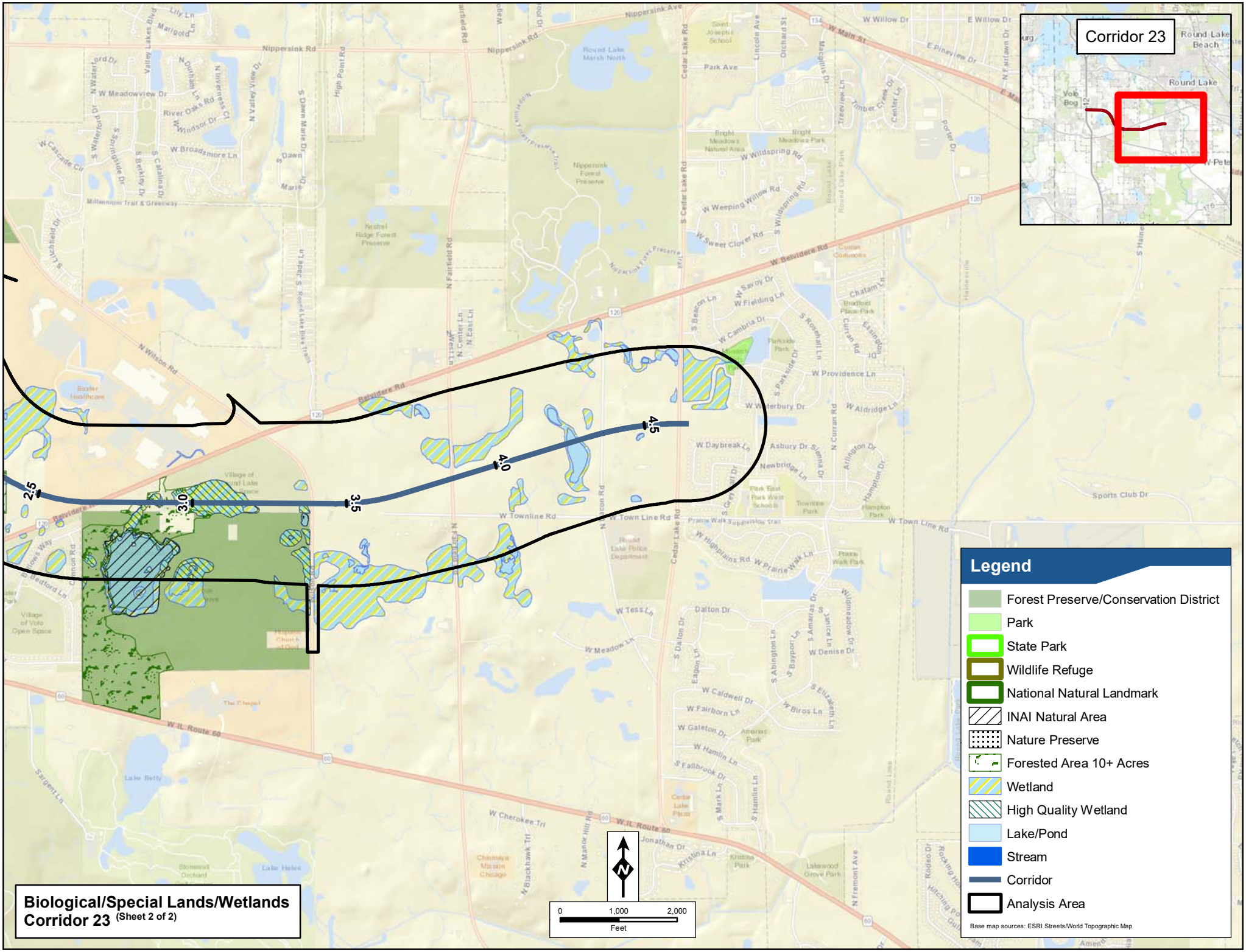

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 20
11.5
12.0
12.5
13.0
13.5
14.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 20 (Sheet 2 of 2)

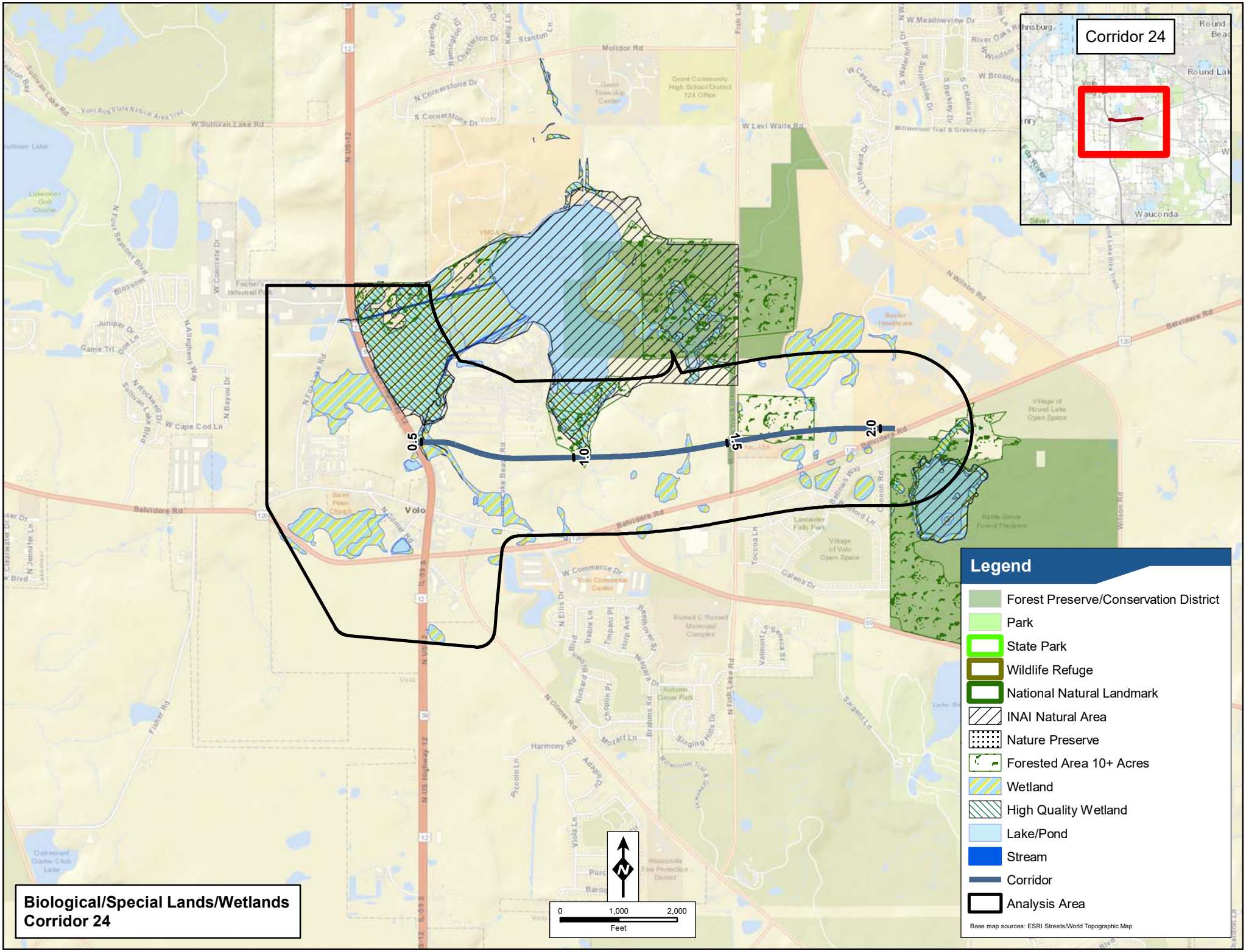

Corridor 21
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 21 (Sheet 1 of 2)

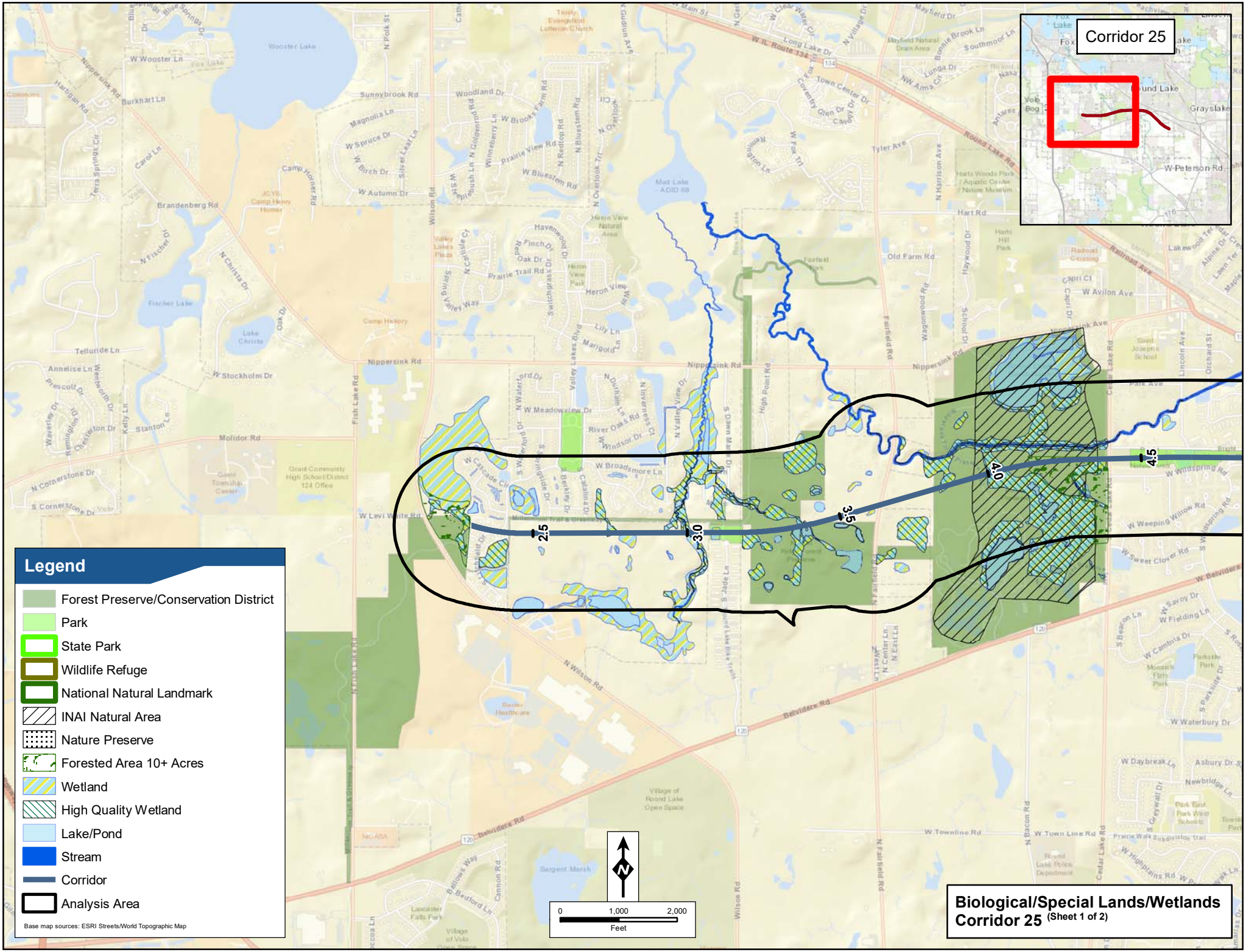

Corridor 21
Hainesville
4.5
5.0
5.5
6.0
6.5
7.0
7.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 21 (Sheet 2 of 2)

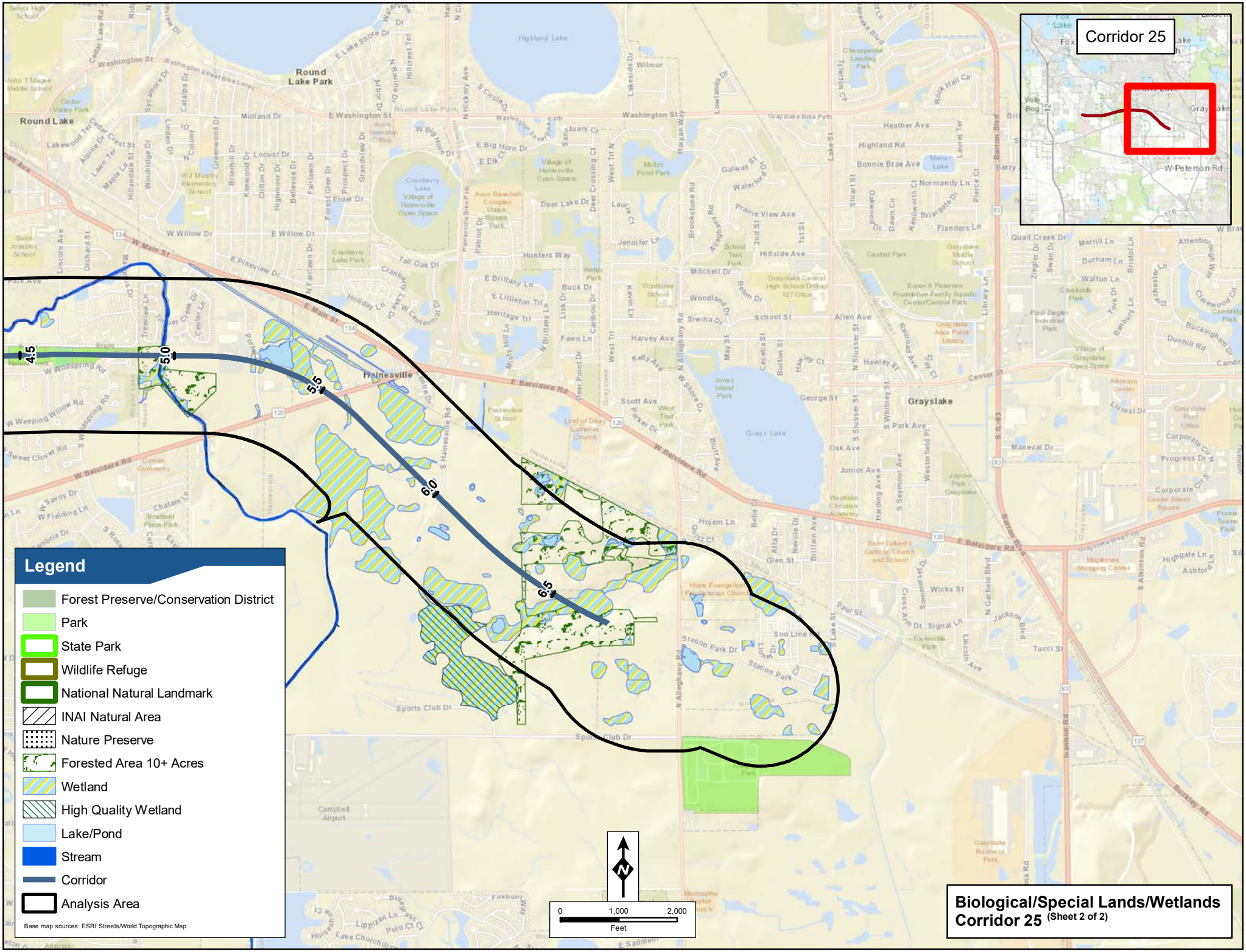

Corridor 22
Round Lake
Grayslake
Wauconda
Mundelein
Hainesville
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
5.5
6.0
6.5
7.0
7.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 22


Corridor 23
Round Lake Beach
Round Lake
Volo Bog
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.5
1.0
1.5
2.0
2.5
3.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 23 (Sheet 1 of 2)


Corridor 23
Round Lake Beach
Round Lake
Volo Bog
2.5
3.0
3.5
4.0
4.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 23 (Sheet 2 of 2)


Corridor 24
0.5
1.0
1.5
2.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 24


Corridor 25
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
2.5
3.0
3.5
4.0
4.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 25 (Sheet 1 of 2)


Corridor 25
W Peterson Rd
Round Lake Park
Round Lake
Highland Lake
Hainesville
Grayslake
Gray's Lake
Campbell Airport
4.5
5.0
5.5
6.0
6.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 25 (Sheet 2 of 2)

Attachment B: References

References

Citizens for Conservation (CFC). 2018. Barrington Bog. https://citizensforconservation.org/conservation/our-preserves/barrington-bog/.

Cook County Forest Preserve District (CCFPD). Undated. http://fpdcc.com/.

Chicago Metropolitan Agency for Planning (CMAP). 2013. Land Use Inventory for Northeastern Illinois, 2013. https://datahub.cmap.illinois.gov/sk/dataset/0e0a83c9-e089-4fea-89ab-389adaf7888a.

Illinois Department of Natural Resources (IDNR). 2018a. Illinois Nature Preserves Commission. https://www.dnr.illinois.gov/INPC/Pages/default.aspx.

Illinois Department of Natural Resources (IDNR). 2018b. Illinois T&E Species by County, Illinois Natural Heritage Database, as of July 23, 2018. https://www.dnr.illinois.gov/ESPB/Documents/ET_by_County.pdf

Illinois Department of Natural Resources (IDNR). 2019. Threatened and Endangered Species Data. Acquired January 2019.

Illinois Department of Natural Resources (IDNR). 2008a. Integrating Multiple Taxa in a Biological Stream Rating System. Accessed 9/9/2018. http://www.dnr.illinois.gov/conservation/BiologicalStreamratings/

Illinois Department of Natural Resources (IDNR). 2008b. Illinois Nature Preserves Commission Agenda One hundred ninety-night meeting. https://www.dnr.illinois.gov/INPC/Documents/199_Agenda.pdf. August 5.

Illinois Natural History Survey (INHS). 2018a. Collections Database. https://biocoll.inhs.illinois.edu/portalx/collections/index.php.

Illinois Natural History Survey (INHS). 2018b. Nippersink Lake. https://www.ifishillinois.org/profiles/display_lake.php?waternum=20102.

Illinois State Toll Highway Authority (Illinois Tollway). 2018. Environmental Studies Manual. https://www.illinoistollway.com/documents/20184/238191/ENVIRONMENTAL+MANUAL.PDF/a4194dd8-3d07-454c-b375-b4f791238438?version=1.1. March 2018

Illinois State Toll Highway Authority (Illinois Tollway). 2012. Illinois Route 53/120 Project, Blue Ribbon Advisory Council (BRAC), Resolution and Summary Report. https://www.illinoistollway.com/documents/20184/96209/2012-06_FinalCouncilSummaryReport_web.pdf/4a6426bf-a46b-476e-bdee-bdc4b2d26d21?version=1.0. June 7, 2012

Lake County Forest Preserve District (LCFPD). 2018a. Lake County Forest Preserves. https://www.lcfpd.org.

Lake County Forest Preserve District (LCFPD). 2018b. Lake County Plants and Animals. https://www.lcfpd.org/lake-county-species/.

Lake County Forest Preserve District (LCFPD). 2016. Memorandum: Recommend Approval of A Resolution Awarding a Contract for the Invasive Species Control Project 2016 at Lakewood Forest Preserve. https://www.lcfpd.org/assets/bidpostingdocuments/16029%20Lakewood%20Broberg%20Marsh%20Invasive%20Species%20Control%202016.pdf

Lake County Forest Preserve District (LCFPD). 2015. Contract No. 16007 - Oak Woodland Clearing Phase I At Kettle Grove Forest Preserve. https://www.lcfpd.org/doing-business/purchasing/contracting-opportunities/oak-woodland-clearing-phase-i-at-kettle-grove-forest-preserve/.

Lake County Health Department (LCHD) and Community Health Center. Lakes Management Unit. Report Archives.

- 2015. St. Mary's Lake
- 2012. Diamond Lake
- 2011. Grays Lake
- 2008. Bangs Lake
- 2005. Banana Lake2004. Fairfield Marsh
- 2003. Drummond Lake
- 2001. Broberg Marsh
- 2001. Pond-A-Rudy

Lake County Stormwater Management Commission (LCSMC). 2018. Des Plaines River Watershed-Based Plan. http://www.lakecountyil.gov/DocumentCenter/View/23564/Des-Plaines-River-Watershed-Based-Plan.

Land Conservancy of Lake County. 2016. Walnut Creek - Harriet B. Weber Nature Preserve Hawthorne Woods, IL. https://www.landconservancyoflakecounty.org/blank.

Long Grove Park District (LGPD). Undated. http://lgparks.org/.

McHenry County, Undated. Athena - Public Property Search Viewer. http://www.mchenrycountygis.org/Athena/.

McHenry County Conservation District (MCCD), undated. http://www.mccdistrict.org/rccms/.

Nippersink Creek Watershed Planning Committee (NCWPC), Watershed Resource Consultants, Inc., & Fluid Clarity, Ltd. 2008. The Nippersink Creek Watershed Plan. http://nippersink.org/Plan/Reports3-08/NippersinkFullReport3-08.pdf. February.

Round Lake Area Park District (RLAPD). 2018. Lakewood Grove Park. https://www.rlapd.org/location/lakewood-grove-park.

Taft John B. & Solecki Mary Kay. 1990. Vascular Flora of the Wetland and Prairie Communities of Gavin Bog and Prairie Nature Preserve, Lake County, Illinois. Rhodora, Vol. 92. No. 871. Pp. 142-165. https://www.biodiversitylibrary.org/page/33354442#page/532/mode/1up.

US Department of the Interior. 2006. 2007 Administrative Guidelines for State Wildlife Grants. https://www.lakecountyil.gov/2400/Lake-Reports. October 18.

US Environmental Protection Agency (EPA). 1992. Advanced Identification (ADID) Study Lake County, Illinois. https://maps.lakecountyil.gov/output/reports/adid_sds.pdf. Final Report November 7.

US Fish and Wildlife Service (FWS). 2018. *Section 7 Technical Assistance County Distribution of Federally-listed Threatened, Endangered, Proposed and Candidate Species.* Accessed July 30, 2018. https://www.fws.gov/midwest/Endangered/Lists/cty_indx.html.

TECHNICAL MEMORANDUM #3

Community Resources and Facilities

Community Resources and Facilities; Affected Environment; System Alternatives

This memorandum details the affected environment for land use and community resources. See Attachment A for corridor reference figures.

1.0 Resource Introduction

Community resources include socioeconomic resources, public facilities and services, and transportation facilities. Socioeconomic resources include description of demographic characteristics of the area. Public facilities and services generally consist of government facilities, schools, worship centers, cemeteries, and emergency facilities (i.e., hospitals, police, and fire, among others). Transportation facilities include roadway, transit, freight, and non-motorized (bicycle and pedestrian) systems.

2.0 Methodology

As indicated in the Community Resources Methodology Memo, resources in the analysis area were identified and located using readily available information from secondary sources (see Section 5.0, References). A desktop survey of available GIS information was conducted in September and October 2018 and January and February 2019. Field verifications were completed in November 2018 for corridors 1 through 15. Due to limited access, field reviews were not conducted for corridors 16 through 25. Based on the field verifications, modifications to the GIS layer were made.

For community facilities for all corridors (1 through 25), resources were identified within an analysis area of 0.5 mile from the roadway's approximate centerline (1-mile total width) for the corridors.

For the demographic analysis, for arterial corridors (corridors 1 through 15), a 0.5-mile analysis area (1-mile total width) was used; and for expressway/freeway corridors (corridors 16 through 25), a 2-mile analysis area (4-mile total width) was used. These demographic analysis areas are intended to capture the primary area influenced by transportation improvements from a socioeconomic perspective, and match the areas analyzed in the Affected Environment Land Use Memo.

3.0 TCA Study Area

The Tri-County Access (TCA) study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA study area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

3.1 Socioeconomic Characteristics

Population in the TCA study area has steadily increased as the Chicago metropolitan region has continued to expand from the urban core to suburban communities. The TCA study area represents just under 20 percent of the region's (seven counties that comprise the Chicago Metropolitan Agency for Planning [CMAP] region plus Kenosha County) population. Table 3-1 details the population change

between 2000 and 2015 for the portions of the counties within the TCA study area.[1] In 2015, population in the study area was 1,628,050, a 5.4 percent increase over 2000 population. During this period, the greatest population increases occurred in Lake County and in the portion of Kenosha County that is within the study area, in terms of both actual number and percentage increases. Lake County added more than 74,000 new residents (a nearly 12 percent population increase), South Kenosha County added nearly 22,000 residents (a 15 percent increase), and East McHenry County added approximately 11,000 residents (a nearly 8 percent increase). During this same period, the North Cook/Northeast DuPage county portion of the study area declined in population (losing over 23,000 residents, or 3.7 percent).

Table 3-1. Study Area Population Trends

Location	2000	2015	Change 2000-2015	
			No.	%
Lake	628,252	702,898	74,646	11.9%
South Kenosha	145,839	167,738	21,899	15.0%
East McHenry	135,491	146,184	10,693	7.9%
North Cook/ Northeast DuPage	634,787	611,230	-23,557	-3.7%
TCA Study Area Total	1,544,368	1,628,050	83,682	5.4%
CMAP Region + Kenosha County	8,295,841	8,673,715	377,874	4.6%

Source: U.S. Census, 2000; U.S. Census ACS 2015 5-year estimates

Additional demographic details for the TCA Study area are presented in Table 3-2**.** Within the study area, 80.5 percent of the population is White, 4.8 percent is Black or African-American, 8.0 percent is Asian, and 6.7 percent are Other races. The percent of the TCA study area population that is Hispanic or Latino is 17.2 percent. Approximately 60 percent of the residents are working age (between 20 and 64), 27 percent are under the age of 19, and 13 percent are over 65. The median age in the TCA study area is 39.1. Median household income for the TCA study area is $74,230; 8.5 percent of the population's income is below the poverty level.

Table 3-2. Selected Socioeconomic Characteristics, TCA Study Area

Race	
White	80.5%
Black or African American	4.8%
Asian	8.0%
Other*	6.7%
Ethnicity	
Hispanic or Latino	17.2%

[1] Year 2015 was established as the baseline year for both travel demand and socioeconomic forecasting modeling. For this Affected Environment write up, U.S. Census 2015 ACS 5-year estimate data was used, rather than CMAP 2015 population estimates. While the underlying data relies on the same Census information, differences occur due to variations in the Study Area boundary. U.S. Census 2015 ACS data represents Census Tracts within the study area boundary; CMAP's 2015 data represents TAZ sub-zones within the study area boundary.

Table 3-2. Selected Socioeconomic Characteristics, TCA Study Area

Age Characteristics	
Under 19	27.0%
20-34	18.2%
35-64	41.8%
65+	13.0%
Median Age	39.1
Income and Poverty	
Total Households	587,172
Median Household Income	$74,230
Percent of Households Below Poverty	8.5%

* Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

Source: U.S. Census 2015 ACS; ESRI

3.2 Public Facilities

Public services and facilities consist of schools, places of worship, cemeteries, hospitals, emergency services (police and fire), and municipal/government facilities such as city halls, libraries, post offices, or public utilities.

There are more than 100 public or government buildings and nearly 200 law enforcement or fire station facilities, around 700 schools and 50 libraries, and over 100 cemeteries throughout the TCA Study area (Table 3-3, below). These facilities and services are typically within municipal boundaries and near population centers. Within the study area are 35 townships and nearly 100 communities.

Table 3-3. Public Services and Facilities in the TCA Study Area

Facility Type	Number
Government Buildings	119
Police Stations	68
Fire Stations	126
Schools	688
Libraries	53
Cemeteries	136
Hospital/Medical Facilities	14

Sources: Lake County; Cook County; Illinois Geospatial Data Clearinghouse; ESRI

3.3 Transportation

The transportation infrastructure within the study area consists of highways, freight facilities, airports, public transportation, and non-motorized facilities. This section describes the existing roadway, transit, freight, bicycle, and pedestrian systems in the study area.

3.3.1 Roadway Network

The roadway network evolved from early Native American trails that followed natural topography. Barriers, such as rivers and lakes as well as rail lines, influenced the development of the existing roadway network. Roadways in the study area somewhat follows a grid pattern of east-west, north-south, and diagonal routes.

The road network system includes facilities with different functional classifications to accommodate a variety of trips types (see Table 3-4). The hierarchy of the functional classification systems for rural and urban areas generally consists of freeway/tollway facilities, principal arterials, minor arterials, collectors, local roads and streets.

Table 3-4. Route Miles and Lane Miles in Study Area by Functional Classification

Functional Class	Route Miles	% of Route Miles	Description
Freeway/Expressway	120	5	Serves long-distance trips and emphasize mobility, access controlled
Principal Arterial	600	30	Intended to carry higher traffic volumes and longer trips, providing more access than freeways/expressways
Minor Arterial	700	35	Moderate-to-short length trips, regular access to adjacent land uses, lower travel speeds
Collector	600	30	Carries smaller volume, short trips, frequent access points

Within the arterial roadway category are Illinois Department of Transportation-designated Strategic Regional Arterials (SRAs). The SRA system is “designed to accommodate long-distance regional traffic, to complement a region’s major transit and highway facilities, and to supplement the freeway system” (IDOT 2018). SRA roads generally align with principal arterials.

3.3.2 Freight and Passenger Rail Network

Chicago is one of the largest rail hubs in the Midwest. A distinctive radial rail network is evident, with rail lines appearing as “spokes” on the Chicago hub of yards and freight terminals. There are three Class I and one Class II freight railroads in the study area: Union Pacific railroad (UPRR), Canadian National (CN), Canadian Pacific (CP), and Wisconsin and Southern railroad (WSOR). These railroads operate on 11 rail corridors in the study area.

In addition to freight rail, Metra commuter service operates in the study area. Of the 12 Metra commuter rail lines that serve the Chicago region, five operate in study area and utilize the freight rail lines. All five Metra train lines that service the TCA study area are oriented toward downtown Chicago, with service frequencies that focus on the peak periods and provide less frequent service during evenings and weekends (Table 3-5).

In March 2019, Metra began a two-year pilot project on the Milwaukee District North (MD-N) line, designed to serve reverse-commuters (those traveling to suburban Lake County employment areas). It provides additional outbound AM and inbound PM Express service on the MD-N Line (Meadows 2019).

Table 3-5. Metra Weekday Boardings

Metra Train Service	No. of Study Area Stations	Weekday Study Area Boardings (2016)	No. of Weekday Trains	Weekend Service
UP-NW[a]	12	14,020	64	Y
UP-N[a]	13	5,515	70	Y
MD-N[b]	10	5,785	62	Y
MD-W[c]	5	3,610	58	Y
NCS[a]	11	2,903	20	N

[a] Utilizes Union Pacific (UP) rail

[b] Utilizes Canadian Pacific (CP) rail

[c] Utilizes Canadian National (CN) rail

Source: RTAMS 2016

Amtrak, which provides longer distance train travel, has routes that travel through the TCA study area. The Hiawatha Route has 14 weekday daily trains between Chicago and Milwaukee. The Empire Builder Route has 2 daily trains that serve destinations further north and west U.S. destinations. Both Amtrak routes utilize the CP rail tracks (which are also used by Metra's MD-N trains). There are no Amtrak stops within the TCA study area.

3.3.3 Other Modes of Transportation

Pace Bus Service

Pace Bus, the Regional Transit Authority's (RTA's) suburban bus division, provides a combination of fixed-route and paratransit, or demand-response, service throughout the TCA study area. There are 63 fixed-routes that serve the study area. Weekday service is typically provided between 5:00 AM and 7:00 PM and weekend service varies by route. Paratransit service consists of pre-arranged trips for riders who are eligible for the service. Paratransit includes Dial-A-Ride, ADA Paratransit, and On Demand service. Other services include vanpool (workday rideshare arrangement) and an employer shuttle program.

There are four Park-n-Ride lots within the TCA study area (Pace n.d.[a]):

- I-90/Barrington Road Park-n-Ride at Barrington Road and I-90; Hoffman Estates
- Buffalo Grove Park-n-Ride at Deerfield Parkway and Commerce Court; Buffalo Grove
- Northwest Transportation Center at Martingale Road and Kimberly Drive; Schaumburg
- Atrium Center Park-n-Ride at 3800 Golf Road; Rolling Meadows

Pace has 11 Transportation and Transfer stations and boarding centers within the TCA study area:

Table 3-6. Pace Transportation/Transfer Stations in the TCA Study Area

Transportation/Transfer Station	Location
Buffalo Grove Transportation Center	801 Commerce Court; Buffalo Grove
Gurnee Mills Transfer Facility	6170 W. Grand Avenue; Gurnee
Northwest Transportation Center	1730 Kimberly Drive; Schaumburg
Rosemont Transit Center	5801 North River Rd; Rosemont
Arlington Heights Metra	Payton Run at Dunton Avenue; Arlington Heights

Table 3-6. Pace Transportation/Transfer Stations in the TCA Study Area

Transportation/Transfer Station	Location
Deerfield Metra	Park Avenue at Jewett Park Street; Deerfield
Des Plaines Metra	1501 Miner Street; Des Plaines
Highland Park Metra	First Street between Walnut and Laurel; Highland Park
Palatine Metra	Smith Street at Wood Street; Palatine
Waukegan Transit Center	Sheridan Road, north of Washington Street; Waukegan
Waukegan Metra	Washington Street east of Sheridan Road; Waukegan

Source: Pace, n.d.[b]

Air

Within the TCA study area is Chicago's O'Hare International Airport, which serves commercial air travelers, and three general aviation airports: Chicago Executive Airport, Waukegan Regional Airport, and Campbell Airport. O'Hare is the third busiest airport in the United States and in 2017, served 79.8 million passengers (World Atlas 2017). Waukegan Regional Airport serves as a reliever for O'Hare Airport, Chicago Executive Airport serves corporate flights; Campbell Airport is a privately-owned general aviation airport that serves only private planes.

Pedestrian and Non-Motorized Transportation

Within the study area, there are approximately 750 miles of trails, which primarily consist of off-street multi-use paths for use by cyclists, pedestrians, and other non-motorized users. This includes regional trails that extend long distances through multiple communities and counties, such as:

- Des Plaines River Trail, a 56-mile-long trail along the Des Plaines River
- Robert McClory Bike Path, a 25-mile-long trail along the Chicago North Shore and former Milwaukee Railroad
- The North Shore Bike Path, a 19-mile-long east-west bike trail that parallels IL 176 through central Lake County and connects to north-south bike trails
- Millennium Trail and Greenway, a 31-mile-long trail through western, central, and northern Lake County communities and forest preserves (a total of 41 miles of trail are planned)
- Prairie Trail, a 26-mile-long north-south trail in eastern McHenry County. The trail is part of the Grand Illinois Trail[2] and connects to other regional trails.

The trail system also consists of local on- and off-street paths that connect to parks, schools, forest preserves, and other destinations, as well as regional trails. Along the major arterials there are sometimes bike lanes or accommodations for non-motorized users.

[2] The Grand Illinois Trail is a 535-mile-long loop trail in northern Illinois. It goes from Lake Michigan to the Mississippi River along the northern border of Illinois and then loops back across the state along the Illinois River and the Hennepin Canal.

4.0 System Alternative Corridors

4.1 Corridor 1

4.1.1 Socioeconomics

Corridor 1 passes through the communities of Richmond, Spring Grove, Fox Lake, Lakemoor, Volo, Wauconda, Hawthorn Woods, North Barrington, Lake Zurich, Kildeer, and Deer Park. Table 4-1 details 2015 demographics of the population within the TCA study area, the analysis area, and the individual communities adjacent to the corridor. Population within the analysis area increased at a greater rate than the TCA study area. The 2015 population within the analysis area was 30,487, which represented a nearly 13 percent population increase over 2000 population. All the communities along the corridor experienced population increases, with the northernmost communities experiencing the greatest percentages of growth, most notably Volo (1987 percent), Lakemoor (134 percent) and Richmond (82 percent). North Barrington experienced the smallest population increase (4 percent).

Corridor 1 is less diverse racially than the TCA study area and has a lower percentage of Hispanic or Latino population than the study area. Within the analysis area, 13 percent of the population is minority and 11.9 percent of the population is Hispanic or Latino. In comparison, minority populations in the corridor communities range from 1.4 percent to 13 percent. The largest racial minority in the Corridor 1 communities is Asian. The communities of Hawthorn Woods, Lake Zurich and Kildeer, which are in the southern portion of the corridor, have the highest number of Asian residents of the communities along Corridor 1. The highest percentage of Hispanic or Latinos are in the northern corridor communities of Fox Lake, Lakemoor, Volo, and Wauconda.

Median age in the TCA study area is 39.1 and in the analysis area is 41.2. Within the corridor communities, the median age ranges from 31.8 (in Lakemoor) to 49.5 (in North Barrington). Median household income ranges from $47,250 (in Richmond) to $155,952 (in Deer Park). Median household income in the analysis area is $84,888 and $74,230 for the TCA study area.

Table 4-1. Corridor 1 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area (2015)	1,544,368	1,628, 050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile analysis area	27,012	30,487	12.9%	87.0%	1.3%	4.5%	7.2%	11.9%	25%	17%	44%	14%	41.2	$84,888	5.6%
Richmond	1,091	1,989	82.3%	91.8%	1.4%	2.9%	4.0%	3.4%	21%	24%	41%	14%	39.8	$47,250	10.7%
Spring Grove	3,880	5,510	42.0%	98.6%	0.0%	0.5%	0.9%	5.8%	31%	10%	50%	9%	43.8	$105,595	3.7%
Fox Lake	9,178	10,539	14.8%	90.6%	0.4%	6.5%	2.5%	14.4%	22%	20%	43%	16%	42.2	$56,208	9.5%
Lakemoor	2,788	6,535	134.4%	87.9%	1.7%	1.0%	9.4%	18.3%	32%	23%	40%	5%	31.8	$78,186	5.0%
Volo	180	3,757	1987.2%	86.3%	5.5%	5.3%	2.9%	13.5%	29%	29%	35%	6%	32.2	$90,131	1.7%
Wauconda	9,448	13,140	39.1%	90.5%	0.5%	5.4%	3.6%	18.5%	27%	18%	44%	11%	37.3	$74,646	6.2%
Hawthorn Woods	6,002	7,634	27.2%	88.9%	1.9%	8.1%	1.1%	4.4%	28%	7%	52%	13%	43.6	$152,781	2.8%
North Barrington	2,918	3,032	3.9%	93.3%	0.0%	3.7%	3.0%	2.2%	23%	12%	49%	17%	49.5	$151,250	2.5%
Lake Zurich	18,104	19,923	10.0%	86.8%	0.8%	9.3%	3.0%	7.9%	29%	15%	48%	8%	39.4	$108,669	3.6%
Kildeer	3,460	3,938	13.8%	86.1%	1.4%	10.9%	1.6%	6.1%	30%	10%	49%	12%	46.3	$154,563	3.9%
Deer Park	3,102	3,323	7.1%	92.4%	0.8%	5.7%	1.1%	3.7%	28%	11%	49%	12%	44.5	$155,952	3.4%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.1.2 Public Facilities and Services

There are 71 public facilities and service centers within the analysis area of the corridor (Table 4-2). This includes 13 schools, 21 preschools or daycare facilities, 10 places of worship, 6 cemeteries, 5 nursing homes or long-term care facilities, 12 governmental buildings, 1 community or recreation center, 1 museum, and 2 other medical/emergency facilities. These facilities and services are typically within municipal boundaries and near population centers.

Table 4-2. Public Facilities, Corridor 1 Analysis Area

Facility Type	Total
Schools	13
Daycare Facilities	21
Places of Worship	10
Cemeteries	6
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	5
Government Services	12
Community/Recreation Centers	1
Museums	1
Other Medical/Emergency Facilities	2

Public facilities directly adjacent to the corridor are detailed in Table 4-3.

Table 4-3. Public Facilities Along/Adjacent to Corridor 1

Facility Type	Facility Name	Location
Daycare Facilities	Peppermint Preschool	US 12 and Industrial Court (MP 6.3), Spring Grove
	Serendipity Child Care	US 12 and Big Hollow Rd (MP 13.1), Ingleside
	In home day care	US 12 and Slocum Lake Rd (MP 21.2), Wauconda
	Kiddy Garden Day Care	US 12 and Old McHenry Road (MP 23.9), Hawthorn Woods
Churches	Crosspoint Church	US 12 and Big Hollow Rd (MP 13.4), Ingleside
	Fox Lake Community Church	US 12 and Big Hollow Rd (MP 13.7), Fox Lake
Nursing Home/Long-Term Care Facilities	Mount Saint Joseph Intermediate care facility for handicap women	US 12 and Miller Rd (MP 25.0), Lake Zurich
Municipal/Government Facilities	Fox Lake Wastewater Treatment Plant	US 12 and Sayton Rd (MP 12.2), Fox Lake
	ComEd Transmission Utility Corridor[a]	Crosses US 12 at MP 18.0
	Wauconda Post Office	US 12 and IL 176 (MP 21.5), Wauconda
	Illinois Secretary of State Facility DMV (Deerpath Commons Retail Center)	US 12 and Old Rand Rd (MP 28.8), Lake Zurich
Community/Recreation Centers	YMCA Camp Duncan	US 12 and IL 120 (MP 15.9), Ingleside
Other Medical/ Emergency Facilities	Arrow Heliport	US 12 at Oak Street (MP 11.0), Fox Lake

[a] Not included in the Public Facilities tabulation in previous table.

4.1.3 Transportation

Major roads[3] that cross Corridor 1 are listed in Table 4-4.

Table 4-4. Major Roads Crossing Corridor 1

Road	Comment
IL 31 (MP 3.3)	Signalized intersection
IL 59 (north leg) (MP 13.3)	Partial interchange
IL 120 (MP 16.9)	Signalized intersection
IL 176 (MP 21.5)	Partial interchange
IL 59 (south leg) (MP 22.1)	Partial interchange
IL 22 (MP 27.4)	Signalized intersection
Quentin Road (MP 30.3)	Signalized intersection
Lake Cook Road (MP 31.8)	Signalized intersection

Two rail lines run parallel to, or cross, Corridor 1:

- A CP rail line generally parallels Corridor 1 from IL 31 near Richmond (MP 3.3) to Oak Street in Fox Lake (MP 11.2). This rail corridor carries 1 to 3 freight trains per day (CMAP 2012). It also serves as the Metra MD-N Line. The MD-N Fox Lake Station is approximately 0.1 mile east of Corridor 1, near Grand Avenue (at MP 11.4). This is the northernmost Metra stop on the line. There are 30 weekday Metra trains that serve the Fox Lake Station, with fewer trains on weekends.
- The CN rail line crosses Corridor 1 south of IL 22, at MP 27.8 (this line was formerly known as the Elgin, Joliet and Eastern [EJ&E] Circumferential Railway). The crossing is grade-separated, serves freight rail exclusively, and carries 7 to 12 freight trains per day (CMAP 2012).

One Pace bus route travels along Corridor 1:

Table 4-5. Pace Bus Routes Along/Crossing Corridor 1

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
806 (Crystal Lake-Fox Lake)	Provides weekday rush hour service between Crystal Lake and Fox Lake. The Fox Lake Metra Station (MD-N) and Crystal Lake Metra Station (UP-NW) are served by this route.	Utilizes Corridor 1 between Fox Lake Road (MP 9.6) and Grand Avenue (MP 11.5)	Five northbound and seven southbound buses operate per day	28

Source: RTAMS 2018.

Bike/pedestrian trails near Corridor 1 include the following:

[3] Includes freeways, expressways, interstates, and principal arterials.

Table 4-6. Trails, Corridor 1 Analysis Area

Trail	Approximate Location	Comment
Prairie Trail	Parallels US 31 on west side of roadway; at MP 3.3	26-mile-long regional trail owned by McHenry County Conservation District (MCCD); extends from the McHenry-Kane County line to the Wisconsin border; part of the 500-mile-long Grand Illinois Trail; 10-foot wide, unpaved (crushed rock) trail
Prairie Trail Chain-of-Lakes Connecter	Crosses the corridor at MP 5.0	Connects the Prairie Trail to the Chain O'Lakes Bike Path
Chain O'Lakes Bike Path	0.2 miles east of Corridor 1 at Grand Ave (MP 11.5)	Trail partially on ComEd ROW; owned by Lake County Department of Transportation (LCDOT); 10-foot wide, paved trail
Unnamed trail	East of Corridor 1 from MP 12.7 to MP 12.9	Off-road trail through Fox Ridge subdivision
Unnamed trail	0.15 mile east of Corridor 1 at Molidor Rd (MP 15.4)	Off-road; parallels Molidor Rd for 0.4 mile
Bonner Road Bike lane	On Bonner Road (MP 20.1) west of Corridor 1	LCDOT; paved on-street bike lane
Unnamed trail	0.1 mile west of Corridor 1 at Ivanhoe Rd (MP 22.4)	Off-road trail through residential area
Lakewood Forest Preserve Trail	Parallels east side of Corridor 1 from MP 23.6 to 23.7	LCFPD; internal park trail; 10-foot-wide crushed rock trail
Unnamed trail	0.1 mile east of Corridor 1 at Miller Rd (MP 25.9)	Trail through Manor Park; owned by the Village of Lake Zurich
Unnamed trail	East of Corridor 1 at Whitney Rd (MP 27.0)	Trail through Paulus Park; owned by the Village of Lake Zurich
Lake Zurich Bike Path	Parallels east side of Corridor 1 from Ela Rd (MP 28.0) to Pheasant Ridge Drive (MP 28.5)	Off-road; provides access from residential area to Greyhawk and Deerpath Court shopping centers; 8-foot wide paved walking trail
Unnamed trail	Parallels west side of Corridor 1 from Ela Rd to south of Deerpath Commons Retail Center (MP 27.9 to MP 29.0); extends 0.5 mile south along Ela Rd (MP 27.8).	Off-road; provides access to residential and retail centers
Quentin Rd Bike Path/Unnamed trail	West and east of Corridor 1 between Quentin Rd and Long Grove Rd (MP 30.3 to MP 30.7); crosses the corridor at MP 30.5	Off-road; provides access from residential area to the Quentin Collection and Town Center Promenade; connects to Deer Park Trail at Long Grove Rd.
Deer Park Trail	Quentin Road (MP 30.5) and Lake Cook Road (MP 31.5)	Path runs through Deer Park Town Center and Deer Park Office Center

4.2 Corridor 2

4.2.1 Socioeconomics

Corridor 2 is within Lake County and passes through the communities of Volo, Round Lake, Round Lake Park, and Mundelein. Table 4-7 details 2015 demographics within the TCA study area, the analysis area, and the communities adjacent to the corridor. Population within the analysis area has increased at a substantially higher rate than the TCA study area (nearly 183 percent vs. 5 percent). The westernmost communities of Volo, Round Lake, and Round Lake Park experienced the greatest population increases, while the easternmost community of Mundelein experienced only a modest increase.

The Corridor 2 analysis area is more diverse racially than the TCA study area. Within the four corridor communities, minority populations range from 13 percent (in Volo) to 22.4 percent (in Round Lake). The analysis area has a lower percentage of Hispanic or Latino residents than the study area (11 percent vs. 17 percent). Three of the four communities (Round Lake, Round Lake Park, and Mundelein) have higher percentages of Hispanic or Latino residents than the analysis area and TCA study area.

Median age of residents in the analysis area is 38.1, which is slightly lower than that of the TCA study area. The median age of residents of communities within the corridor ranges from 31.3 (in Round Lake) to 39.0 (in Round Lake Park).

Median household income within the analysis area is $97,763, which is higher than the TCA study area ($74,230). Within the communities adjacent to the corridor, median household income ranges from $42,355 (in Round Lake Park) to $90,131 (in Volo).

Table 4-7. Corridor 2 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area (2015)	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile analysis area	2,052	5,805	182.9%	77.4%	2.5%	12.8%	7.4%	11.3%	31%	14%	40%	15%	38.1	$97,763	3.2%
Volo	180	3,757	1987.2%	86.3%	5.5%	5.3%	2.9%	13.5%	29%	29%	35%	6%	32.2	$90,131	1.7%
Round Lake	5,842	18,446	215.7%	77.5%	7.2%	8.9%	6.4%	28.7%	36%	21%	37%	6%	31.3	$72,659	5.0%
Round Lake Park	6,038	7,957	31.8%	85.7%	4.8%	2.1%	7.4%	47.3%	28%	17%	29%	26%	39.0	$42,355	14.5%
Mundelein	30,935	31,624	2.2%	82.8%	2.4%	8.6%	6.2%	28.9%	27%	20%	43%	10%	37.4	$76,750	6.6%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.2.2 Public Facilities and Services

There are 19 public facilities and service centers located within the analysis area, including 1 school, 9 preschools or daycare facilities, 5 places of worship, 2 cemeteries, and 2 governmental buildings (Table 4-8). These facilities and services are typically within municipal boundaries and near population centers.

Table 4-8. Public Facilities, Corridor 2 Analysis Area

Facility Type	Total
Schools	1
Daycare Facilities	9
Places of Worship	5
Cemeteries	2
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	2
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-9.

Table 4-9. Public Facilities Along/Adjacent to Corridor 2

Facility Type	Facility Name	Location
Schools	Frassati Catholic Academy (Pre-K through 5th grade)	IL 60 and Erhart Road (MP 5.0), Mundelein
Daycare Facilities	In home day care	IL 60 and Cedar Lake Road (MP 2.9), Round Lake
Churches	The Chapel	IL 60 and Wilson Road (MP 1.4), Mundelein
	Saint Mary of the Annunciation	IL 60 and Erhart Rd (MP 5.0), Mundelein
Municipal/Government Facilities	Volo Village Hall	IL 60 and Fish Lake Road (MP 0.4), Volo
	ComEd Transmission Utility Corridor	Crosses IL 60 at MP 1.8
	Fremont Township Office	IL 60 and Fremont Center Road (MP 4.6), Mundelein

4.2.3 Transportation

Major roads that cross Corridor 2 are listed in Table 4-10.

Table 4-10. Major Roads Crossing Corridor 2

Road	Comment
IL 120 (MP 0.0)	Signalized intersection
IL 83 (MP 6.7)	Signalized intersection

There are no Metra or freight rail lines within the Corridor 2 analysis area.

No Pace bus routes travel along, or cross, Corridor 2.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-11.

Table 4-11. Trails, Corridor 2 Analysis Area

Trail	Location	Comment
Millennium Trail	West side of N Fish Lake Road; intersects Corridor 2 at MP 0.5	Lake County Forest Preserve District (LCFPD); connects forest preserves; 10-foot paved trail
Unnamed trail	0.2 mile north of Corridor 2	Trail through Lancaster Falls Park and Village of Volo Open Space; owned by the Village of Volo
Round Lake Park District Trail	Parallels south side of Corridor 2 between Krista Lane (MP 3.1) and Old Bacon Road (MP 3.3)	Round Lake Area Park District; 8-foot wide paved walking and biking trail
Prairie Walk Subdivision Trail	North of IL 60 at Old Bacon Road (MP 3.3)	Trail through Prairie Walk subdivision
Unnamed trail	0.1 mile north of Corridor 2 at Rodeo Dr (MP 4.0)	Trail through residential area and borders South Churchill Lake and North Churchill Lake

4.3 Corridor 3

4.3.1 Socioeconomics

Corridor 3 is within Lake County and passes through the Village of Mundelein. Table 4-12 details 2015 demographics of the population living within the TCA study area, the analysis area, and Mundelein.

Population in the analysis area grew only slightly (0.5 percent) between 2000 and 2015. In comparison, the community of Mundelein experienced slightly greater growth of 2.2 percent over the same period, while population in the TCA study area grew by 5.4 percent.

Population within the analysis area is more diverse than within the Village of Mundelein, as well as the TCA study area. The percent of minority population in the analysis area is 35.5 percent, compared to 17.2 percent in Mundelein and 19.5 percent in the TCA study area. Similarly, the percent of population that is Hispanic or Latino is higher in the analysis area (49.3 percent) than in Mundelein (28.9 percent) or the TCA study area (17.2 percent).

Median age of residents within the analysis area is younger than that for Mundelein or the TCA study area. Median age is 33.3 in the analysis area, compared to 37.4 (Mundelein) and 39.1 (TCA study area). Median income is higher in Mundelein ($76,750), compared to the analysis area ($73,665) or TCA study area ($74,230).

Table 4-12. Corridor 3 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area (2015)	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	13,357	13,430	0.5%	64.5%	2.0%	5.5%	28.0%	49.3%	30%	23%	39%	8%	33.3	$73,665	10.5%
Mundelein	30,935	31,624	2.2%	82.8%	2.4%	8.6%	6.2%	28.9%	27%	20%	43%	10%	37.4	$76,750	6.6%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau

4.3.2 Public Facilities and Services

There are 47 public facilities and service centers located within the analysis area (Table 4-13), including 8 schools, 27 preschools or daycare facilities, 6 places of worship, 5 governmental buildings, and 1 museum.

Table 4-13. Public Facilities, Corridor 3 Analysis Area

Facility	Total
Schools	8
Daycare Facilities	27
Places of Worship	6
Cemeteries	0
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	5
Community/Recreation Centers	0
Museums	1
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-14.

Table 4-14. Public Facilities Along/Adjacent to Corridor 3

Facility Type	Facility Name	Location
Schools	School District 75 Office	US 45 and Park Street (MP 12.6), Mundelein
	Mundelein Montessori School	US 45 and Hickory Street (MP 14.5), Mundelein
Daycare Facilities	In home daycare	US 45 at Lakeview Drive (MP 13.6), Mundelein
	In home daycare	US 45 at Lakeview Drive (MP 13.6), Mundelein
	Children's House Daycare	US 45 and Hickory Street (MP 14.5), Mundelein
Churches	Santa Maria Del Popolo	US 45 and Courtland Street (MP 13.1), Mundelein
	Saint Andrews Lutheran Church	US 45 and Courtland Street (MP 13.2), Mundelein
	New Hope Christian Fellowship	US 45 and Hickory Street (MP 14.5), Mundelein
Municipal/Government Facilities	Mundelein Police Department	US 45 and Division Street (MP 12.9), Mundelein
	Mundelein Fire Department Station 2	US 45 and Hickory Street (MP 14.5), Mundelein

4.3.3 Transportation

Major roads that cross Corridor 3 are listed in Table 4-15.

Table 4-15. Major Roads Crossing Corridor 3

Road	Comment
IL 60 (MP 14.9)	Signalized intersection
IL 83 (MP 15.2)	Signalized intersection

Two rail lines parallel, or cross, Corridor 3:

- The CN line is approximately 0.1 mile east of Corridor 3 (at MP 12.4). This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). It also serves as the Metra NCS Line. The NCS Mundelein Station is 0.3 mile east of the Corridor at Archer Ave (MP 12.9). There are 10 weekday Metra trains that serve the Mundelein Station; there is no service on weekends.
- The CN rail line (formerly the EJ&E Circumferential Railway) crosses Corridor at MP 14.6. The crossing is grade-separated. This line serves freight rail exclusively and carries 7 to 12 freight trains per day (CMAP 2012).

Two Pace bus routes travel along, or cross, Corridor 3, as detailed in the following table.

Table 4-16. Pace Bus Routes Along/Crossing Corridor 3

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
572 (Washington)	Provides weekday and Saturday service between the Waukegan Metra station (UP-N) and the College of Lake County	Travels along the corridor from IL 176 (MP 12.4) to Hawley St (MP 12.7)	32 buses on weekdays and fewer on Saturdays	784
574 (CLC – Hawthorn Mall)	Provides weekday and Saturday service between College of Lake County in Grayslake and the Hawthorn Mall in Vernon Hills	Travels along the corridor from IL 176 (MP 12.4) to Hawley St (MP 12.7)	14 buses on weekdays and fewer on Saturdays	264

Source: RTAMS 2018.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-17, below.

Table 4-17. Trails, Corridor 3 Analysis Area

Trail	Location	Comment
Unnamed trail	0.2 mile south of Corridor 3	Off-road trail through residential area
Millennium Trail	Crosses the corridor at Hawley Street (MP 12.7)	LCFPD; connects forest preserves; 10-foot paved trail

4.4 Corridor 4

4.4.1 Socioeconomics

Corridor 4 (consisting of Old McHenry, Midlothian, and Quentin Roads) passes through six communities: North Barrington, Hawthorn Woods, Lake Zurich, Kildeer, Long Grove, and Buffalo Grove. Table 4-18 details 2015 demographics of the population within the TCA study area, the analysis area, and the communities adjacent to the corridor. The 2015 population within the analysis area was 11,942, which represented an 11 percent population increase over 2000 population. All the communities but Buffalo Grove experienced population increases. Hawthorn Woods and Long Grove experienced the greatest

percentage increases (27.2 percent and 20.1 percent, respectively). Buffalo Grove experienced a decline in population of 3.1 percent over the same period.

Corridor 4 is less diverse racially and has a lower percentage of Hispanic or Latino population than the TCA study area. Within the analysis area, 14.7 percent of the population is minority and 4.9 percent of the population is Hispanic or Latino. Minority populations in the corridor communities ranges from a low of 6.1 percent (in North Barrington) to a high of 22.9 percent (in Buffalo Grove). The largest racial minority in the Corridor 1 communities is Asian. The easternmost communities along the corridor (Kildeer, Long Grove, and Buffalo Grove) have the largest Asian populations. The largest percentage of Hispanic or Latino residents are in the communities of Lake Zurich, Kildeer, and Long Grove.

Median age in the TCA study area is 39.1 and in the analysis area is 44.1. Within the corridor communities, the median age ranges from 42.7 (in Buffalo Grove) to 49.5 (in North Barrington). Median household income ranges from $100,098 (in Buffalo Grove) to $188, 182 (in Long Grove). Median household income in the analysis area is $149,333 and $74,230 for the TCA study area.

Table 4-18. Corridor 4 Demographic Characteristics

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	10,756	11,942	11.0%	85.3%	1.2%	10.0%	3.5%	4.9%	27%	13%	47%	13%	44.4	$149,333	3.3%
North Barrington	2,918	3,032	3.9%	93.3%	0.0%	3.7%	3.0%	2.2%	23%	12%	49%	17%	49.5	$151,250	2.5%
Hawthorn Woods	6,002	7,634	27.2%	88.9%	1.9%	8.1%	1.1%	4.4%	28%	7%	52%	13%	43.6	$152,781	2.8%
Lake Zurich	18,104	19,923	10.0%	86.8%	0.8%	9.3%	3.0%	7.9%	29%	15%	48%	8%	39.4	$108,669	3.6%
Kildeer	3,460	3,938	13.8%	86.1%	1.4%	10.9%	1.6%	6.1%	30%	10%	49%	12%	46.3	$154,563	3.9%
Long Grove	6,735	8,086	20.1%	79.3%	3.5%	13.4%	3.8%	6.0%	30%	11%	48%	12%	44.0	$188,182	2.4%
Buffalo Grove	42,909	41,591	-3.1%	77.1%	2.3%	18.1%	2.5%	3.6%	24%	15%	47%	13%	42.7	$100,098	5.3%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.4.2 Public Facilities and Services

There are 40 public facilities and service centers located within the analysis area of the corridor (Table 4-19), including 7 schools, 14 preschools or daycare facilities, 6 places of worship, 3 cemeteries, 7 governmental buildings, 2 community or recreation centers, and 1 museum.

Table 4-19. Public Facilities, Corridor 4 Analysis Area

Facility	Total
Schools	7
Daycare Facilities	14
Places of Worship	6
Cemeteries	3
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	7
Community/Recreation Centers	2
Museums	1
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to Corridor 4 are detailed in Table 4-20.

Table 4-20. Public Facilities Along/Adjacent to Corridor 4

Facility Type	Facility Name	Location
Schools	Quentin Road Christian School	Quentin Road and Glendale Road (MP 1.0), Lake Zurich
	Spencer Loomis Elementary School	Old McHenry Road and Hubbard Lane (MP 1.3), Hawthorn Woods
	Lake Zurich Middle School – North	Old McHenry Road and Hubbard Lane (MP 1.3), Hawthorn Woods
	Saint Matthew Lutheran School	Old McHenry Road and Midlothian Road (MP 3.0), Hawthorn Woods
	Kildeer-Countryside Elementary School	Old McHenry Road and Twin Knolls Drive (MP 7.3), Long Grove
Daycare Facilities	The Goddard School	Midlothian Road and Old McHenry Road (MP 0.1), Hawthorn Woods
	ETC Preschool – Lake Zurich	Quentin Road and Ensell Road (MP 0.3), Lake Zurich
	Spencer Loomis	Old McHenry Road and Echo Lake Road (MP 2.0), Hawthorn Woods
	Bright Horizons at Kemper Lakes	Old McHenry Road and Corporate Drive (MP 4.5), Lake Zurich
	Primrose School of Long Grove	Old McHenry Road and IL 22 (MP 5.6), Long Grove

Table 4-20. Public Facilities Along/Adjacent to Corridor 4

Facility Type	Facility Name	Location
Churches	Lake Zurich Community Church (Heritage Church)	Quentin Road and Ensell Road (MP 0.3), Lake Zurich
	Quentin Road Bible Baptist Church	Quentin Road and Glendale Road (MP 1.0), Lake Zurich
	Saint Matthew Lutheran Church	Old McHenry Road and Midlothian Road (MP 3.0), Hawthorn Woods
Cemeteries	Fairfield Cemetery	Quentin Road and Old McHenry Road (MP 1.3), Lake Zurich
Municipal/Government Facilities	Lake Zurich Fire/Rescue Station 3	Old McHenry Road and Midlothian Road (MP 2.7), Lake Zurich
	Hawthorn Woods Public Works	Old McHenry Road and Midlothian Road (MP 3.0), Hawthorn Woods
	ComEd Transmission Utility Corridor	Crosses Old McHenry Road at MP 3.0
	Hawthorn Woods Village Hall	Old McHenry Road and Lagoon Drive (MP 3.5), Hawthorn Woods
	Hawthorn Woods Police Department	Old McHenry Road and Lagoon Drive (MP 3.5), Hawthorn Woods
	Long Grove Fire Department	Old McHenry Road and Archer Road (MP 7.7), Long Grove
Community/Recreation Centers	Isaac Fox/Foglia YMCA	Old McHenry Road and Midlothian Road (MP 2.5), Lake Zurich
	Lake County Jewish Community Campus (JCC)	Old McHenry Road and Patricia Drive (MP 5.3), Lake Zurich

4.4.3 Transportation

Major roads that cross Corridor 4 are listed in Table 4-21.

Table 4-21. Major Roads Crossing Corridor 4

Road	Comment
US 12 (Old McHenry Road - MP 0.0)	Signalized intersection
IL 22 (Old McHenry Road – MP 5.8, Quentin Road - MP 0.0)	Signalized intersection
IL 53 (Old McHenry Road – MP 7.9)	Signalized intersection

One rail line crosses Corridor 4:

- The CN rail line (formerly the EJ&E Circumferential Railway) crosses Corridor 4 at MP 3.0. The crossing is at-grade. This line serves freight rail exclusively and carries 7 to 12 freight trains per day (CMAP 2012).

No Pace bus routes travel along, or cross, Corridor 4.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-22.

Table 4-22. Trails, Corridor 4 Analysis Area

Trail	Location	Comment
Bridlewoods Park Trail	0.2 mile north of Old McHenry Road (MP 0.4)	Loop trail within Bridlewoods Park, owned by the Village of Hawthorn Woods
Unnamed trail	0.1 mile west of Midlothian Rd at Hawthorn Hills Dr (MP 1.4)	Borders detention pond and open grass play area; serves surrounding neighborhood
Unnamed trail	0.2 mile west of Old McHenry Rd at Hubbard Ln (MP 1.5)	Trail through residential area
Unnamed trail	0.15 mile east of Old McHenry Rd at Copperfield Dr (MP 1.6)	Trail through Copperfield Park; owned by the Village of Hawthorn Woods
Hawthorn Woods Bike Path	Adjacent Old McHenry Road at Parkview Lane (MP 3.2).	Trail through Hawthorn Woods Community Park; owned by Village of Hawthorn Woods
Unnamed trail	West of Old McHenry Rd between Melody Ln and Old Meadow Trl (MP 3.8 to MP 5.1); east of Old McHenry Rd at Old Meadow Trl (MP 5.1).	Trail system through Kemper Lakes
Heron Creek Trail	Adjacent to Old McHenry Road between MP 5.9 and MP 6.0	LCFPD; trail within Heron Creek Forest Preserve
Unnamed trail	Adjacent to Old McHenry Road at MP 6.3	Within Reed-Turner Woodlands
Buffalo Creek Park Path	Adjacent to Old McHenry Road at MP 7.4	Within Buffalo Creek Park; owned by the Village of Lake Zurich
Unnamed trail	Parallels Old McHenry Road from Archer Road (MP 7.6) to Fairfield Drive (MP 7.9)	Serves downtown Long Grove
Quentin Road Bike Path	Parallels east side of Quentin Rd from IL 22 (MP 0.0) to Ensell Rd (MP 0.5).	Serves residential and commercial areas
Unnamed trail	West of Quentin Road from MP 0.5 to 0.8	Within residential neighborhood

4.5 Corridor 6

4.5.1 Socioeconomics

Corridor 6 is in Cook County and passes through Schaumburg, Rolling Meadows, Palatine, and Arlington Heights. Table 4-23 details 2015 demographics of the population living within the TCA study area, the analysis area, and the adjacent communities. Population within the analysis area remained virtually flat between 2000 and 2015. In comparison, the TCA study area experienced 5.4 percent population growth. Of the four communities adjacent to Corridor 6, three experienced declines in population; only Palatine saw a population increase.

Corridor 6 is more diverse racially and has a higher percentage of Hispanic or Latino population than the TCA study area. Within the analysis area, 30.1 percent of the population is minority and 32.1 percent of the population is Hispanic or Latino. Minority populations in the corridor communities ranges from 13.7 percent (in Arlington Heights) to 33.8 percent (in Schaumburg). The greatest percentage of Hispanic or Latino residents are in the community of Rolling Meadows (21.7 percent).

Median age in the TCA study area is 39.1 and in the analysis area is 35.3. Within the corridor communities, the median age ranges from 37.4 (in Schaumburg) to 42.8 (in Arlington Heights). Median household income ranges from a low of $62,299 (in Rolling Meadows) to a high of $81, 059 (in Arlington Heights). Median household income in the analysis area is $58,313 and in the TCA study area is $74,230.

Table 4-23. Corridor 6 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	44,078	43,827	-0.6%	69.9%	3.5%	10.0%	16.7%	32.1%	26%	23%	39%	12%	35.3	$58,313	11.8%
Schaumburg	75,386	74,559	-1.1%	66.2%	3.7%	22.6%	7.5%	10.2%	22%	24%	41%	13%	37.4	$74,086	6.4%
Rolling Meadows	24,604	23,401	-4.9%	71.1%	5.9%	8.6%	14.4%	21.7%	24%	22%	41%	13%	38.2	$62,299	8.7%
Palatine	65,479	69,188	5.7%	70.5%	3.0%	13.7%	12.8%	18.6%	27%	20%	41%	12%	37.6	$71,573	8.5%
Arlington Heights	76,031	75,802	-0.3%	86.3%	1.4%	8.7%	3.6%	5.6%	24%	17%	41%	18%	42.8	$81,059	5.4%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.5.2 Public Facilities and Services

There are 37 public facilities and service centers located within the analysis area, including 11 schools, 11 preschools or daycare facilities, 6 places of worship, 1 cemetery, 7 governmental buildings, and 1 community or recreation center (Table 4-24).

Table 4-24. Public Facilities, Corridor 6 Analysis Area

Facility	Total
Schools	11
Daycare Facilities	11
Places of Worship	6
Cemeteries	1
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	7
Community/Recreation Centers	1
Museums	0
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to Corridor 6 are detailed in Table 4-25.

Table 4-25. Public Facilities Along/Adjacent to Corridor 6

Facility Type	Facility Name	Location
Churches	Harvest Bible Chapel	IL 53 and Euclid Ave (MP 4.5), Rolling Meadows
	Misión San Juan Diego	IL 53 north of Palatine Road (MP 6.3), Arlington Heights
Cemeteries	Randhill Park Cemetery	IL 53 and Rand Road (MP 7.1), Arlington Heights
Municipal/Government Facilities	ComEd Transmission Utility Corridor	Crosses IL 53 at MP 6.7
	Schaumburg Convention Center	I-90 and Meacham Rd (MP 67.6), Schaumburg
Community/Recreation Centers	West Meadows Ice Arena	IL 53 and Euclid Avenue (MP 3.8), Rolling Meadows

4.5.3 Transportation

Corridor 6 is classified as a freeway/expressway. Major roads that cross the corridor are listed in Table 4-26.

Table 4-26. Major Roads Crossing Corridor 6

Road	Comment
Higgins Road (MP 0.0)	Full interchange
I-90 (MP 1.4)	Full interchange

Table 4-26. Major Roads Crossing Corridor 6

Road	Comment
Algonquin Road (MP 1.8)	Partial interchange
Palatine Road (MP 5.8)	Full interchange
US 12 (MP 7.1)	Partial interchange
Dundee Road (MP 7.8)	Full interchange
Lake Cook Road (MP 9.0)	Full interchange

One rail line crosses Corridor 6:

- UP rail line crosses the corridor at MP 4.6. This rail corridor carries 4 to 6 freight trains per day (CMAP 2012). The crossing is grade-separated. This rail line also serves as the Metra UP-NW Line. The UP-NW Arlington Park Station is located approximately 0.7 mile east of the corridor on US 14 (MP 4.1). There are 28 outbound and 26 inbound weekday Metra trains that serve the Arlington Park Station, and fewer trains on weekends.

There are 11[4] Pace bus routes that travel along, or cross, Corridor 6 (Table 4-27). In addition, the Pace Northwest Transportation Center in Schaumburg is within the analysis area, at the northwest corner of I-290/IL 53 and Higgins Road (MP 0.2). Further, the Pace Northwest Point Elk Grove Park-n-Ride is at the southeast corner of I-290/IL 53 and I-90 (MP 1.1).

Table 4-27. Pace Bus Routes Along/Crossing Corridor 6

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
604 (Wheeling – Schaumburg)	Provide service between Hintz/Buffalo Grove Roads in Wheeling to the Pace Northwest Transportation Center in Schaumburg	Travels along the corridor from Woodfield Road (MP 0.4) to Dundee Road (MP 7.8)	34 buses on weekdays and 20 buses on Saturdays.	107
208 (Golf Road)	Provides service between the Davis Street CTA Purple Line/Metra Station in Evanston and the Pace Northwest Transportation Center in Schaumburg	Crosses the corridor at Golf Road (MP 1.0)	36 eastbound and 33 westbound buses on weekdays, and 30 buses eastbound and 32 buses westbound on Saturdays.	1,863
606 (Rosemont – Schaumburg Limited)	Provides service between the Rosemont CTA Station and Woodfield Corporate Center	Crosses the corridor at Golf Road (MP 1.0)	44 buses on weekdays and fewer buses on weekends	1,522
603 (Elgin Transportation Center – Rosemont Express)	Provides express service between the Pace Elgin Transportation Center and the Rosemont Transit Center	Crosses the corridor at I-90 (MP 1.4)	21 buses on weekdays and 12 buses on Saturdays.	96

[4] There are 3 seasonal bus service routes - the Wrigley Field Express, the Solider Field Express, and the Six Flags Great America Express -- that are not included in this tabulation.

Table 4-27. Pace Bus Routes Along/Crossing Corridor 6

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
600 (Rosemont – Schaumburg Express)	Provides express service between the Pace Northwest Transportation Center in Schaumburg and Rosemont Transit Center	Travels along the corridor from I-90 (MP 1.4) to Woodfield Road (MP 0.4)	50 buses on weekdays and 26 buses on Saturdays.	600
895 (95th St – Rosemont – Schaumburg Express)	Provides rush hour express service between Chicago Ridge and the Pace Northwest Transportation Center	Travels along the corridor from I-90 (MP 1.4) to Higgins Road (MP 0.0)	Eight northbound buses and nine southbound buses on weekdays.	189
607 (I-90 Randall Rd Station – Schaumburg Express)	Provides express service between the Pace I-90/Randall Road Station and the Pace Northwest Transportation Center	Travels along the corridor from I-90 (MP 1.4) to Woodfield Road (MP 0.4)	32 buses on weekdays and 24 buses on Saturdays.	49
605 (I-90/Randall Rd Station – Rosemont)	Provides express service between the Pace I-90/Randall Road Station and Rosemont Transit Center	Crosses the corridor at I-90 (MP 1.4)	26 eastbound and 25 westbound buses on weekdays, and 13 buses on Saturdays.	115
610 (Rosemont – Prairie Stone Express)	Provides rush hour express service between the Rosemont Transit Center at the Sears Center at Prairie Stone Business Park	Crosses the corridor at I-90 (MP 1.4)	Nine buses on weekday mornings, and eight buses on weekday afternoons/evenings.	340
696 (Randhurst Mall - Harper College)	Provides service between Randhurst Mall in Mt. Prospect to Harper College in Palatine	Crosses the corridor at Algonquin Road (MP 1.8)	16 buses during the weekday.	338
638 (Arlington Park Station – HSBC Shuttle)	Provides service between the Metra UP-NW Line Arlington Park Station and HSBC Finance Corporation at IL Rte 53 and Dundee Road in Arlington Heights	Travels along the corridor from US 14 (MP 4.6) to Dundee Road (MP 7.8)	Three northbound buses on weekday mornings, and three southbound buses on weekday evenings.	23

Source: RTAMS 2018.

Bike/pedestrian trails near, or crossing the corridor include are detailed in Table 4-28.

Table 4-28. Bike Trails, Corridor 6 Analysis Area

Trail	Approximate Location	Comment
Algonquin Road Trail	Crosses I-90 at Meacham Rd (MP 67.4)	Off-street trail
Ned Brown (Busse Woods) Forest Preserve Trail	Adjacent to the east side of the corridor between MP 0.0 and MP 0.9	Forest Preserve District of Cook County (FPDCC); 11-mile-long trail through Busse Woods. Connects with Schaumburg Bikeway to the west, and Rolling Meadows Bikeway to the north

Table 4-28. Bike Trails, Corridor 6 Analysis Area

Trail	Approximate Location	Comment
Schaumburg Trail Network	Crosses the corridor at MP 0.4	Village of Schaumburg; connects to the Busse Woods Forest Preserve Trail to the east
Unnamed path	Crosses IL 53 at Kirchoff Road (MP 3.2)	0.3 mile east of the corridor from MP 1.9 to MP 3.6.
Palatine Trail	0.2 mile west of the corridor between MP 4.6 and MP 5.2 and 0.25 mile east and west of the corridor from MP 6.1 to MP 6.8; crosses the corridor at Anderson Dr (MP 6.2)	Palatine Park District trail; provides connections to other trails, schools, Harper College, neighborhood parks, and Palatine Hills Golf Course
Buffalo Creek Forest Preserve Trail	0.5 mile east of the northern terminus of Corridor 6 (MP 9.0)	LCFPD-owned trail through Buffalo Creek Forest Preserve

4.6 Corridor 7

4.6.1 Socioeconomics

Corridor 7, within Cook and Lake Counties, consists of four roadways that pass through eight communities (Long Grove, Vernon Hills, Buffalo Grove, Deer Park, Palatine, Arlington Heights, Mundelein, and Grayslake). Table 4-29 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. Population within the analysis area grew by 3.1 percent between 2000 and 2015. The TCA study area, in comparison, experienced 5.4 percent growth. Of the eight communities adjacent to Corridor 7, two experienced declines in population (Buffalo Grove and Arlington Heights) while the others experienced increases over the 15-year period, with Long Grove, Vernon Hills, and Grayslake experiencing the greatest population growth.

Corridor 7 is more diverse racially but has a comparable percentage of Hispanic or Latino population to the TCA study area. Within the analysis area, nearly 27 percent of the population is minority, and over 17 percent of the population is Hispanic or Latino. Minority populations in the corridor communities ranges from 7 percent (in Deer Park) to 30 percent (in Vernon Hills and Palatine). The greatest percentage of Hispanic or Latino residents are in Mundelein (28.9 percent) and Palatine (18.6 percent).

Median age in the TCA study area is 39.1 and in the analysis area is 38.4. Within the corridor communities, the median age ranges from 37.4 (in Mundelein) to 44.5 (in Deer Park). Median household income ranges from $76,750 (in Mundelein) to $188,182 (in Long Grove). Median household income in the analysis area is $86,890 and $74,230 for the TCA study area.

Table 4-29. Corridor 7 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	30,117	31,043	3.1%	73.1%	3.3%	13.3%	10.3%	17.4%	27%	19%	43%	12%	38.4	$86,890	7.1%
Long Grove	6,735	8,086	20.1%	79.3%	3.5%	13.4%	3.8%	6.0%	30%	11%	48%	12%	44.0	$188,182	2.4%
Vernon Hills	20,120	25,768	28.1%	69.6%	3.3%	22.4%	4.7%	10.2%	28%	16%	45%	11%	38.1	$92,201	4.8%
Buffalo Grove	42,909	41,591	-3.1%	77.1%	2.3%	18.1%	2.5%	3.6%	24%	15%	47%	13%	42.7	$100,098	5.3%
Deer Park	3,102	3,323	7.1%	92.4%	0.8%	5.7%	1.1%	3.7%	28%	11%	49%	12%	44.5	$155,952	3.4%
Palatine	65,479	69,188	5.7%	70.5%	3.0%	13.7%	12.8%	18.6%	27%	20%	41%	12%	37.6	$71,573	8.5%
Arlington Heights	76,031	75,802	-0.3%	86.3%	1.4%	8.7%	3.6%	5.6%	24%	17%	41%	18%	42.8	$81,059	5.4%
Mundelein	30,935	31,624	2.2%	82.8%	2.4%	8.6%	6.2%	28.9%	27%	20%	43%	10%	37.4	$76,750	6.6%
Grayslake	18,506	21,117	14.1%	83.3%	3.6%	7.5%	5.5%	12.0%	30%	17%	45%	8%	37.5	$81,367	6.6%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.6.2 Public Facilities and Services

There are 46 public facilities and service centers located within the analysis area, including 9 schools, 14 preschools or daycare facilities, 8 places of worship, 5 cemeteries, 3 nursing homes or long-term care facilities, 4 governmental buildings, 2 museums, and 1 medical/emergency facility (Table 4-30).

Table 4-30. Public Facilities, Corridor 7 Analysis Area

Facility	Total
Schools	9
Daycare Facilities	14
Places of Worship	8
Cemeteries	5
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	3
Government Services	4
Community/Recreation Centers	0
Museums	2
Other Medical/Emergency Facilities	1

Public facilities directly adjacent to Corridor 7 are detailed in Table 4-31.

Table 4-31. Public Facilities Along/Adjacent to Corridor 7

Facility Type	Facility Name	Location
Schools	Montessori School of Long Grove (Ages 2 to 12 years)	IL 53 and Robert Parker Coffin Road (MP 2.4), Long Grove
Daycare Facilities	In home day care	IL 53 at Schaeffer Road (MP 2.5), Long Grove
	The Grove Montessori School	Arlington Heights Road and Checker Road (MP 3.3), Long Grove
	Bd Jewish Ed/Childcare Center	IL 83 and Hilltop Road (MP 5.5), Long Grove
Churches	Long Grove Community Church	IL 53 and Robert Parker Coffin Road (MP 2.4), Long Grove
	Hope Lutheran Church of Buffalo Grove	Arlington Heights Road and Checker Road (MP 3.3), Long Grove
	The Rock of Israel Messianic Congregation	Arlington Heights Road and Brittany Lane (MP 3.6), Long Grove
	Congregation Beth Judea	IL 83 and Hilltop Road (MP 5.5), Long Grove
Cemeteries	Knopf Cemetery	Arlington Heights Road and Bernay Lane (MP 3.4), Buffalo Grove
Nursing Home/Long-Term Care Facilities	Arboria of Long Grove	IL 53 and Old Hicks Road (MP 1.2), Long Grove
	Arlington Rehabilitation and Living Center	Arlington Heights Road and Checker Road (MP 3.3), Long Grove

Table 4-31. Public Facilities Along/Adjacent to Corridor 7

Facility Type	Facility Name	Location
Municipal/Government Facilities	Buffalo Grove Pumphouse #2	Arlington Heights Road and Checker Road (MP 3.4), Buffalo Grove
	ComEd Transmission Utility Corridor	Crosses IL 83 at MP 15.1
Other Medical/ Emergency Facilities	Rotor Swing Heliport	Adjacent to IL 53 at Long Grove Road (MP 1.0), Palatine

4.6.3 Transportation

Major roads that cross Corridor 7 are listed in Table 4-32.

Table 4-32. Major Roads Crossing Corridor 7

Road	Comment
Lake Cook Road (Arlington Heights Road - MP 2.8, IL 53 - MP 0.0)	Signalized intersection; interchange
IL 83 (Arlington Heights Road - MP 4.2, IL 53 - MP 3.0)	Signalized intersection
US 12 (Lake Cook Road - MP 0.0)	Signalized intersection
IL 22 (IL 83[a] - MP 5.9)	Signalized intersection
US 45 (IL 83[a] - MP 8.7)	Signalized intersection
IL 60 (IL 83[b] - MP 12.6)	Signalized intersection
Peterson Road (IL 83[b] - MP 14.6)	Signalized intersection
Barron Boulevard (IL 83[b] - MP 16.4)	Signalized intersection
[a] Arlington Heights Road to US 45. [b] IL 60 to Barron Boulevard/Buckley Road.	

Two rail lines run parallel to, or cross, Corridor 7:

- A CP rail line crosses IL 83 (IL 60 to Barron Blvd/Buckley Rd) at MP 16.1. This rail corridor carries 1 to 3 freight trains per day (CMAP 2012). This line also serves as the Metra MD-N Line. The MD-N Grayslake station is approximately 0.75 mile west of the corridor at Lake Street (MP 16.4), and the MD-N Prairie Crossing Station is approximately 0.7 mile east of the corridor at Midlothian Road (MP 15.6). There are 20 inbound and 23 outbound weekday Metra trains that serve Grayslake Station, and fewer trains on weekends. There are 18 inbound and 20 outbound weekday Metra trains that serve Prairie Crossing Station, and fewer trains on weekends.
- The CN rail line crosses Corridor IL 83 (IL 60 to Barron Blvd/Buckley Rd) at MP 16.4. This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). It also serves as the Metra NCS Line. The NCS Prairie Crossing station approximately 0.6 mile east of the corridor at Midlothian Road (MP 15.4). There are nine inbound and 10 outbound weekday Metra trains that serve this station.

No Pace bus routes travel along, or cross, Corridor 7.

Bike/pedestrian trails near, or crossing the corridor are listed in Table 4-33, below.

Table 4-33. Trails, Corridor 7 Analysis Area

Trail	Approximate Location	Comment
Unnamed trail	Travels east from IL 53 to Long Grove Soccer Park (MP 0.3)	Off-road; serves Long Grove Soccer Park
Buffalo Creek Forest Preserve Trail	North of Lake Cook Rd from IL 53 terminus (MP 1.0) to Arlington Heights Rd (MP 2.7).	LCFPD; runs through Buffalo Creek Forest Preserve
Buffalo Creek Park Path	0.15 mile north of IL 53 (MP 2.4).	Borders Buffalo Creek Park; Village of Lake Zurich
Unnamed trail	Parallels Old McHenry Road, north of IL 53, from MP 2.7 to 2.9	Trail begins where IL 53 intersects Old McHenry Road and continues northwest along Old McHenry Road; serves downtown Long Grove
Buffalo Grove Bike Path	Parallels Arlington Heights Road between Lake Cook Road (MP 2.7) and IL 83 (MP 4.1); connects to Buffalo Creek Forest Preserve Trail on west side of Arlington Heights Rd at MP 2.8 and 3.2.	Village of Buffalo Grove; 8-foot paved walking/biking trail; travels through the Village of Buffalo Grove Open Space
Children's Park Path	0.1 mile west of Arlington Heights Road at MP 4.0	Village of Buffalo Grove; trail through Children's Park
Long Grove Bike Path	Crosses IL 83 at MP 5.6	Village of Long Grove; extends west through Stonehaven Park; 10-foot-wide paved walking/biking path.
Unnamed trail	Southeast intersection of IL 83 and Half Day Rd (MP 5.7).	Travels through Longview Meadows Park; Long Grove Park District
Unnamed trail	Northeast intersection of IL 83 and Half Day Road (MP 5.9).	Trail travels through adjacent neighborhood
Unnamed trail	West of IL 83 at Gilmer Rd (MP 6.8)	Trail travels along Gilmer Rd and through Lemmon-Hill Park; Long Grove Park District
Vernon Hills Bike Path	Begins 0.2 mile east of IL 83 at Westmoreland Drive (MP 7.5) to approximately US 45 (MP 8.5).	Village of Vernon Hills; north of Westmoreland Dr, the trail is beyond the analysis area
Unnamed trail	West of Corridor 7 from Ridge Pl (MP 8.0) to Meadow Ln (MP 8.5)	Travels through residential area
Grosse Pointe Park Trail	0.15 mile east of IL 83 at Grosse Pointe Boulevard (MP 8.2)	Trail in Grosse Pointe Park; Village of Vernon Hills
Peterson Road Bike Path	Crosses the corridor at MP 14.6	Runs adjacent to Peterson Road in Grayslake; 10-foot paved walking/biking path

4.7 Corridor 8

4.7.1 Socioeconomics

Corridor 8 is in both Cook and Lake counties, and passes through the communities of Barrington, Deer Park, and Palatine. Table 4-34 details 2015 demographics of the population within the TCA study area, the analysis area, and the communities adjacent to the corridor. Population within the analysis area experienced a slight decline in population between 2000 and 2015. The TCA study area, in comparison, experienced 5.4 percent population growth. While the analysis area experienced a slight decline, on a whole, the three communities experienced increases in population ranging from 4.0 to 7.1 percent.

The population within the analysis area is less diverse racially and has a lower percentage of Hispanic or Latino population than the TCA study area. Within the analysis area, 11.9 percent of the population is

minority (compared to 19.5 percent in the TCA study area) and 6.2 percent of the population is Hispanic or Latino (compared to 17.2 percent in the TCA study area). Minority populations in the corridor communities range from 5.7 percent (in Barrington) to approximately 30 percent (in Palatine). The greatest percentage of Hispanic or Latino residents are in Palatine (18.6 percent).

Median age is higher in the analysis area than the TCA study area (43.3 vs. 39.1). Within the corridor communities, the median age ranges from 37.6 (in Palatine) to 44.5 (in Deer Park). Median household income ranges from $71,573 (in Palatine) to $155,952 (in Deer Park). Median household income in the analysis area is $100,671 and for the TCA study area is $74,230.

Table 4-34. Corridor 8 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	10,477	10,424	-0.5%	88.1%	1.4%	6.4%	4.0%	6.2%	28%	13%	44%	16%	43.3	$100,671	7.9%
Barrington	10,168	10,576	4.0%	94.3%	0.3%	4.7%	0.7%	5.0%	29%	9%	43%	19%	43.9	$116,062	7.1%
Deer Park	3,102	3,323	7.1%	92.4%	0.8%	5.7%	1.1%	3.7%	28%	11%	49%	12%	44.5	$155,952	3.4%
Palatine	65,479	69,188	5.7%	70.5%	3.0%	13.7%	12.8%	18.6%	27%	20%	41%	12%	37.6	$71,573	8.5%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.7.2 Public Facilities and Services

There are 28 public facilities and service centers located within the analysis area (Table 4-35), including 6 schools, 3 preschools or daycare facilities, 7 places of worship, 3 cemeteries, 3 nursing homes or long-term care facilities, 7 governmental buildings, and 1 museum.

Table 4-35. Public Facilities, Corridor 8 Analysis Area

Facility	Total
Schools	6
Daycare Facilities	3
Places of Worship	7
Cemeteries	1
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	3
Government Services	7
Community/Recreation Centers	0
Museums	1
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to Corridor 8 are detailed in Table 4-36, below.

Table 4-36. Public Facilities Along/Adjacent to Corridor 8

Facility Type	Facility Name	Location
Schools	Atonement Christian Day School	Lake Cook Road and Eastern Avenue (MP 0.8), Barrington
Churches	Saint Paul United Church of Christ	Lake Cook Road and Spring Street (MP 0.2), Barrington
	First Church of Christ Scientist	Lake Cook Road and Wool Street (MP 0.3), Barrington
	Lutheran Church of the Atonement	Lake Cook Road and Eastern Avenue (MP 0.8), Barrington
	Village Church of Barrington	Lake Cook Road and Castle Court (MP 1.5), Barrington
Cemeteries	Saint Paul Cemetery	Lake Cook Road and Walton Street (MP 0.5), Barrington
Nursing Home/Long Term Care Facilities	Greencastle of Barrington	Lake Cook Road and Wool Street (MP 0.3), Barrington
	The Solana Deer Park	Lake Cook Road and Hamilton Drive (MP 4.0), Deer Park

4.7.3 Transportation

Major roads that cross Corridor 8 are listed in Table 4-37.

Table 4-37. Major Roads Crossing Corridor 8

Road	Comment
IL 59 (MP 0.0)	Signalized intersection

Table 4-37. Major Roads Crossing Corridor 8

Road	Comment
US 14 (MP 0.4)	Signalized intersection
Quentin Road (MP 3.8)	Signalized intersection
US 12 (MP 5.0)	Signalized intersection

One rail line crosses Corridor 8:

- The UP rail line crosses Corridor 8 at MP 0.1. This rail corridor carries 4 to 6 freight trains per day (CMAP 2012). This rail line also serves as the Metra UP-NW line. The Barrington Station is approximately 0.1 mile south of the corridor at Spring Street (MP 0.3). There are 29 inbound and 31 outbound weekday Metra trains that serve the Barrington Station, and fewer trains on weekends.

No Pace bus routes travel along, or cross, Corridor 8.

Bike/pedestrian trails near, or crossing, the corridor are identified in Table 4-38.

Table 4-38. Trails, Corridor 8 Analysis Area

Trail	Approximate Location	Comment
Ela Road Bike Lane	0.15 mile north of Corridor 8 at Ela Rd (MP 1.7)	On-road bike lane; connects to Cuba Marsh Forest Preserve Trail and Long Grove Road Bike Lane to the north; serves residential and recreation areas
Deer Grove Forest Preserve Trail	South of Corridor 8, extends from MP 2.0 to MP 4.9.	FPDCC; 14-mile-long trail system through the Deer Grove Forest Preserve
Deer Park Trail	Parallels the north side of Corridor 8 from MP 4.0 to MP 4.7	Village of Deer Park; extends through the Deer Park Office Center and Deer Park Town Center

4.8 Corridor 9

4.8.1 Socioeconomics

Corridor 9 is within both Cook and Lake counties and passes through the following nine communities: South Barrington, Hoffman Estates, Barrington Hills, Inverness, Barrington, North Barrington, Lake Barrington, Tower Lakes, and Wauconda. Table 4-39 details 2015 demographics of the population within the TCA study area, the analysis area, and the communities adjacent to the corridor. The analysis area experienced 4.7 percent population growth between 2000 and 2015 (compared to 5.4 percent in the TCA study area). Among the individual communities along the corridor, two experienced substantial increases in population (South Barrington and Inverness), four experienced moderate increases in population (Hoffman Estates, Barrington, North Barrington, and Lake Barrington), and two experienced declines in population (Barrington Hills and Tower Lakes).

The population within the analysis area is less diverse racially and has a lower percentage of Hispanic or Latino residents than the TCA study area. Within the analysis area, 12.2 percent of the population is minority (compared to 19.5 percent in the TCA study area) and 5.3 percent of the population is Hispanic or Latino (compared to 17.2 percent in the TCA study area). Within individual communities, minority population percentages range from 5.7 percent (in Barrington) to approximately 36 percent (in South Barrington). The greatest percentage of Hispanic or Latino residents are in Hoffman Estates (14.7 percent).

Median age is higher in the analysis area than the TCA study area (46.8 vs. 39.1). Within the corridor communities, the median age ranges from 37.4 (in Hoffman Estates) to 57.7 (in Lake Barrington).

Median household income ranges from $84,853 (in Hoffman Estates) to $173,650 (in South Barrington). Median household income in the analysis area is $113,968 and for the TCA study area is $74,230.

Table 4-39. Corridor 9 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	13,278	13,908	4.7%	87.8%	0.9%	7.4%	3.8%	5.3%	26%	11%	44%	19%	46.8	$113,968	6.4%
South Barrington	3,760	4,835	28.6%	63.4%	0.0%	31.6%	4.9%	4.9%	25%	10%	48%	16%	47.5	$173,650	9.1%
Hoffman Estates	49,495	52,271	5.6%	60.6%	4.1%	24.4%	11.0%	14.7%	26%	21%	43%	10%	37.4	$84,583	4.6%
Barrington Hills	3,915	3,370	-13.9%	89.5%	1.6%	8.9%	0.0%	0.2%	19%	9%	45%	26%	53.5	$128,529	5.0%
Inverness	6,749	7,431	10.1%	88.5%	0.3%	10.4%	0.8%	1.1%	23%	7%	47%	22%	50.3	$161,838	0.0%
Barrington	10,168	10,576	4.0%	94.3%	0.3%	4.7%	0.7%	5.0%	29%	9%	43%	19%	43.9	$116,062	7.1%
North Barrington	2,918	3,032	3.9%	93.3%	0.0%	3.7%	3.0%	2.2%	23%	12%	49%	17%	49.5	$151,250	2.5%
Lake Barrington	4,757	4,934	3.7%	93.5%	1.7%	2.9%	1.9%	2.6%	16%	9%	41%	35%	57.7	$90,938	5.4%
Tower Lakes	1,310	1,158	-11.6%	94.1%	1.8%	1.4%	2.7%	3.8%	30%	9%	44%	16%	44.7	$152,917	3.1%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.8.2 Public Facilities and Services

There are 50 public facilities and service centers located within the analysis area, including 9 schools, 8 preschools or daycare facilities, 11 places of worship, 3 cemeteries, 3 hospital or medical facilities, 3 nursing homes or long-term care facilities, 12 governmental buildings, and 1 museum (Table 4-40).

Table 4-40. Public Facilities, Corridor 9 Analysis Area

Facility	Total
Schools	9
Daycare Facilities	8
Places of Worship	11
Cemeteries	3
Hospital/Medical Facilities	3
Nursing Home/Long-Term Care Facilities	3
Government Services	12
Community/Recreation Centers	0
Museums	1
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-41.

Table 4-41. Public Facilities Along/Adjacent to Corridor 9

Facility Type	Facility Name	Location
Schools	Creative Learning Montessori School	Barrington Road and Dundee Road (MP 4.8), Barrington
	Hough Street Elementary School	IL 59 and Lincoln Avenue (MP 5.9), Barrington
	North Barrington Elementary School	IL 59 and Grandview Drive (MP 10.5), North Barrington
Churches	Church of the Holy Apostles	IL 59 and Anderson Road (MP 12.7), Wauconda
Hospital or Medical Facilities	Alden Estates of Barrington	Barrington Road and Dundee Road (MP 4.7), Barrington
	Advocate Medical Group Primary Care	Barrington Road and Cornell Avenue (MP 4.8), Barrington
Nursing Home/Long-Term Care Facilities	Barrington Horizon Independent Living	Barrington Road and Dundee Road (MP 4.7), Barrington
Municipal/Government Facilities	South Barrington Police Department	Barrington Road and Tennis Club Lane (MP 0.5), South Barrington
	South Barrington Village Hall	Barrington Road and Tennis Club Lane (MP 0.5), South Barrington
	Barrington Township Office	IL 59 and Monument Avenue (MP 5.7), Barrington
	Village of Barrington Village Hall	IL 59 and Station Street (MP 6.0), Barrington

Table 4-41. Public Facilities Along/Adjacent to Corridor 9

Facility Type	Facility Name	Location
	Electrical substation	IL 59 and Miller Road (MP 10.4), North Barrington
	Tower Lakes Village Hall	IL 59 and Essex Place (MP 11.9), Tower Lakes
	Tower Lakes Police Department	IL 59 and Essex Place (MP 11.9), Tower Lakes

4.8.3 Transportation

Major roads that cross Corridor 9 are listed in Table 4-42.

Table 4-42. Major Roads Crossing Corridor 9

Road	Comment
I-90 (MP 0.0)	Full interchange
Algonquin Road (MP 2.1)	Signalized intersection
Dundee Road (MP 4.3)	Signalized intersection
US 14 (MP 6.6)	Signalized intersection
IL 22 (MP 8.6)	Signalized intersection
US 12 (MP 13.2)	Partial interchange

Two rail lines run parallel to, or cross, Corridor 9:

- The UP rail line crosses Corridor 9 at MP 6.2. This rail corridor carries 4 to 6 freight trains per day (CMAP 2012). This rail line also serves as the Metra UP-NW Line. The Barrington Metra Station is approximately 0.2 mile east at Spring St (MP 6.0). There are 29 inbound and 31 outbound weekday Metra trains that serve the Barrington Station, and fewer trains on weekends.
- The CN rail line (formerly the EJ&E Circumferential Railway) crosses Corridor 9 at MP 6.4. The crossing is grade-separated. This line serves freight rail exclusively and carries 7 to 12 freight trains per day (CMAP 2012).

Four Pace express bus routes utilize I-90 at the south terminus of the corridor (MP 0.0); see Table 4-43. In addition, the I-90/Barrington Road Park-n-Ride Station opened in August 2018 and features Illinois' first in-line (on-highway) bus station.

Table 4-43. Pace Bus Routes Along/Crossing Corridor 9

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
603 (Elgin Transportation Center – Rosemont Express)	Provides express service between the Pace Elgin Transportation Center and the Rosemont Transit Center	Crosses the corridor at I-90 (MP 0.0)	21 buses on weekdays and 12 buses on Saturdays.	96
607 (I-90/Randall Rd Station – Schaumburg Express)	Provides express service between the Pace I-90/Randall Road Station and the Pace Northwest Transportation Center	Crosses the corridor at I-90 (MP 0.0)	32 buses on weekdays and 24 buses on Saturdays.	49

Table 4-43. Pace Bus Routes Along/Crossing Corridor 9

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
605 (I-90/Randall Rd Station – Rosemont)	Provides express service between the Pace I-90/Randall Road Station and Rosemont Transit Center	Crosses the corridor at I-90 (MP 0.0)	26 eastbound and 25 westbound buses on weekdays, and 13 buses on Saturdays.	115
610 (Rosemont – Prairie Stone Express)	Provides rush hour express service between the Rosemont Transit Center at the Sears Center at Prairie Stone Business Park	Crosses the corridor at I-90 (MP 0.0)	Nine buses on weekday mornings, and eight buses on weekday afternoons/evenings.	340

Source: RTAMS 2018.

Bike/pedestrian trails near, or crossing, the corridor are detailed in Table 4-44.

Table 4-44. Trails, Corridor 9 Analysis Area

Trail	Approximate Location	Comment
Algonquin Road Trail	Crosses Corridor 9 at Algonquin Road (MP 2.1)	Extends into Crabtree Forest Preserve to the west and Paul Douglas Forest Preserve to the east.
Unnamed trail	0.2 mile east of Corridor 9 from Dundee Rd (MP 4.4) to Cornell Ave (MP 4.9)	On-road path along Grove Ave; serves residential and commercial areas
Unnamed trail	0.15 mile east of Corridor 9 along Grove Ave from Yale Ave (MP 5.3) to Hillside Ave (MP 5.6); crosses the corridor at Hillside Ave (MP 5.6); 0.25 mile west of Corridor 9 along Dundee Ave from Hillside Ave (MP 5.6) to Lake Cook Rd (MP 6.1)	On-road; serves residential areas, Grove Avenue Elementary School, St. Michael's Episcopal Church, St. Matthew Lutheran Church, and Evergreen Cemetery
Barrington Bike Trail	0.15 mile west of Corridor 9 at MP 6.4	Village of Barrington; extends through Langendorf Park and west to Barrington High School.
Unnamed trail	West of Corridor 9 from Miller Rd (MP 10.4) to Kelsey Rd (MP 11.6))	Off-road; travels through residential area and around Lake Barrington
Unnamed trail	0.2 mile east of Corridor 9, south of Ivanhoe road (MP 12.9)	Loop path in residential area

4.9 Corridor 11

4.9.1 Socioeconomics

Corridor 11 is within Lake County and passes through the communities of Lakemoor, Volo, Round Lake, Round Lake Park, Hainesville, Grayslake, Gurnee, and Waukegan. Table 4-45 details 2015 demographics of the population within the TCA study area, the analysis area, and the communities adjacent to the corridor. The analysis area experienced 27.5 percent population growth between 2000 and 2015. The TCA study area, in comparison, experienced 5.4 percent population growth. Within the individual communities, all but Waukegan experienced increases in population, with the westernmost communities experiencing the greatest increases (Lakemoor, Volo, and Round Lake).

The population within the analysis area is more diverse racially and has a higher percentage of Hispanic or Latino population than the TCA study area. Within the analysis area, 27.2 percent of the population is minority (compared to 19.5 percent in the TCA study area) and 18.5 percent of the population is

Hispanic or Latino (compared to 17.2 percent in the TCA study area). Within individual communities, the percent of minority population ranges from 12.1 percent (in Lakemoor) to approximately 34.9 percent (in Waukegan). The percentage of Hispanic or Latinos ranges from 12.0 percent (in Grayslake) to approximately 55.1 percent (in Waukegan).

Median age is lower in the analysis area than the TCA study area (35.8 vs. 39.1). Within the corridor communities, the median age ranges from 31.2 to 39.0. Median household income ranges from $45,845 (in Waukegan) to $90,131 (in Volo). Median household income in the analysis area is $76,873 and for the TCA study area is $74,230.

Table 4-45. Corridor 11 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	22,641	28,872	27.5%	72.8%	4.7%	10.4%	21.1%	18.5%	30%	19%	42%	9%	35.8	$76,873	6.5%
Lakemoor	2,788	6,535	134.4%	87.9%	1.7%	1.0%	9.4%	18.3%	32%	23%	42%	5%	31.8	$78,186	5.0%
Volo	180	3,757	1987.2%	86.3%	5.5%	5.3%	2.9%	13.5%	29%	29%	35%	6%	32.2	$90,131	1.7%
Round Lake	5,842	18,446	215.7%	77.5%	7.2%	8.9%	6.4%	28.7%	36%	21%	37%	6%	31.3	$72,659	5.0%
Round Lake Park	6,038	7,957	31.8%	85.7%	4.8%	2.1%	7.4%	47.3%	28%	17%	29%	26%	39.0	$42,355	14.5%
Hainesville	2,129	3,690	73.3%	88.6%	1.3%	5.9%	4.2%	14.8%	34%	21%	38%	7%	33.1	$85,909	3.4%
Grayslake	18,506	21,117	14.1%	83.3%	3.6%	7.5%	5.5%	12.0%	30%	17%	45%	8%	37.5	$81,367	6.6%
Gurnee	28,834	31,136	8.0%	75.3%	8.4%	11.0%	5.3%	13.2%	28%	16%	45%	11%	39.0	$86,849	4.8%
Waukegan	87,901	88,570	0.8%	65.1%	17.1%	4.9%	13.0%	55.1%	32%	24%	36%	8%	31.2	$45,845	20.5%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.9.2 Public Facilities and Services

There are 73 public facilities and service centers within the analysis area, including 5 schools, 36 preschools or daycare facilities, 9 places of worship, 7 cemeteries, 3 hospital/medical facilities, 2 nursing homes or long-term care facilities, 10 governmental buildings, and 1 museum (Table 4-46).

Table 4-46. Public Facilities, Corridor 11 Analysis Area

Facility	Total
Schools	5
Daycare Facilities	36
Places of Worship	9
Cemeteries	7
Hospital/Medical Facilities	3
Nursing Home/Long-Term Care Facilities	2
Government Services	10
Community/Recreation Centers	0
Museums	1
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-47.

Table 4-47. Public Facilities Along/Adjacent to Corridor 11

Facility Type	Facility Name	Location
Schools	Prairieview School	IL 120 and Hainesville Road (MP 5.8), Hainesville
	Westlake Christian Academy	IL 120 and Lake Street (MP 7.0), Grayslake
	Saint Gilbert School	IL 120 and Slusser Street (MP 7.1), Grayslake
Daycare Facilities	In home daycare	IL 120 east of Cedar Lake Road (MP 4.2), Round Lake
	Knowledge Universe Education LLC (Grayslake Early Childhood Center)	IL 120 and Hainesville Road (MP 5.8), Hainesville
	Gloryland Preschool	IL 120 and Dee Point Road (MP 6.0), Grayslake
	Prime Time 2 Children's Center	IL 120 and US 45 (MP 9.1), Grayslake
Churches	Jehovah's Witnesses Round Lake	IL 120 and Cedar Lake Road (MP 4.1), Round Lake
	Christian Faith Fellowship Church	IL 120 and Deer Point Road (MP 6.0), Hainesville
	Lord of Glory Lutheran Church	IL 120 and Deer Point Road (MP 6.0), Hainesville
	Saint Gilbert's Catholic Church	IL 120 and Slusser Street (MP 7.1), Grayslake
	Hope Orthodox Presbyterian Church	IL 120 and Battershall Road (MP 9.8), Grayslake
Cemeteries	Fort Hill Cemetery	IL 120 and Fairfield Road (MP 3.4), Grayslake
	Saint Joseph Cemetery	IL 120 and Fairfield Road (MP 3.5), Round Lake

Table 4-47. Public Facilities Along/Adjacent to Corridor 11

Facility Type	Facility Name	Location
	Highland Memorial Park	IL 120 and Hunt Club Road (MP 10.6), Libertyville
Hospital/Medical Facilities	NICASA	IL 120 and Fish Lake Road (MP 1.5), Round Lake
	Advocate Condell Imaging Center	IL 120 and Bobolink Drive (MP 8.4), Grayslake
	Lake Forest Hospital Grayslake Outpatient & Acute Care Center	IL 120 and Harris Road (MP 9.1), Grayslake
Nursing Home/Long-Term Care Facilities	Travance Living Assisted Living	IL 120 and US 45 (MP 9.1), Grayslake
Municipal/Government Facilities	Lake County Public Works	IL 120 and John Mogg Road (MP 9.5).
	ComEd Transmission Utility Corridor	Crosses IL 120 at MP 12.3

4.9.3 Transportation

Major roads that cross Corridor 11 are listed in Table 4-48.

Table 4-48. Major Roads Crossing Corridor 11

Road	Comment
I-94 (MP 12.8)	Full interchange
Milwaukee Ave (MP 11.6)	Full interchange
US 45 (MP 9.0)	Signalized intersection
IL 83 (MP 7.6)	Signalized intersection
IL 60 (MP 1.0)	Signalized intersection
US 12 (MP 0.4)	Signalized intersection

Two rail lines run parallel to, or cross, Corridor 11.

- The CP rail line crosses the corridor at MP 5.4. This rail corridor carries 1 to 3 freight trains per day (CMAP 2012). It also serves as the Metra MD-N Line. The MD-N Grayslake Station is approximately 0.3 mile south at Lake Street in Mundelein (MP 6.9). There are 20 inbound and 23 outbound weekday Metra trains that serve Grayslake Station, and fewer trains on weekends.
- The CN rail line crosses the corridor at MP 7.5. This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). It also serves as the Metra NCS. The nearest Metra stations – Prairie Crossing and Grayslake – are approximately 1.4 miles north (MP 6.6) and south (MP 8.5) of the corridor. There are nine inbound and 10 outbound weekday Metra trains that serve the Prairie Crossing station. There are 10 trains that serve the Grayslake Station per weekday. No service is provided on weekends.

Three[5] Pace bus routes travel along or cross Corridor 11. See Table 4-49.

[5] One seasonal Pace route (not included in this tabulation) utilizes the corridor (Six Flags Great America Express).

Table 4-49. Pace Bus Routes Along/Crossing Corridor 11

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
570 (Fox Lake – CLC)	Provides service between the College of Lake County and the Fox Lake Metra Station (weekdays) and between the College of Lake County and the Round Lake area (Saturdays)	Travels along the corridor from Centre Dr (MP 5.5) to Lake St (MP 6.9)	15 buses on weekdays and six buses on Saturdays.	236
572 (Washington)	Provides service between the Waukegan Metra Station and the College of Lake County	Crosses the corridor at US 45 (MP 9.0)	32 buses on weekdays and fewer on Saturdays.	784
574 (CLC – Hawthorn Mall)	Provides service between the College of Lake County and Hawthorn Mall	Crosses the corridor at US 45 (MP 9.0)	14 buses on weekdays and fewer on Saturdays.	264

Source: RTAMS 2018.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-50.

Table 4-50. Trails, Corridor 11 Analysis Area

Trail	Approximate Location	Comment
Millennium Trail	Crosses Corridor 11 at Fish Lake Road (MP 1.4).	30-mile-long regional trail owned by LCPFD; connects forest preserves; 10-foot paved walking/biking trail.
Unnamed trail	0.15 mile south of Corridor 11 (MP 1.7)	Village of Volo; travels through Lancaster Falls Park and Village of Volo Open Space
Round Lake Bike Trail	Just north of Corridor 11 (MP 2.7)	Round Lake Area Park District; extends approximately 0.5 mile north along Jade Lane
Nippersink Forest Preserve Trail	1.3-mile-long loop trail just north of the corridor in the Nippersink Forest Preserve, from MP 3.5 to MP 3.8.	LCFPD
Cedar Lake Road Trail	North of IL 120 at Cedar Lake Rd (MP 4.0)	Off-road; extends approximately 0.7 mile north along Cedar Lake Rd
Unnamed trail	0.2 mile south of Corridor 11 (MP 4.1)	Travels through Monarch Flats Park; Round Lake Area Park District
Unnamed trail	0.2 mile south of Corridor 11 (MP 4.3)	Travels through Parkside Park; Round Lake Area Park District
Unnamed trail	0.2 mile south of Corridor 11 (MP 4.5)	Travels through Bradford Place Park; Round Lake Area Park District
Unnamed trail	0.2 mile south of Corridor 11 (MP 4.6)	Travels around detention pond and connects to Bradford Place Park
Hainesville Bike Path	IL 120 and Hainesville Rd (MP 5.6)	Off-road; extends 0.8 mile north along Hainesville Rd; Village of Hainesville
Grayslake Bike Path	Less than 0.1 mile north of IL 120 through West Trail Park (MP 6.3); runs adjacent to the south side of IL 120 between Ivanhoe Rd (MP 7.7) and	21-mile-long trail system owned by Village of Grayslake, in cooperation with the Park and School Districts; 10-foot paved walking/biking path.

Table 4-50. Trails, Corridor 11 Analysis Area

Trail	Approximate Location	Comment
	Ashford Lane (MP 8.1), and Harris Rd (MP 8.5) and US 45 (MP 9.0).	
Lake Forest Hospital Trail	0.15 mile south of IL 120 (MP 8.6)	Extends behind the Lake Forest Hospital Grayslake Outpatient & Acute Care Center
Prairie Crossing Bike Path	0.25 mile south of IL 120 (MP 8.6)	Travels through Prairie Crossing subdivision in Grayslake
Unnamed trail	0.1 mile north of IL 120 (MP 10.2)	Travels through Twin Lakes Park; Wildwood Park District
Almond Road Bike Path	Begins approximately 0.1 mile north of Corridor 11 on Almond Road (MP 10.3) and extends to Grand Avenue	Off-street walking/bike path
Heather Ridge Trail	0.2 mile north of IL 120 (MP 12.0)	Travels through Heather Ridge Woods park; Gurnee Park District
Des Plaines River Trail	Crosses the corridor at MP 12.8.	46-mile-long trail along the Des Plaines River; LCFPD; 12-foot paved walking/biking trail.
Providence Oaks Path	North of Corridor 11 (MP 13.9)	Path loops arounds Providence Oaks Pond and extends north through the Providence Oaks subdivision to Providence Park
Wood Lake Trail	0.1 mile east of I-94 North at Milwaukee Ave (MP 10.2)	Trail through Woodlake apartments
Lake Carina Forest Preserve Trail	Adjacent to I-94 North at MP 10.4	Loop trail around Lake Carina, owned by the LCFPD
Unnamed trail	Adjacent to the west side of I-94 South from MP 12.2 to MP 12.7	Waukegan Park District; travels through Rudd Farm Park
Unnamed trail	Just east of I-94 South at MP 12.4	Waukegan Park District; travels through Serenity Park

4.10 Corridor 13

4.10.1 Socioeconomics

Corridor 13 is within Lake County and passes through the communities of Wauconda, Hawthorn Woods, and Mundelein. Table 4-51 details 2015 demographics of the population within the TCA study area, the analysis area of the corridor, and the communities adjacent to the corridor. The analysis area experienced 30 percent population growth between 2000 and 2015. The TCA study area, in comparison, experienced 5.4 percent population growth. Within the individual communities, Wauconda and Hawthorn Woods experienced substantial increases, while Mundelein experienced only a modest increase in population over the 15-year period.

Population within the analysis area is less diverse racially and has a slightly higher percentage of Hispanic or Latino population than the TCA study area. Within the analysis area, 17.3 percent of the population is minority (compared to 19.5 percent in the TCA study area) and 18.2 percent of the population is Hispanic or Latino (compared to 17.2 percent in the TCA study area). Within individual communities, the percent of minority population ranges from 9.5 percent (in Wauconda) to approximately 17.2 percent (in Mundelein). The percentage of Hispanic or Latinos ranges from 4.4 percent (in Hawthorn Woods) to approximately 28.9 percent (in Mundelein).

Median age is higher in the analysis area than the TCA study area (41.3 vs. 39.1). Within the corridor communities, the median age ranges from 37.3 (in Wauconda) to 43.6 (in Hawthorn Woods). Median

household income ranges from $74,646 (in Wauconda) to $152,781 (in Hawthorn Woods). Median household income in the analysis area is $75,079 and for the TCA study area is $74,230.

Table 4-51. Corridor 13 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Othera**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	6,110	7,941	30.0%	82.7%	1.2%	6.3%	9.8%	18.2%	25%	17%	42%	17%	41.3	$75,079	5.8%
Wauconda	9,448	13,140	39.1%	90.5%	0.5%	5.4%	3.6%	18.5%	27%	18%	44%	11%	37.3	$74,646	6.2%
Hawthorn Woods	6,002	7,634	27.2%	88.9%	1.9%	8.1%	1.1%	4.4%	28%	7%	52%	13%	43.6	$152,781	2.8%
Mundelein	30,935	31,624	2.2%	82.8%	2.4%	8.6%	6.2%	28.9%	27%	20%	43%	10%	37.4	$76,750	6.6%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.10.2 Public Facilities and Services

There are 24 public facilities and service centers located within the analysis area, including 5 schools, 4 preschools or daycare facilities, 5 places of worship, 3 cemeteries, 1 hospital or medical facility, and 6 governmental buildings. See Table 4-52.

Table 4-52. Public Facilities, Corridor 13 Analysis Area

Facility	Total
Schools	5
Daycare Facilities	4
Places of Worship	5
Cemeteries	3
Hospital/Medical Facilities	1
Nursing Home/Long-Term Care Facilities	0
Government Services	6
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-53.

Table 4-53. Public Facilities Along/Adjacent to Corridor 13

Facility Type	Facility Name	Location
Schools	Dayspring Bible College and Seminary	Fairfield Road and IL 176 (MP 0.4), Mundelein
	Frassati Catholic Academy	IL 176 and Mill Street (MP 1.0), Wauconda
Daycare Facilities	Mundelein Cooperative Preschool	IL 176 and Schank Avenue (MP 6.5), Mundelein
Churches	First Church of Christ Science	IL 176 at Brown Street (MP 0.6), Wauconda
	Transfiguration Church	IL 176 and Mill Street (MP 1.0), Wauconda
	Federated Church of Wauconda	IL 176 and Barrington Road (MP 1.2), Wauconda
	Ivanhoe Congregational Church	IL 176 and Schank Avenue (MP 6.5), Mundelein
Cemeteries	Transfiguration Catholic Cemetery	IL 176 and Forest Preserve Road (MP 2.8), Wauconda
	Ivanhoe Cemetery	IL 176 and Schank Avenue (MP 6.4), Mundelein
Municipal/Government Facilities	Wauconda Fire Protection District Station 1 (Main)	IL 176 and Maple Avenue (MP 1.2), Wauconda
	Village of Wauconda Water Tower	IL 176 and Grand Boulevard (MP 2.3), Wauconda

4.10.3 Transportation

Major roads that cross Corridor 13 are listed in Table 4-54.

Table 4-54. Major Roads Crossing Corridor 13

Road	Comment
US 12 (IL 176 - MP 0.5)	Full interchange
US 60/IL 83 (IL 176 - MP 6.7)	Signalized intersection

There are no rail lines within the Corridor 13 analysis area. There are no Pace bus routes that travel along or cross Corridor 13. Bike/pedestrian trails near, or crossing the corridor are listed in Table 4-56.

Table 4-56. Trails, Corridor 13 Analysis Area

Trail	Approximate Location	Comment
Millennium Trail	Crosses Fairfield Rd just north of Ivanhoe Road (MP 0.0) and extends through Lakewood Forest Preserve	30-mile-long regional trail owned by LCFPD; connects forest preserves; 10-foot paved walking/biking trail
Lakewood Forest Preserve Trail	Loop trail in Lakewood Forest Preserve (MP 2.3)	LCFPD
Dog Exercise Area Path	Northeast of IL 176 and Fairfield Rd	Dog walking path within Lakewood Forest Preserve
Fort Hill Trail	Crosses under IL 176 just east of Fairfield Road (MP 3.5)	Trail within Lakewood Forest Preserve; LCFPD; 12-foot-wide paved walking/biking trail

4.11 Corridor 14

4.11.1 Socioeconomics

Corridor 14 is within Lake County and passes through three communities: Fox Lake, Round Lake Heights, and Round Lake Beach. Table 4-57 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. The analysis area experienced 10.2 percent population growth between 2000 and 2015. The TCA study area, in comparison, experienced 5.4 percent population growth. Within individual communities, Round Lake Heights experienced a nearly 116 percent growth, followed by Fox Lake (nearly 15 percent) and Round Lake Beach (just over 8 percent) over the 15-year period.

Population within the analysis area is more diverse racially and has a higher percentage of Hispanic or Latino population than the TCA study area. Within the analysis area, 30.0 percent of the population is minority (compared to 19.5 percent in the TCA study area), and 45.3 percent of the population is Hispanic or Latino (compared to 17.2 percent in the TCA study area). Within individual communities, the percent of minority population ranges from 9.4 percent to 18.2 percent. The percentage of Hispanic or Latinos ranges from 14.4 percent to 47.7 percent.

Median age is lower in the analysis area than the TCA study area (33.0 vs. 39.1). Within the corridor communities, the median age ranges from 28.5 (in Round Lake Heights) to 42.2 (in Fox Lake). Median household income ranges from $56,208 (in Fox Lake) to $61,159 (in Round Lake Beach). Median household income in the analysis area is $56,161 and for the TCA study area is $74,230.

Table 4-57. Corridor 14 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628, 050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	20,757	22,873	10.2%	70.0%	3.8%	1.8%	24.3%	45.3%	31%	23%	27%	9%	33.0	$56,161	13.7%
Fox Lake	9,178	10,539	14.8%	90.6%	0.4%	6.5%	2.5%	14.4%	22%	20%	43%	16%	42.2	$56,208	9.5%
Round Lake Heights	1,347	2,908	115.9%	81.8%	6.2%	4.0%	8.0%	44.9%	39%	21%	37%	4%	28.5	$60,403	13.8%
Round Lake Beach	25,859	27,966	8.1%	85.2%	3.6%	4.2%	7.0%	47.7%	33%	21%	39%	7%	32.1	$61,159	14.1%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.11.2 Public Facilities and Services

There are 65 public facilities and service centers located within the analysis area. This includes 5 schools, 40 preschools or daycare facilities, 3 places of worship, 1 hospital or medical facility, 1 nursing home or long-term care facility, 14 governmental buildings, and 1 museum (Table 4-58).

Table 4-58. Public Facilities, Corridor 14 Analysis Area

Facility	Total
Schools	5
Daycare Facilities	40
Places of Worship	3
Cemeteries	0
Hospital/Medical Facilities	1
Nursing Home/Long-Term Care Facilities	1
Government Services	14
Community/Recreation Centers	0
Museums	1
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-59.

Table 4-59. Public Facilities Along/Adjacent to Corridor 14

Facility Type	Facility Name	Location
Daycare Facilities	Serendipity Child Care Center	IL 59 and Bayview Drive (MP 0.0), Ingleside
	Kiddie Kottage Child Care	Rollins Road and Monroe Avenue (MP 1.2), Fox Lake
	Kindercare Learning Center 070	Rollins Road and Meadowbrook Drive (MP 4.2), Round Lake Heights
Churches	Crosspoint Church	IL 59 and Big Hollow Road (MP 0.0), Ingleside
	New Hope Christian Community Church	Rollins Road and Fairfield Road (MP 3.7), Round Lake Heights
Hospital/Medical Facilities	Advocate Condell Immediate Care Center	Rollins Road and Nicole Lane (MP 5.0), Round Lake Beach
Municipal/Government Facilities	Ingleside Post Office	Rollins Road and Monroe Avenue (MP 1.2), Ingleside
	Lake County Public Works – Rollins Road Station	Rollins Road and Lake Shore Drive (MP 2.7), Ingleside
	ComEd Transmission Utility Corridor	Parallels Rollins Road from East End Avenue (MP 5.6) to Hainesville Road (MP 6.0)

4.11.3 Transportation

Major roads that cross Corridor 14 are listed in Table 4-60.

Table 4-60. Major Roads Crossing Corridor 14

Road	Comment
US 12 (IL 59 – MP 0.0)	Partial interchange
IL 83 (Rollins Road - MP 6.0)	Signalized intersection

Two rail lines run parallel to, or cross, Corridor 14:

- The CP rail line crosses IL 59 at MP 0.8 and parallels Rollins Road from MP 0.9 to MP 1.4. This rail corridor carries 1 to 3 freight trains per day (CMAP 2012). It also serves as the Metra MD-N Line. The Ingleside Station is adjacent to the south side of Rollins Rd (MP 1.2). There are 15 inbound and 16 outbound trains that serve this station on weekdays, and fewer trains on weekends.
- The CN rail line crosses the corridor at IL 83 (MP 6.0). This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). This rail line also serves as the Metra NCS. The Round Lake Beach Station is located 0.25 mile north at Hook Drive (MP 6.0). There are 10 trains that serve this station on weekdays.

One Pace bus route travels along, or crosses, Corridor 14 (Table 4-61).

Table 4-61. Pace Bus Routes Along/Crossing Corridor 14

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
570 (Fox Lake – CLC)	Provides service between the College of Lake County and the Fox Lake Metra Station (weekdays) and between the College of Lake County and the Round Lake area (Saturdays)	Crosses the north terminus of IL 59 (MP 0.8) and travels along Rollins Rd throughout the corridor length	15 buses on weekdays and six buses on Saturdays.	236

Source: RTAMS 2018.

Bike/pedestrian trails near, or crossing the corridor are listed in Table 4-62.

Table 4-62. Trails, Corridor 14 Analysis Area

Trail	Approximate Location	Comment
Unnamed trail	0.15 mile west of IL 59 at MP 0.2	Travels through Fox Ridge subdivision
Chain O'Lakes Bike Path	Parallels the south side of Rollins Road from IL 59 (MP 0.8) east to W Lake Shore Dr (MP 2.4); crosses Rollins Road at MP 2.7.	2.8-mile-long path from Grand Avenue in Fox Lake to Grant Woods Forest Preserve; owned by LCDOT; 10-foot paved walking/biking trail.
Grant Woods Forest Preserve Trail	0.25 mile north of Corridor 14 from MP 2.9 to Fairfield Rd (MP 3.4)	Trail through Grant Woods Forest Preserve
Round Lake Fitness Trail	Trail originates at Sunset Drive (MP 4.3) and extends northeast paralleling Hawthorn Drive; trail parallels Rollins Road from MP 5.6 to MP 5.9.	Paved loop trail; 10-foot paved walking/biking trail.

Table 4-62. Trails, Corridor 14 Analysis Area

Trail	Approximate Location	Comment
Hook Drive Bike Lane	0.25 mile north of Corridor 14 from Orchard Ln (MP 5.3) to Metra's North Central Service line (MP 5.9)	On-road; serves retail centers, recreation areas, government services, and the Metra NCS Round Lake Beach Station
Millennium Trail	Parallels the south side of Rollins Road just west of IL 83 (MP 5.9) and continues east beyond the corridor limits.	30-mile-long regional trail owned by LCFPD; connects forest preserves; 10-foot paved walking/biking trail.

4.12 Corridor 15

4.12.1 Socioeconomics

Corridor 15 is within Lake County and passes through the communities of Mundelein and Libertyville. Table 4-63 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. The analysis area experienced a 3.6 percent decline in population growth between 2000 and 2015. The TCA study area, in comparison, experienced 5.4 percent population growth. Within the individual communities, Mundelein experienced a modest population increase of 2.2 percent and Libertyville's population declined by 1.7 percent.

Population within the analysis area is similar with respect to race and has a slightly greater percentage of Hispanic population than the TCA study area. Within the analysis area, 20.2 percent of the population is minority (compared to 19.5 percent in the TCA study area) and 20 percent of the population is Hispanic or Latino (compared to 17.2 percent in the TCA study area). Mundelein is more diverse in terms of both race and ethnicity than Libertyville.

Median age is slightly higher in the analysis area than the TCA study area (40.7 vs. 39.1). Within the corridor communities, Mundelein's median age (37.4) is lower than Libertyville's (44.4). Median household income is $76,750 in Mundelein and $115,709 in Libertyville. Median household income in the analysis area is $55,172 and for the TCA study area is $74,230.

Table 4-63. Corridor 15 Demographic Characteristics

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
0.5-mile Analysis Area	11,822	11,392	-3.6%	79.8%	1.6%	6.6%	11.9%	20.0%	27%	17%	43%	13%	40.7	$108,088	5.5%
Mundelein	30,935	31,624	2.2%	82.8%	2.4%	8.6%	6.2%	28.9%	27%	20%	43%	10%	37.4	$76,750	6.6%
Libertyville	20,742	20,395	-1.7%	93.1%	0.8%	4.4%	1.6%	4.4%	28%	12%	45%	15%	44.4	$115,709	3.9%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.12.2 Public Facilities and Services

There are 35 public facilities and service centers located within the analysis area of the corridor (Table 4-64). This includes a total of 9 schools, 14 preschools or daycare facilities, 6 places of worship, 1 nursing home or long-term care facility, 4 governmental buildings, and 1 museum. These facilities and services are typically within municipal boundaries and near population centers.

Table 4-64. Public Facilities, Corridor 15 Analysis Area

Facility	Total
Schools	9
Daycare Facilities	14
Places of Worship	6
Cemeteries	1
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	1
Government Services	4
Community/Recreation Centers	0
Museums	1
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-65, below.

Table 4-65. Public Facilities Along/Adjacent to Corridor 15

Facility Type	Facility Name	Location
Schools	Carmel Catholic High School	IL 176 and Carmel Parkway (MP 0.9), Mundelein
	University of Saint Mary of the Lake	IL 176 and University Drive (MP 0.9), Mundelein
	Butterfield School	Butterfield Road and Lake Street (MP 2.6), Libertyville
Daycare Facilities	In home daycare	IL 176 and Prospect Avenue (MP 0.4), Mundelein
	In home daycare	IL 176 and Greenwood Avenue (MP 0.4), Mundelein
	In home daycare	Butterfield Road and Harding Avenue (MP 2.0), Libertyville
	Champions at Butterfield School	Butterfield Road and Lake Street (MP 2.6), Libertyville
	Young at Heart Center (Libertyville Preschool)	Peterson Road (IL 137) and Butterfield Road (MP 4.0), Libertyville
	STEM Montessori of Libertyville	IL 176 and Cass Avenue (MP 4.4), Libertyville
Churches	Marytown/St. Maximillian Kolbe Shrine	IL 176 and Woodland Road (MP 1.4), Libertyville
	Benedictine Convent	IL 176 and Woodland Road (MP 1.4), Libertyville
	Jehovah's Witnesses	Butterfield Road and Ridgewood Lane (MP 2.1), Libertyville

Table 4-65. Public Facilities Along/Adjacent to Corridor 15

Facility Type	Facility Name	Location
	Word of Faith Community Church (The Gathering Place)	Butterfield Road and Virginia Ave (MP 3.2), Libertyville
Nursing Home/Long-Term Care Facilities	Libertyville Manor	IL 137 and Butterfield Road (MP 4.0), Libertyville
Municipal/Government Facilities	ComEd Transmission Utility Corridor	Crosses Butterfield Road at MP 2.2 and IL 137 at MP 3.8

4.12.3 Transportation

Major roads that cross Corridor 15 are listed in Table 4-66.

Table 4-66. Major Roads Crossing Corridor 15

Road	Comment
US 45 (MP 0.0)	Signalized intersection
Milwaukee Avenue (MP 4.8)	Signalized intersection

Two rail lines parallel, or cross, Corridor 15:

- The CN rail line that crosses the corridor at MP 0.1. This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). This rail line also serves as the Metra NCS. The Mundelein Station is located 0.4 mile south at Archer Ave (MP 0.3). There are nine inbound and 10 outbound trains that service this station on the weekdays.
- The CP rail line crosses Butterfield Road at MP 3.3. This rail corridor carries 1 to 3 freight trains per day (CMAP 2012). It also serves as the Metra MD-N Line. The Libertyville Station is located approximately 1.4 miles east at Lake St (MP 2.6). There are 24 inbound and 23 outbound trains on weekdays and fewer on weekends.

Two Pace bus routes travel along or cross Corridor 15 (Table 4-67).

Table 4-67. Pace Bus Routes Along/Crossing Corridor 15

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
572 (Washington)	Provides service between the Waukegan Metra Station and the College of Lake County	Crosses the corridor at US 45 (MP 0.0)	32 buses on weekdays and fewer on Saturdays.	784
574 (CLC – Hawthorn Mall)	Provides service between the College of Lake County and Hawthorn Mall	Travels along the corridor from Hawley St (MP 0.8) to Winchester Road (MP 2.9)	14 buses on weekdays and fewer on Saturdays.	264

Source: RTAMS 2018.

Bike/pedestrian trails near, or crossing the corridor are identified in Table 4-68.

Table 4-68. Trails, Corridor 15 Analysis Area

Trail	Approximate Location	Comment
North Shore Bike Path	Parallels IL 176 from Brice Avenue (MP 0.7), where it originates, to Butterfield Road (MP 1.7)	8-mile-long path between Lake Bluff and Mundelein, owned by LCDOT. Connects to the Des Plaines River Trail and Robert McClory Bike Path; 10-foot paved walking/biking trail
Libertyville Township Trail	Runs south of IL 176 (MP 1.1) through Butterfield Road Open Apace	Owned by Libertyville Township; connects to Millennium Trail in Libertyville; 8-foot paved walking/biking trail
Libertyville Bike Path	0.2 mile east of Butterfield Road (MP 2.2)	Runs through Village of Libertyville Open Space and Butler Lake Park/Paradise Park; owned by the Village of Libertyville
Bull Creek Trail	0.15 mile north of Il 137	Extends north through Route 137 Open Space
Des Plaines River Trail	0.25 mile east of the east terminus of IL 137 (MP 4.8)	46-mile-long trail along the Des Plaines River; LCFPD; 12-foot paved walking/biking trail

4.13 Corridor 16

4.13.1 Socioeconomics

Corridor 16 (new corridor alignment) is within Lake and Cook counties and passes through six communities: Grayslake, Mundelein, Long Grove, Hawthorn Woods, Kildeer, and Palatine. Table 4-69 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. Population within the analysis area has increased at a slightly higher rate than the TCA study area (7 percent vs. 5 percent). All communities experienced an increase in population between 2000 and 2015.

The Corridor 16 analysis area is more diverse racially than the TCA study area (25 percent vs. 20 percent). Within the six corridor communities, minority populations range from 30 percent (in Palatine) to 11 percent (in Hawthorn Woods). The analysis area has a higher percentage of Hispanic or Latino population than the study area (22 percent vs. 17 percent). Within the individual communities, the Hispanic or Latino population is greater in the communities of Mundelein, Palatine, and Grayslake.

Median age of residents in the analysis is 37.9, which is lower than median age for the TCA study area (39.1).

Median household income of residents within the analysis area is $84,550, which is higher than median household income for the TCA study area ($74,230). Within the communities adjacent to the corridor, median household income ranges from $71,573 (in Palatine) to $188,182 (in Hawthorn Woods).

Table 4-69. Corridor 16 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[aa]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	123,573	132,210	7.0%	75.3%	2.5%	9.4%	12.7%	21.8%	27.2%	18.9%	42.1%	11.7%	37.9	$84,550	8.1%
Grayslake	18,506	21117	14.1%	83.3%	3.6%	7.5%	5.5%	12.0%	30%	17%	45%	8%	37.5	$81,367	6.6%
Mundelein	30,935	31624	2.2%	82.8%	2.4%	8.6%	6.2%	28.9%	27%	20%	43%	10%	37.4	$76,750	6.6%
Long Grove	6,735	8086	20.1%	79.3%	3.5%	13.4%	3.8%	6.0%	30%	11%	48%	12%	44.0	$188,182	2.4%
Hawthorn Woods	6,002	7634	27.2%	88.9%	1.9%	8.1%	1.1%	4.4%	28%	7%	52%	13%	43.6	$152,781	2.8%
Kildeer	3,460	3938	13.8%	86.1%	1.4%	10.9%	1.6%	6.1%	30%	10%	49%	12%	46.3	$154,563	3.9%
Palatine	65479	69188	5.7%	70.5%	3.0%	13.7%	12.8%	18.6%	27%	20%	41%	12%	37.6	$71,573	8.5%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.13.2 Public Facilities and Services

There are 47 public facilities and service centers within the analysis area, including 10 schools, 15 preschools or daycare facilities, 8 places of worship, 2 cemeteries, 2 nursing home/long-term care facilities, 8 governmental buildings, 1 community/recreation center, and 1 medical/emergency facility. See Table 4-70.

Table 4-70. Public Facilities, Corridor 16 Analysis Area

Facility	Total
Schools	10
Daycare Facilities	15
Places of Worship	8
Cemeteries	2
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	2
Government Services	8
Community/Recreation Centers	1
Museums	0
Other Medical/Emergency Facilities	1

Public facilities directly adjacent to the corridor are detailed in Table 4-71.

Table 4-71. Public Facilities Along/Adjacent to Corridor 16

Facility Type	Facility Name	Location
Schools	Saint Gilbert School	IL 120 and Slusser Street (MP 22.0), Grayslake
Churches	Church of the Nazarene	Maple Avenue and Midlothian Road (MP 17.6), Mundelein
	Saint Gilbert's Catholic Church	IL 120 and Slusser Street (MP 22.0), Grayslake
Municipal/Government Facilities	Village of Mundelein Water Tower	Winchester Road and Midlothian Road (MP 19.2), Mundelein
	ComEd Transmission Utility Corridor	Crosses Corridor 16 at MP 20.2
Community/Recreation Centers	Lake County Jewish Community Campus	Old McHenry Road and IL 22 (MP 12.5), Lake Zurich
Other Medical/ Emergency Facilities	Rotor Swing Heliport	0.1 mile east of the corridor at MP 10.1, Palatine

4.13.3 Transportation

This is a new alignment corridor. Major roads that cross Corridor 16 include: Lake Cook Road (MP 9.0), IL 22 (MP 12.1), IL 83 (MP 16.7), Peterson Road (MP 19.7), Ivanhoe Road (MP 20.1), and IL 120 (MP 22.0).

Three rail lines run parallel to, or cross, Corridor 16:

- A CN rail line crosses Corridor 16 at MP 15.1 (formerly the EJ&E Circumferential Railway) serves freight rail exclusively and carries 7 to 12 freight trains per day (CMAP 2012).
- A CP rail line crosses the corridor at MP 21.6. This rail corridor carries 1 to 3 freight trains per day (CMAP 2012). This rail line also serves as the Metra MD-N Line. The Grayslake Station is approximately 0.3 mile west of the corridor (MP 21.8) at Lake Street. There are 20 inbound and 23 outbound weekday Metra trains that serve Grayslake Station, and fewer trains on weekends.
- A CN rail line is 0.3 mile east of the corridor at MP 22.0. This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). It also serves as the Metra NCS Line. The nearest commuter station is more than a mile from the corridor.

No Pace bus routes cross Corridor 16.

Bike/pedestrian trails near, or crossing the corridor are included in Table 4-72.

Table 4-72. Trails, Corridor 16 Analysis Area

Trail	Approximate Location	Comment
Buffalo Creek Forest Preserve Trail	0.1 mile east of the corridor at MP 9.3	LCFPD trail through Buffalo Creek Forest Preserve. Permits hiking/walking and biking
Unnamed trail	Crosses Corridor 16 at MP 9.3	Extends from Long Grove Soccer Park west to IL 53
Unnamed trail	Parallels corridor from MP 11.3 to MP 11.5	Trail travels through Glenstone Park
Heron Creek Forest Preserve Trail	0.2 mile east of the corridor from MP 11.7 to M 12.1	LCFPD trail through Heron Creek Forest Preserve
Unnamed trail	West of the corridor from IL 22 (MP 12.2) to Old McHenry Rd (MP 12.8)	Trail system through Kemper Lakes
Unnamed trail	0.15 mile east of the corridor at MP 16.2	Trail through Mundelein Park District's Wortham Park
Orchard View Park Trail	0.15 mile east of the corridor at MP 16.2	Trail through Mundelein Park District's Orchard View Park
Wilderness Park Trail	0.6 mile east of the corridor at MP 16.3	Trail through Mundelein Park District's Wilderness Park
Cambridge Country Park Trail	0.3 mile east of corridor	Loop trail around Mundelein Park District's Cambridge Country Park Pond
Millennium Trail	Crosses the corridor at Hawley Street (MP 17.2)	30-mile-long trail owned by LCFPD
Prairie Crossing Bike Path	Begins east of Corridor 16 at the intersection of Hawley Street and Midlothian Rd.	Travels north for approximately 5 miles to IL 120. Serves residential, commercial, industrial, and recreation areas
Leo Leathers Park Trail	Crosses the corridor at MP 17.5	Loop trail through Mundelein Park District's Leo Leathers Park
Longmeadow Park Trail	0.15 mile west of the corridor at MP 18.3	Trail through Mundelein Park District's Longmeadow Park
Asbury Park Trail	0.1 mile east of the corridor at MP 18.8	Loop trail through Mundelein Park District's Asbury Park
Peterson Road Bike Path	Crosses the corridor at MP 19.7	Rus parallel to Peterson Road, owned by the Village of Grayslake; 10-foot paved walking/biking path

Table 4-72. Trails, Corridor 16 Analysis Area

Trail	Approximate Location	Comment
Grayslake Bike Path	Crosses the corridor at MP 21.7	Village of Grayslake; runs through Tooterville Park

4.14 Corridor 17

4.14.1 Socioeconomics

Corridor 17 (new alignment) is in Lake County and primarily within the corporate limits of the Village of Long Grove. Table 4-73 details 2015 demographics of the population within the TCA study area, the analysis area, and Long Grove, which is adjacent to the corridor. From 2000 to 2015, the analysis area experienced 3.8 percent population growth, which was slightly lower than the TCA study area's population growth (5.4 percent). Long Grove experienced a 20 percent increase in population.

Population within the analysis area is more diverse racially and has a higher percentage of Hispanic or Latino population than the TCA study area. Within the analysis area, nearly 30 percent of the population is minority (compared to 19.5 percent in the TCA study area) and 27 percent of the population is Hispanic or Latino (compared to 17.2 percent in the TCA study area). Just over 20 percent of Long Grove's population is minority, and 6 percent of its population is Hispanic.

Median age is lower in the analysis area than the TCA study area (35.7 vs. 39.1), while the median age in Long Grove is higher (44.0). Median household income in Long Grove is higher than in the analysis area or TCA study area.

Table 4-73. Corridor 17 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	48,893	50,748	3.8%	70.1%	3.4%	11.3%	15.3%	27.0%	28.0%	21.1%	41.1%	9.9%	35.7	$76,032	10.8%
Long Grove	6,735	8086	20.1%	79.3%	3.5%	13.4%	3.8%	6.0%	30%	11%	48%	12%	44.0	$188,182	2.4%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.14.2 Public Facilities and Services

There are 4 public facilities and service centers located within the analysis area, including 1 school, 2 nursing home/long-term care facilities, and 1 other medical/emergency facility. None of these facilities are directly adjacent to Corridor 17.

Table 4-74. Public Facilities, Corridor 17 Analysis Area

Facility	Total
Schools	1
Daycare Facilities	0
Places of Worship	0
Cemeteries	0
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	2
Government Services	0
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	1

4.14.3 Transportation

The transportation infrastructure within the Corridor 17 analysis area consists of highways and non-motorized facilities. The sections below describe the existing roadway, bicycle, and pedestrian systems in the Corridor 17 analysis area.

This is a new alignment corridor; major roads that the corridor crosses include IL 53/Hicks Road (MP 10,2) and Cuba Road (MP 11.1).

There are no rail lines within the Corridor 17 analysis area.

There are no Pace bus routes that cross Corridor 17.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-75.

Table 4-75. Trails, Corridor 17 Analysis Area

Trail	Approximate Location	Comment
Buffalo Creek Forest Preserve Trail	0.1 mile east of the corridor at MP 9.3	LCFPD trail through Buffalo Creek Forest Preserve. Permits hiking/walking and biking
Unnamed trail	Crosses Corridor 16 at MP 9.3	Extends from Long Grove Soccer Park west to IL 53
Unnamed trail	Parallels the east side of the corridor from MP 11.3 to MP 11.5	Trail extends through Glenstone Park

4.15 Corridor 18

4.15.1 Socioeconomics

Corridor 18 (new alignment) is within Lake County and passes through the communities of Mundelein, Long Grove, and Hawthorn Woods. Table 4-76 details 2015 demographics of the population within the TCA study area, the analysis area of the corridor, and the communities adjacent to the corridor. From 2000 to 2015, the analysis area experienced 6.4 percent population growth, which was slightly higher than the TCA study area's population growth (5.4 percent). Hawthorn Woods and Long Grove both experienced greater percentage increases in population than Mundelein.

Population within the analysis area is more diverse racially and has a higher percentage of Hispanic or Latino residents than the TCA study area. Within the analysis area, 26.4 percent of the population is minority (compared to 19.5 percent in the TCA study area) and 25.7 percent of the population is Hispanic or Latino (compared to 17.2 percent in the TCA study area). Within the individual communities adjacent to the corridor, Hawthorn Woods is less diverse racially, and Mundelein has a larger percentage of its population that is Hispanic.

Median age is slightly lower in the analysis area compared to the TCA study area (38.0 vs. 39.1). Within the individual communities, Mundelein's median age is lower, while Long Grove's and Hawthorn Woods' median ages are higher. Median household income in the analysis area is higher than the TCA study area ($98,230 vs. $74,230). Within the communities, Mundelein's median household income is similar to the TCA study area's; and higher in Long Grove and Hawthorn Woods.

Table 4-76. Corridor 18 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	39,201	41,721	6.4%	73.6%	1.8%	9.6%	15.0%	25.7%	28.1%	18.2%	43.4%	10.3%	38.0	$98,443	6.6%
Mundelein	30,935	31624	2.2%	82.8%	2.4%	8.6%	6.2%	28.9%	27%	20%	43%	10%	37.4	$76,750	6.6%
Long Grove	6,735	8086	20.1%	79.3%	3.5%	13.4%	3.8%	6.0%	30%	11%	48%	12%	44.0	$188,182	2.4%
Hawthorn Woods	6,002	7634	27.2%	88.9%	1.9%	8.1%	1.1%	4.4%	28%	7%	52%	13%	43.6	$152,781	2.8%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.15.2 Public Facilities and Services

There are 8 public facilities and service centers located within the analysis area, including 2 schools, 4 preschools or daycare facilities, and 2 governmental buildings (Table 4-77). None of these facilities are directly adjacent to Corridor 18.

Table 4-77. Public Facilities, Corridor 18 Analysis Area

Facility	Total
Schools	2
Daycare Facilities	4
Places of Worship	0
Cemeteries	0
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	2
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	0

4.15.3 Transportation

This is a new alignment corridor. Major roads that the corridor crosses include Gilmer Road (MP 14.0), Indian Creek Road (MP 14.8), and Midlothian Road (MP 16.1).

One rail line crosses Corridor 18:

- The CN rail line crosses north of Indian Creek Road, at MP 15.3 (formerly the EJ&E Circumferential Railway). This line serves freight rail exclusively and carries 7 to 12 freight trains per day (CMAP 2012).

No Pace bus routes cross Corridor 18.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-78.

Table 4-78. Trails, Corridor 18 Analysis Area

Trail	Approximate Location	Comment
Diamond Lake Sports Complex trail	0.15 mile east of the corridor at MP 15.7	Trail through the Diamond Lake Sports Complex, owned by the Mundelein Park District
Orchard View Park Trail	0.2 mile northeast of the northern terminus of the corridor at MP 16.1	Trail through Mundelein Park District's Orchard View Park
Unnamed trail	0.1 mile east of Corridor 18 from MP 16.3 to MP 16.4	Loop trail through Mundelein Park District's Wortham Park

4.16 Corridor 20

4.16.1 Socioeconomics

Corridor 20 (combination of existing and new alignment) is within Lake County and the communities of Grayslake, Gurnee, and Waukegan. Table 4-79 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. From 2000 to 2015, the analysis area experienced 9.3 percent population growth, which was higher than the TCA study area's population growth (5.4 percent). Within the communities, Grayslake and Gurnee experienced population increases, while Waukegan's population declined slightly.

Population within the analysis area is more racially diverse than the TCA study area (27 percent compared to 19.5 percent). The percent of residents that are Hispanic or Latino is similar for the 2-mile analysis area compared to the TCA study area. Both Gurnee and Waukegan are more diverse racially and Waukegan has a higher percentage of residents that are Hispanic or Latino than either the analysis area or the study area.

Median age is slightly lower in the analysis area than the TCA study area (37.8 vs. 39.1). Grayslake's and Gurnee's median ages are comparable to the analysis area and TCA study area; in Waukegan, median age is lower (31.2). Median household income in the analysis area is slightly higher than the TCA study area ($76,426 vs. $74,230), is higher in Grayslake and Gurnee, but lower in Waukegan.

Table 4-79. Corridor 20 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	58,167	63,588	9.3%	72.3%	6.1%	9.2%	12.4%	18.8%	28.1%	18.3%	42.1%	11.6%	37.8	$76,426	7.7%
Grayslake	18,506	21117	14.1%	83.3%	3.6%	7.5%	5.5%	12.0%	30%	17%	45%	8%	37.5	$81,367	6.6%
Gurnee	28,834	31136	8.0%	75.3%	8.4%	11.0%	5.3%	13.2%	28%	16%	45%	11%	39.0	$86,849	4.8%
Waukegan	87,901	88570	0.8%	65.1%	17.1%	4.9%	13.0%	55.1%	32%	24%	36%	8%	31.2	$45,845	20.5%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.16.2 Public Facilities and Services

There are 21 public facilities and service centers located within the analysis area. See Table 4-80. This includes 1 school, 13 preschools or daycare facilities, 1 place of worship, 1 hospital or medical facility, 2 nursing homes or long-term care facilities, and 2 governmental buildings.

Table 4-80. Public Facilities, Corridor 20 Analysis Area

Facility	Total
Schools	1
Daycare Facilities	13
Places of Worship	1
Cemeteries	1
Hospital/Medical Facilities	1
Nursing Home/Long-Term Care Facilities	2
Government Services	2
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-81.

Table 4-64. Public Facilities Along/Adjacent to Corridor 20

Facility Type	Facility Name	Location
Churches	Hope Orthodox Presbyterian Church	IL 120 and Almond Road (MP 10.4), Grayslake
Hospital/Medical Facilities	Lake Forest Hospital Grayslake Outpatient & Acute Care Center	IL 120 and Harris Road (MP 9.1), Grayslake
Municipal/Government Facilities	ComEd Transmission Utility Corridor	Crosses the corridor at MP 12.9

4.16.3 Transportation

Major roads that cross Corridor 20 include: IL 83/Ivanhoe Road (MP 8.1), US 45 (MP 9.5), IL 120 (MP 10.6 and 11.0), Milwaukee Ave (MP 12.6), and I-94 (MP 13.7).

There are two rail lines that cross Corridor 20:

- The CP rail line crosses the corridor at MP 8.0. This rail corridor carries 1 to 3 freight trains per day (CMAP 2012). It also serves as the Metra MD-N Line. The nearest station, the Grayslake Station is located 0.5 mile northwest of the western terminus of Corridor 20 (MP 7.7). There are 20 inbound and 23 outbound weekday Metra trains that serve Grayslake Station, and fewer trains on weekends.
- The CN a rail line that crosses the corridor at MP 8.2. This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). It also serves as the Metra NCS. The nearest station is more than 1 mile from the corridor.

Two[6] Pace bus routes cross Corridor 20 (Table 4-82).

Table 4-82. Pace Bus Routes Crossing Corridor 20

Route Number	Description	Location	Service Frequency	Weekday Ridership (2017)
572 (Washington)	Provides service between the Waukegan Metra Station and the College of Lake County	Crosses the corridor at US 45 (MP 9.5)	32 buses on weekdays and fewer on Saturdays.	784
574 (CLC – Hawthorn Mall)	Provides service between the College of Lake County and Hawthorn Mall	Crosses the corridor at US 45 (MP 9.5)	14 buses on weekdays and fewer on Saturdays.	264

Source: RTAMS 2018

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-83.

Table 4-83. Trails, Corridor 20 Analysis Area

Trail	Approximate Location	Comment
Grayslake Bike Path	0.2 mile north of the corridor, between MP 7.5 and 7.8 and MP 8.2 and 9.5	21-mile-long trail system owned by Village of Grayslake, in cooperation with the Park and School Districts
Prairie Crossing Bike Path	Crosses the corridor at Harris Road (MP 9.0)	Path through Prairie Crossing subdivision
Lake Forest Hospital Trail	Crosses the corridor at MP 9.2	Trail through the Lake Forest Hospital Grayslake Outpatient & Acute Care Center
Unnamed trail	0.1 mile north of Corridor 20 (MP 10.7)	Travels through Twin Lakes Park; Wildwood Park District
Almond Road Bike Path	0.1 mile north of Corridor 20 (MP 10.9) on Almond Road	Off street walking/biking path
Heather Ridge Trail	0.2 mile north of IL 120 (MP 12.6)	Travels through Heather Ridge Woods park; Gurnee Park District
Des Plaines River Trail	Crosses the corridor at MP 12.8	46-mile-long trail along the Des Plaines River; LCFPD; 12-foot paved walking/biking trail
Providence Oaks Path	North of Corridor 20 (MP 14.5)	Path loops arounds Providence Oaks Pond and extends north through the Providence Oaks subdivision to Providence Park
Wood Lake Trail	0.1 mile east of I-94 North at Milwaukee Ave (MP 10.2)	Trail through Woodlake apartments
Lake Carina Forest Preserve Trail	Adjacent to I-94 North at MP 10.4	Loop trail around Lake Carina, owned by the LCFPD
Unnamed trail	Adjacent to the west side of I-94 South from MP 12.2 to MP 12.7	Waukegan Park District; travels through Rudd Farm Park
Unnamed trail	Just east of I-94 South at MP 12.4	Waukegan Park District; travels through Serenity Park

[6] The Six Flags Great America Express Pace bus, which is a seasonal bus service, also crosses the corridor but is not included in the tabulation.

4.17 Corridor 21

4.17.1 Socioeconomics

Corridor 21 (new alignment) is within Lake County and passes through the communities of Volo, Round Lake, Round Lake Park, Hainesville, and Grayslake. Table 4-84 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. From 2000 to 2015, the analysis area experienced over 67 percent population growth, which was higher than the TCA study area's population growth (5.4 percent). All the adjacent communities experienced growth, ranging from 14 percent (in Grayslake) to nearly 2000 percent (in Volo).

Population within the analysis area is more racially diverse than the TCA study area (nearly 25 percent compared to 19.5 percent), and the percentage of residents that are Hispanic or Latino is higher in the analysis area compared to the TCA study area (21 vs. 17.2 percent). Except for Round Lake, the individual communities are less diverse racially than the analysis area or study area. Regarding ethnicity, Round Lake Park and Round Lake have higher percentages of residents who are Hispanic compared to the analysis area study area and other communities.

Median age is lower in the analysis area than the TCA study area (35.5 vs. 39.1). Median age in the adjacent communities range from 31.3 (in Round Lake) to 39.0 (in Round Lake Park). Median household income in the analysis area is slightly higher than the TCA study area ($77,180 vs. $74,230) and is higher in all adjacent communities except Round Lake Park.

Table 4-84. Corridor 21 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	34,045	56,970	67.3%	76.3%	3.7%	7.8%	12.2%	21,0%	30.0%	19.3%	40.6%	10.1%	35.5	$77,180	7.2%
Volo	180	3757	1987.2%	86.3%	5.5%	5.3%	2.9%	13.5%	29%	29%	35%	6%	32.2	$90,131	1.7%
Round Lake	5,842	18446	215.7%	77.5%	7.2%	8.9%	6.4%	28.7%	36%	21%	37%	6%	31.3	$72,659	5.0%
Round Lake Park	6,038	7957	31.8%	85.7%	4.8%	2.1%	7.4%	47.3%	28%	17%	29%	26%	39.0	$42,355	14.5%
Hainesville	2,129	3690	73.3%	88.6%	1.3%	5.9%	4.2%	14.8%	34%	21%	38%	7%	33.1	$85,909	3.4%
Grayslake	18,506	21117	14.1%	83.3%	3.6%	7.5%	5.5%	12.0%	30%	17%	45%	8%	37.5	$81,367	6.6%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.17.2 Public Facilities and Services

There are 24 public facilities and service centers located within the analysis area, including 6 schools, 6 preschools or daycare facilities, 2 places of worship, 4 cemeteries, and 4 governmental buildings. See Table 4-85.

Table 4-85. Public Facilities, Corridor 21 Analysis Area

Facility	Total
Schools	6
Daycare Facilities	6
Places of Worship	2
Cemeteries	4
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	4
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-86.

Table 4-86. Public Facilities Along/Adjacent to Corridor 21

Facility Type	Facility Name	Location
Schools	Big Hollow Primary School	Fish Lake Road and Nippersink Road (MP 1.9), Ingleside
	Big Hollow Elementary School	Fish Lake Road and Nippersink Road (MP 1.9), Ingleside
	Big Hollow Middle School	Fish Lake Road and Nippersink Road (MP 1.9), Ingleside
	School District Office 38	Fish Lake Road and Nippersink Road (MP 1.9), Ingleside
Daycare Facilities	In home daycare	Town Line Road and Cedar Lake Road (MP 4.8), Round Lake
Cemeteries	Grant Cemetery	Fish Lake Road and Molidor Road (MP 1.3), Ingleside

4.17.3 Transportation

Major roads that cross Corridor 21 include US 12/IL 59 (MP 0.5), Fish Lake Road (MP 1.8), Wilson Road (MP 2.1), IL 120 (MP 3.5), Fairfield Road (MP 3.8), Cedar Lake Road (MP 4.6), and Alleghany Road (MP 6.9).

Two rail lines cross Corridor 21:

- The CP rail line is 0.3 mile north of the corridor (MP 7.6). This rail corridor carries 1 to 3 freight trains per day (CMAP 2012), as well as the Metra MD-N Line. The Grayslake Station is located 0.3 mile north of MP 7.4 at Lake Street. There are 20 inbound and 23 outbound weekday Metra trains that serve Grayslake Station, and fewer trains on weekends.

- The CN rail line is 0.6 mile northeast of the corridor (MP 7.6). This rail corridor carries 13 to 24 freight trains per day (CMAP 2012). It also serves as the Metra NCS. The nearest Metra Station, Prairie Crossing, is more than 1 mile from the corridor.

There are no Pace bus routes that cross Corridor 21.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-87.

Table 4-87. Trails, Corridor 21 Analysis Area

Trail	Approximate Location	Comment
Unnamed trail	0.25 mile south of the corridor (MP 0.8)	Travels through Remington Pointe Central Park, owned by the Village of Volo
Unnamed trail	0.2 mile south of the corridor (MP 1.4)	Travels through the Grant Township Center
Millennium Trail	Crosses the corridor at MP 2.4	30-mile-long regional trail owned by LCFPD; connects forest preserves; 10-foot paved walking/biking trail
Round Lake Bike Trail	Crosses the corridor at Jade Ln (MP 3.3)	Round Lake Area Park District; extends north along Jade Ln through a multi-family residential area and connects to the Millennium Trail
Unnamed trail	0.2 mile north of Corridor 21 (MP 4.7)	Travels through Monarch Flats Park; Round Lake Area Park District
Unnamed trail	0.2 mile south of Corridor 21 (MP 4.7)	Serves Park East School
Unnamed trail	Crosses the corridor at MP 4.8	Connects Park East School to residential areas
Unnamed trail	0.2 mile north of Corridor 21 (MP 4.8)	Travels through Parkside Park; Round Lake Area Park District
Unnamed trail	Crosses the corridor at MP 5.2	Connects residential areas
Unnamed trail	0.1 mile south of Corridor 21 at the intersection of Alleghany Rd and Sports Club Dr (MP 7.0)	Travels through Alleghany Park, owned by Grayslake Park District
Unnamed trail	0.1 mile north of Corridor 21 (MP 7.3)	Travels through multi-family residential area and provides access to the Metra Milwaukee District North line Grayslake Station

4.18 Corridor 22

4.18.1 Socioeconomics

Corridor 22 (new alignment) is within Lake County and passes through the communities of Hainesville and Grayslake. Table 4-88 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. From 2000 to 2015, the analysis area experienced population growth of 44 percent, which was higher than the TCA study area's population growth of 5.4 percent. Both Hainesville's and Grayslake's population increased over this time.

Population within the analysis area is more racially diverse than the TCA study area and adjacent communities. The percentage of residents that are Hispanic or Latino is higher in the analysis area than in the TCA study area or adjacent communities.

Median age is lower in the analysis area than the TCA study area (35.5 vs. 39.1). Median age in Hainesville is 33.1 and in Grayslake is 37.5. Median household income in the analysis area and TCA study area is similar ($75,565 vs. $74,230) and is higher in the adjacent communities.

Table 4-88. Corridor 22 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	26,673	38,395	43.9%	73.8%	4.0%	8.7%	13.5%	22.6%	30.4%	18.8%	40.2%	10.6%	35.6	$75,565	7.8%
Hainesville	2,129	3690	73.3%	88.6%	1.3%	5.9%	4.2%	14.8%	34%	21%	38%	7%	33.1	$85,909	3.4%
Grayslake	18,506	21117	14.1%	83.3%	3.6%	7.5%	5.5%	12.0%	30%	17%	45%	8%	37.5	$81,367	6.6%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.18.2 Public Facilities and Services

There are 2 public facilities and service centers located within the analysis area, including 1 preschool/daycare facility and 1 place of worship—see Table 4-89. Neither of these facilities are adjacent to Corridor 22.

Table 4-89. Public Facilities, Corridor 22 Analysis Area

Facility	Total
Schools	0
Daycare Facilities	1
Places of Worship	1
Cemeteries	0
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	0
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	0

4.18.3 Transportation

Alleghany Road is the only road that the corridor crosses (at MP 6.8).

Two rail lines are proximate to Corridor 22:

- The CP rail line is approximately 0.1 mile northeast of the eastern terminus of Corridor 22 (at MP 7.8). This rail corridor carries 1 to 3 freight trains per day (CMAP 2012), and also serves as the Metra MD-N Line. The Grayslake Station is located 0.3 mile north of Corridor 22 at Lake Street (MP 7.4). There are 20 inbound and 23 outbound weekday Metra trains that serve Grayslake Station, and fewer trains on weekends.
- The CN rail line is 0.4 mile east from the eastern terminus of Corridor 22 (MP 7.8). This rail corridor carries 13 to 24 freight trains per day (CMAP 2012) and Metra NCS trains. The nearest station is more than a mile from the corridor.

No Pace bus routes that travel along, or cross, Corridor 22.

Three bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-90.

Table 4-90. Trails, Corridor 22 Analysis Area

Trail	Approximate Location	Comment
Unnamed trail	0.2 mile south of Corridor 22 at the intersection of Alleghany Rd and Sports Club Dr (MP 7.0)	Travels through Alleghany Park, owned by Grayslake Park District
Unnamed trail	Just north of Corridor 22 (MP 7.3)	Travels through multi-family residential area and provides access to the Metra Milwaukee District North line Grayslake Station
Grayslake Bike Path	0.2 mile north of the corridor between MP 7.5 to MP 7.8	Path owned by the Village of Grayslake; runs through Tooterville Park

4.19 Corridor 23

4.19.1 Socioeconomics

Corridor 23 (new alignment) is within Lake County and passes through Volo and Round Lake. Table 4-91 details 2015 demographics of the population within the TCA study area, the analysis area, and communities adjacent to the corridor. From 2000 to 2015, the 2-mile analysis area experienced population growth of 124 percent, which was higher than the TCA study area's population growth of 5.4 percent. Both Volo and Round Lake experienced population growth during this period (Volo's population increased by nearly 2000 percent, and Round Lake's increased by over 200 percent).

Population within the analysis area is more racially diverse than the TCA study area and adjacent communities. The percentage of residents that are Hispanic or Latino is higher in the 2-mile analysis area than in the TCA study area.

Median age is lower in the analysis area than the TCA study area (34.1 vs. 39.1). In comparison, median age in Volo is 32.2 and in Round Lake is 31.3. Median household income in the analysis area is higher than in the TCA study area ($76,194 vs. $74,230).

Table 4-91. Corridor 23 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	16,510	37,116	124.8%	73.4%	4.0%	9.0%	13.7%	24.0%	31.7%	19.7%	39.8%	8.8%	34.1	$76,194	7.0%
Volo	180	3757	1987.2%	86.3%	5.5%	5.3%	2.9%	13.5%	29%	29%	35%	6%	32.2	$90,131	1.7%
Round Lake	5,842	18446	215.7%	77.5%	7.2%	8.9%	6.4%	28.7%	36%	21%	37%	6%	31.3	$72,659	5.0%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.19.2 Public Facilities and Services

There are 18 public facilities and service centers located within the analysis area, including 2 schools, 3 preschools or daycare facilities, 2 places of worship, 6 cemeteries, 4 governmental buildings, and 1 community/recreation center (Table 4-92).

Table 4-92. Public Facilities, Corridor 23 Analysis Area

Facility	Total
Schools	2
Daycare Facilities	3
Places of Worship	2
Cemeteries	6
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	4
Community/Recreation Centers	1
Museums	0
Other Medical/Emergency Facilities	0

Public facilities directly adjacent to the corridor are detailed in Table 4-93.

Table 4-93. Public Facilities Along/Adjacent to Corridor 23

Facility Type	Facility Name	Location
Daycare Facilities	In home daycare	Cedar Lake Road and Town Line Road (MP 4.6), Round Lake
Cemeteries	Hope Grove Cemetery	IL 120 and Wilson Road (MP 3.1), Round Lake
Community/Recreation Centers	YMCA Camp Duncan	US 12 and Molidor Road (MP 0.9), Ingleside

4.19.3 Transportation

Major roads that the corridor crosses include US 12/IL 59 (MP 0.5), Fish Lake Road (MP 2.0), IL 120 (MP 2.7), Wilson Road (MP 3.4), Fairfield Road (MP 3.8), and Cedar Lake Road (MP 4.6).

There are no rail lines within the Corridor 23 analysis area. No Pace bus routes cross Corridor 23. Bike/pedestrian trails near, or crossing, the corridor are included in Table 4-94.

Table 4-94. Trails, Corridor 23 Analysis Area

Trail	Approximate Location	Comment
Unnamed trail	0.3 mile north of the corridor (MP 0.8)	Travels through Remington Pointe Central Park, owned by the Village of Volo
Unnamed trail	Crosses the corridor at MP 0.8	Travels through YMCA Camp Duncan
Unnamed trail	0.2 mile north of the corridor (MP 1.4)	Travels through Grant Township Center

Table 4-94. Trails, Corridor 23 Analysis Area

Trail	Approximate Location	Comment
Millennium Trail	Crosses Corridor 23 at Fish Lake Road (MP 1.9)	30-mile-long regional trail owned by LCFPD; connects forest preserves
Unnamed trail	0.25 mile northeast of Corridor 23 (MP 4.5)	Travels through Monarch Flats Park; Round Lake Area Park District
Unnamed trail	0.2 mile east of Corridor 23 (MP 4.5)	Connects Park East School to residential areas

4.20 Corridor 24

4.20.1 Socioeconomics

Corridor 24 (new alignment) is located within Lake County and passes through the Village of Volo. Table 4-95 details 2015 demographics of the population living within the TCA study area, the analysis area, and Volo.

Population in the analysis area grew by more than 170 percent between 2000 and 2015. In comparison, Volo (the only community adjacent to the corridor) experienced even greater growth of nearly 2000 percent. Population in the TCA study area grew by 5.4 percent.

The percent of minority population in the analysis area is 18.5 percent, compared to 13.7 percent in Volo and 19.5 percent in the TCA study area. Similarly, the percent of population that is Hispanic or Latino is similar for the analysis area and Volo (13.9 and 13.5 percent, respectively). For the TCA study area, 17.2 percent of the population is Hispanic.

Median age of residents within the analysis area is 35.0. In Volo, the median age is 33.9, and in the TCA study area it is 39.1. Median income in the analysis area is $85,077. In comparison, in Volo it is $90,131 and in the TCA study area it is $73,814.

Table 4-95. Corridor 24 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	2000	2015	% Change 2000-2015	White	Black	Asian	Other[a]	Hispanic[b]	Under 19	20 to 34	35 to 64	65 Years and Older	Median Age	Median HH Income	Share of HH Below Poverty
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	4,881	13,230	171.1%	81.5%	2.9%	7.6%	8.0%	13.9%	30%	19%	42%	8%	35.0	$85,077	5.0%
Volo	180	3757	1987.2%	86.3%	5.5%	5.3%	2.9%	13.5%	29%	29%	35%	6%	32.2	$90,131	1.7%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.20.2 Public Facilities and Services

There are 7 public facilities and service centers located within the analysis area, including 1 preschool or daycare facility, 1 place of worship, 4 cemeteries, and 1 museum. See Table 4-96. None of these facilities are adjacent to the corridor.

Table 4-96. Public Facilities, Corridor 24 Analysis Area

Facility	Total
Schools	0
Daycare Facilities	1
Places of Worship	1
Cemeteries	4
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	0
Community/Recreation Centers	0
Museums	1
Other Medical/Emergency Facilities	0

4.20.3 Transportation

Major roads that the corridor crosses include US 12/IL 59 (MP 0.5), Fish Lake Road (MP 1.6), and IL 120 (MP 2.0).

There are no rail lines within the Corridor 24 analysis area. No Pace bus routes cross Corridor 24. There is one bike/pedestrian trail near, or crossing the corridor, as detailed in Table 4-97.

Table 4-97. Trails, Corridor 24 Analysis Area

Trail	Approximate Location	Comment
Millennium Trail	Crosses Corridor 23 at Fish Lake Road (MP 1.5)	30-mile-long regional trail owned by LCFPD; connects forest preserves

4.21 Corridor 25

4.21.1 Socioeconomics

Corridor 25 (new alignment) is in Lake County and passes through the communities of Hainesville and Grayslake. Table 4-98 details 2015 demographics of the population within the TCA study area, the analysis area, and the communities adjacent to the corridor. From 2000 to 2015, the analysis area experienced population growth of 44 percent, which was higher than the TCA study area's population growth of 5.4 percent. Both Hainesville's and Grayslake's population increased during that time.

Population within the analysis area is more racially diverse than the TCA study area and adjacent communities. The percentage of residents that are Hispanic or Latino is higher in the analysis area than in the TCA study area or adjacent communities.

Median age is lower in the analysis area than the TCA study area (35.5 vs. 39.1). In comparison, median age in Hainesville is 33.1 and in Grayslake is 37.5. Median household income in the analysis area and TCA study area is similar ($75,565 vs. $74,230) and higher in the adjacent communities.

Table 4-98. Corridor 25 Demographic Characteristics (2000-2015)

	Population			Race				Ethnicity	Age						
Community	**2000**	**2015**	**% Change 2000-2015**	**White**	**Black**	**Asian**	**Other[a]**	**Hispanic[b]**	**Under 19**	**20 to 34**	**35 to 64**	**65 Years and Older**	**Median Age**	**Median HH Income**	**Share of HH Below Poverty**
TCA Study Area	1,544,368	1,628,050	5.4%	80.5%	4.8%	8.0%	6.7%	17.2%	27%	18%	42%	13%	39.1	$74,230	8.5%
2-mile Analysis Area	41,487	61,471	48.2%	73.6%	3.6%	6.8%	15.9%	29.7%	31.2%	19.7%	39.9%	9.1%	34.3	$73,741	8.8%
Hainesville	2,129	3690	73.3%	88.6%	1.3%	5.9%	4.2%	14.8%	36%	21%	37%	6%	31.3	$85,909	3.4%
Grayslake	18,506	21117	14.1%	83.3%	3.6%	7.5%	5.5%	12.0%	28%	17%	29%	26%	39.0	$81,367	6.6%

[a] Includes American Indian and Alaska Native, Native Hawaiian and Pacific Islander, Other Races, and those identified by two or more races.

[b] As presented in FHWA Order 6640.23A, Hispanic or Latino populations are classified as a minority group, regardless of race. Consistent with U.S. Census data, Hispanic or Latino origins are considered as ethnicity data and a separate designation from race data.

Sources: Chicago Metropolitan Agency for Planning, Esri, SB Friedman, U.S. Census Bureau.

4.21.2 Public Facilities and Services

There are 27 public facilities and service centers located within the analysis area, including 5 schools, 13 preschools or daycare facilities, 2 places of worship, 2 cemeteries, and 5 governmental buildings (Table 4-99). There are no facilities or services adjacent to the corridor.

Table 4-99. Public Facilities, Corridor 25 Analysis Area

Facility	Total
Schools	5
Daycare Facilities	13
Places of Worship	2
Cemeteries	2
Hospital/Medical Facilities	0
Nursing Home/Long-Term Care Facilities	0
Government Services	5
Community/Recreation Centers	0
Museums	0
Other Medical/Emergency Facilities	0

4.21.3 Transportation

Roads that the corridor crosses include Fairfield Road (MP 3.6), Cedar Lake Road (MP 4.4), and IL 120 (at MP 5.5).

There is one rail line near Corridor 25:

- The CP rail line is 0.1 mile north of the corridor at MP 5.5. This line carries 1 to 3 freight trains per day (CMAP 2012). This rail line also serves as the Metra MD-N Line. The Round Lake Station is approximately 0.5 mile north of MP 4.6 and the Grayslake Station is approximately 0.75 mile east of the eastern terminus of the corridor at Lake Street (MP 6.7). There are 20 inbound and 23 outbound weekday Metra trains that serve Grayslake Station, and fewer trains on weekends.

No Pace bus routes cross Corridor 25.

Bike/pedestrian trails near, or crossing the corridor are detailed in Table 4-100.

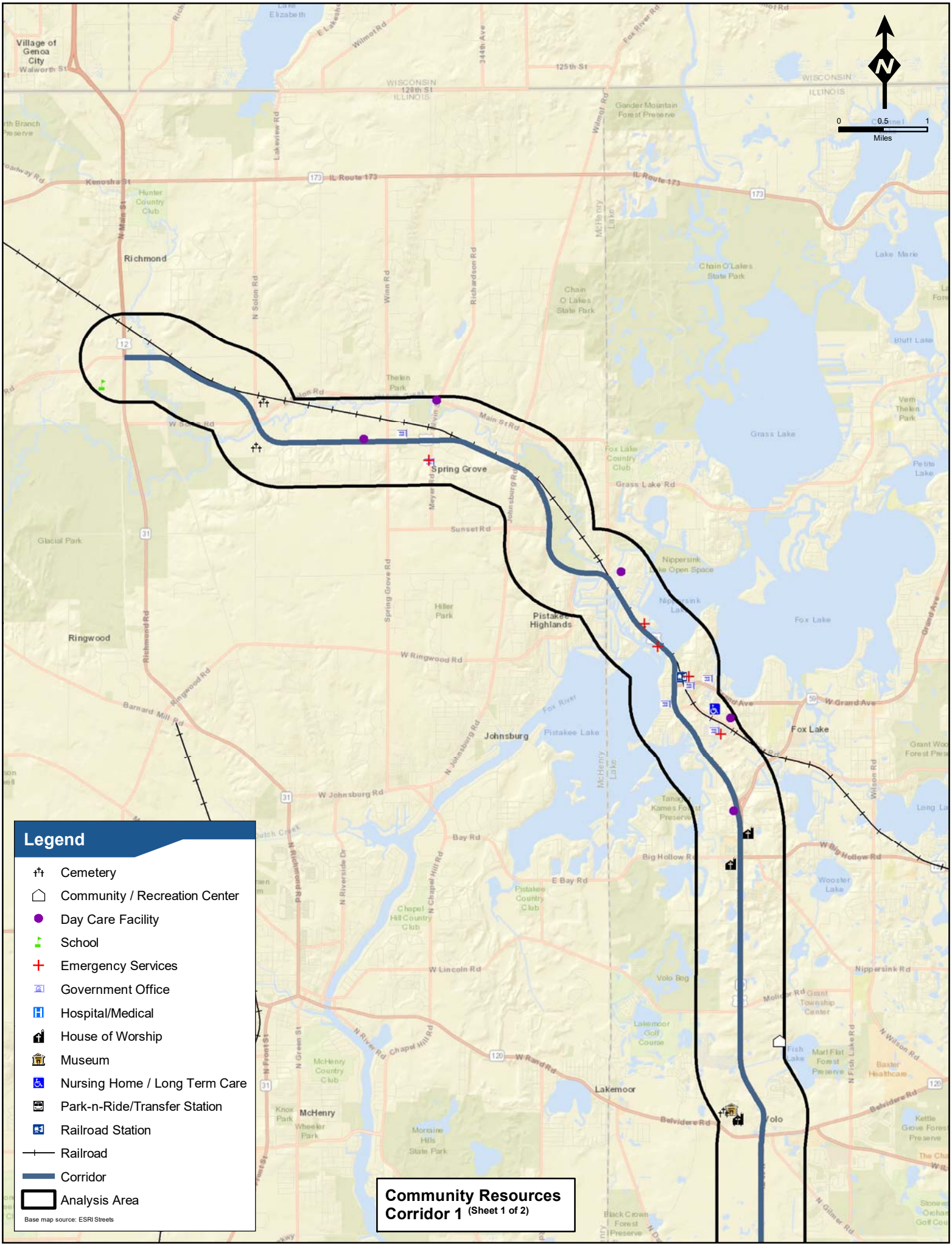
Table 4-100. Trails, Corridor 25 Analysis Area

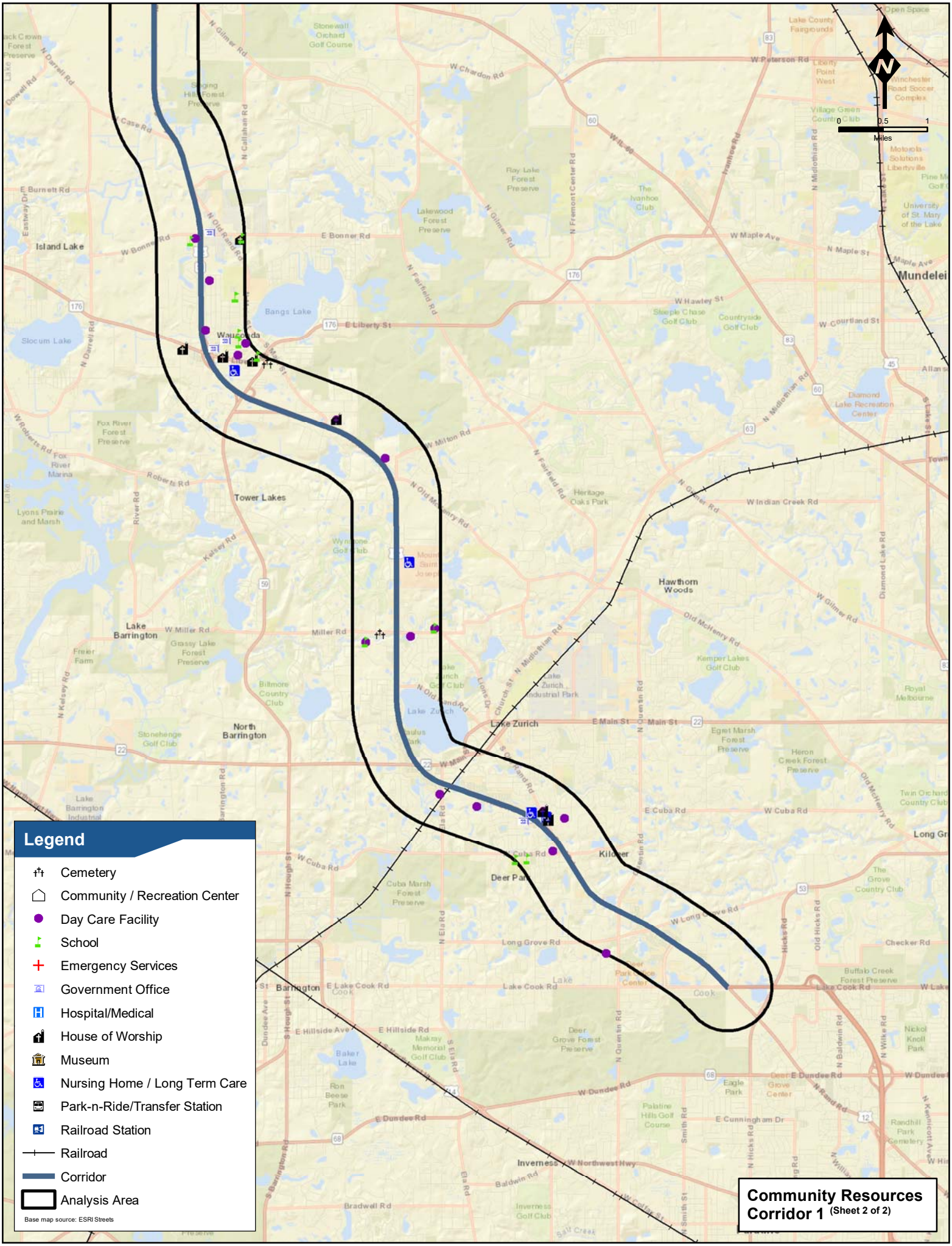
Trail	Approximate Location	Comment
Millennium Trail	Crosses the corridor at MP 2.4	30-mile-long trail owned by LCFPD; connects forest preserves
Valley Lakes Trail	0.2 mile north of the corridor (MP 2.6)	Round Lake Area Park District trail through Meadowview Park
Round Lake Bike Trail	0.2 mile south of the corridor (MP 3.1) on Jade Lane	Round Lake Area Park District; travels through multi-family residential area and connects to the Millennium Trail
Unnamed trail	Crosses Corridor 25 at MP 3.1	Connects residential areas and intersects the Millennium Trail

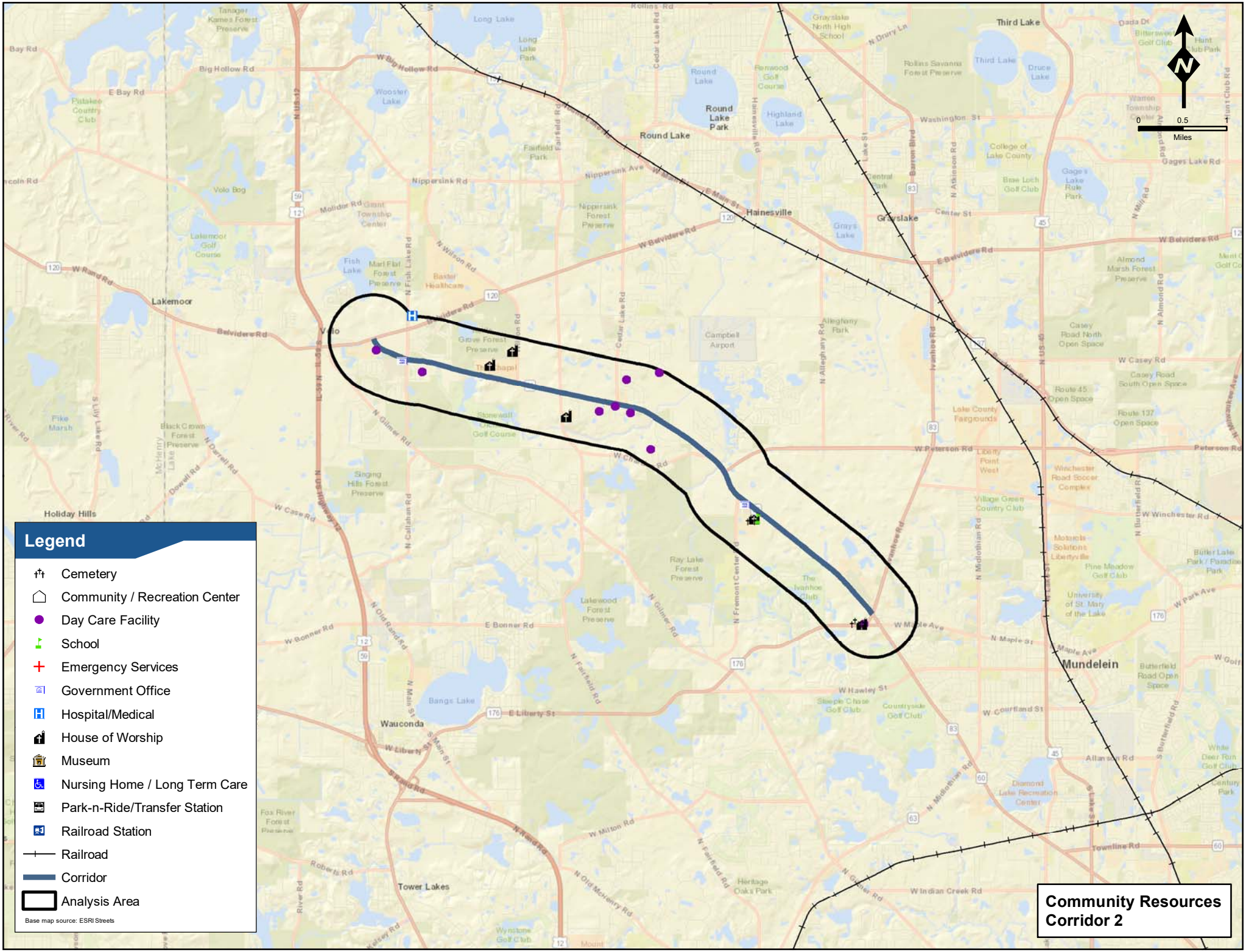
Table 4-100. Trails, Corridor 25 Analysis Area

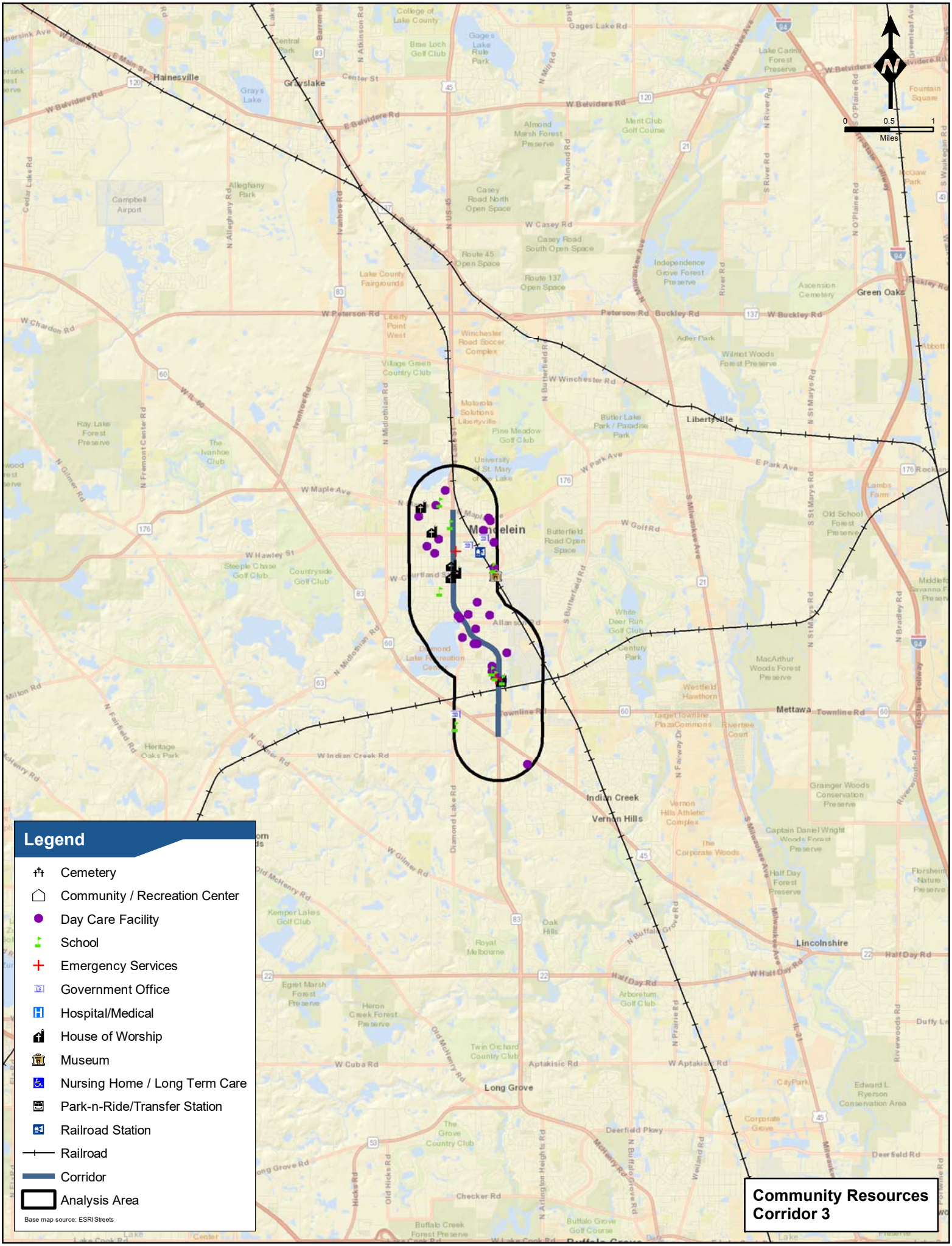
Trail	Approximate Location	Comment
Nippersink Forest Preserve Trail	Crosses the corridor at MP 4.0	LCFPD trail through Nippersink Forest Preserve; permits hiking, biking, and cross-country skiing
Cedar Lake Road Trail	Crosses the corridor at MP 4.4	Extends north and south along Cedar Lake Road
Unnamed trail	Crosses the corridor at MP 4.6	Travels through Village of Round Lake Open Space and serves residential areas
Unnamed trail	0.45 mile southeast of Corridor 25 at the intersection of Alleghany Rd and Sports Club Dr (MP 6.7)	Travels through Alleghany Park, owned by Grayslake Park District
Unnamed trail	0.55 mile east of Corridor 25 (MP 6.7)	Travels through multi-family residential area and provides access to the Metra Milwaukee District North line Grayslake Station

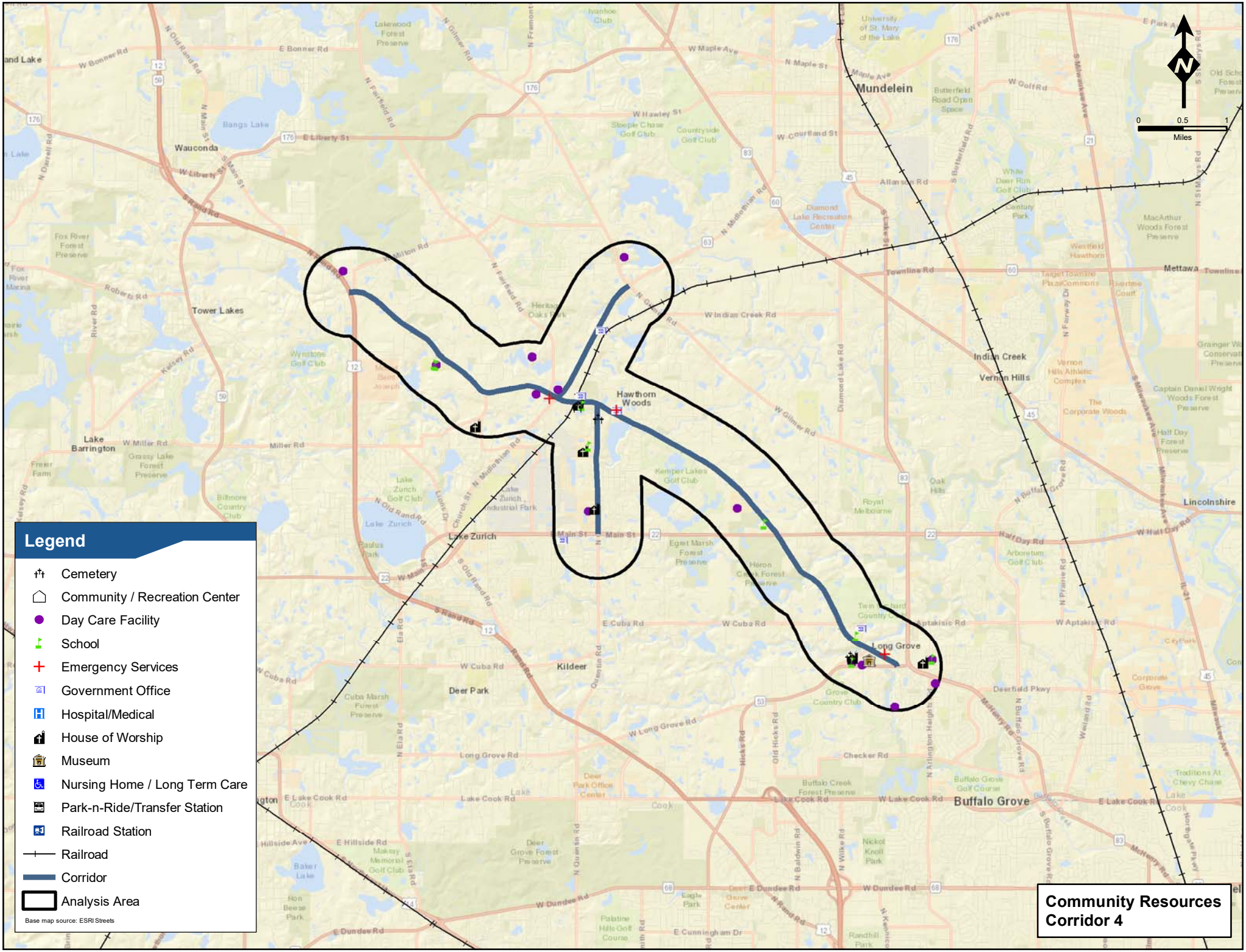
Attachment A: Corridor Figures

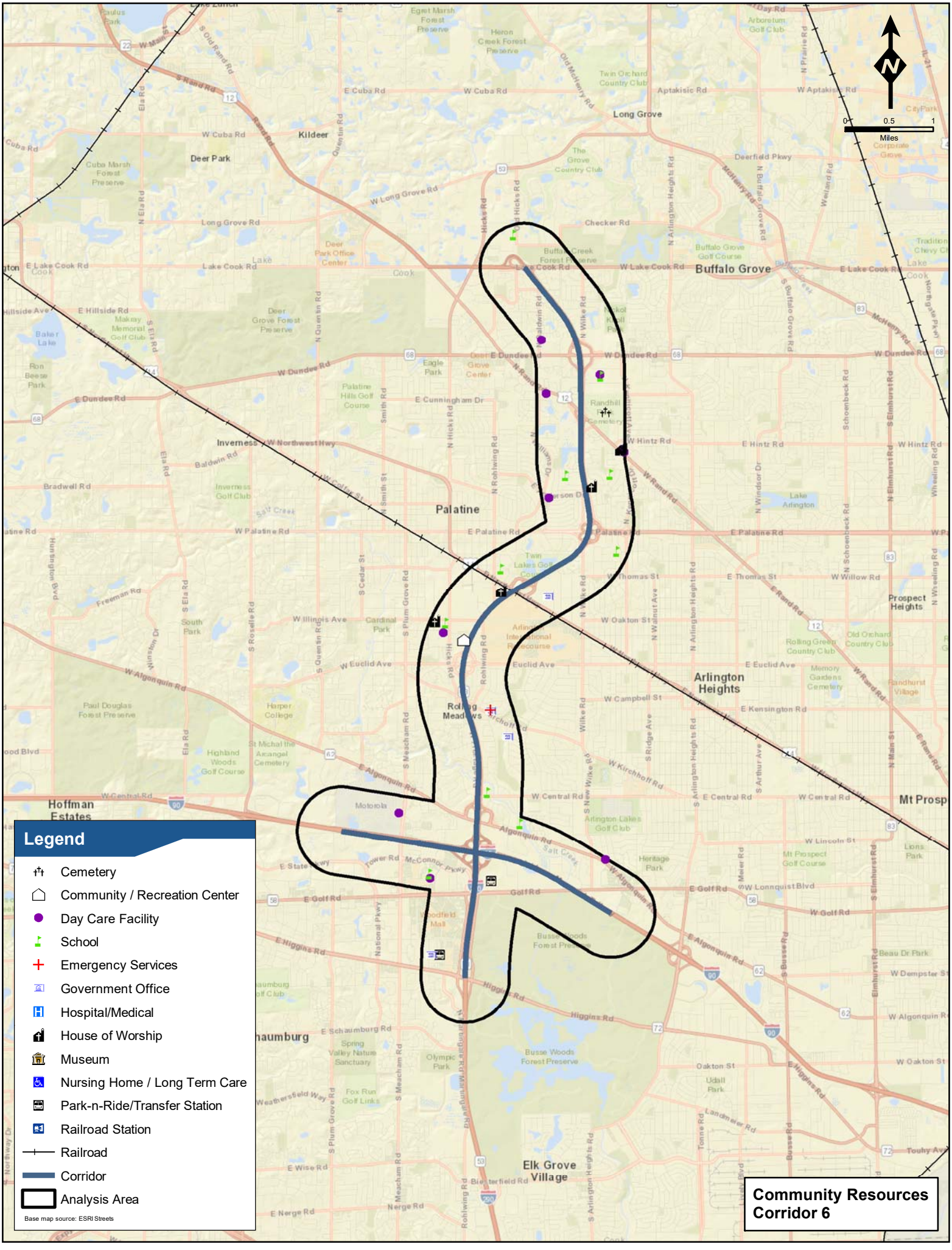

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
Community Resources
Corridor 1 (Sheet 1 of 2)
N
0
0.5
1
Miles
Richmond
Spring Grove
Pistakee Highlands
Johnsburg
Fox Lake
Lakemoor
Volo
McHenry
Ringwood
Village of Genoa City
Chain O'Lakes State Park
Grass Lake
Fox River
IL Route 173
WISCONSIN
ILLINOIS

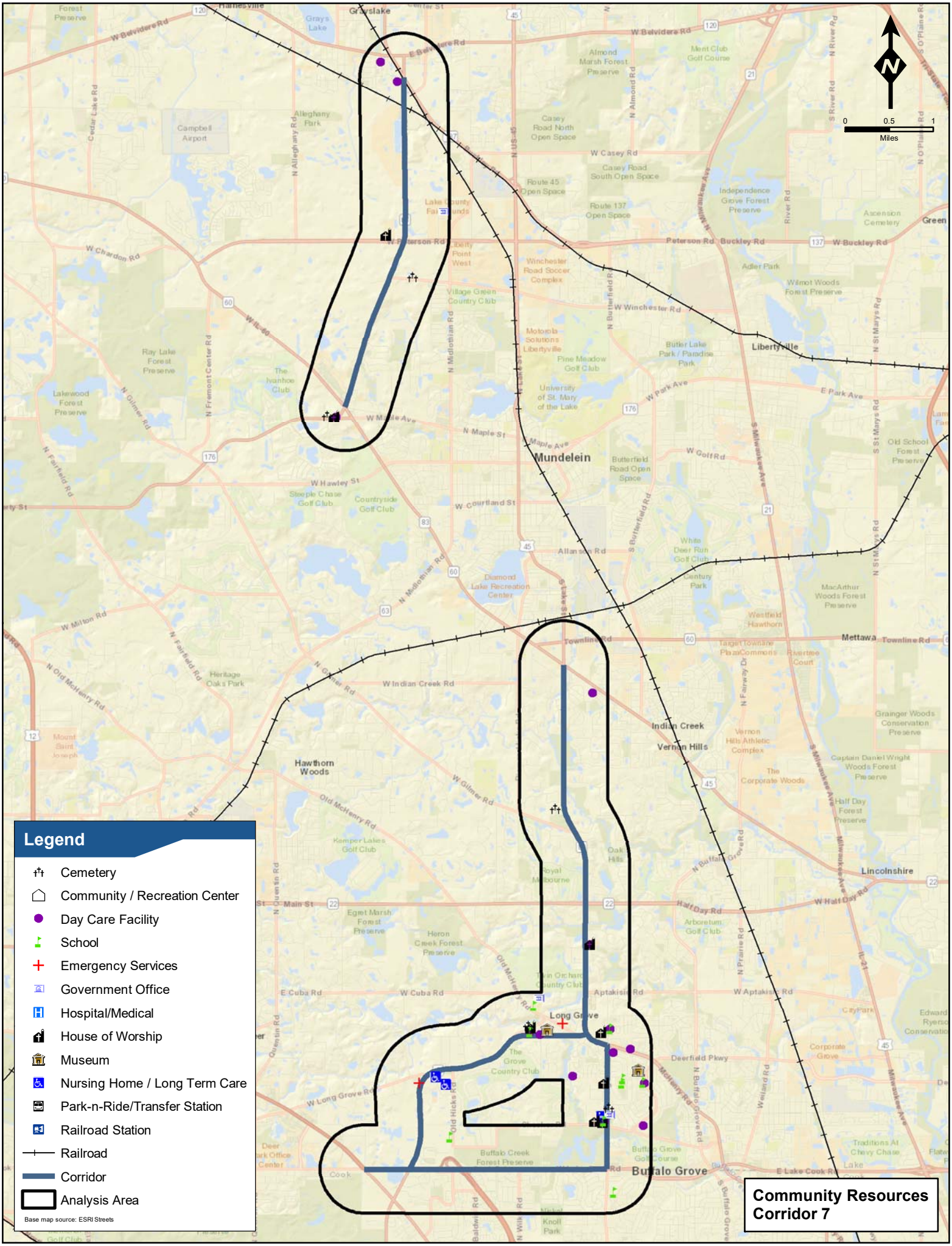

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Island Lake
Wauconda
Tower Lakes
Lake Barrington
North Barrington
Lake Zurich
Hawthorn Woods
Kildeer
Deer Park
Barrington
Inverness
Mundelein
Community Resources
Corridor 1 (Sheet 2 of 2)

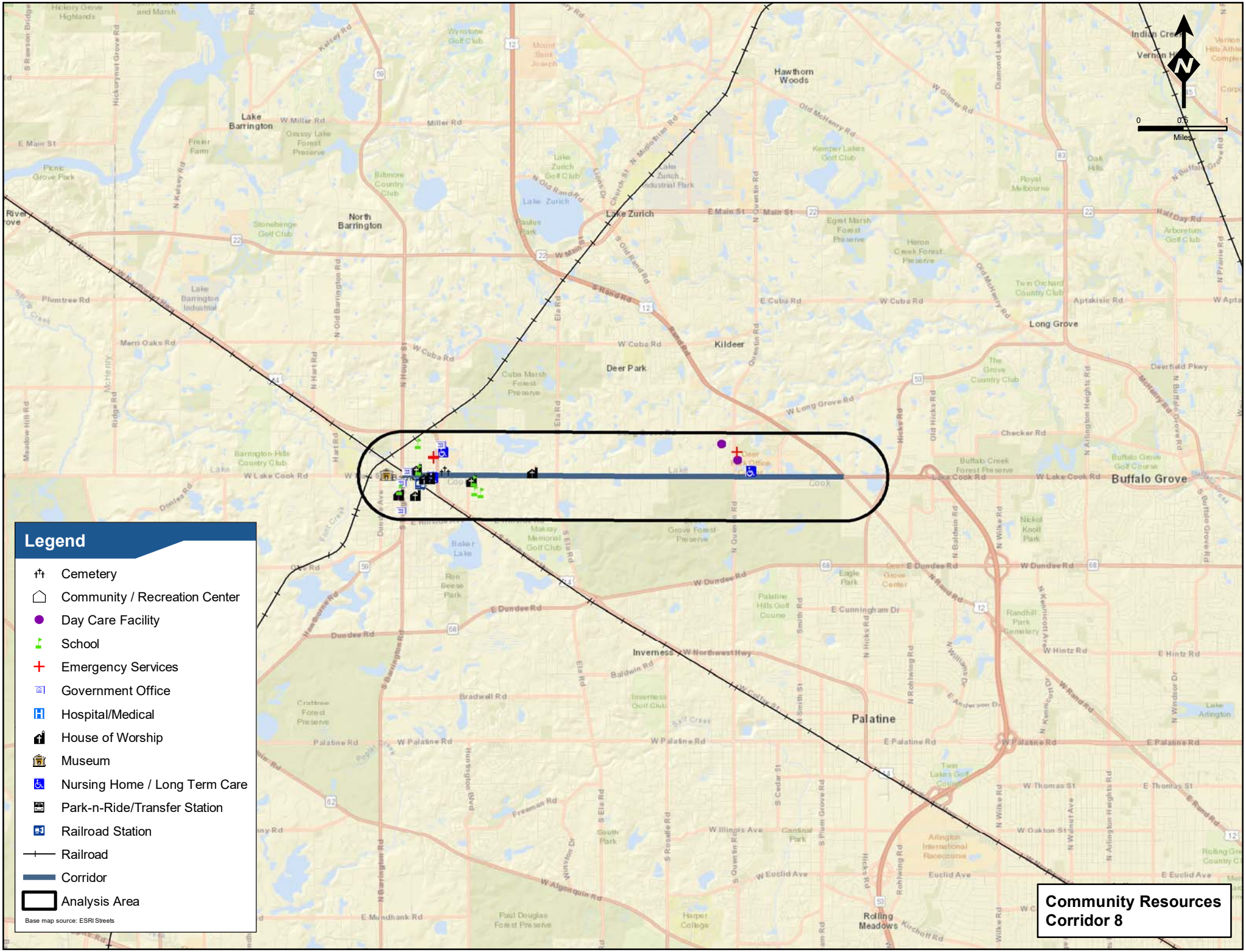

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 2
Lakemoor
Volo
Round Lake
Round Lake Park
Hainesville
Grayslake
Third Lake
Wauconda
Mundelein
Holiday Hills
Tower Lakes

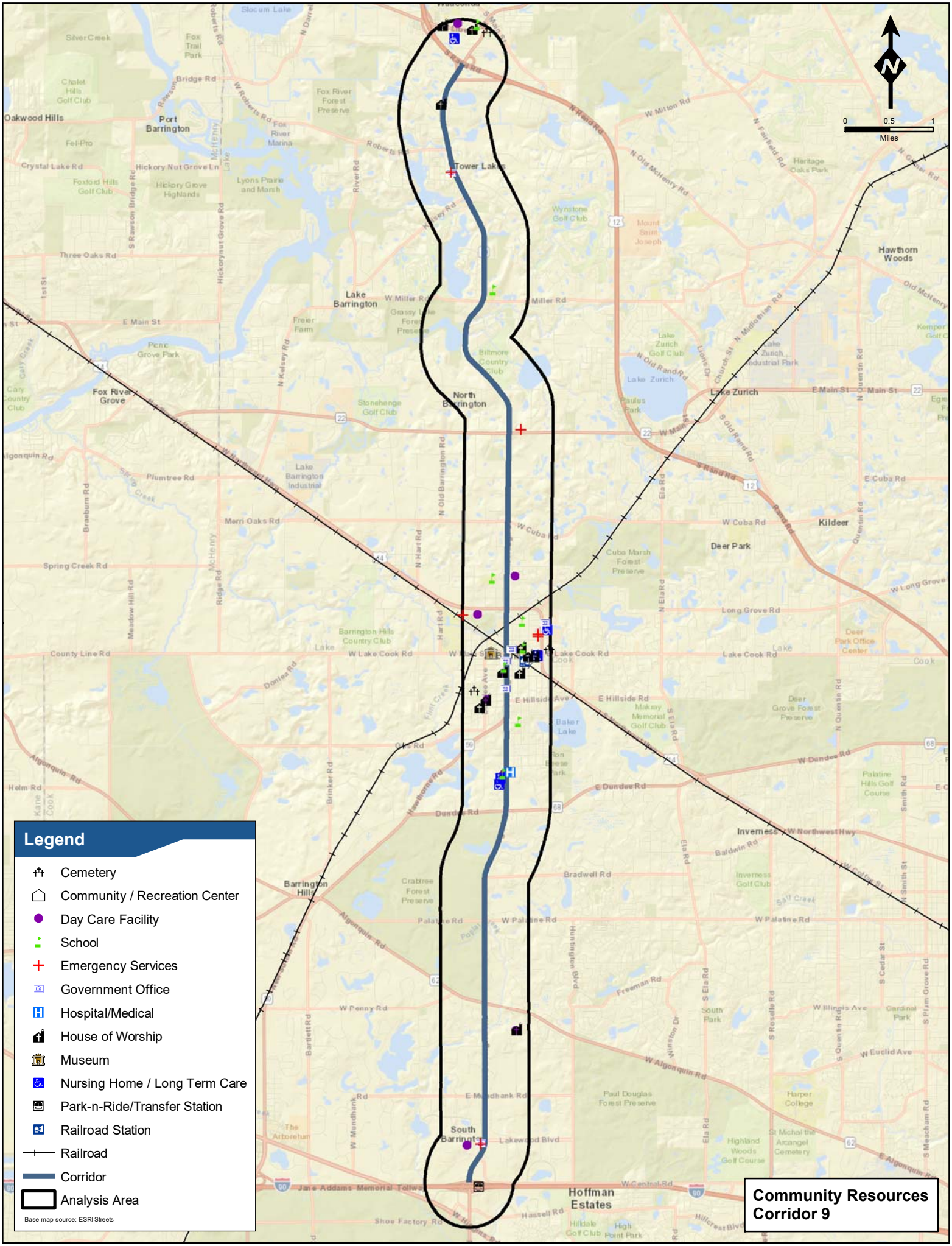

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 3
Hainesville
Grayslake
Gages Lake
Green Oaks
Libertyville
Mundelein
Mettawa
Indian Creek
Vernon Hills
Lincolnshire
Long Grove

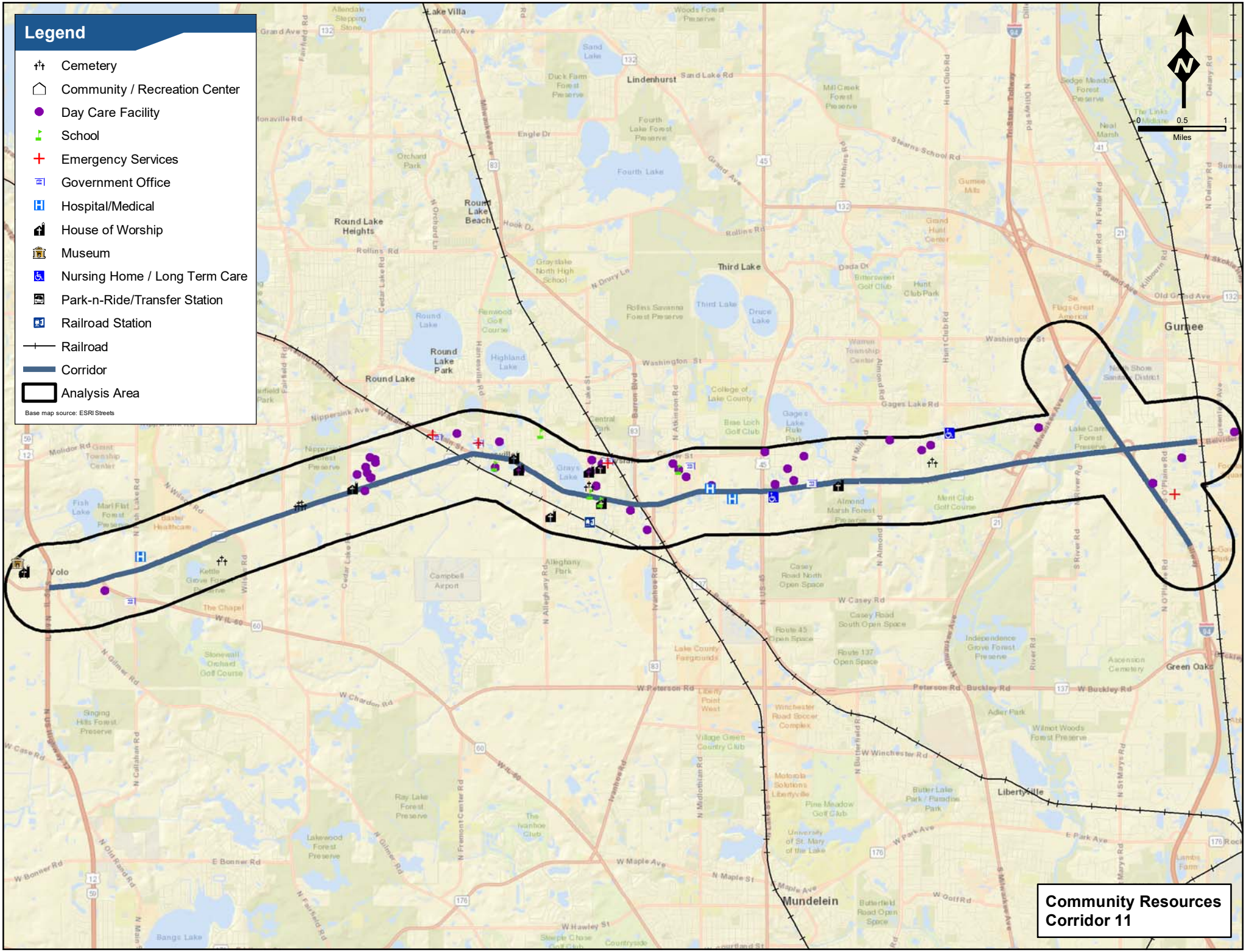

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 4
Mundelein
Wauconda
Tower Lakes
Lake Barrington
Hawthorn Woods
Lake Zurich
Kildeer
Deer Park
Long Grove
Buffalo Grove
Indian Creek
Vernon Hills
Mettawa
Lincolnshire

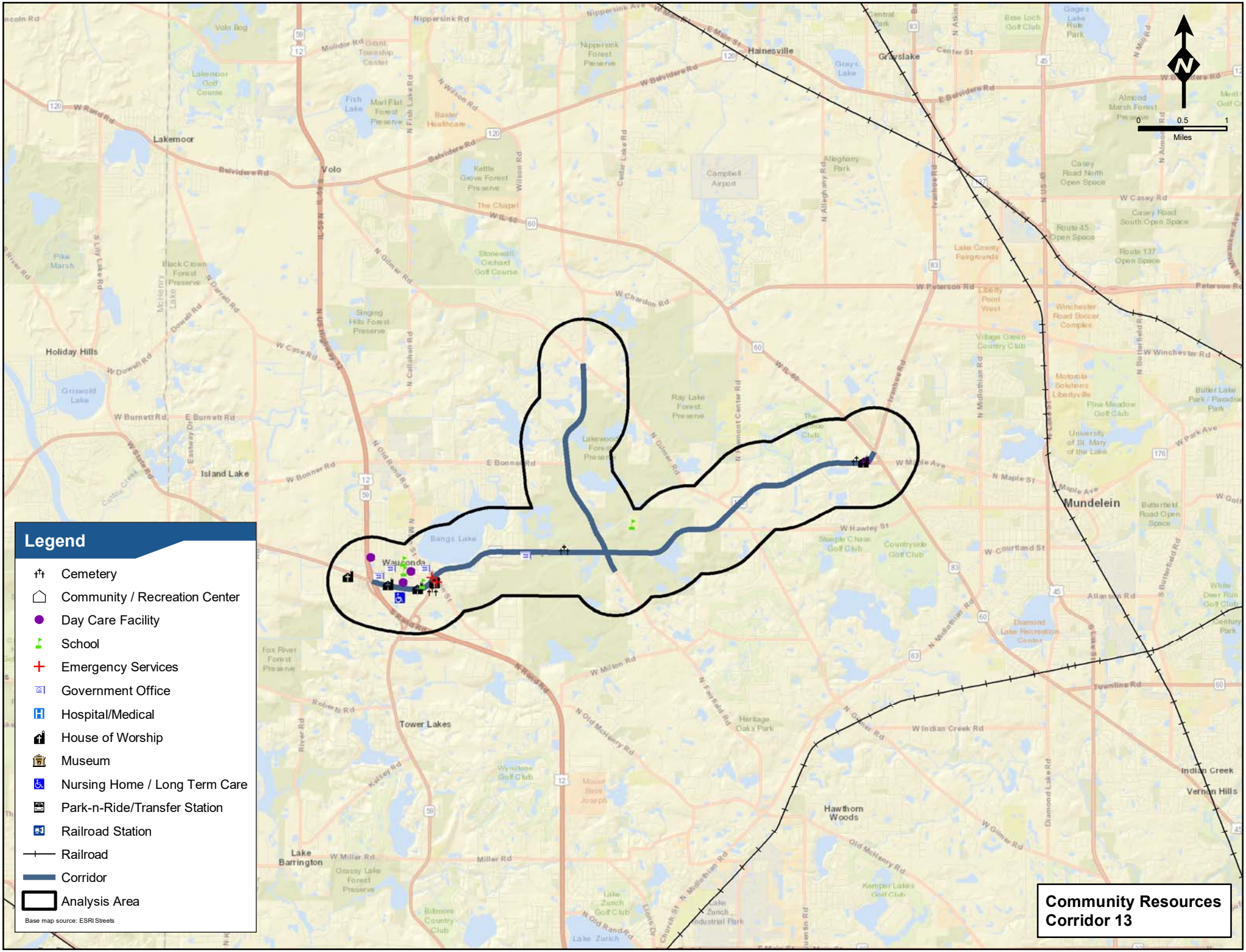

N
0
0.5
1
Miles
Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
Community Resources
Corridor 6
Buffalo Grove
Palatine
Arlington Heights
Rolling Meadows
Elk Grove Village
Long Grove
Deer Park
Kildeer
Inverness
Hoffman Estates
Prospect Heights

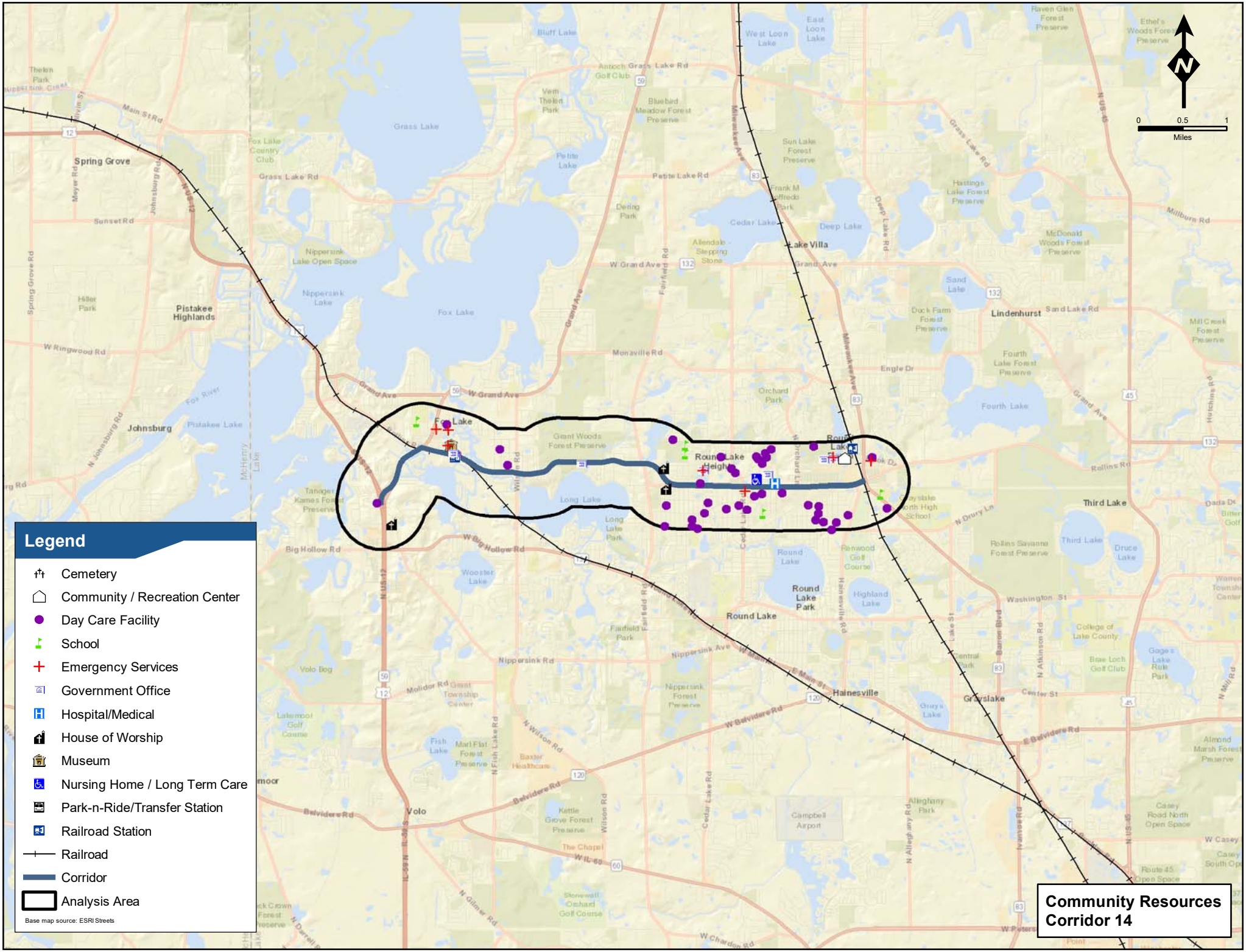

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Mundelein
Libertyville
Mettawa
Indian Creek
Vernon Hills
Hawthorn Woods
Lincolnshire
Long Grove
Buffalo Grove
Community Resources
Corridor 7

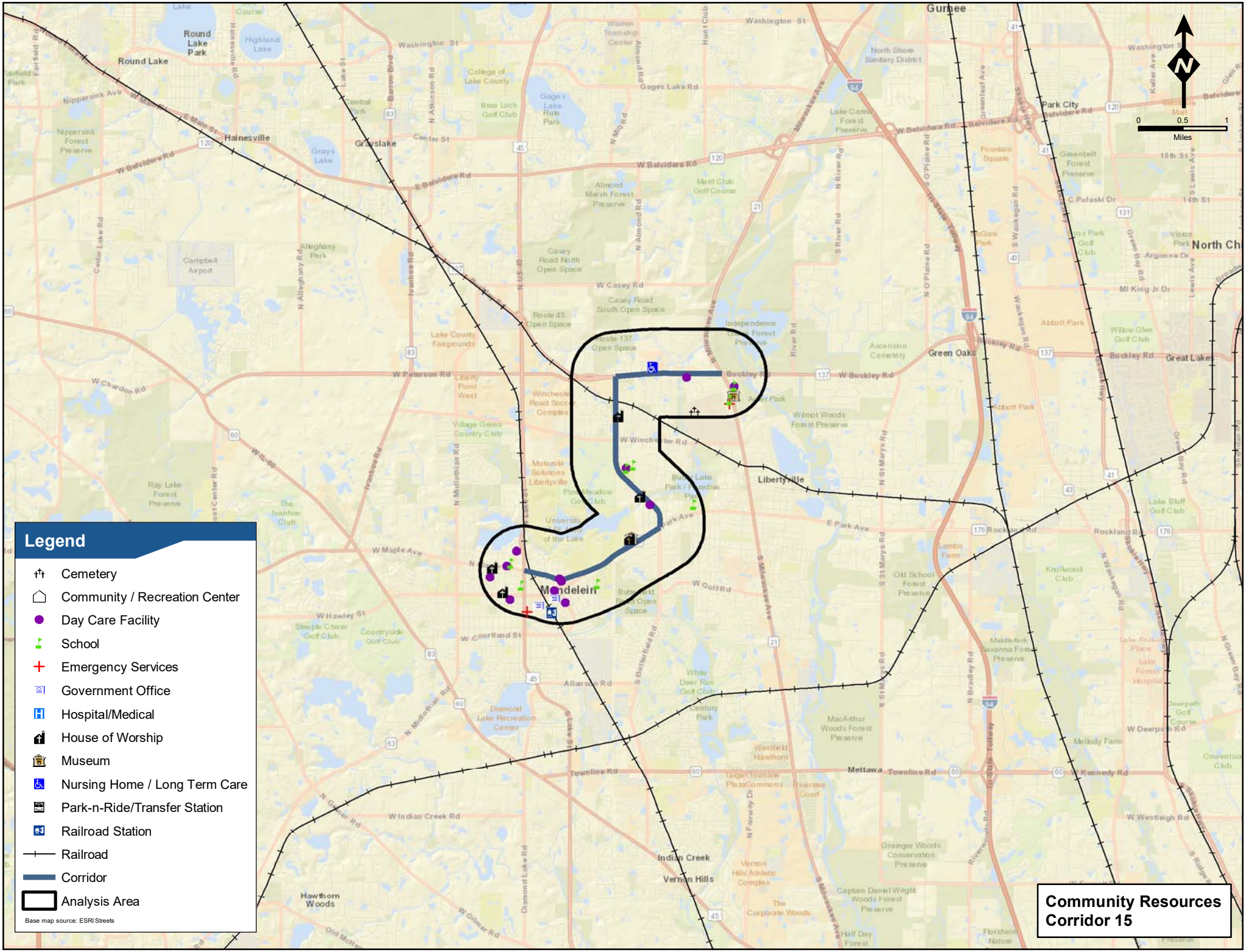

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 8
Lake Barrington
North Barrington
Lake Zurich
Hawthorn Woods
Kildeer
Deer Park
Long Grove
Buffalo Grove
Inverness
Palatine
Rolling Meadows

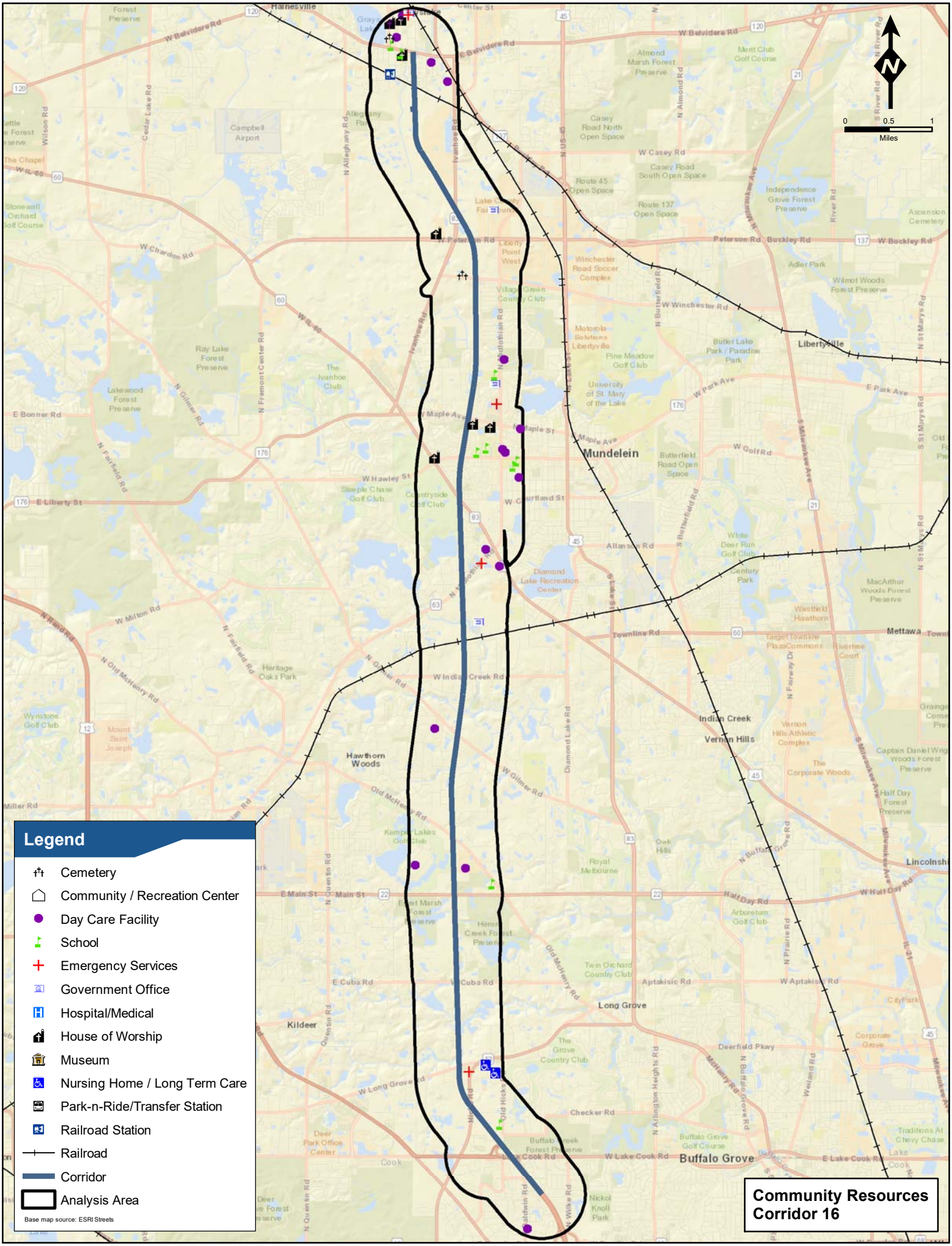

N
0
0.5
1
Miles
Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
Community Resources
Corridor 9
Tower Lakes
Lake Barrington
North Barrington
Lake Zurich
Hawthorn Woods
Fox River Grove
Port Barrington
Oakwood Hills
Kildeer
Deer Park
Inverness
Barrington Hills
South Barrington
Hoffman Estates

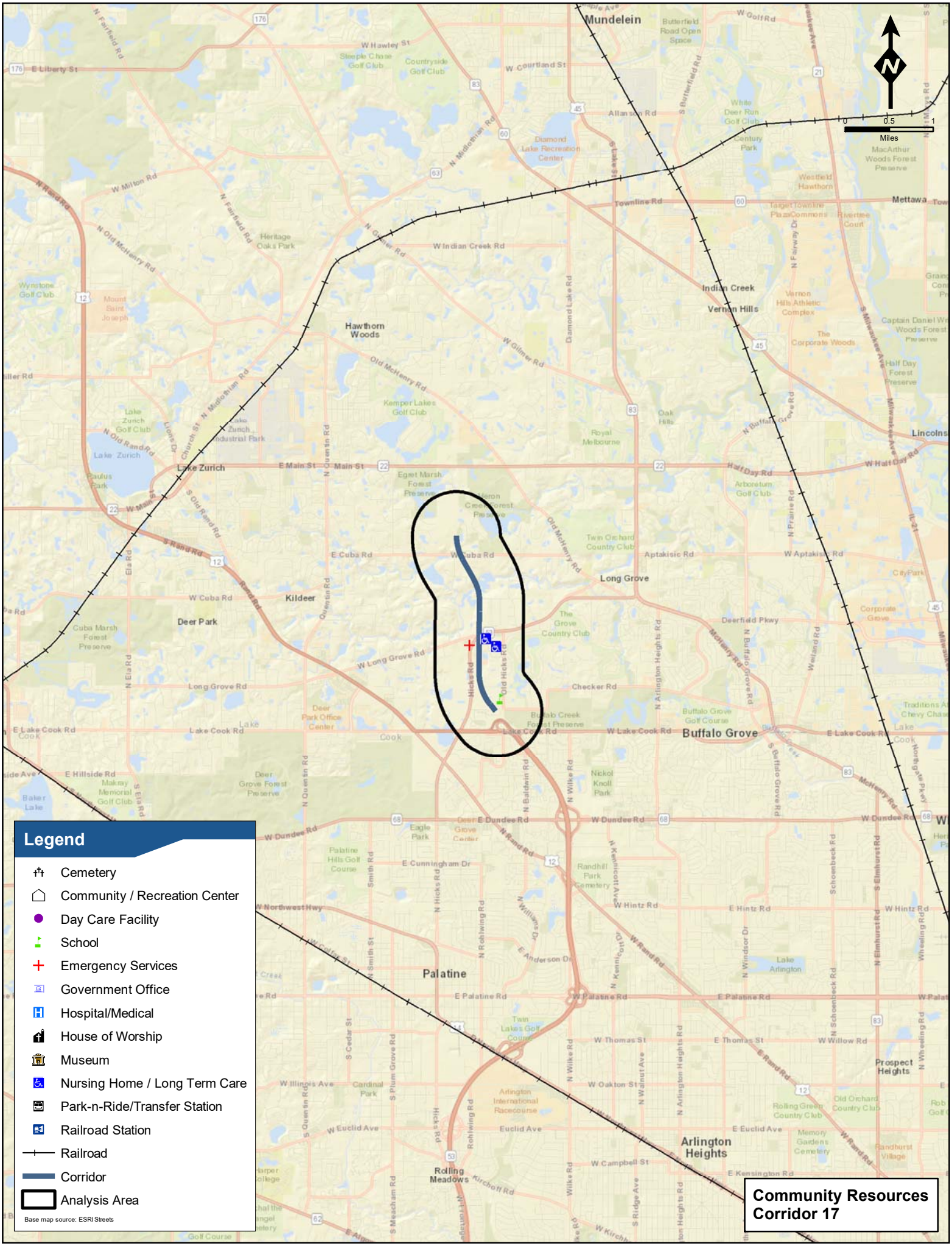

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0 0.5 1
Miles
Community Resources
Corridor 11
Lake Villa
Lindenhurst
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Third Lake
Gurnee
Volo
Mundelein
Libertyville
Green Oaks

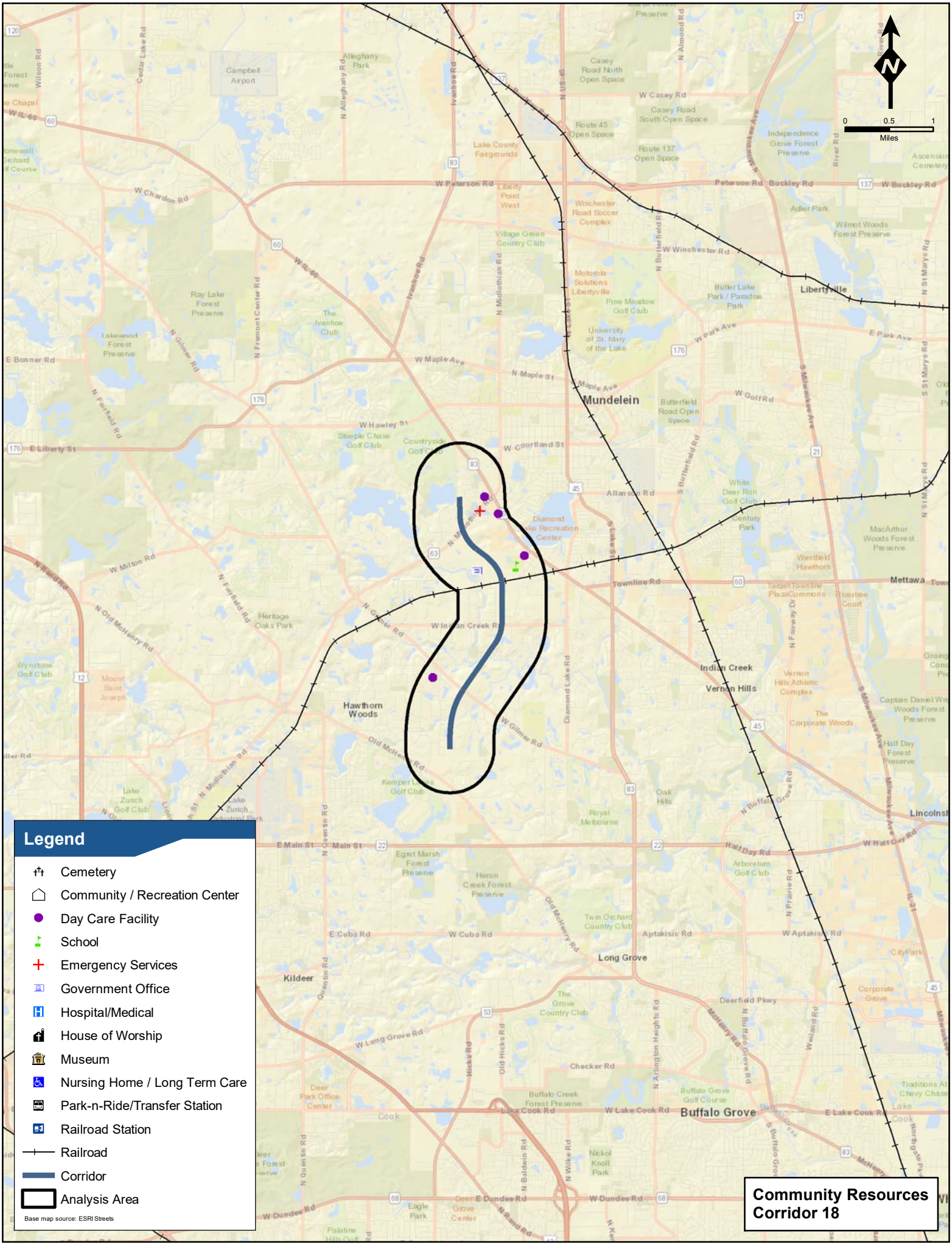

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 13
Lakemoor
Volo
Hainesville
Grayslake
Holiday Hills
Island Lake
Mundelein
Tower Lakes
Lake Barrington
Hawthorn Woods
Indian Creek
Vernon Hills
Wauconda

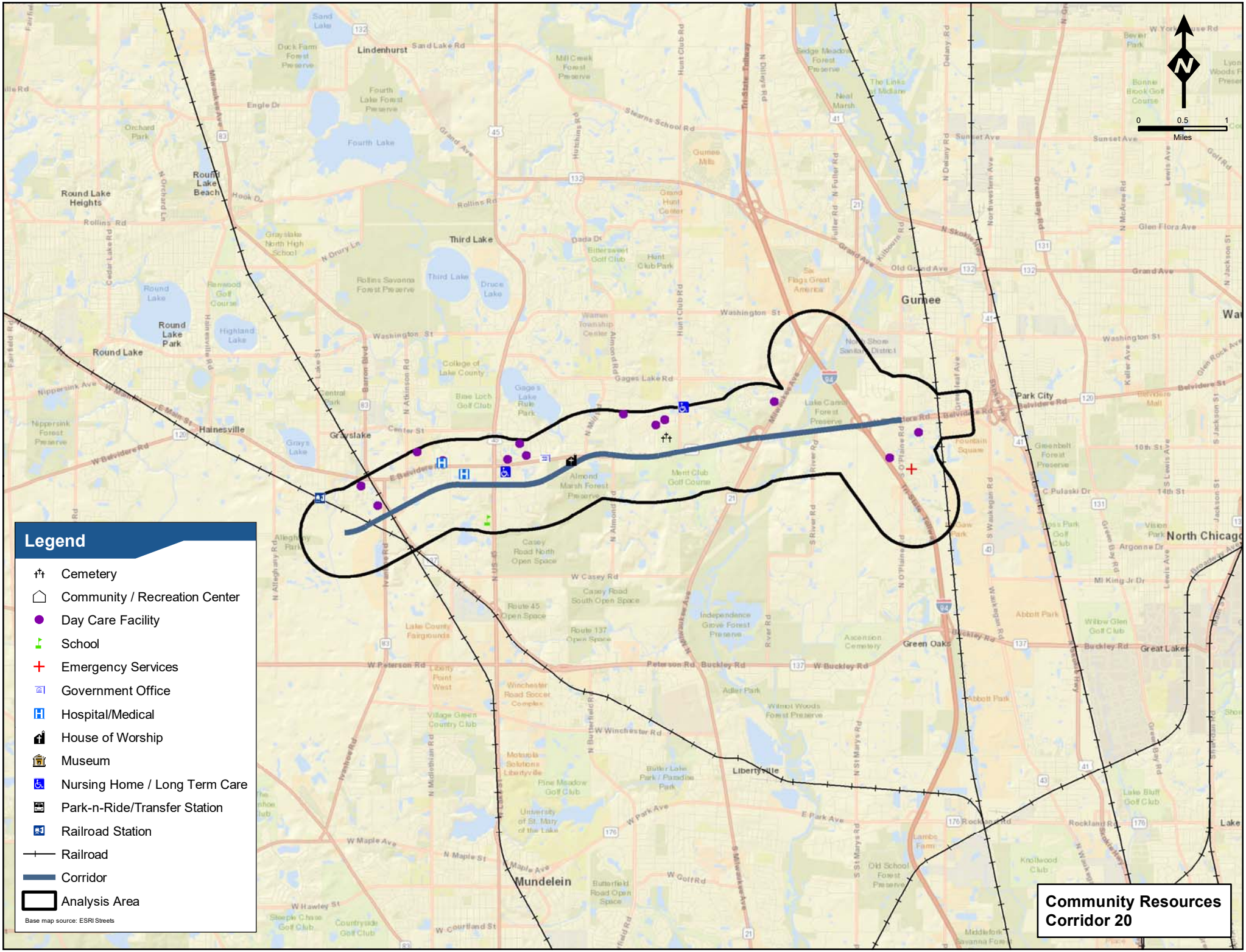

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 14
Spring Grove
Pistakee Highlands
Johnsburg
Fox Lake
Lake Villa
Lindenhurst
Round Lake
Round Lake Park
Round Lake Heights
Third Lake
Hainesville
Grayslake
Volo
Grass Lake
Nippersink Lake
Petite Lake
Cedar Lake
Deep Lake
Sand Lake
Fourth Lake
Long Lake
Wooster Lake
Volo Bog
Fish Lake
Bluff Lake
West Loon Lake
East Loon Lake
Sun Lake
Orchard Park
Campbell Airport
Allendale - Stepping Stone
Grass Lake Rd
Petite Lake Rd
W Grand Ave
Grand Ave
Monaville Rd
Engle Dr
Sand Lake Rd
Millburn Rd
Rollins Rd
N Drury Ln
Washington St
Nippersink Rd
W Belvidere Rd
E Belvidere Rd
Belvidere Rd
Center St
Big Hollow Rd
W Ringwood Rd
Sunset Rd
Main St Rd
Antioch Grass Lake Rd
Fox River
McHenry
Lake

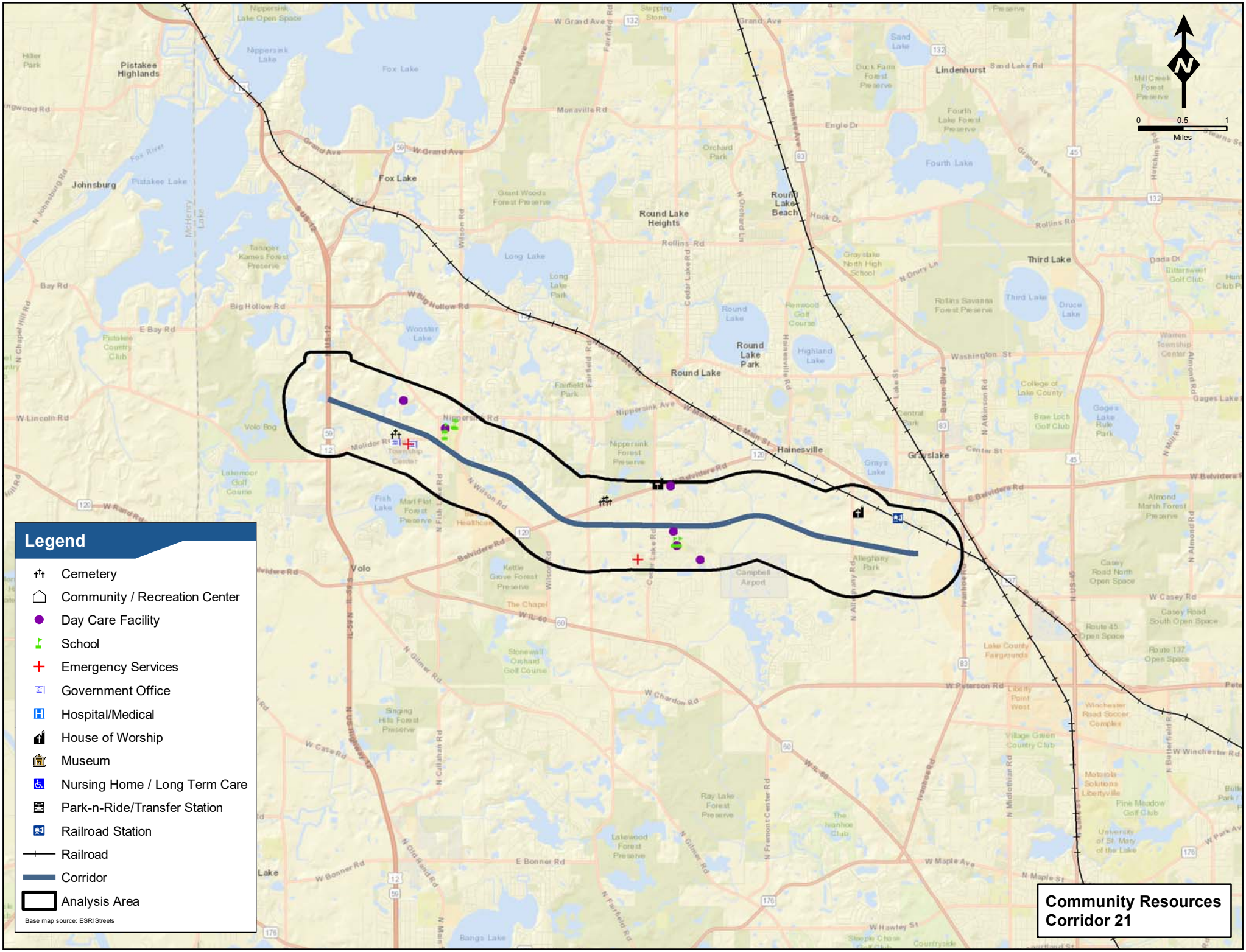

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 15
Gurnee
Round Lake
Round Lake Park
Hainesville
Grayslake
Park City
North Ch
Green Oaks
Great Lakes
Libertyville
Mundelein
Mettawa
Indian Creek
Vernon Hills
Hawthorn Woods

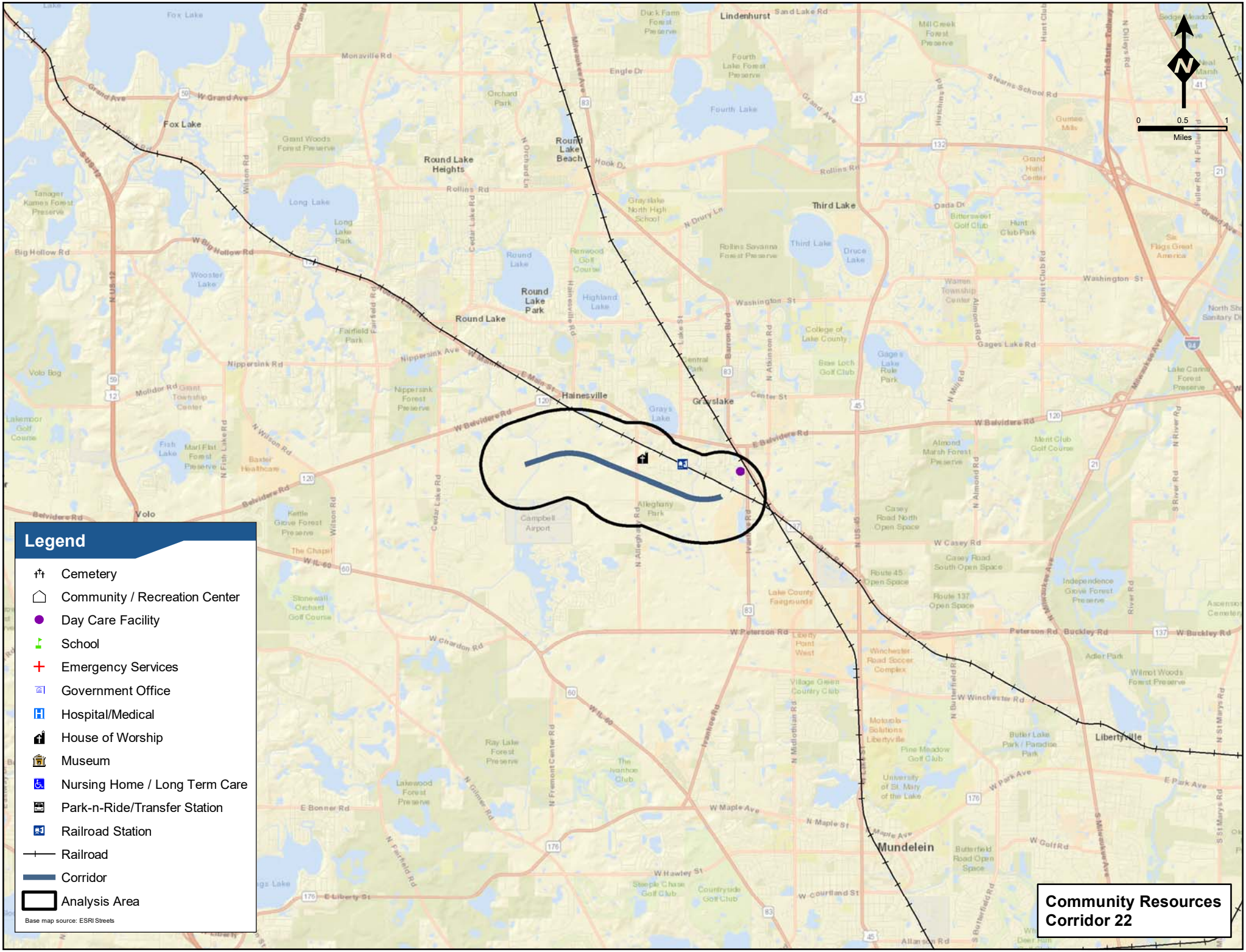

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 16
Hainesville
Mundelein
Libertyville
Vernon Hills
Indian Creek
Hawthorn Woods
Mettawa
Long Grove
Buffalo Grove
Kildeer
Lincolnshire

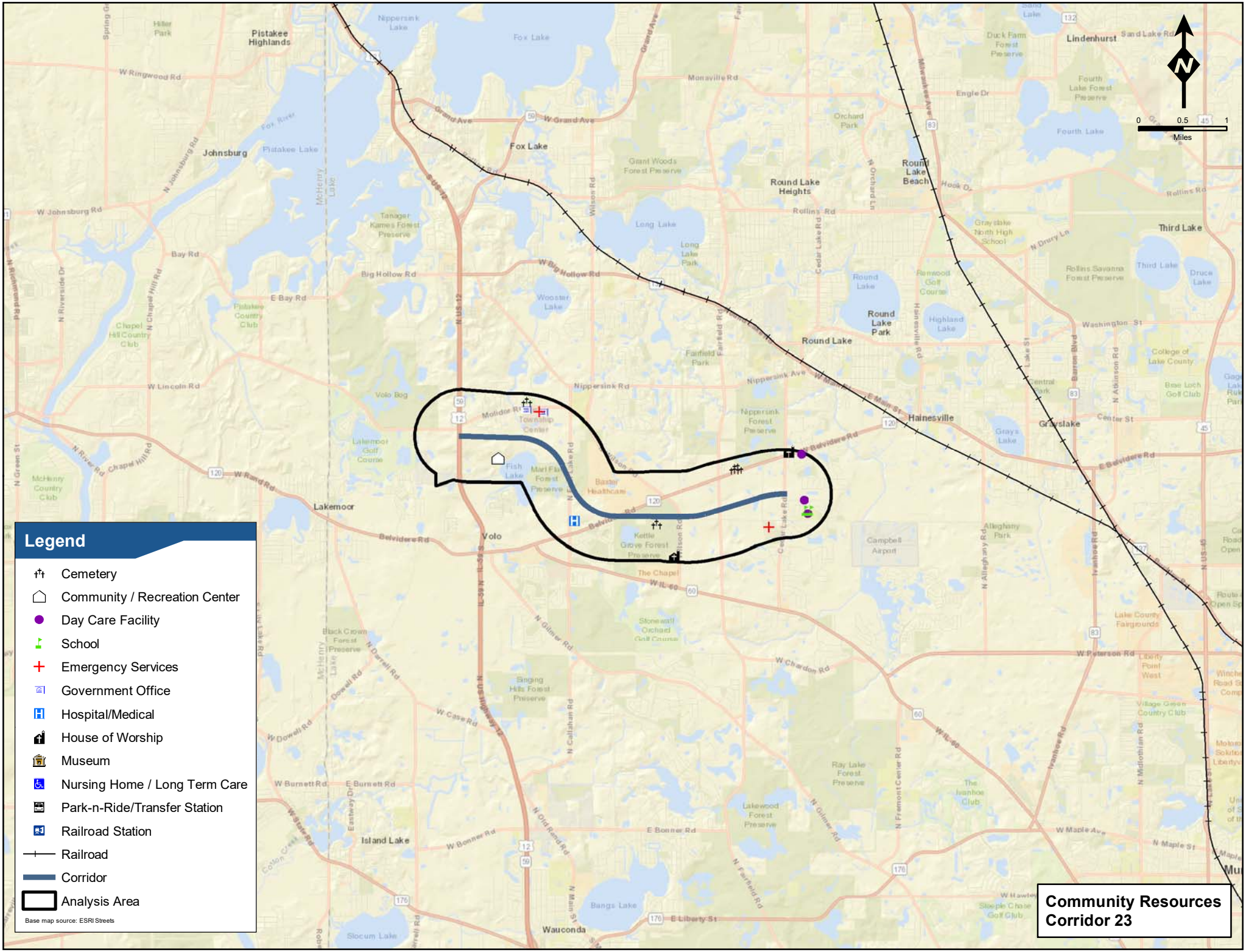

Mundelein
Hawthorn Woods
Indian Creek
Vernon Hills
Mettawa
Lincolnshire
Lake Zurich
Kildeer
Deer Park
Long Grove
Buffalo Grove
Palatine
Prospect Heights
Arlington Heights
Rolling Meadows
N
0
0.5
1
Miles
Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
Community Resources
Corridor 17

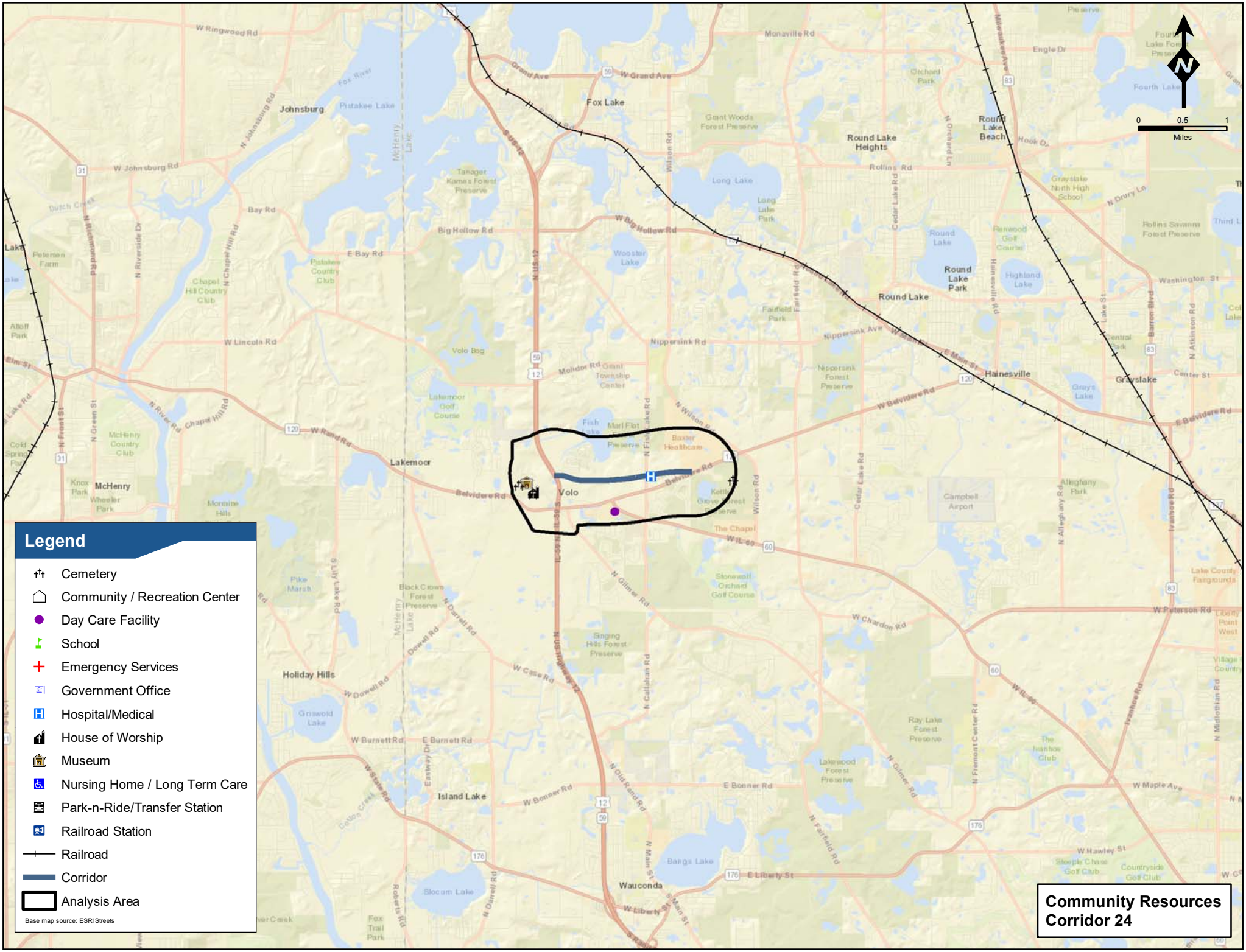

N
0
0.5
1
Miles
Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
Community Resources
Corridor 18
Mundelein
Libertyville
Mettawa
Indian Creek
Vernon Hills
Hawthorn Woods
Long Grove
Buffalo Grove
Lincolnshire
Kildeer

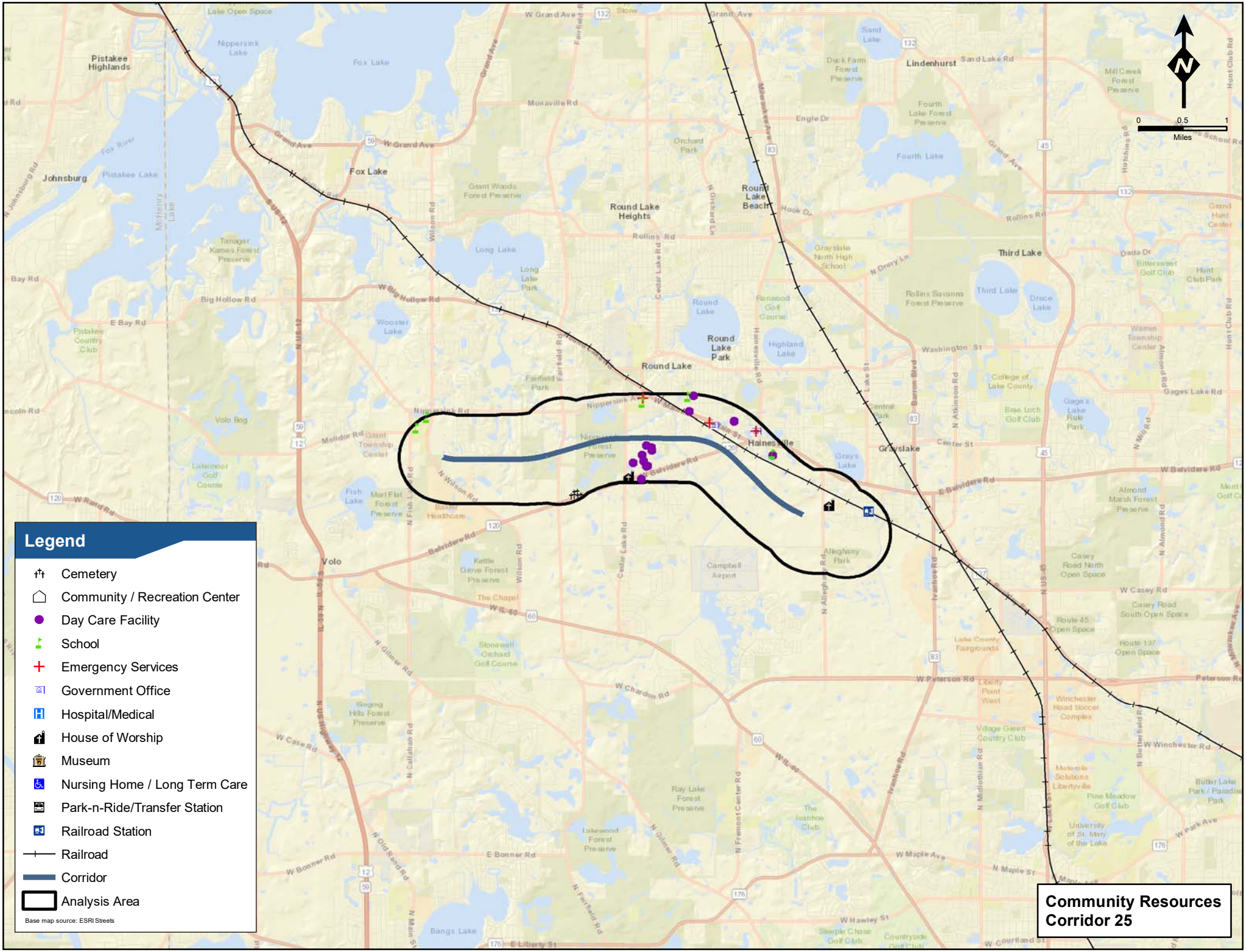

Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 20
Lindenhurst
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Third Lake
Grayslake
Hainesville
Gurnee
Park City
North Chicago
Green Oaks
Libertyville
Mundelein


Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 21
Pistakee Highlands
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Lindenhurst
Third Lake
Round Lake
Round Lake Park
Hainesville
Grayslake
Volo
Lake


Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0 0.5 1
Miles
Community Resources
Corridor 22
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Lindenhurst
Third Lake
Hainesville
Grayslake
Volo
Mundelein
Libertyville


Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0 0.5 1
Miles
Community Resources
Corridor 23
Pistakee Highlands
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Lindenhurst
Third Lake
Hainesville
Grayslake
Lakemoor
Volo
Island Lake
Wauconda


Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0 0.5 1
Miles
Community Resources
Corridor 24
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Hainesville
Grayslake
Lakemoor
McHenry
Volo
Holiday Hills
Island Lake
Wauconda


Legend
Cemetery
Community / Recreation Center
Day Care Facility
School
Emergency Services
Government Office
Hospital/Medical
House of Worship
Museum
Nursing Home / Long Term Care
Park-n-Ride/Transfer Station
Railroad Station
Railroad
Corridor
Analysis Area
Base map source: ESRI Streets
N
0
0.5
1
Miles
Community Resources
Corridor 25
Pistakee Highlands
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Lindenhurst
Third Lake
Grayslake
Hainesville
Volo
Monaville Rd
W Grand Ave
Rollins Rd
Big Hollow Rd
E Bay Rd
Nippersink Rd
Belvidere Rd
W Belvidere Rd
E Belvidere Rd
Center St
Washington St
Gages Lake Rd
W Rand Rd
W Casey Rd
W Peterson Rd
W Chardon Rd
W Maple Ave
W Hawley St
E Bonner Rd
W Bonner Rd
E Liberty St
W Winchester Rd
W Park Ave
Fox River
Pistakee Lake
Fox Lake
Nippersink Lake
Long Lake
Round Lake
Third Lake
Druce Lake
Highland Lake
Grays Lake
Volo Bog
Bangs Lake
Lakemoor Golf Course
Pistakee Country Club
Rensood Golf Course
Bittersweet Golf Club
Blue Loch Golf Club
Pine Meadow Golf Club
Village Green Country Club
Lake County Fairgrounds
Campbell Airport
Grayslake North High School
College of Lake County
Rollins Savanna Forest Preserve
Grant Woods Forest Preserve
Orchard Park
Fairfield Park
Central Park
Gages Lake Rule Park
Hunt Club Park
Grand Hunt Center
Almond Marsh Forest Preserve
Casey Road North Open Space
Casey Road South Open Space
Route 45 Open Space
Route 137 Open Space
Butler Lake Park / Paradise Park
Liberty Point West
Winchester Road Soccer Complex
Motorola Solutions Libertyville
University of St. Mary of the Lake
Stonewall Orchard Golf Course
Singing Hills Forest Preserve
Ray Lake Forest Preserve
Lakewood Forest Preserve
Marl Flat Forest Preserve
Kettle Grove Forest Preserve
Nippersink Forest Preserve
Grant Township Center
Wauconda Township Center
Warren Township Center
Tanager Kames Forest Preserve
Mill Creek Forest Preserve
Fourth Lake Forest Preserve
Duck Farm Forest Preserve
Almond Marsh Forest Preserve
Allegheny Park
Sand Lake
Fish Lake
Wooster Lake
Long Lake Park
Lake St
Barron Blvd
Ivanhoe Rd
Cedar Lake Rd
Wilson Rd
Fairfield Rd
Hainesville Rd
N Almond Rd
N Mill Rd
N Atkinson Rd
N Midlothian Rd
N Butterfield Rd
N Fremont Center Rd
N Gilmer Rd
N Callahan Rd
N Old Rand Rd
N Fairfield Rd
N Maple St
N Milwaukee Ave
N Orchard Ln
N Drury Ln
Hook Dr
Engle Dr
Dada Dr
Sand Lake Rd
Hunt Club Rd
Horshins Rd
Grand Ave
Milwaukee Ave
Fairfield Rd
Wilson Rd
Cedar Lake Rd
Hainesville Rd
Lake St
Barron Blvd
Ivanhoe Rd
N Almond Rd
N Mill Rd
N Atkinson Rd
N Midlothian Rd
N Butterfield Rd
N Fremont Center Rd
N Gilmer Rd
N Callahan Rd
N Old Rand Rd
N Fairfield Rd
N Maple St
N Milwaukee Ave
N Orchard Ln
N Drury Ln
Hook Dr
Engle Dr
Dada Dr
Sand Lake Rd
Hunt Club Rd
Horshins Rd
Grand Ave
Milwaukee Ave
Fairfield Rd
Wilson Rd
Cedar Lake Rd
Hainesville Rd
Lake St
Barron Blvd
Ivanhoe Rd
N Almond Rd
N Mill Rd
N Atkinson Rd
N Midlothian Rd
N Butterfield Rd
N Fremont Center Rd
N Gilmer Rd
N Callahan Rd
N Old Rand Rd
N Fairfield Rd
N Maple St

Attachment B: References

References

Chicago Metropolitan Agency for Planning (CMAP). 2012. *Freight Trains per day, 7-County Chicago Region, 2011*. Available at https://www.cmap.illinois.gov/mobility/freight/freight-data-resources.

Illinois Department of Transportation (IDOT). 2018. *Bureau of Design and Environment Manual*.

Meadows, J. 2019. *Launch Date for Metra's Reverse-Commute Pilot Schedule Announced*. Available at https://patch.com/illinois/lakeforest/launch-date-metras-reverse-commute-pilot-schedule-announced.

Pace. n.d.[a]. *Park-n-Ride Locations*. Available at http://www.pacebus.com/sub/bus_system/park_n_ride.asp.

Pace. n.d.[b]. *Transportation and Transfer Centers*. Available at http://www.pacebus.com/sub/bus_system/transit_centers.asp

Regional Transportation Authority Mapping and Statistics (RTAMS). 2016. *Metra Ridership Data*. http://rtams.org.

Regional Transportation Authority Mapping and Statistics (RTAMS). 2018. *Pace Ridership Data*. http://rtams.org.

World Atlas. 2017. The Busiest Airports in the US. Available at https://www.worldatlas.com/articles/busiest-airports-in-united-states.html.

TECHNICAL MEMORANDUM #4

Cultural Resources

Cultural Resources

This memo details the affected environment for cultural resources along the initial range of alternatives. Photographs of select properties can be found in Attachment A.

1.0 Resource Introduction

Cultural resources include historic and archaeological sites. These resources follow the U.S. Department of the Interior National Park Service (NPS) Categories of Historic Properties associated with the National Historic Preservation Act. These categories include buildings, structures, objects, sites, and districts.

2.0 Methodology

As indicated in the Cultural Resources methodology memo, cultural resources in the analysis area were identified and located using readily available information from secondary sources (see Section 5.0 References). A desktop survey of available geographic information system (GIS) information was conducted in August and September 2018. Field verifications were completed September 25 and 26, and October 2 and 3, 2018. Based on field verifications, modifications to the GIS layer were made. Cultural resources were identified within a defined analysis area of 0.25 mile from the approximate centerline (0.5-mile total width) for all corridors.

3.0 TCA Study Area

The TCA study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA study area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

The study area is within the Morainal Section of the Northeastern Morainal Division (Schwegman 1973). The Morainal Section covers areas affected by the late advances of the Woodfordian substage of the Wisconsinan glaciation (22,000 to 12,500 BP [Willman 1971:421]). Studies suggest that this area may contain some earliest human occupation in the Upper Midwest.

A major premise for models of prehistoric site location is that human use of the landscape should follow their resource productivity potential. Aquatic and marsh environments are extremely rich resource areas and are highly productive in aggregated, easily-harvested plant foods such as bulrush, tubers, duck potatoes, American lotus and wild rice as well as materials used in manufacturing mats, clothing and twine. These resource areas also provide high yields of animals such as deer, muskrat, beaver, and many types of fish, fresh water mussels, turtles, and waterfowl. Hardwood forests provide plant food such as acorn, nuts, fruits and sap and wood fir fires and shelter. Fox, squirrel, raccoon and other small mammals would also be available for hunting. Although less productive as a source of human plant foods, savannas provide a similar variety of animal resources, particularly deer. Savannas are also potentially good locations for aboriginal horticulture and early pioneer agriculture (Jeske 1989).

Historic settlement in the study area began in the 1830s within the Des Plaines River and Fox River Valleys. Similar to prehistoric settlement patterns, people typically like to live by a constant water source. Population greatly increased within the 1860s with the spread of the railroad west. Many small settlements were passed up by the railroad, while many new towns and cities were created along the

new railroad lines. Most structures that have been identified within this study date from the 1860s forward.

4.0 System Alternative Corridors

Figures showing cultural resource sites are at the end of this section.

4.1 Corridor 1

4.1.1 Historic Resources

One historic property was identified along Corridor 1 (Table 1). The building has been razed. Its eligibility for listing on the National Register of Historic Places (National Register or NRHP) is undetermined.

Table 1. Historic Properties listed on HARGIS within the Analysis Area Along Corridor 1

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Wauconda	20.1	Old Rand Rd @ Bohner Rd.	Razed	163424	Undetermined	NA

4.1.2 Archaeological Resources

A total of 16 archaeological sites (10 historic and 6 prehistoric) were identified during the database review along Corridor 1 (Table 2). Four sites have not been reviewed for their eligibility for listing on the NRHP, 9 sites are not eligible, and 3 sites are potentially eligible. The potentially eligible sites are also protected by the Human Skeletal Remains Preservation Act (HSRPA).

Table 2. Archaeological Sites within the Analysis Area Along Corridor 1

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
McHenry	US 12	5.0	11Mh266	Historic	Not Reviewed
Lake	US 12	10.1	11L50	Prehistoric	Potentially Eligible*
Lake	US 12	11.9	11L766	Historic	Not Eligible
Lake	US 12	14.7	11L136	Prehistoric	Not Reviewed
Lake	US 12	14.7	11L146	Historic	Not Reviewed
Lake	US 12	17.2	11L816	Prehistoric	Not Eligible
Lake	US 12	17.3	11L817	Historic	Not Eligible
Lake	US 12	25.5	11L762	Historic	Not Eligible
Lake	US 12	25.9	11L736	Historic	Not Eligible
Lake	US 12	26.5	11L34	Prehistoric	Potentially Eligible*
Lake	US 12	28.0	11L622	Prehistoric	Not Eligible
Lake	US 12	30.5	11L568	Historic	Not Eligible
Lake	US 12	30.7	11L572	Historic	Potentially Eligible*

Table 2. Archaeological Sites within the Analysis Area Along Corridor 1

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	US 12	30.8	11L567	Historic	Not Eligible
Lake	US 12	30.9	11L632	Historic	Not Eligible
Cook	US 12	32.0	11CK25*	Prehistoric	Not Reviewed

* Site is also protected by HSRPA burial law

4.2 Corridor 2

4.2.1 Historic Resources

No historic properties were identified along Corridor 2.

4.2.2 Archaeological Resources

Six archaeological sites (five historic and one prehistoric) were identified during the database review along Corridor 2 (Table 3). Five sites are not eligible for listing on the NRHP, and one site is recommended for Phase II testing.

Table 3. Archaeological Sites within the Analysis Area Along Corridor 2

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	IL 60	0.2	11L753	Historic	Recommended for Phase II Testing
Lake	IL 60	0.3	11L806	Historic	Not Eligible
Lake	IL 60	0.4	11L782	Prehistoric	Not Eligible
Lake	IL 60	0.4	11L783	Historic	Not Eligible
Lake	IL 60	3.0	11L659	Historic	Not Eligible
Lake	IL 60	6.7	11L846	Historic	Not Eligible

4.3 Corridor 3

4.3.1 Historic Resources

Seven historic properties were identified and visited along Corridor 3 (Table 4). All but one of the buildings have been razed. Eligibility for listing on the NRHP has not been determined for any of the properties.

Table 4. Historic Properties Listed on HARGIS within the analysis Area Along Corridor 3

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Mundelein	0.0	33 W. Maple St.	Razed	148275	Undetermined	NA

Table 4. Historic Properties Listed on HARGIS within the analysis Area Along Corridor 3

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Mundelein	0.0	140 W. Maple St.	Extant	148274	Undetermined	1
Lake	Mundelein	12.8	252 Seymour St.	Razed	148278	Undetermined	NA
Lake	Mundelein	13.6	427 Seymour St.	Razed	148277	Undetermined	NA
Lake	Mundelein	13.6	440 Seymour St.	Razed	147210	Undetermined	NA
Lake	Mundelein	13.7	502 Seymour St.	Razed	148276	Undetermined	NA
Lake	Mundelein	13.7	534 Seymour St.	Razed	148281	Undetermined	NA

4.3.2 Archaeological Resources

One archaeological site (historic) was identified during the database review along Corridor 3 (Table 5). It has been determined ineligible for listing on the NRHP.

Table 5. Archaeological Sites within the analysis area along Corridor 3

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	US 12	14.1	11L808	Historic	Not Eligible

4.4 Corridor 4

4.4.1 Historic Resources

One historic property was identified and visited along corridor 4 (Table 6), the Robert Parker Coffin Bridge over Buffalo Creek. It was listed on the NRHP on April 19th, 2018. The 41-foot structure consists of one steel Truss Bridge constructed in 1906 by the Joliet Bridge and Iron Company of Joliet (NRHP Registration Form 2018). A wood covering was built over the bridge in 1972. The bridge was nominated to the NRHP for local significance under Criterion C (Architecture) as a good example of a Pont Truss bridge and maintains good integrity (NRHP Registration Form 2018).

Table 6. Historic Properties listed on HARGIS within the Analysis Area Along Corridor 4

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Long Grove	7.5	Buffalo Creek Bridge	Extant	803167	Entered in the NRHP	2

4.4.2 Archaeological Resources

A total of 13 archaeological sites (10 historic and 3 prehistoric) were identified during the database review along Corridor 4 (Table 7). Twelve sites have been deemed ineligible for listing on the NRHP, and 1 site has not been reviewed.

Table 7. Archaeological Sites within the Analysis Area Along Corridor 4

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	N. Quentin Rd.	0.0	11L690	Historic	Not Eligible
Lake	N. Quentin Rd.	0.1	11L720	Historic	Not Eligible
Lake	N. Midlothian Rd.	0.8	11L531	Prehistoric	Not Eligible
Lake	Old McHenry Rd.	1.2	11L677	Historic	Not Eligible
Lake	Old McHenry Rd.	1.2	11L678	Prehistoric	Not Eligible
Lake	Old McHenry Rd.	1.5	11L679	Prehistoric	Not Eligible
Lake	Old McHenry Rd.	4.7	11L571	Historic	Not Eligible
Lake	Old McHenry Rd.	5.1	11L623	Historic	Not Eligible
Lake	Old McHenry Rd.	5.2	11L722	Historic	Not Eligible
Lake	Old McHenry Rd.	5.3	11L721	Historic	Not Eligible
Lake	Old McHenry Rd.	5.8	11L761	Historic	Not Eligible
Lake	Old McHenry Rd.	5.9	11L723	Historic	Not Eligible
Lake	Old McHenry Rd.	7.3	11L688	Historic	Not Reviewed

4.5 Corridor 6

4.5.1 Historic Resources

No historic properties were identified along Corridor 6.

4.5.2 Archaeological Resources

No archaeological sites were identified along Corridor 6.

4.6 Corridor 7

4.6.1 Historic Resources

Two historic properties were identified and visited during the database review along Corridor 7 (Table 8). The NRHP eligibility of the property on Peterson Road has not been determined. The Robert Parker Coffin Bridge over Buffalo Creek is listed on the NRHP. It was listed on the NRHP on April 19th, 2018. The 41-foot structure consists of one steel Truss Bridge constructed in 1906 by the Joliet Bridge and Iron Company of Joliet (NRHP Registration Form 2018). A wood covering was built over the bridge in 1972. The bridge was nominated to the NRHP for local significance under Criterion C (Architecture) as a good example of a Pont Truss bridge and maintains good integrity (NRHP Registration Form 2018).

Table 8. Historic Properties Listed on HARGIS within the Analysis Area Along Corridor 7

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Long Grove	2.5	Buffalo Creek Bridge	Extant	803167	Entered in the NRHP	2
Lake	Mundelein	14.5	Peterson Road	Extant	305360	Undetermined	NA

4.6.2 Archaeological Resources

A total of fourteen archaeological sites (twelve historic and two prehistoric) were identified during the database review along Corridor 7 (Table 9). Ten sites are not eligible for listing on the NRHP, three sites have not been reviewed, and one site is potentially eligible for listing on the NRHP. The potentially eligible site is also protected by the HSRPA.

Table 9. Archaeological Sites within the Analysis Area Along Corridor 7

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	Lake Cook Rd.	0.2	11Ck25	Prehistoric	Not Reviewed
Lake	IL 83	1.0	11L78	Prehistoric	Not Reviewed
Lake	Lake Cook Rd.	1.9	11L927	Historic	Not Eligible
Lake	Lake Cook Rd.	2.0	11L928	Historic	Not Eligible
Lake	IL 53	2.4	11L688	Historic	Not Reviewed
Lake	IL 83	4.2	11L492	Historic	Potentially Eligible*
Lake	IL 83	6.7	11L562	Historic	Not Eligible
Lake	IL 83	6.9	11L563	Historic	Not Eligible
Lake	IL 83	12.6	11L846	Historic	Not Eligible
Lake	IL 83	13.2	11L382	Historic	Not Eligible
Lake	IL 83	14.0	11L519	Historic	Not Eligible
Lake	IL 83	14.1	11L520	Historic	Not Eligible
Lake	IL 83	14.5	11L831	Historic	Not Eligible
Lake	IL 83	14.6	11L850	Historic	Not Eligible

* Site is also protected by HSRPA burial law

4.7 Corridor 8

4.7.1 Historic Resources

A total of 54 historic properties were identified and visited along Corridor 8 (Table 10). Of the 54 properties, 9 have been razed. The 45 extant resources include: 1 National Register Historic District (NRHD), Barrington Historic District; 7 properties identified as part of the NRHD; 3 NRHP-listed properties; and 34 properties that are undetermined.

The following is a summary of resources listed on the NRHP along the corridor:

- Barrington National Register Historic District (NRHD). The Barrington NRHD is roughly bounded by Dundee, W. Coolidge, E. Hillside, and S. Grove avenues, and S. Hough, E. Lake, Main, N. Garfield, and E. Applebee streets. It is composed of the residences and streetscapes located through downtown Barrington. The district is comprised of homogeneous mixture of important historical architectural styles. Architectural styles of special interest are Vernacular, Greek Revival, Gothic Revival, Italianate, Queen Anne, Neo-Classical, and Craftsman Styles (NRHP Registration Form 1987). Seven extant structures within the corridor are part of the NRHD, listed in Table 10. (There are also two razed structures listed in the table within the NRHD.) The district meets two of the Criteria (A and C) for Evaluation for the NRHP.
- John Robertson House. This property is located at 145 W. Main Street in Barrington (within the NRHD). This Classical Revival House was built in 1898 in the form of a Foursquare (NRHP Registration Form 2013). The house has excellent integrity on the major elevations and in the public spaces of the house. The house is listed on the NRHP under Criterion C.
- Octagon House. This property is located at 223 West Main Street Barrington (within the NRHD). The Octagon house is an eight-sided wood framed house built sometime between 1850 and 1870. The houses most notable features are the carved and jig-sawed brackets supporting the rood of the porch (NRHP Registration Form 1978). The house meets Criterion C for its architectural style.
- Catlow Theater. This property is located at 112-116 West Main Street Barrington (within the NRHD). The Catlow Theatre is a small movie and vaudeville theatre built in 1927 by local resident Wright Catlow (NRHP Registration Form 1989). The theatre was designed in the Tudor Revival style by architectural firm Betts and Holcomb, with interior design by Alfonso Iannelli. The theater retains a high degree of integrity with only a few modifications. The Catlow meets Criterion A, for entertainment and recreational history within the Village of Barrington. It also meets Criterion C for its architectural style.

Table 10. Historic Properties Listed on HARGIS within the Analysis Area Along Corridor 8

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Cook	Barrington	0.0	Barrington National Register Historic District (NRHD)	Extant	201395	Entered in the NRHP	NA
Cook	Barrington	0.0	239 W. Lake St.	Extant	147337	Undetermined	3
Cook	Barrington	0.0	227 W. Lake St.	Extant	147338	Undetermined	4
Cook	Barrington	0.0	208 W. Lake St.	Extant	147341	Undetermined	5
Cook	Barrington	0.0	201 W. Lake St.	Extant	147342	Undetermined	6
Cook	Barrington	0.0	145 W. Lake St.	Extant	147343	Undetermined	7
Cook	Barrington	0.0	135 W. Lake St.	Extant	147344	Undetermined	8
Cook	Barrington	0.0	106 W. Lake St.	Extant	147346	Undetermined	9
Cook	Barrington	0.0	117 W. Main St.	Razed	145879	Part of the NRHD	NA
Cook	Barrington	0.0	121 E. Main St.	Extant	147360	Undetermined	10
Cook	Barrington	0.0	123 W. Main St.	Razed	147358	Part of the NRHD	NA
Cook	Barrington	0.0	127 E. Main St.	Extant	145880	Undetermined	11

Table 10. Historic Properties Listed on HARGIS within the Analysis Area Along Corridor 8

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Cook	Barrington	0.0	131 W. Main St.	Razed	145878	Undetermined	NA
Cook	Barrington	0.0	Robertson House 145 W. Main St.	Extant	145877	Entered in the NRHP	12
Cook	Barrington	0.0	205 W. Main St.	Extant	147357	Part of the NRHD	13
Cook	Barrington	0.0	Octagon House 223 W. Main St.	Extant	200101	Entered in the NRHP	14
Cook	Barrington	0.0	231 W. Main St.	Extant	147355	Part of the NRHD	15
Lake	Barrington	0.0	104 W. Main St.	Extant	147359	Part of the NRHD	16
Lake	Barrington	0.0	Catlow Theater 112-116 W. Main St.	Extant	200969	Entered in the NRHP	17
Lake	Barrington	0.0	118 Applebee St.	Extant	147309	Part of the NRHD	18
Lake	Barrington	0.0	126 Applebee St.	Extant	147310	Part of the NRHD	19
Lake	Barrington	0.0	206 W. Main St.	Extant	147356	Part of the NRHD	20
Lake	Barrington	0.0	218 W. Main St.	Extant	145876	Part of the NRHD	21
Lake	Barrington	0.1	225 Ela St.	Extant	147306	Undetermined	22
Lake	Barrington	0.1	210 Liberty St.	Extant	147352	Undetermined	23
Lake	Barrington	0.1	212 N. Cook St.	Razed	147294	Undetermined	NA
Lake	Barrington	0.1	215 Victoria St.	Extant	147376	Undetermined	24
Lake	Barrington	0.1	301 N. Cook St.	Extant	147295	Undetermined	25
Cook	Barrington	0.1	104 S. Cook St.	Extant	145868	Undetermined	26
Cook	Barrington	0.1	201 S. Cook St.	Extant	147296	Undetermined	27
Cook	Barrington	0.1	207 S. Cook St.	Extant	147297	Undetermined	28
Cook	Barrington	0.1	319 S. Cook St.	Extant	147298	Undetermined	29
Cook	Barrington	0.1	413 S. Cook St.	Extant	147299	Undetermined	30
Cook	Barrington	0.1	418 S. Cook St.	Extant	147300	Undetermined	31
Lake	Barrington	0.1	301 North St.	Extant	145883	Undetermined	32
Lake	Barrington	0.1	SEC Ela & Chestnut	Razed	147307	Undetermined	NA
Lake	Barrington	0.1	228 W. Main St.	Extant	205909	Undetermined	NA
Lake	Barrington	0.1	200 Ela St.	Extant	145634	Undetermined	33
Lake	Barrington	0.2	312 Franklin St.	Extant	147308	Undetermined	34
Lake	Barrington	0.2	334 Chestnut	Razed	145867	Undetermined	NA
Cook	Barrington	0.2	325 E. Main St.	Extant	147362	Undetermined	35

Table 10. Historic Properties Listed on HARGIS within the Analysis Area Along Corridor 8

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Cook	Barrington	0.2	333 E. Main St.	Razed	147363	Undetermined	NA
Lake	Barrington	0.2	320 E. Main St.	Extant	147361	Undetermined	36
Lake	Barrington	0.2	334 E. Main	Razed	147364	Undetermined	NA
Cook	Barrington	0.2	401 E. Main	Extant	145882	Undetermined	37
Lake	Barrington	0.2	402 E. Main	Extant	147365	Undetermined	38
Lake	Barrington	0.2	616 E. Main St.	Extant	147366	Undetermined	39
Lake	Barrington	0.3	334 Liberty St.	Extant	147353	Undetermined	40
Lake	Barrington	0.3	135 North St.	Extant	147370	Undetermined	41
Lake	Barrington	0.3	307 North St.	Extant	147371	Undetermined	42
Lake	Barrington	0.3	127 North St.	Extant	147369	Undetermined	43
Lake	Barrington	0.3	125 North St.	Extant	147368	Undetermined	44
Lake	Barrington	0.4	437 Washington St.	Extant	147377	Undetermined	45
Cook	Barrington	1.5	228 E. Main St.	Razed	145881	Undetermined	46

4.7.2 Archaeological Resources

Three archaeological sites were identified along Corridor 8 (Table 11). Site 11L749 is not eligible for the NRHP, and the other two sites have not been reviewed for NRHP eligibility.

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	Lake Cook Rd.	0.0	11Ck25	Prehistoric	Not Reviewed
Lake	Lake Cook Rd.	1.7	11L749	Historic	Not Eligible
Cook	Lake Cook Rd.	3.7	11Ck946	Historic	Not Reviewed

4.8 Corridor 9

4.8.1 Historic Resources

A total of 47 historic properties were identified and visited along Corridor 9 (Table 12). Of the 47 properties visited, 11 have been razed. The 37 extant resources include; 1 NRHD (Barrington Historic District); 7 properties identified as part of the NRHD: 3 NRHP-listed properties; and 26 properties that are undetermined.

The following is a summary of resources listed on the NRHP along the corridor:

- Barrington Historic District. The Barrington Historic District is composed of the residences and streetscapes located in the southwest area of Barrington. The district is comprised of homogeneous mixture of important historical architectural styles. Architectural styles of special interest are

Vernacular, Greek Revival, Gothic Revival, Italianate, Queen Anne, Neo-Classical, and Craftsman Styles (NRHP Registration Form 1987). Seven extant structures within the corridor are part of the NRHP listed in Table 12. (There are also four razed structures listed in the table within the NRHD.) The district meets two of the Criteria (A and C) for Evaluation for the NRHP.

- John Robertson House. This property is located at 145 W. Main Street in Barrington. This Classical Revival House was built in 1898 in the form of a Foursquare (NRHP Registration Form 2013). The house has excellent integrity on the major elevations and in the public spaces of the house. The house is listed on the NRHP under Criterion C.
- Octagon House. This property is located at 223 West Main Street Barrington. The Octagon house is an eight-sided wood framed house built sometime between 1850 and 1870. The houses most notable features are the carved and jig-sawed brackets supporting the rood of the porch (NRHP Registration Form 1978). The house meets Criterion C for its architectural style.
- Catlow Theater. This property is located at 112-116 West Main Street Barrington. The Catlow Theatre is a small movie and vaudeville theatre built in 1927 by local resident Wright Catlow (NRHP Registration Form 1989). The theatre was designed in the Tudor Revival style by architectural firm Betts and Holcomb, with interior design by Alfonso Iannelli. The theater retains a high degree of integrity with only a few modifications. The Catlow meets Criterion A, for entertainment and recreational history within the Village of Barrington. It also meets Criterion C for its architectural style.

Table 12. Historic Properties Listed on HARGIS within the analysis Area Along Corridor 9

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Cook	Barrington	4	127 E. Main St.	Extant	145880	Undetermined	11
Cook	Barrington	5.6	111 E. Hillside Ave.	Razed	305716	Part of the NRHD	NA
Cook	Barrington	5.9	413 S. Cook St.	Extant	147299	Undetermined	30
Cook	Barrington	5.9	418 S. Cook St.	Extant	147300	Undetermined	31
Cook	Barrington	5.9	111 W. Russell	Razed	206106	Part of the NRHD	NA
Cook	Barrington	5.9	Barrington National Register Historic District (NRHD)	Extant	201395	Entered in the NRHP	NA
Cook	Barrington	6.0	319 S. Cook St.	Extant	147298	Undetermined	29
Cook	Barrington	6.0	245 W. Lake St.	Extant	147335	Undetermined	47
Cook	Barrington	6.0	239 W. Lake St.	Extant	147337	Undetermined	3
Cook	Barrington	6.0	227 W. Lake St.	Extant	147338	Undetermined	4
Cook	Barrington	6.0	208 W. Lake St.	Extant	147341	Undetermined	5
Cook	Barrington	6.0	201 W. Lake St.	Extant	147342	Undetermined	6
Cook	Barrington	6.0	145 W. Lake St.	Extant	147343	Undetermined	7
Cook	Barrington	6.0	135 W. Lake St.	Extant	147344	Undetermined	8

Table 12. Historic Properties Listed on HARGIS within the analysis Area Along Corridor 9

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Cook	Barrington	6.0	106 W. Lake St.	Extant	147346	Undetermined	9
Cook	Barrington	6.1	228 E. Main St.	Razed	145861	Undetermined	NA
Cook	Barrington	6.1	121 E. Main St.	Extant	147360	Undetermined	10
Cook	Barrington	6.1	123 W. Main St.	Razed	147358	Part of the NRHD	NA
Cook	Barrington	6.1	131 W. Main St.	Razed	145878	Undetermined	NA
Cook	Barrington	6.1	Robertson House 145 W. Main St.	Extant	145877	Entered in the NRHP	12
Cook	Barrington	6.1	205 W. Main St.	Extant	147357	Part of the NRHD	13
Cook	Barrington	6.1	Octagon House 223 W. Main St.	Extant	200101	Entered in the NRHP	14
Cook	Barrington	6.1	231 W. Main St.	Extant	147355	Part of the NRHD	15
Lake	Barrington	6.1	104 W. Main St.	Extant	147359	Part of the NRHD	16
Lake	Barrington	6.1	Catlow Theater 112-116 W. Main St.	Extant	200969	Entered in the NRHP	17
Lake	Barrington	6.1	206 W. Main St.	Extant	147356	Part of the NRHD	20
Lake	Barrington	6.1	218 W. Main St.	Extant	145876	Part of the NRHD	21
Cook	Barrington	6.1	104 S. Cook St	Extant	145868	Undetermined	26
Cook	Barrington	6.1	201 S. Cook St.	Extant	147296	Undetermined	27
Cook	Barrington	6.1	207 S. Cook St.	Extant	147297	Undetermined	28
Cook	Barrington	6.1	117 W. Main St.	Razed	145879	Part of the NRHD	NA
Cook	Barrington	6.1	325 E. Main St.	Extant	147362	Undetermined	35
Lake	Barrington	6.1	320 E. Main St.	Extant	147361	Undetermined	36
Lake	Barrington	6.1	334 E. Main St.	Razed	147364	Undetermined	40
Lake	Barrington	6.2	118 Applebee St.	Extant	147309	Part of the NRHD	18
Lake	Barrington	6.2	126 Applebee St.	Extant	147310	Part of the NRHD	19
Lake	Barrington	6.2	225 Ela St.	Extant	147306	Undetermined	22
Lake	Barrington	6.2	200 Ela. St.	Extant	145634	Undetermined	33

Table 12. Historic Properties Listed on HARGIS within the analysis Area Along Corridor 9

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Barrington	6.2	312 Franklin St.	Extant	147308	Undetermined	34
Lake	Barrington	6.2	228 W. Main St.	Extant	205909	Undetermined	46
Lake	Barrington	6.2	SE corner Ela & Chestnut	Razed	147307	Undetermined	NA
Lake	Barrington	6.2	334 Chestnut	Razed	145867	Undetermined	NA
Lake	Barrington	6.3	212 N. Cook St.	Razed	147294	Undetermined	NA
Lake	Barrington	6.3	210 Liberty St.	Extant	147352	Undetermined	23
Lake	Barrington	6.4	215 Victoria St.	Extant	147376	Undetermined	24
Lake	Barrington	6.3	301 N. Cook St.	Extant	147295	Undetermined	25
Lake	Barrington	6.3	334 Liberty St.	Extant	147353	Undetermined	40

4.8.2 Archaeological Resources

Six historic sites and one prehistoric archaeological site were identified along Corridor 9 (Table 13). Four of the historic sites are not eligible for the NRHP, and two have not been reviewed. In addition, the one prehistoric site has not been reviewed.

Table 13. Archaeological Sites within the Analysis Area Along Corridor 9

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Cook	Barrington Rd.	1.1	11Ck1217	Historic	Not Reviewed
Cook	Barrington Rd.	1.5	11Ck771	Historic	Not Eligible
Cook	Barrington Rd.	2.2	11Ck1218	Historic	Not Reviewed
Cook	Barrington Rd.	2.6	11Ck884	Historic	Not Eligible
Cook	Barrington Rd.	4.5	11Ck830	Historic	Not Eligible
Cook	Barrington Rd.	4.6	11Ck831	Historic	Not Eligible
Lake	Barrington Rd.	9.2	11L41	Prehistoric	Not Reviewed

4.9 Corridor 11

4.9.1 Historic Resources

Four historic properties were identified and visited along Corridor 11 (Table 14). Of the four properties visited, one has been razed. Eligibility for listing on the NRHP has not been determined for the other properties.

Table 14. Historic Properties Listed on HARGIS within the Analysis Area Along Corridor 11

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	East of Volo	2.6	Wilson Rd.	Razed	305341	Undetermined	NA
Lake	Grayslake	6.9	21 Oak St.	Extant	147407	Undetermined	48
Lake	Grayslake	6.9	32 Oak St.	Extant	147408	Undetermined	49
Lake	Grayslake	7.0	52 Oak St.	Extant	147409	Undetermined	50

4.9.2 Archaeological Resources

A total of 15 historic and 9 prehistoric archaeological sites were identified along Corridor 11 (Table 15). Twelve of the sites are not eligible for listing on the NRHP, 8 sites have not been reviewed, 2 sites are potentially eligible for listing on the NRHP and are protected by the HSRPA burial law, and 2 sites have been recommended for Phase II testing.

Table 15. Archaeological Sites within the Analysis Area Along Corridor 11

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	IL 120	0.4	11L816	Prehistoric	Not Eligible
Lake	IL 120	1.3	11L806	Historic	Not Eligible
Lake	IL 120	1.3	11L807	Historic	Not Eligible
Lake	IL 120	1.3	11L780	Historic	Not Reviewed
Lake	IL 120	2.6	11L495	Historic	Not Reviewed
Lake	IL 120	2.7	11L747	Historic	Not Eligible
Lake	IL 120	3.2	11L841	Historic	Not Eligible
Lake	IL 120	4.9	11L666	Prehistoric	Not Reviewed
Lake	IL 120	5.5	11L477	Historic	Not Eligible
Lake	IL 120	5.6	11L581	Prehistoric	Not Reviewed
Lake	IL 120	5.8	11L642	Historic	Recommended for Phase II Testing
Lake	IL 120	7.5	11L889	Historic	Not Eligible
Lake	IL 120	8.5	11L491	Historic	Not Eligible
Lake	IL 120	10.0	11L874	Historic	Not Eligible
Lake	IL 120	11.8	11L3	Prehistoric	Potentially Eligible*
Lake	IL 120	11.7	11L29	Prehistoric	Potentially Eligible*
Lake	IL 120	12.5	11L872	Prehistoric	Not Eligible
Lake	IL 120	12.5	11L873	Historic	Recommended for Phase II Testing

Table 15. Archaeological Sites within the Analysis Area Along Corridor 11

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	IL 120	12.7	11L361	Prehistoric	Not Reviewed
Lake	IL 120	12.6	11L763	Historic	Not Eligible
Lake	IL 120	13.1	11L494	Historic	Not Reviewed
Lake	IL 120	13.3	11L490	Prehistoric	Not Reviewed
Lake	IL 120	13.3	11L493	Historic	Not Reviewed
Lake	IL 120	13.7	11L484	Prehistoric	Not Eligible

* Site is also protected by HSRPA burial law

4.10 Corridor 13

4.10.1 Historic Resources

A total of 13 historic properties were identified and visited along Corridor 13 (Table 16). All are in downtown Wauconda. Of the 13 properties, 3 have been razed. Eligibility for listing on the NRHP has not been determined for any of the properties.

Table 16. Historic Properties listed on HARGIS within the Analysis Area Along Corridor 13

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Wauconda	0.9	172 W. Maple St.	Extant	305301	Undetermined	51
Lake	Wauconda	1.1	215 E. Church St.	Razed	148348	Undetermined	NA
Lake	Wauconda	1.1	221 E. Church St.	Extant	148349	Undetermined	52
Lake	Wauconda	1.2	113 N. Old Rand Rd.	Razed	148353	Undetermined	NA
Lake	Wauconda	1.2	108 S. Old Rand Rd.	Extant	148358	Undetermined	53
Lake	Wauconda	1.2	100 E. Maple Ave.	Extant	147220	Undetermined	54
Lake	Wauconda	1.2	109 S. Maple Ave.	Extant	305365	Undetermined	55
Lake	Wauconda	1.1	219 S. Mill St.	Extant	148352	Undetermined	56
Lake	Wauconda	1.2	209 S. Old Rand Rd.	Extant	148359	Undetermined	57
Lake	Wauconda	1.2	337 S. Old Rand Rd.	Razed	148360	Undetermined	NA
Lake	Wauconda	1.2	427 N. Old Rand Rd.	Extant	147221	Undetermined	58
Lake	Wauconda	1.3	145 N. Mill St.	Extant	148351	Undetermined	59
Lake	Wauconda	2.9	27277 Forest Preserve Drive	Extant	803116	Undetermined	60

4.10.2 Archaeological Resources

Two historic sites and two prehistoric archaeological sites were identified along Corridor 13 (Table 17). Three of the sites are not eligible for the NRHP, and one site has not been reviewed.

Table 17. Archaeological Sites within the Analysis Area Along Corridor 13

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	IL 176	1.4	11L46	Prehistoric	Not Reviewed
Lake	IL 176	1.8	11L577	Historic	Not Eligible
Lake	IL 176	6.2	11L813	Prehistoric	Not Eligible
Lake	IL 176	6.7	11L846	Historic	Not Eligible

4.11 Corridor 14

4.11.1 Historic Resources

A total of two historic properties was identified and visited along Corridor 14 (Table 18). Both properties have been razed. Their eligibility for listing on the NRHP has not been determined.

Table 18. Historic Properties listed on HARGIS within the Analysis Area Along Corridor 14

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Round Lake Beach	3.6	421 Rollins Rd	Razed	148342	Undetermined	NA
Lake	Round Lake Heights	4.7	N. Side Rollins Rd	Razed	148343	Undetermined	NA

4.11.2 Archaeological Resources

Three prehistoric archaeological sites were identified along Corridor 14 (Table 19). Two of the sites are not eligible for the NRHP, and one site is potentially eligible for listing and is protected under the HSRPA burial law.

Table 19. Archaeological Sites within the Analysis Area Along Corridor 14

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	Rollins Rd	1.1	11L324	Prehistoric	Potentially Eligible*
Lake	Rollins Rd	1.2	11L325	Prehistoric	Not Eligible
Lake	Rollins Rd	1.3	11L323	Prehistoric	Not Eligible

* Site is also protected by HSRPA burial law

4.12 Corridor 15

4.12.1 Historic Resources

A total of 12 historic properties were identified and visited along Corridor 15 (Table 20). Of the 12 properties, 4 have been razed. Of the remaining 8 sites, eligibility for listing on the NRHP is undetermined for 6 sites, one has been determined to be eligible for the NRHP, and one is listed on the NRHP. Details about the NRHP-eligible properties (one is listed, the other is not) are as follows:

- Marytown/Sanctuary of Perpetual Adoration-Friary. This property at 1600 W. Park Avenue Liberty has been deemed eligible for the NRHP. No formal registration form has been submitted to list it on the NRHP. "The grounds have been a sanctuary of Perpetual Adoration of the Blessed Sacrament since June 7, 1928, when a temporary chapel was blessed and opened for 24-hour Exposition. The permanent chapel was dedicated on October 2, 1932" (kolbeshrine.org 2018).
- David Adler Estate/Cultural Center. This property is located at 1700 North Milwaukee Ave. Libertyville. This property is on the NRHP. This was the residence of architect David Adler, one of the Chicago's areas foremost country estate architects. This 1864 farmhouse was remodeled by him in 1918 when he lived there (NRHP Registration Form 1999). He designed and added a servant's cottage attached to an existing barn. The property meets Criterion B and C for listing on the NRHP. Criterion B for its association with a famed architect and Criterion C for an example of his architectural work.

Table 20. Historic Properties listed on HARGIS within the Analysis Area Along Corridor 15

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Mundelein	0.0	140 W. Maple St.	Extant	148274	Undetermined	NA
Lake	Mundelein	0.0	33 W. Maple St.	Razed	148275	Undetermined	NA
Lake	Mundelein	0.3	758 Wildwood Ave.	Extant	148284	Undetermined	61
Lake	Mundelein	0.3	746 Wildwood Ave.	Extant	148283	Undetermined	62
Lake	Mundelein	0.3	421 E. Maple Ave.	Extant	148272	Undetermined	63
Lake	Mundelein	0.3	430 E. Hawley St.	Extant	148271	Undetermined	64
Lake	Mundelein	0.4	521 Grace St.	Extant	148270	Undetermined	65
Lake	Mundelein	0.5	Glendale Rd.	Razed	145793	Undetermined	NA
Lake	Libertyville	1.3	Marytown	Extant	163771	Eligible for the NRHP	66
Lake	Libertyville	2.6	W. Side of Butterfield Rd.	Razed	148190	Undetermined	NA
Lake	Libertyville	4.8	1750 N. Milwaukee	Razed	148220	Undetermined	NA
Lake	Libertyville	4.8	1700 N. Milwaukee Ave.	Extant	205748	Entered in the NRHP	67

4.12.2 Archaeological Resources

One prehistoric archaeological site was identified along Corridor 15 (Table 21). Its eligibility for listing on the NRHP has not been determined.

Table 21. Archaeological Sites within the Analysis Area Along Corridor 15

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	N. Butterfield Rd.	2.2	11L654	Prehistoric	Undetermined

4.13 Corridor 16

4.13.1 Historic Resources

One historic property was identified along Corridor 16 (Table 22). Its eligibility for listing on the NRHP is undetermined.

Table 22. Historic Properties listed on HARGIS within the Analysis Area Along Corridor 16.

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	South of Grayslake	14.5	Peterson Road	Could not locate	305360	Undetermined	NA

4.13.2 Archaeological Resources

A total of 6 prehistoric and 15 historic archaeological sites were identified along Corridor 16 (Table 23). Fifteen of the sites are not eligible for the NRHP, two sites have not been reviewed for eligibility, three sites' eligibility has not been determined, and one site is potentially eligible and is protected by the HSRPA burial law.

Table 23. Archaeological Sites within the Analysis Area Along Corridor 16

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	10.3	11L78	Prehistoric	Not Reviewed
Lake	New	12.3	11L147	Historic	Not Eligible
Lake	New	12.5	11L721	Historic	Not Eligible
Lake	New	12.6	11L722	Historic	Not Eligible
Lake	New	12.7	11L623	Historic	Not Eligible
Lake	New	13	11L571	Historic	Not Eligible
Lake	New	13.5	11L570	Historic	Not Eligible
Lake	New	14.1	11L520	Historic	Not Eligible
Lake	New	14.1	11L519	Historic	Not Eligible

Table 23. Archaeological Sites within the Analysis Area Along Corridor 16

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	14.5	11L831	Historic	Not Eligible
Lake	New	16.6	11L848	Historic	Not Eligible
Lake	New	17.6	11L148	Historic	Not Reviewed
Lake	New	18.3	11L379	Prehistoric	Not Eligible
Lake	New	18.3	11L380	Prehistoric	Not Eligible
Lake	New	18.5	11L321	Prehistoric	Undetermined
Lake	New	18.7	11L320	Prehistoric	Undetermined
Lake	New	18.9	11L322	Prehistoric	Undetermined
Lake	New	19.3	11L492	Historic	Potentially Eligible*
Lake	New	19.7	11L850	Historic	Not Eligible
Lake	New	19.8	11L845	Historic	Not Eligible
Lake	New	22.0	11L889	Historic	Not Eligible

* Site is also protected by HSRPA burial law

4.14 Corridor 17

4.14.1 Historic Resources

No historic properties were identified along Corridor 17.

4.14.2 Archaeological Resources

One prehistoric archaeological site was identified along Corridor 17 (Table 24). It has not been reviewed for eligibility.

Table 24. Archaeological Sites within the Analysis Area Along Corridor 17

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	1.0	11L78	Prehistoric	Not Reviewed

4.15 Corridor 18

4.15.1 Historic Resources

No historic properties were identified along Corridor 18.

4.15.2 Archaeological Resources

One prehistoric archaeological site and one historic archaeological site were identified along Corridor 18 (Table 25). Neither of the sites are eligible for the NRHP.

Table 25. Archaeological Sites within the Analysis Area Along Corridor 18

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	13.6	11L570	Historic	Not Eligible
Lake	New	14.7	11L480	Prehistoric	Not Eligible

4.16 Corridor 20

4.16.1 Historic Resources

No historic properties were identified along Corridor 20.

4.16.2 Archaeological Resources

Six historic and six prehistoric archaeological sites were identified along Corridor 20 (Table 26). Four sites are not eligible for the NRHP, five have not been reviewed for eligibility, one is recommended for Phase II testing, and two sites are potentially eligible and protected under the HSRPA burial law.

Table 26. Archaeological Sites within the Analysis Area Along Corridor 20

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	IL 120	9	11L491	Historic	Not Reviewed
Lake	IL 120	10.8	11L874	Historic	Not Eligible
Lake	IL 120	11.7	11L29	Prehistoric	Potentially Eligible*
Lake	IL 120	12.5	11L872	Prehistoric	Not Eligible
Lake	IL 120	12.5	11L873	Historic	Recommended for Phase II Testing
Lake	IL 120	12.7	11L361	Prehistoric	Not Reviewed
Lake	IL 120	12.7	11L3	Prehistoric	Potentially Eligible*
Lake	IL 120	13	11L763	Historic	Not Eligible
Lake	IL 120	13.5	11L494	Historic	Not Reviewed
Lake	IL 120	13.8	11L490	Prehistoric	Not Reviewed
Lake	IL 120	13.8	11L493	Historic	Not Reviewed
Lake	IL 120	13.9	11L484	Prehistoric	Not Eligible

* Site is also protected by HSRPA burial law

4.17 Corridor 21

4.17.1 Historic Resources

No historic properties were identified along Corridor 21.

4.17.2 Archaeological Resources

A total of seven historic and five prehistoric archaeological sites were identified along Corridor 21 (Table 27). Eight of the sites are not eligible for listing on the NRHP and 4 have not been reviewed for eligibility.

Table 27. Archaeological Sites within the Analysis Area Along Corridor 21

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	0.5	11L136	Prehistoric	Not Reviewed
Lake	New	0.5	11L146	Historic	Not Reviewed
Lake	New	1.8	11L603	Historic	Not Eligible
Lake	New	1.9	11L604	Prehistoric	Not Eligible
Lake	New	2.6	11L771	Historic	Not Eligible
Lake	New	3.3	11L747	Historic	Not Eligible
Lake	New	3.7	11L841	Historic	Not Eligible
Lake	New	3.7	11L842	Prehistoric	Not Eligible
Lake	New	4.3	11L733	Historic	Not Eligible
Lake	New	5.3	11L665	Prehistoric	Not Reviewed
Lake	New	5.9	11L664	Prehistoric	Not Reviewed
Lake	New	6.9	11L805	Historic	Not Eligible

4.18 Corridor 22

4.18.1 Historic Resources

No historic properties were identified along Corridor 22.

4.18.2 Archaeological Resources

Two prehistoric sites and one archaeological site were identified along Corridor 22 (Table 28). The historic site is not eligible for listing on the NRHP, and the two prehistoric sites have not been reviewed for eligibility for the NRHP.

Table 28. Archaeological Sites within the Analysis Area Along Corridor 22

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	5.9	11L664	Prehistoric	Not Reviewed
Lake	New	5.3	11L665	Prehistoric	Not Reviewed
Lake	New	6.9	11L805	Historic	Not Eligible

4.19 Corridor 23

4.19.1 Historic Resources

There is one historic property that was identified along Corridor 23 (see Table 29). It was razed and does not have a determination of eligibility for listing on the NRHP.

Table 29. Historic Properties listed on HARGIS within the Analysis Area Along Corridor 23.

Provenience			Address	Status	HARGIS Reference	NRHP Status	Plate Number (Appendix A)
County	City/Town	Mile Post					
Lake	Southwest of Round Lake	3.4	Wilson Rd.	Razed	305341	Undetermined	NA

4.19.2 Archaeological Resources

One historic and two prehistoric archaeological sites were identified along Corridor 23 (Table 29). One prehistoric site and one historic site have been determined to not be eligible for listing on the NHRP. The other prehistoric site has not been reviewed for NRHP eligibility.

Table 29. Archaeological Sites within the Analysis Area Along Corridor 23

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	3.2	11L495	Prehistoric	Not Reviewed
Lake	New	3.7	11L842	Historic	Not Eligible
Lake	New	4.3	11L733	Prehistoric	Not Eligible

4.20 Corridor 24

4.20.1 Historic Resources

No historic properties were identified along Corridor 24.

4.20.2 Archaeological Resources

Two prehistoric and three historic archaeological sites were identified along Corridor 24 (Table 30). One prehistoric site and two historic sites have been determined to not be eligible for listing on the NRHP, and one prehistoric site and one historic site have not been reviewed for eligibility for listing on the NRHP.

Table 30. Archaeological Sites within the analysis area along Corridor 24.

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	1.2	11L781	Prehistoric	Not Reviewed
Lake	New	1.3	11L780	Historic	Not Reviewed
Lake	New	1.4	11L807	Historic	Not Eligible

Table 30. Archaeological Sites within the analysis area along Corridor 24.

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	New	1.4	11L806	Historic	Not Eligible
Lake	US12/IL59	17.1	11L816	Prehistoric	Not Eligible

4.21 Corridor 25

4.21.1 Historic Resources

No historic properties were identified along Corridor 25.

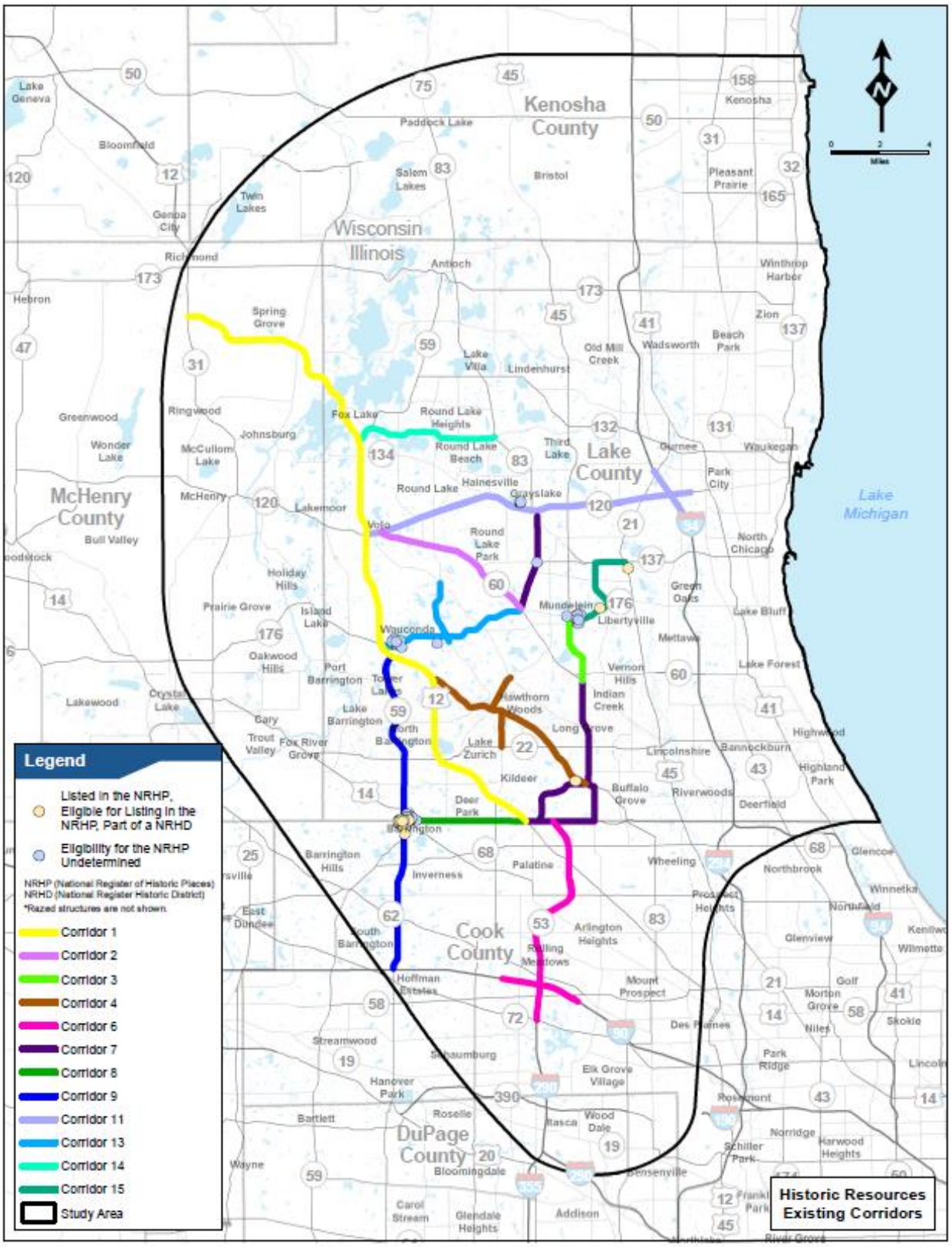
4.21.2 Archaeological Resources

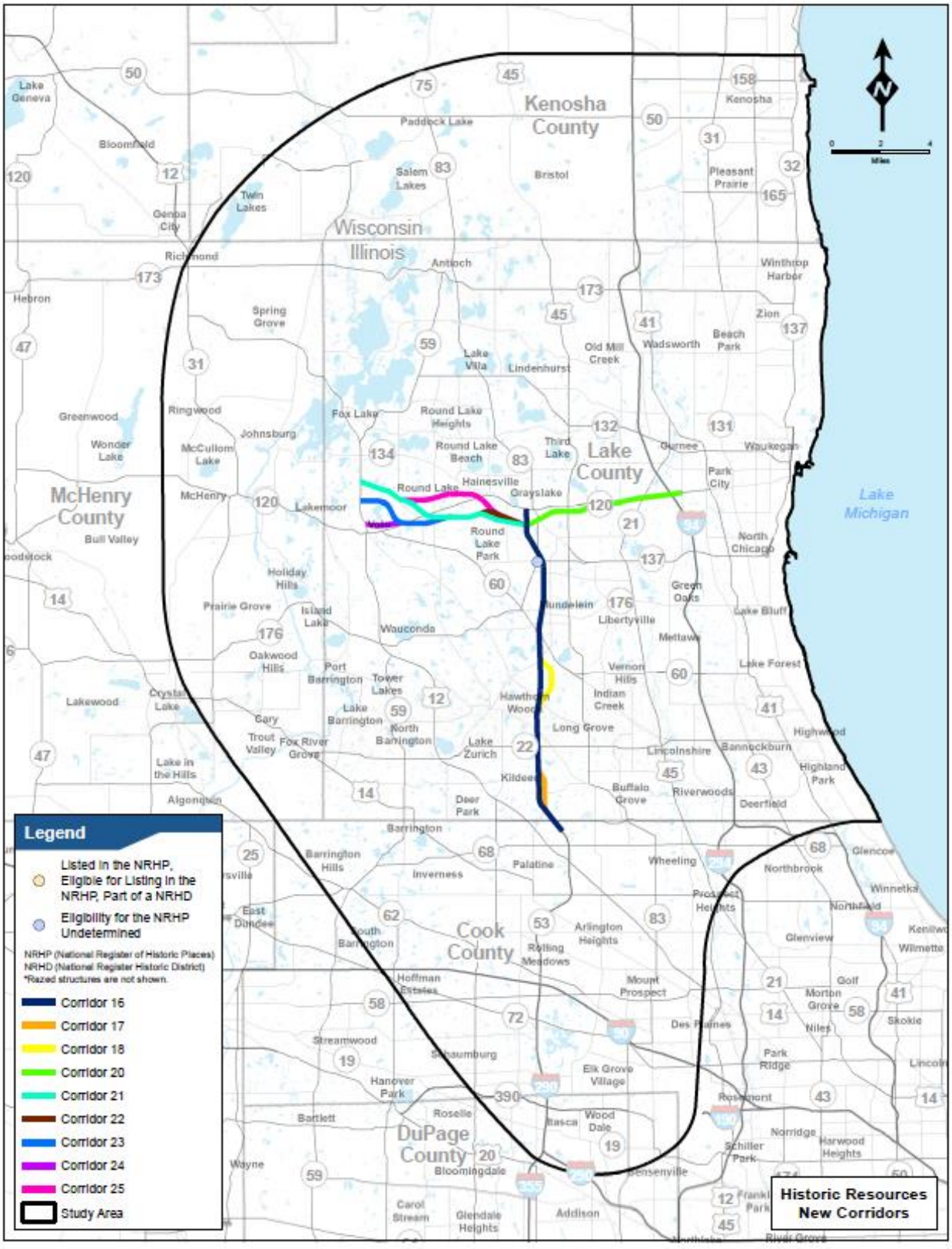
Two historic and three prehistoric archaeological sites were identified along Corridor 25 (Table 31). The three prehistoric sites and one historic site have been determined to be not eligible for listing on the NRHP; the remaining historic site has not been reviewed for the NRHP.

Table 31. Archaeological Sites within the analysis area along Corridor 25.

Provenience			Site Number	Period	NRHP Status
County	Major Route	Mile Post			
Lake	Lake	New	3.6	11L145	Historic
Lake	Lake	New	3.9	11L507	Prehistoric
Lake	Lake	New	4.5	11L135	Prehistoric
Lake	Lake	New	5.6	11L477	Prehistoric
Lake	Lake	New	6.9	11L805	Historic

4.22 Historic Resource Figures




Legend
Listed in the NRHP, Eligible for Listing in the NRHP, Part of a NRHD
Eligibility for the NRHP Undetermined
NRHP (National Register of Historic Places)
NRHD (National Register Historic District)
*Razed structures are not shown.
Corridor 16
Corridor 17
Corridor 18
Corridor 20
Corridor 21
Corridor 22
Corridor 23
Corridor 24
Corridor 25
Study Area
Historic Resources
New Corridors
Kenosha County
Lake County
McHenry County
Cook County
DuPage County
Wisconsin
Illinois
Lake Michigan

5.0 References

Birmingham, Robert A. and Leslie E. Eisenberg. 2000. *Indian Mounds of Wisconsin*. University of Wisconsin Press, Madison.

Boris, Carol. 1984. *Effigy Mounds in Northern Illinois: An analysis of an Endangered Cultural Resource*. M.A. thesis, Department of Anthropology, Northern Illinois University.

Brown, James A. and Robert K. Vierra. 1983. *What Happened in the Middle Archaic? Introduction to an Ecological Approach to Koster Site Archaeology.* In Archaic Hunters and Gatherers in the American Midwest, edited by J. L. Phillips and J. A. Brown. Academic Press, New York.

Demel, Scott. 2000. *Understanding Remnant Archaic Settlement along the Western Coast of Lake Michigan.* Ph.D. dissertation, Department of Anthropology, University of Wisconsin-Milwaukee.

Historic and Architectural Resources Geographic Information System (HARGIS). 2018. Online HARGIS database. On line at <http://gis.hpa.state.il.us/hargis/>. 12/1/18 - 12/10/18.

Illinois Inventory of Archaeological Sites. 2018. Site and Survey files. Accessed 12/10/18 - 12/17/18. Online at <http://geoserver.dnr.illinois.gov>.

Illinois State Historic Preservation Agency. 2018. Historic Architectural Resources Geographic Information System. Accessed 12/10/18. Online at <http://gis.hpa.state.il.us>.

Jeske, Robert J. 1989. *The Archaeology of Fermi National Accelerator Laboratory.* Report prepared for the Department of Energy. Manuscript on file at MARS, Inc.

Loebel, Thomas J. 2005. *The Organization of Early Paleoindian Economies in the Western Great Lakes.* Unpublished dissertation, Department of Anthropology, University of Illinois at Chicago.

Loebel, Thomas, Daniel Amick, and Rochelle Lurie. 2000. *Report on Phase II Excavations at the Hawk's Nest Site (11L344) in Lake County, Illinois.* Midwest Archaeological Research Services, Inc. Cultural Resource Management Report No. 844.

Lurie, Rochelle, Sara Pfannkuche, and M. Catherine Bird. 2006. *The Archaeology of McHenry County*. Midwest Archaeological Research Services Inc., Cultural Resource Management Report No. 763.

Markman, Charles W. 1991. *Chicago Before History: The Prehistoric Archaeology of a Modern Metropolitan Area.* Studies in Illinois Archaeology No. 7, Illinois Historic Preservation Agency, Springfield.

National Register of Historic Places Registration Forms

2018 Buffalo Creek Bridge/Long Grove Bridge
2013 John Robertson Jr. House
1999 David Adler Estate and Cultural Center
1989 Catlow Theatre
1987 Barrington Historic District
1978 Octagon House

National Shrine of St. Maximilian Kolbe At Martytown. 2018. Accessed 12/12/18. Online at http://kolbeshrine.org.

Schwegman, John E. 1973. *Comprehensive Plan for the Illinois Nature Preserves System, Part 2: The Natural Divisions of Illinois.* Illinois Nature Preserves Commissions. Springfield, Illinois.

Willman, H. B. 1971. *Summary of the Geology of the Chicago Area.* Illinois State Geological Survey, Circular 460, Urbana, Illinois.

Appendix A: Project Photos

Plate 1. 140 West Maple Street, Mundelein, Illinois (Corridor 3 and 15).

Plate 2. Buffalo Creek Bridge, Robert Parker Coffin Road, Long Grove, Illinois (Corridor 4 and 7).

Plate 3. 239 West Lake Street, Barrington, Illinois (Corridor 8 and 9).

Plate 4. 227 West Lake Street, Barrington, Illinois (Corridor 8 and 9).

Plate 5. 208 West Lake Street, Barrington, Illinois (Corridor 8 and 9).

Plate 6. 201 West Lake Street, Barrington, Illinois (Corridor 8 and 9).

Plate 7. 145 West Lake Street, Barrington, Illinois (Corridor 8 and 9).

Plate 8. 135 West Lake Street, Barrington, Illinois (Corridor 8 and 9).

Plate 9. 106 West Lake Street, Barrington, Illinois (Corridor 8 and 9).

Plate 10. 121 East Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 11. 127 East Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 12. 145 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 13. 205 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 14. 223 West Main Street, Barrington, Illinois (Corridor 8 and 9).

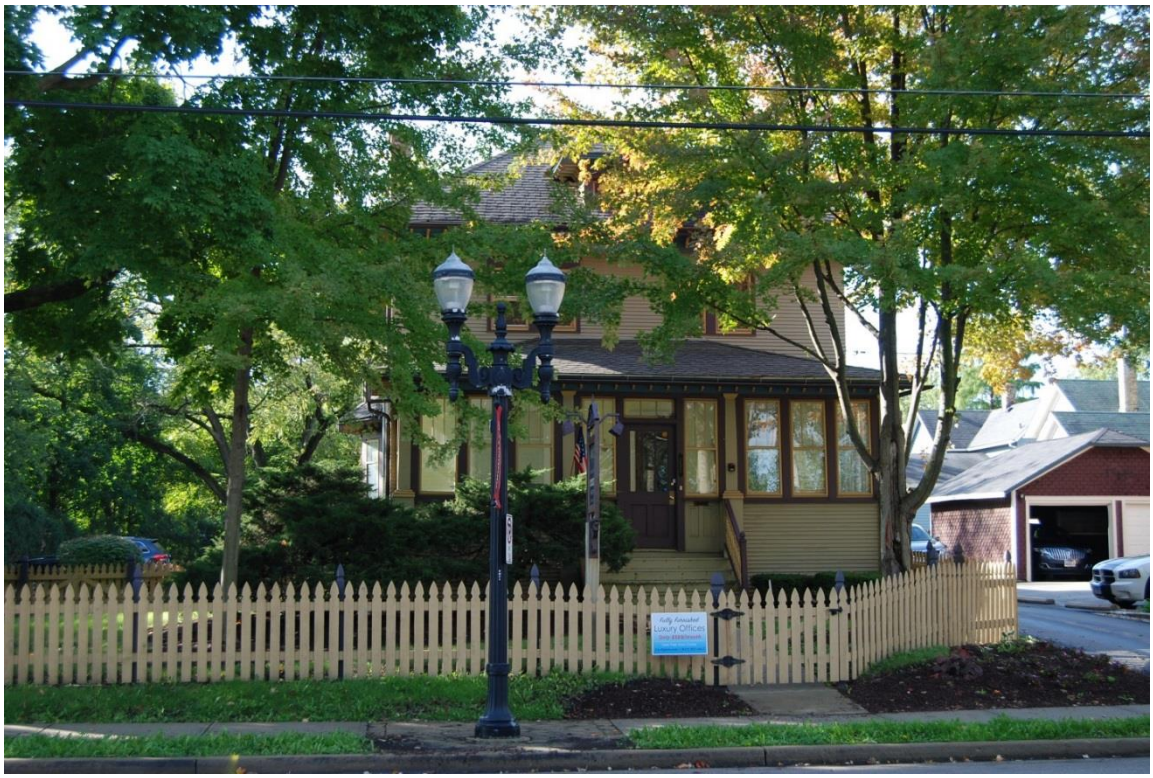


Plate 15. 231 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 16. 104 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 17. 112-116 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 18. 118 Applebee Street, Barrington, Illinois (Corridor 8 and 9).

Plate 19. 126 Applebee Street, Barrington, Illinois (Corridor 8 and 9).

Plate 20. 206 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 21. 218 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 22. 225 Ela Street, Barrington, Illinois (Corridor 8 and 9).

Plate 23. 210 Liberty Street, Barrington, Illinois (Corridor 8 and 9).

Plate 24. 215 Victoria Street, Barrington, Illinois (Corridor 8 and 9).

Plate 25. 301 North Cook Street, Barrington, Illinois (Corridor 8 and 9).

Plate 26. 104 South Cook Street, Barrington, Illinois (Corridor 8 and 9).

Plate 27. 201 South Cook Street, Barrington, Illinois (Corridor 8 and 9).

Plate 28. 207 South Cook Street, Barrington, Illinois (Corridor 8 and 9).

Plate 29. 319 South Cook Street, Barrington, Illinois (Corridor 8 and 9).

Plate 30. 413 South Cook Street, Barrington, Illinois (Corridor 8 and 9).

Plate 31. 418 South Cook Street, Barrington, Illinois (Corridor 8 and 9).

Plate 32. 301 North Street, Barrington, Illinois (Corridor 8).

Plate 33. 200 Ela Street, Barrington, Illinois (Corridor 8 and 9).

Plate 34. 312 Franklin Street, Barrington, Illinois (Corridor 8 and 9).

Plate 35. 325 East Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 36. 320 East Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 37. 401 East Main Street, Barrington, Illinois (Corridor 8).

Plate 38. 402 East Main Street, Barrington, Illinois (Corridor 8).

Plate 39. 616 East Main Street, Barrington, Illinois (Corridor 8).

Plate 40. 334 Liberty Street, Barrington, Illinois (Corridor 8 and 9).

Plate 41. 135 North Street, Barrington, Illinois (Corridor 8).

Plate 42. 307 North Street, Barrington, Illinois (Corridor 8).

Plate 43. 127 North Street, Barrington, Illinois (Corridor 8).

Plate 44. 125 North Street, Barrington, Illinois (Corridor 8).

Plate 45. 437 Washington Street, Barrington, Illinois (Corridor 8).

Plate 46. 228 West Main Street, Barrington, Illinois (Corridor 8 and 9).

Plate 47. 245 West Lake Street, Barrington, Illinois (Corridor 9).

Plate 48. 21 Oak Street, Grayslake, Illinois (Corridor 11).

Plate 49. 32 Oak Street, Grayslake, Illinois (Corridor 11).

Plate 50. 52 Oak Street, Grayslake, Illinois (Corridor 11).

Plate 51. 172 West Maple Avenue, Wauconda, Illinois (Corridor 13).

Plate 52. 221 East Church Street, Wauconda, Illinois (Corridor 13).

Plate 53. 108 South Old Rand Road, Wauconda, Illinois (Corridor 13).

Plate 54. 100 East Maple Avenue, Wauconda, Illinois (Corridor 13).

Plate 55. 109 South Maple Avenue, Wauconda, Illinois (Corridor 13).

Plate 56. 219 South Mill Street, Wauconda, Illinois (Corridor 13).

Plate 57. 209 South Old Rand Road, Wauconda, Illinois (Corridor 13).

Plate 58. 427 North Old Rand Road, Wauconda, Illinois (Corridor 13).

Plate 59. 145 North Mill Street, Wauconda, Illinois (Corridor 13).

Plate 60. 27277 Forest Preserve Drive, Wauconda, Illinois (Corridor 13).

Plate 61. 758 Wildwood Avenue, Mundelein, Illinois (Corridor 15).

Plate 62. 746 Wildwood Avenue, Mundelein, Illinois (Corridor 15).

Plate 63. 421 East Maple Avenue, Mundelein, Illinois (Corridor 15).

Plate 64. 430 East Hawley Street, Mundelein, Illinois (Corridor 15).

Plate 65. 521 Grace Street, Mundelein, Illinois (Corridor 15).

Plate 66. "Marytown" 1600 West Park Avenue, Libertyville, Illinois (Corridor 15).

Plate 67. 1700 North Milwaukee Avenue, Libertyville, Illinois (Corridor 15).

TECHNICAL MEMORANDUM #5

Land Use

Technical Memorandum No. 5

LAND USE

1.0 RESOURCE INTRODUCTION

Land use analysis is the process of evaluating a transportation project with regard to impacts to local and regional economic planning and development, ultimately translating analysis results into estimates of potential change in distribution of local population and employment.

2.0 METHODOLOGY

As indicated in the Land Use Methodology Memo, socioeconomic and land use resources in the analysis area were identified and located using readily available information from secondary sources (See **Section 5.0 References**). A desktop survey of available data was conducted between May 2018 and March 2019 with some additional work completed prior to these dates in 2017 and in September 2019. No field verification was necessary. Demographic and land use resources were identified within a ½ mile analysis area from the roadway's approximate centerline (1-mile total width) for corridors 1 through 15. For corridors 16 through 25 (new alignment corridors), the analysis area was 2 miles from the roadway's approximate centerline and ramps (4-miles total width) and ½ mile from intersecting arterials (1-mile total width). These analysis areas are intended to capture the primary area influenced by transportation improvements from a socioeconomic and land use perspective.

3.0 TCA STUDY AREA

The TCA Study Area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA Study Area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA Study Area also includes portions of northeastern DuPage County in Illinois and Kenosha County in Wisconsin.

Table 3.1 details recent trends in population, housing, and employment for the CMAP region plus Kenosha County and the TCA Study Area respectively.

The TCA Study Area comprises roughly 20% the totals for the CMAP Region plus Kenosha County for each of the measures in **Table 3.1** while making up 27% of its land area. During the 2000 to 2015 period, the TCA Study Area grew faster than the CMAP Region plus Kenosha County in terms of population, households, and housing units but experienced slower growth in employment.

Table 3.1. TCA Study Area, CMAP Region plus Kenosha County Data Summary [1]

		Population	Households	Housing Units	Employment
Count: 2015	TCA Study Area	1,628,050	587,172	630,630	941,372
	CMAP Region + Kenosha County	8,673,715	3,129,924	3,444,622	4,157,238
	TCA Study Area / CMAP + Kenosha	18.8%	18.8%	18.3%	22.6%
Absolute Change: 2000 to 2015 [2]	TCA Study Area	83,682	35,256	56,979	24,020
	CMAP Region + Kenosha County	377,874	148,144	300,023	312,292
Percent Change: 2000 to 2015 [2]	TCA Study Area	5.4%	6.4%	9.9%	2.6%
	CMAP Region + Kenosha County	4.6%	5.0%	9.5%	8.1%

[1] Figures may not align with data presented in other TCA analyses due to variations in data sources and years presented.
[2] Base year for employment data is 2002.
Source: U.S. Census Bureau

Demographics

The TCA Study Area includes all or a portion of five counties and 124 communities. The population within the TCA Study Area was 1,628,050 in 2015, an increase of nearly 84,000 residents (+5%) since 2000. The household count grew at a similar rate (+6%), adding over 35,000 households over the period, reaching 587,172 households by 2015. Nearly 57,000 housing units were added, an increase of 10%. Employment growth for the TCA Study Area from 2002 to 2015 was slower, rising approximately 24,000 jobs (3%) and reaching over 941,000 jobs. Within employment totals, changes in employment by industry show employment moving away from manufacturing to services. Employment sectors that shrank from 2002 to 2015 in the TCA Study Area include Manufacturing (-28,000; -19%), Construction (-10,700; -22%) and Transportation and Warehousing (-1,800; -1%). Conversely, growing employment sectors include Services (+54,600 jobs; +12%), Retail (+8,200; +9%), and Government (+2,200; +12%). Within Services, strongest

3.0 TCA STUDY AREA

growth was in Health Care and Social Assistance (+26,200; +38%) and Administration & Support, Waste Management and Remediation (+20,400; +36%).

Land Use

The TCA Study Area covers approximately 740,291 acres in 124 communities. Lake County has the most acreage within the TCA Study Area at 291,633 acres, followed by Kenosha (173,217 ac.), McHenry (129,502 ac.), Cook (128,571 ac.), and DuPage (17,368 ac.).[1] Residential and agricultural land uses are the two largest land uses. Residential land totals 192,842 acres while agricultural land totals 191,724 (each approximately 26% of the total). Open space is the next largest land use with approximately 118,337 acres (16%), followed by land used for transportation, communication, utilities, and waste (95,308 ac., 13%) and land that is vacant or under construction (71,105 ac.; 10%). 36% of the TCA Study Area is currently agricultural or vacant/under construction and may undergo land use change in the future, depending on transportation access, community plans and market conditions. However, it is important to note that a large share of agricultural and vacant/under construction land is in Kenosha County. Kenosha County contains more undeveloped land within the TCA Study Area alone (137,426 ac.) than the other four counties combined (125,402 ac.).

The TCA Study Area contains a range of land use conditions. Southern and eastern parts of the TCA Study Area, closer to the core of the Chicago region and Lake Michigan, respectively, are generally more developed. Cook and DuPage Counties have very little undeveloped land in the TCA Study Area: 4% and 5% of their respective totals. In the northern and western parts of the TCA Study Area, there is generally more undeveloped land: 21% of Lake County, 45% of McHenry County, and 79% of Kenosha County are agricultural or vacant/under construction. Commercial and industrial land uses generally cluster along major transportation networks (e.g., I-90, I-94, IL 53), while open space is distributed throughout.

The inventory of retail, office, and industrial/flex space within the TCA Study Area increased from 2000 to 2015. Retail saw the greatest percentage change, increasing 13 million SF (+23%) to 72 million SF. Industrial/flex saw the greatest absolute increase, adding 21 million SF (+10%), to 244 million SF. The office inventory increased by 11 million SF (+15%) to a total of 88 million SF. Major new office developments include the approximately 560,000 square foot (SF) AbbVie building in Mettawa and 350,000 SF Reserve at Deer Park in Deer Park. The largest single retail development was an approximately 290,000 SF retail center in Lake Zurich. Of the five largest industrial/flex developments (each approximately 400,000 SF or larger), four are warehouse or distribution facilities and one is a data center in Volo.

1,628,050 Population, 2015 | **+ 83,682** Change, 2000 to 2015 | **+ 5.4%** % Change, 2000 to 2015

587,172 Households, 2015 | **+ 35,256** Change, 2000 to 2015 | **+ 6.4%** % Change, 2000 to 2015

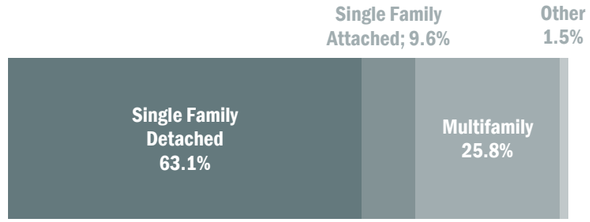
[1] Note that the Illinois county acreage calculations exclude water, while the Kenosha County acreage includes water due to data limitations. Land use data for Kenosha County was not available.

*Parts may not add to totals and percentages may not sum to 100% due to rounding

630,630 Housing Units, 2015

+ 56,979 Change, 2000 to 2015

+ 9.9% % Change, 2000 to 2015

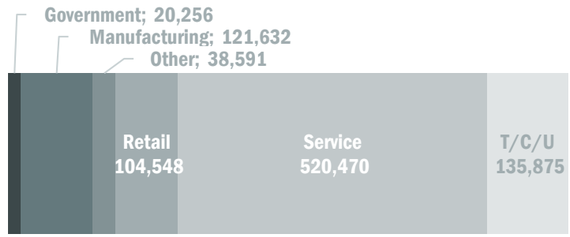


Housing Units by Type, 2015

941,372 Employment, 2015

+ 24,020 Change, 2002 to 2015

+ 2.6% % Change, 2002 to 2015



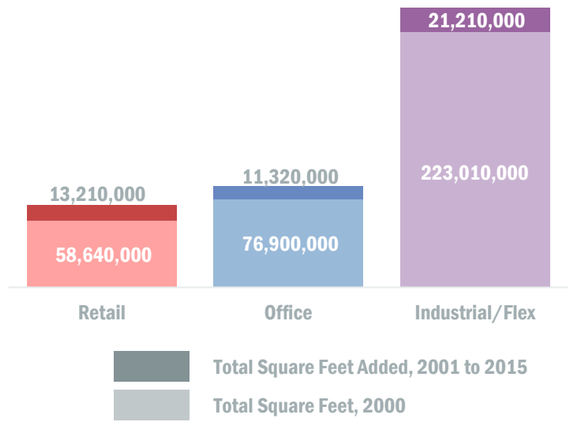
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

71,850,000 Retail SF, 2015

88,220,000 Office SF, 2015

244,220,000 Industrial/Flex SF, 2015

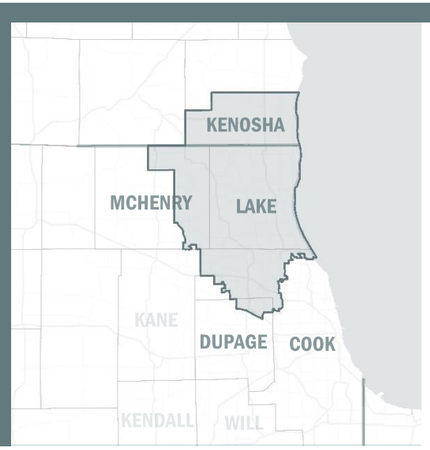


Building Square Feet, 2000 and 2015

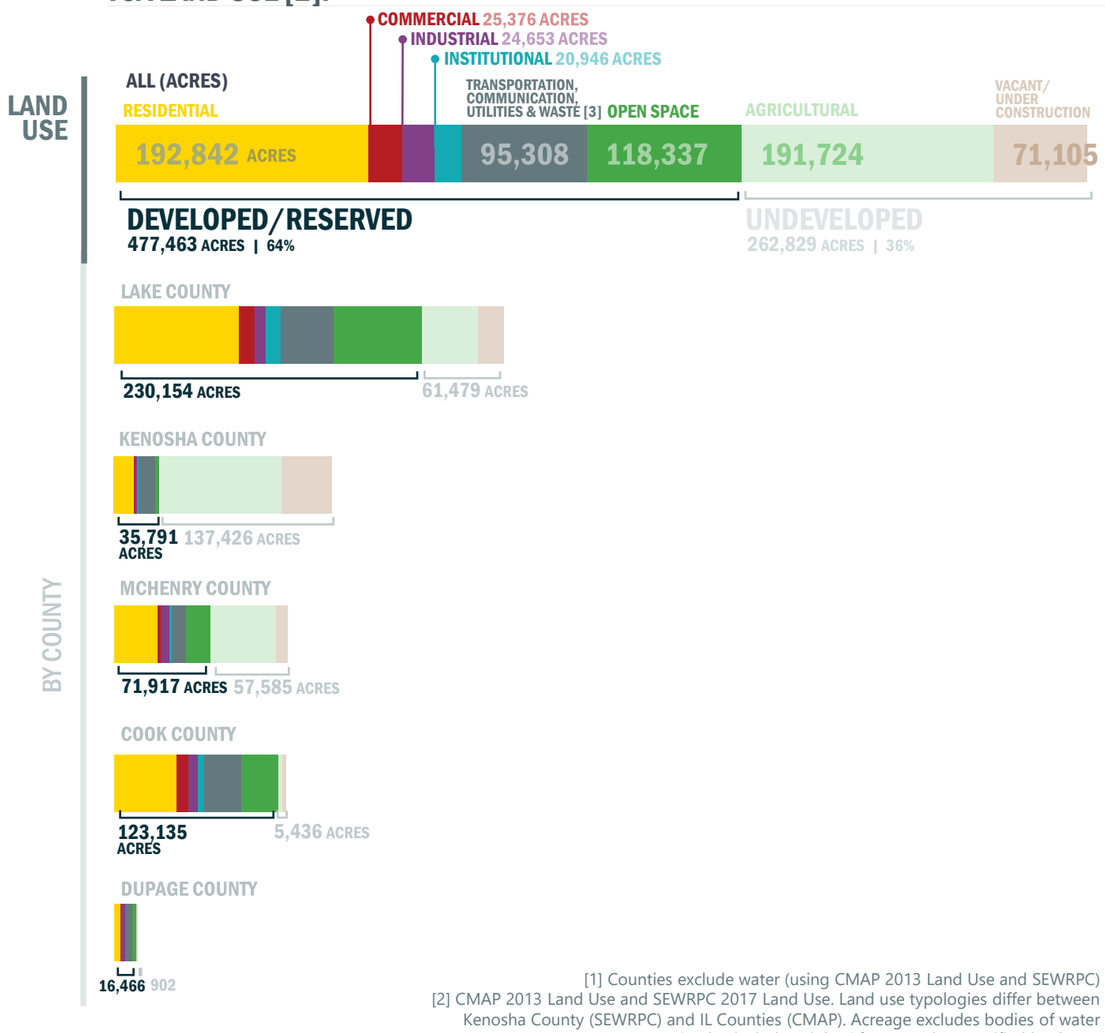
3.0 TCA STUDY AREA

124
AFFECTED COMMUNITIES

740,291
ACRES [1]

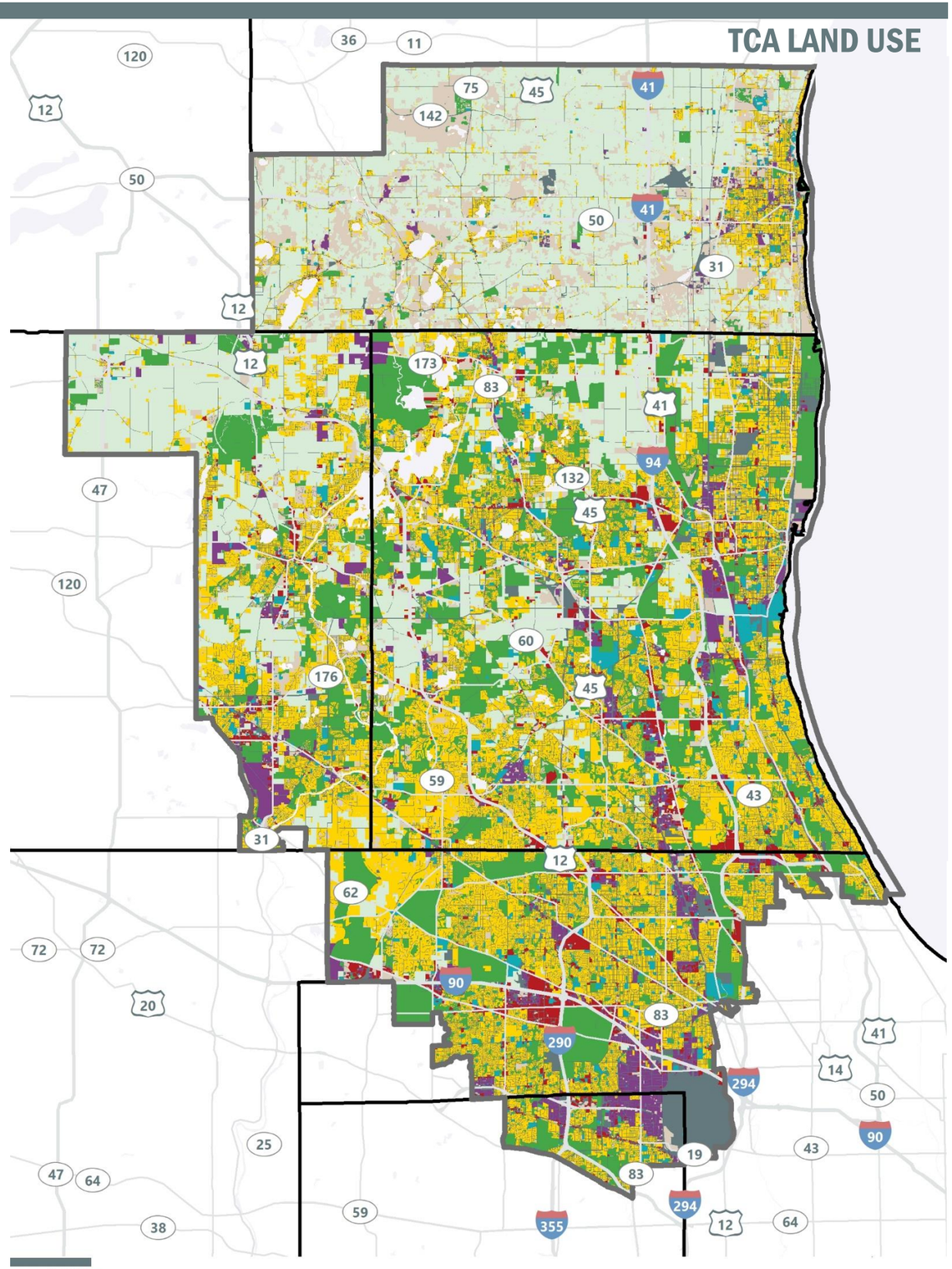


TCA LAND USE [2]:



[1] Counties exclude water (using CMAP 2013 Land Use and SEWRPC)
[2] CMAP 2013 Land Use and SEWRPC 2017 Land Use. Land use typologies differ between Kenosha County (SEWRPC) and IL Counties (CMAP). Acreage excludes bodies of water
[3] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

TCA LAND USE



Sources: CMAP; Esri; SB Friedman; US Census

4.0 CORRIDOR 1

US ROUTE 12 12

Corridor 1 (US 12) extends for approximately 29 miles from Lake Cook Road to IL 31. The Corridor 1 analysis area[1] touches parts of Cook, Lake, and McHenry Counties and passes through 12 communities (Richmond, Spring Grove, Fox Lake, Lakemoor, Volo, Wauconda, Hawthorn Woods, North Barrington, Lake Zurich, Kildeer, Deer Park, and Palatine) as well as unincorporated areas.

Demographics

The analysis area has experienced substantial population growth and moderate employment growth from 2000/2002 to 2015. The 2015 population was 30,487, an increase of approximately 3,500 (13%) since 2000. Total employment within the analysis area was nearly 17,000 in 2015, an increase of almost 1,000 jobs (6%) since 2002. Jobs within the analysis area were primarily Service and Retail jobs (8,500 and 4,100 respectively), which combined account for approximately 74% of all jobs.

Land Use

The Corridor 1 analysis area covers 17,901 acres, approximately 38% of which is unincorporated. Communities with the most land within the analysis area are Lake Zurich, Volo, and Spring Grove. The land use mix is varied; the three largest land uses by acreage are residential, agricultural, and transportation/ communications/ utilities/ waste ("T/C/U/W"). Over 5,000 acres in the analysis area, or 28% of the land, is currently vacant, under construction or agricultural land. Substantial residential growth occurred from 2000 to 2015, with over 2,300 housing units added. A majority of residential units in the analysis area are single-family units (74% single-family detached and 9% single-family attached).

Corridor 1 is a major arterial and passes through areas of significant commercial development (e.g., Deer Park Town Center; near the US-12/IL-22 intersection in Lake Zurich) as well as through or near historic downtowns (e.g., Wauconda; Fox Lake). However, it also passes through areas that are largely undeveloped (e.g., in the area of Volo/the Volo Bog; at the northwest terminus at IL 31). The undeveloped land (currently agricultural or vacant/under construction) may transition to other land uses in the future depending on access and community plans.

Substantial commercial development occurred in the analysis area from 2000 to 2015. An additional 1 million SF of retail (33% increase) and 630,000 SF of office (210% increase) were developed over the period. Approximately half of the new retail development occurred in three developments in Fox Lake, Lake Zurich, and Kildeer. While 3 million SF of industrial space had already been developed as of 2000, relatively limited industrial development (250,000 SF; 8% increase) occurred from 2000 to 2015.

30,487 Population, 2015 | **+ 3,475** Change, 2000 to 2015 | **+ 12.9%** % Change, 2000 to 2015

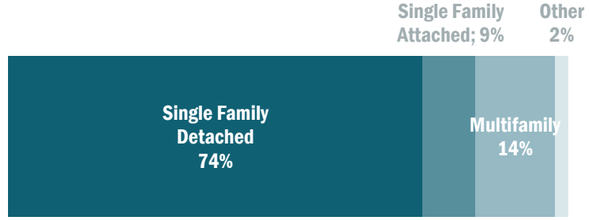
11,491 Households, 2015 | **+ 1,806** Change, 2000 to 2015 | **+ 18.6%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

12,498 Housing Units, 2015

+ 2,305 Change, 2000 to 2015

+ 22.6% % Change, 2000 to 2015

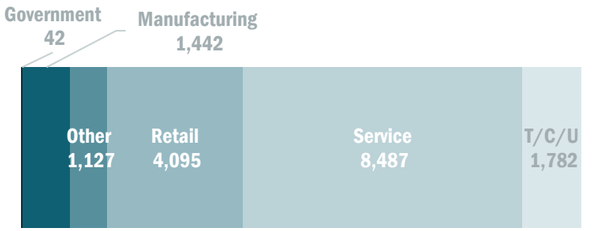


Housing Units by Type, 2015

16,975 Employment, 2015

+ 979 Change, 2002 to 2015

+ 6.1% % Change, 2002 to 2015



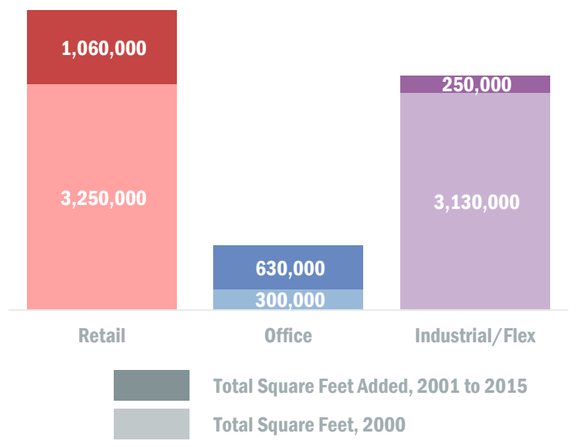
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

4,310,000 Retail SF, 2015

930,000 Office SF, 2015

3,380,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

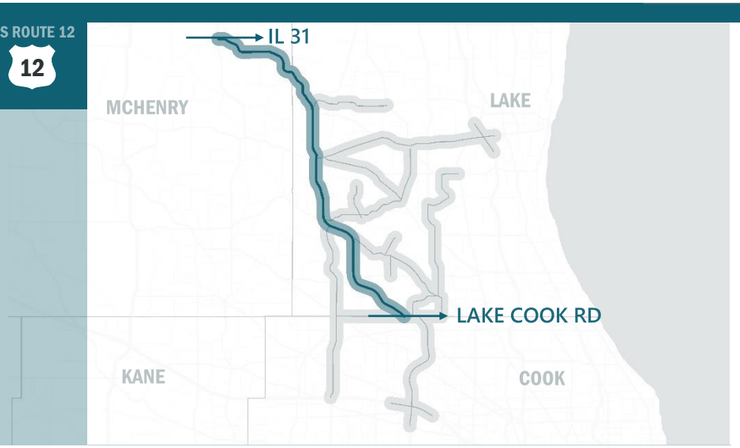
4.0 CORRIDOR 1

US ROUTE 12

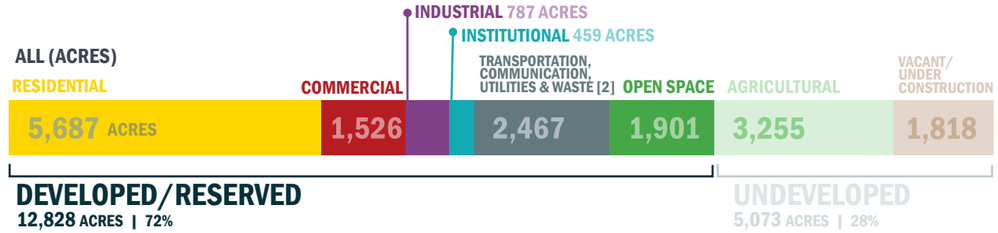
29 MILES

12 AFFECTED COMMUNITIES

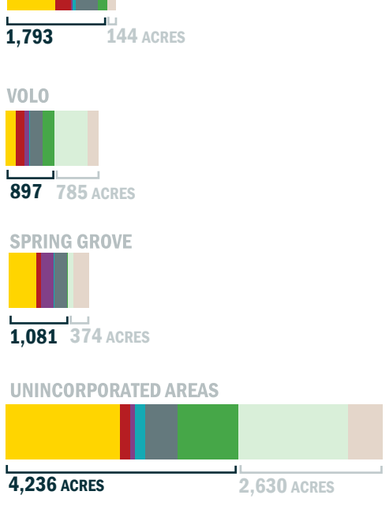
17,901 ACRES [1] WITHIN HALF MILE ANALYSIS AREA



LAND USE (HALF MILE ANALYSIS AREA) [1]

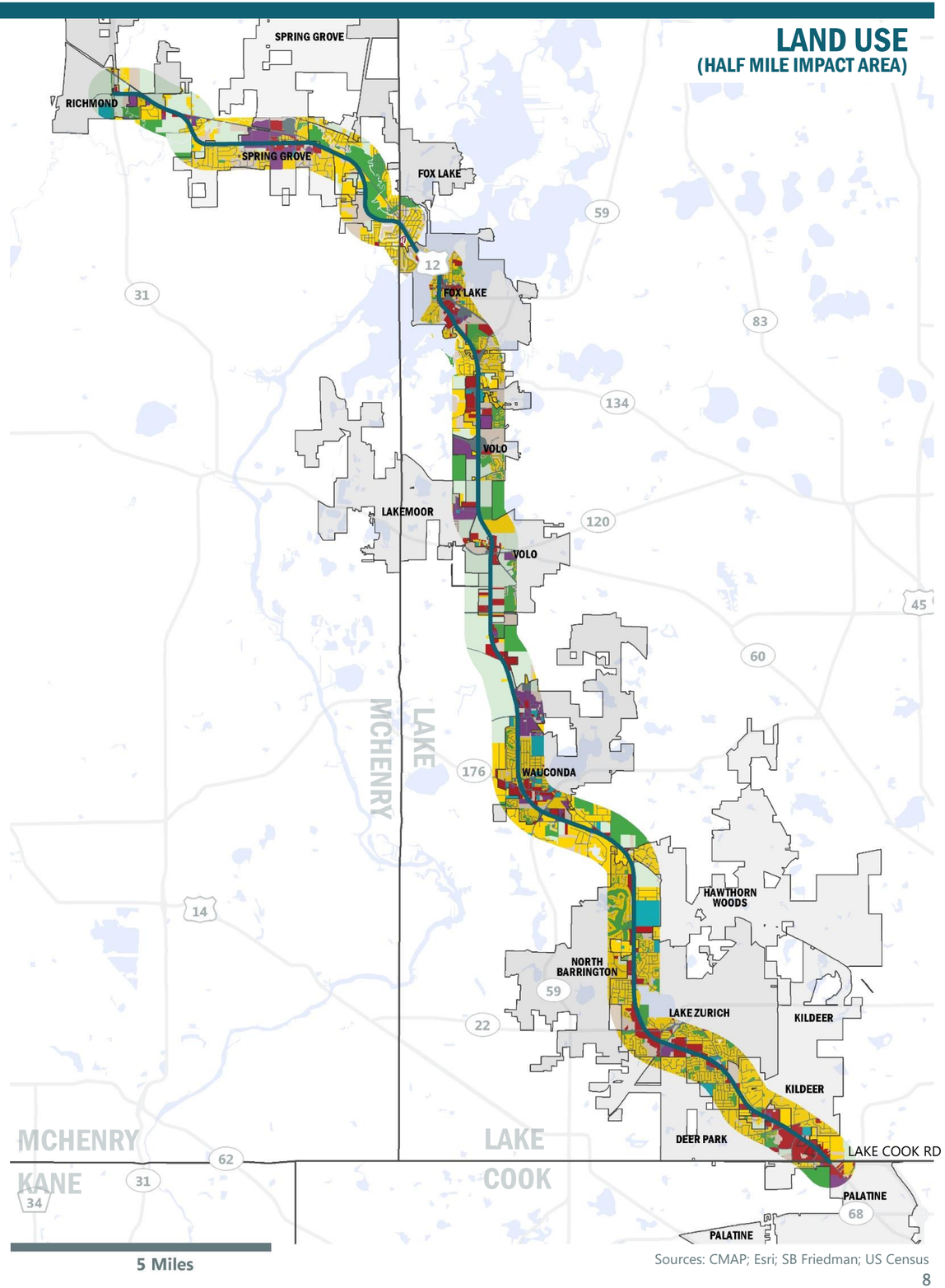


COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes right-of-way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE
(HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.1 CORRIDOR 2

IL ROUTE 60

60

Corridor 2 (IL 60) extends approximately 7 miles from IL 120 to IL 83 in west central Lake County. The analysis area[1] traverses primarily unincorporated areas and parts of 5 communities (Volo, Round Lake, Round Lake Park, and Mundelein).

Demographics

From 2000/2002 to 2015, the Corridor 2 analysis area was characterized by growing population and employment. The 2015 population of 5,805 more than doubled its 2000 level. Employment increased by 63%, reaching approximately 1,200 in 2015. Jobs within the analysis area were primarily Service and Retail jobs (approximately 800 and 200 respectively), which combined account for approximately 90% of all jobs within the corridor.

Land Use

The Corridor 2 analysis area includes 4,801 acres, 63% of which is unincorporated. Communities with the most land in the analysis area are Volo, Mundelein, and Round Lake. Nearly half of the land in the analysis area is agricultural, with substantial areas of open space and residential.

Corridor 2 passes through three primary nodes of development: Volo at its western end, Round Lake and Round Lake Park in the center, and Mundelein at its eastern end. Most of the industrial land within the analysis area (76 of 83 acres) is located in Volo at Corridor 2's intersection with IL Route 120. The area around Round Lake and Round Lake Park includes primarily residential and open space land uses, including a senior-oriented community at Saddlebrook Farms. Retail in the analysis area is concentrated at the southeast end where Corridor 2 meets IL Route 83 in Mundelein. This area includes a retail power center with a Home Depot and Target, as well as other smaller strip centers, standalone retail, and office space. In between these nodes land use is largely agricultural or open space.

While the amount of retail and industrial/flex space expanded considerably from 2000 to 2015 (increasing from 40,000 SF to 290,000 SF and 70,000 SF to 650,000 SF, respectively), the Corridor 2 analysis area is notable for the share of its land currently undeveloped (2,431 acres either agriculture (2,170 ac.) or vacant/under construction (261 ac.)). This undeveloped land may transition to other land uses in the future depending on transportation access, community plans and market conditions.

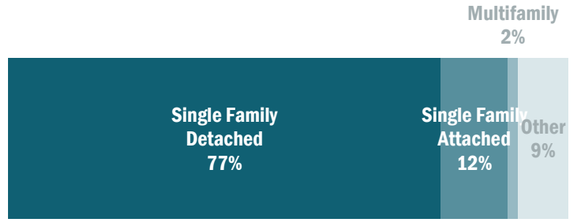
5,805 Population, 2015	**+ 3,753** Change, 2000 to 2015	**+ 182.9%** % Change, 2000 to 2015
2,108 Households, 2015	**+ 1,343** Change, 2000 to 2015	**+ 175.6%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

2,145 Housing Units, 2015

+ 1,355 Change, 2000 to 2015

+ 171.5% % Change, 2000 to 2015

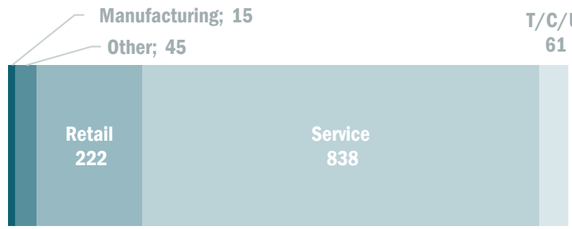


Housing Units by Type, 2015

1,181 Employment, 2015

+ 458 Change, 2002 to 2015

+ 63.3% % Change, 2002 to 2015



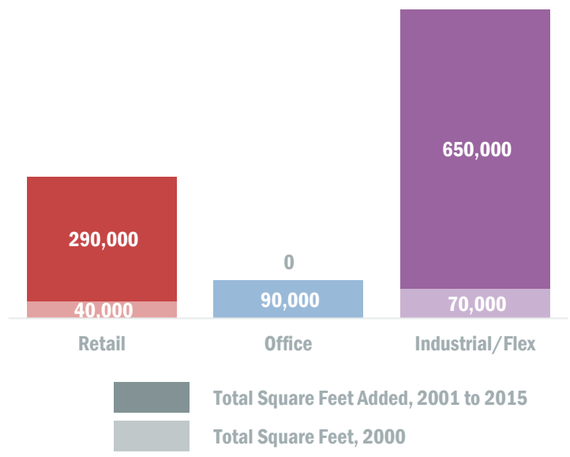
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

330,000 Retail SF, 2015

90,000 Office SF, 2015

720,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

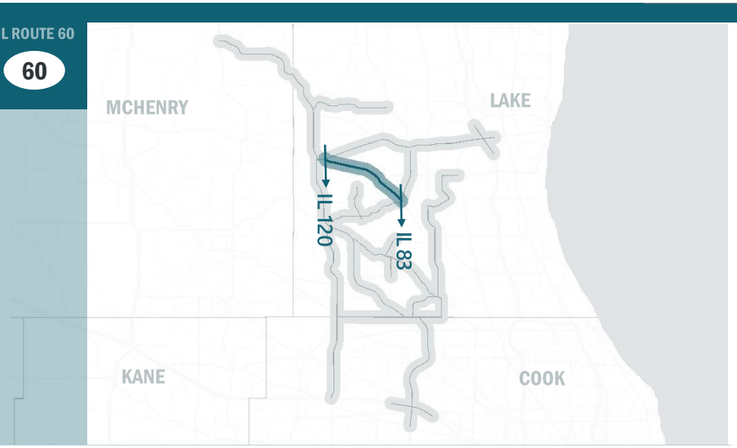
4.1 CORRIDOR 2

IL ROUTE 60

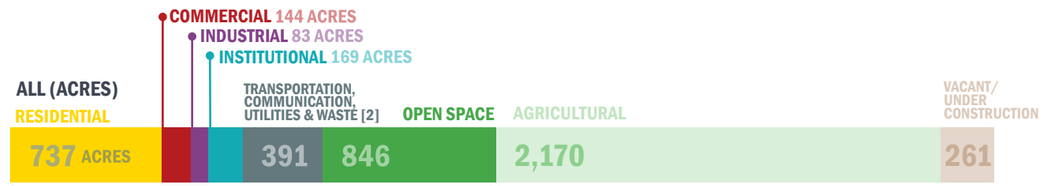
7 MILES

5 AFFECTED COMMUNITIES

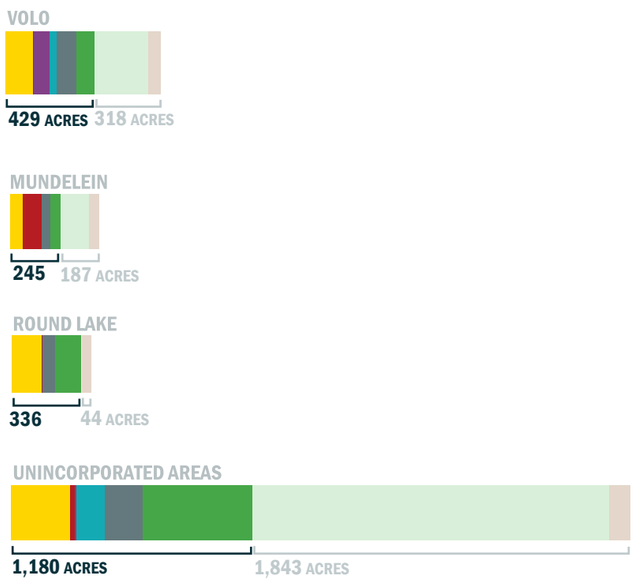
4,801 ACRES [1]
WITHIN HALF MILE IMACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

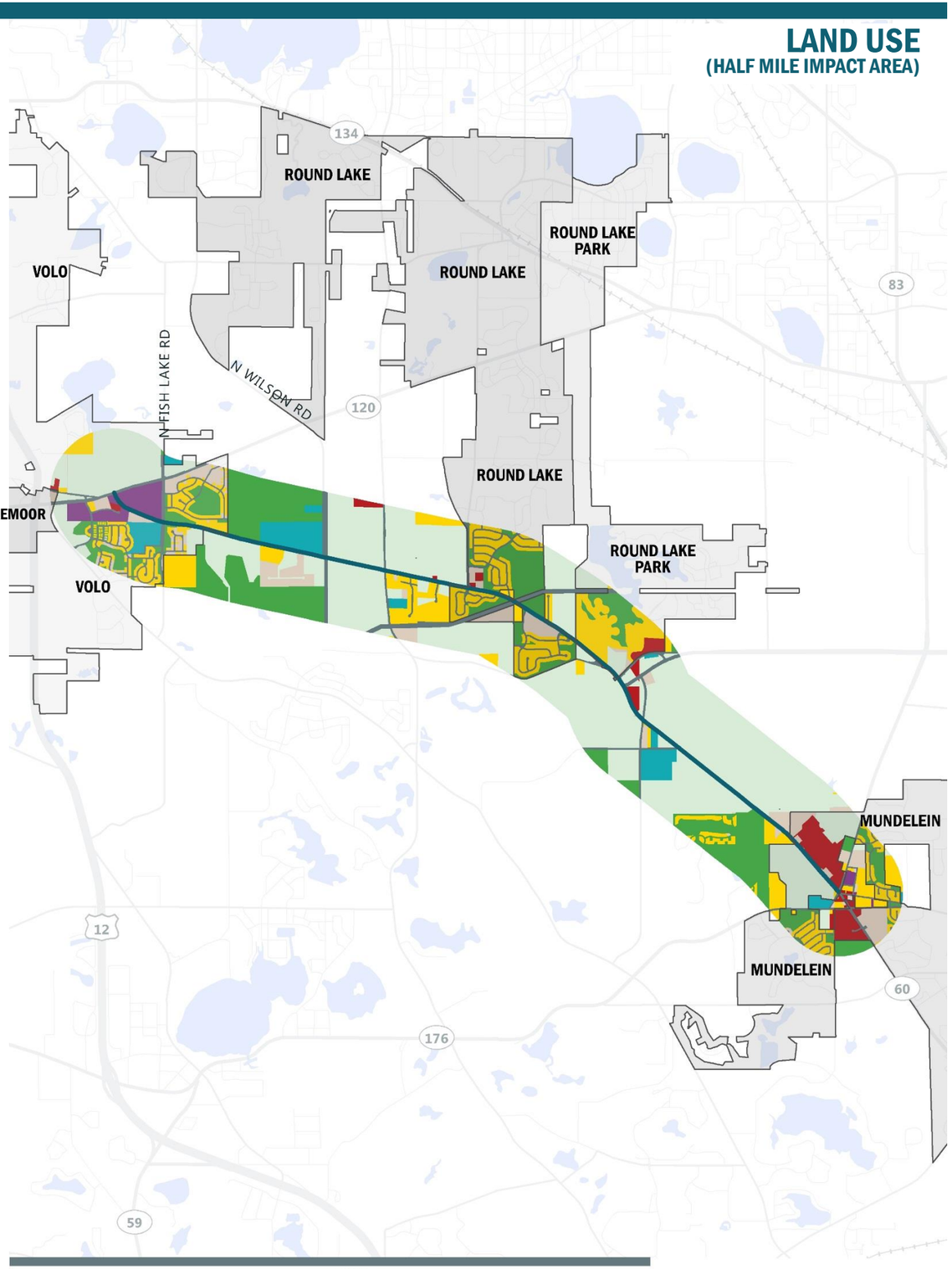


COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.2 CORRIDOR 3

US ROUTE 45

Corridor 3 (US 45) extends approximately 3 miles from IL 83 to IL 176 in central Lake County. The Corridor 3 analysis area[1] traverses 3 communities (Long Grove, Vernon Hills, and Mundelein) and unincorporated areas.

Demographics

The analysis area was characterized by stable population and employment growth from 2000/2002 to 2015. The 2015 population was essentially unchanged over the period, increasing less than 1%. Employment rose by nearly 11%, reaching nearly 7,900 in 2015. Both employment growth and overall employment are concentrated in manufacturing. More than half the employment in the analysis area (about 4,100 jobs) was related to manufacturing, including the Medline facility in Mundelein.

Land Use

The Corridor 3 analysis area includes 2,174 acres, approximately 6% of which is unincorporated, and over 80% of which is in Mundelein. The analysis area also includes portions of Long Grove and Vernon Hills. The three largest land uses by area are residential, T/C/U/W, and commercial. Relatively little land is undeveloped (164 acres).

All of the industrial acreage and nearly all of the commercial acreage of the analysis area is within Mundelein. Large commercial concentrations are located at Corridor 3's northern end in downtown Mundelein as well as at its southern end near Townline Road, where multiple retail power centers and other auto-oriented retail uses are located. The industrial square footage within the analysis area is primarily oriented to Townline Road or the railroad tracks running to its east. Residential uses are distributed throughout the analysis area and are primarily single-family homes.

While the amount of office SF more than doubled from 2000 to 2015, limited retail and industrial/flex development occurred. Combined with the low levels of population growth, modest growth in housing units, and limited amount of land available for future development, potential for land use change in the Corridor 3 analysis area appears to be somewhat limited in the future and will consist primarily of redevelopment.

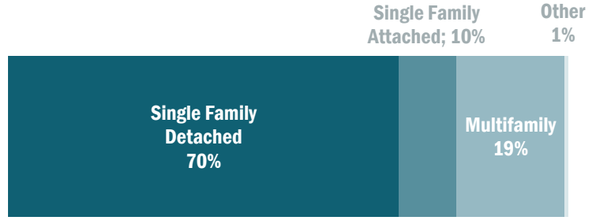
13,430 Population, 2015	**+ 73** Change, 2000 to 2015	**+ 0.5%** % Change, 2000 to 2015
4,544 Households, 2015	**+ 276** Change, 2000 to 2015	**+ 6.5%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

4,832 Housing Units, 2015

+ 419 Change, 2000 to 2015

+ 9.5% % Change, 2000 to 2015

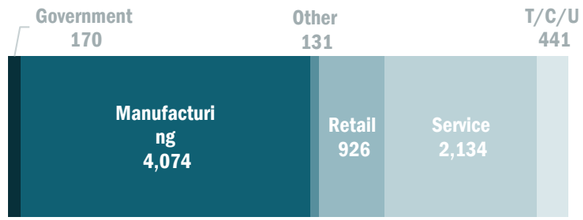


Housing Units by Type, 2015

7,876 Employment, 2015

+ 770 Change, 2002 to 2015

+ 10.8% % Change, 2002 to 2015



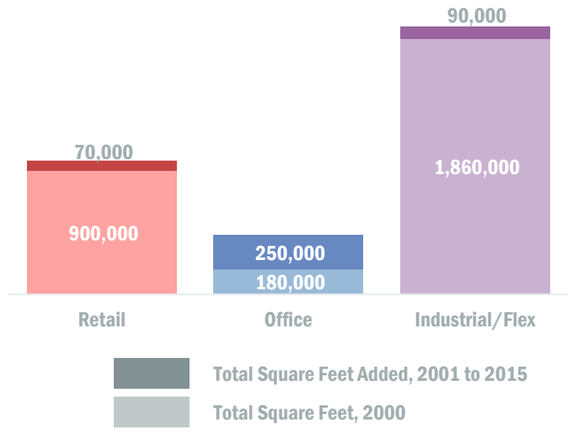
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

970,000 Retail SF, 2015

430,000 Office SF, 2015

1,950,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

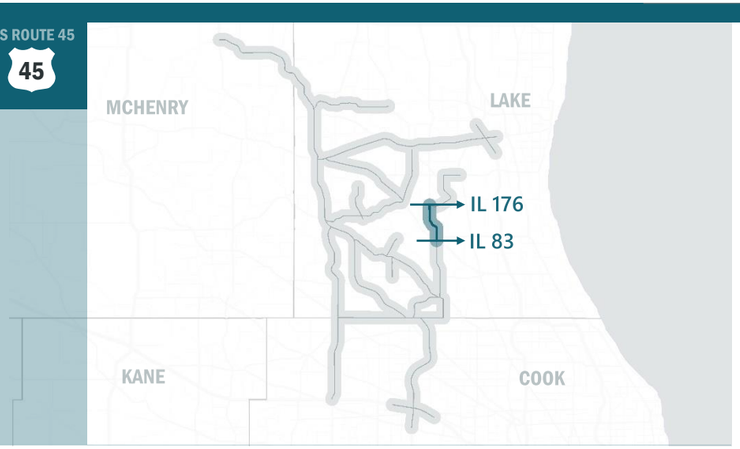
4.2 CORRIDOR 3

US ROUTE 45

3 MILES

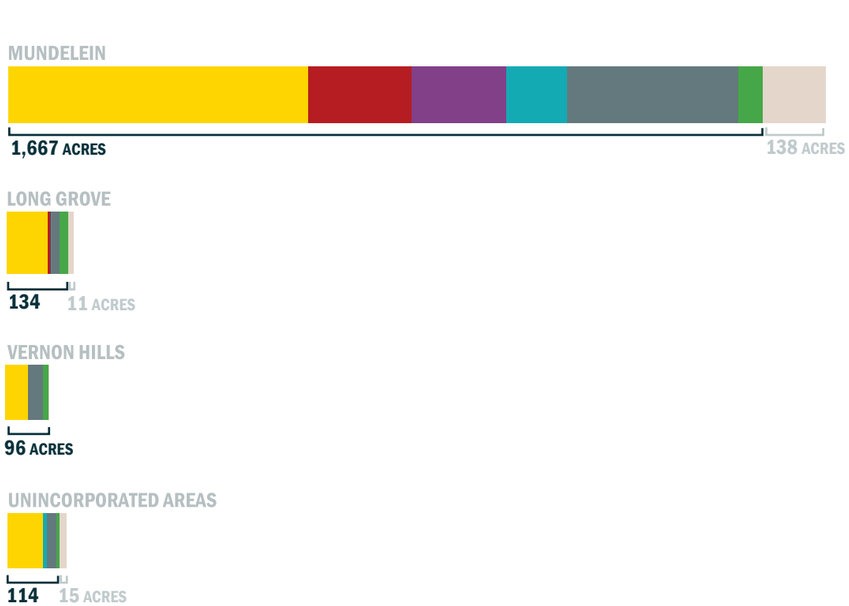
3 AFFECTED COMMUNITIES

2,174 ACRES [1] WITHIN HALF MILE IMACT AREA



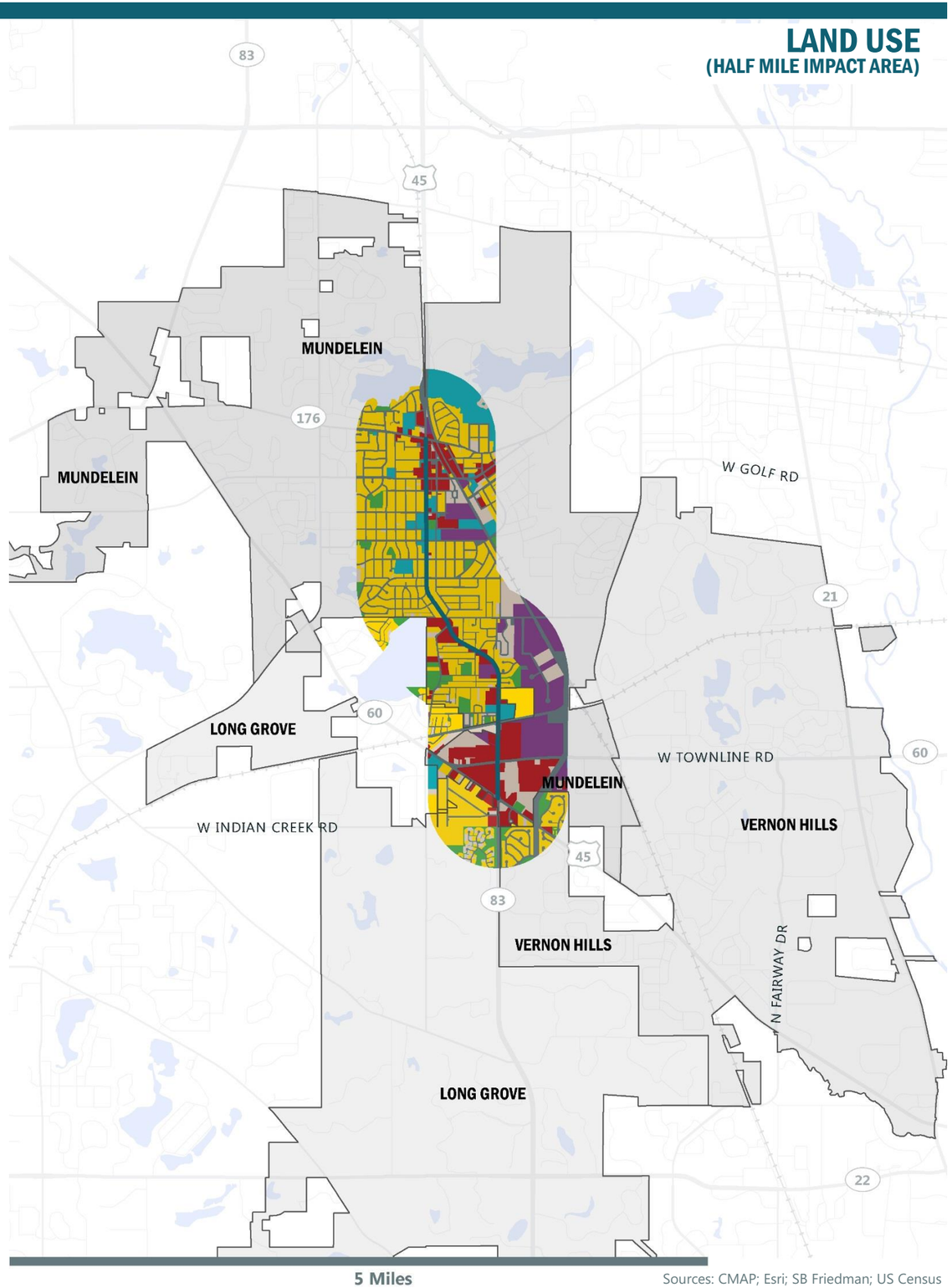
LAND USE (HALF MILE IMPACT AREA) [1]

COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.3 CORRIDOR 4

OLD MCHENRY RD
MIDLOTHIAN RD
QUENTIN RD

Corridor 4 includes approximately 11 miles of Old McHenry, Midlothian, and Quentin Roads in south central Lake County. Corridor 4's analysis area[1] traverses 6 communities (North Barrington, Hawthorn Woods, Lake Zurich, Kildeer, Long Grove, and Buffalo Grove) as well as unincorporated areas.

Demographics

The analysis area was characterized by population growth and relatively stable employment from 2000/2002 to 2015. Population, households, and housing units increased by 11%, 18%, and 18% respectively over the period. Nearly 12,000 residents lived within the analysis area in 2015. Employment was stable, with fewer than 200 jobs added over the period. Service jobs total nearly 3,000 within the analysis area and comprise a majority of jobs (77%).

Land Use

The Corridor 4 analysis area includes 7,208 acres, 25% of which is unincorporated. Communities with the most land in the analysis area are Hawthorn Woods, Long Grove, and Lake Zurich. Nearly half the land area is residential, with open space (16%) and agriculture (12%) also among the primary land uses.

Corridor 4 passes through an area of primarily single-family detached subdivisions: 89% of all housing units within the corridor are single-family detached and 9% are single-family attached. Open space and agricultural land uses are distributed throughout the analysis area. There are few commercial or industrial concentrations within the analysis area; these land uses are generally along the analysis area's perimeter rather than fronting Corridor 4 itself.

Retail, office and industrial development occurred in the analysis area from 2000 to 2015, with the most substantial growth in industrial development (adding 680,000 SF). A significant portion of total land within the corridor (1,400 acres of agricultural and vacant/under construction land (20% of total acreage)) may transition to other land uses in the future depending on transportation access, community plans and market conditions.

11,942 Population, 2015 | **+ 1,186** Change, 2000 to 2015 | **+ 11.0%** % Change, 2000 to 2015

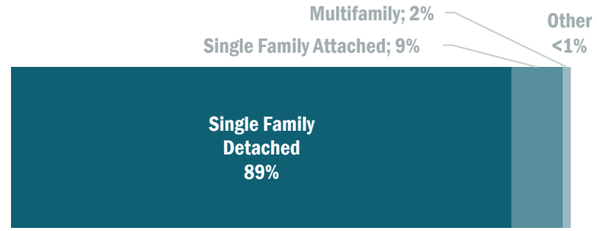
4,044 Households, 2015 | **+ 609** Change, 2000 to 2015 | **+ 17.7%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

4,127 Housing Units, 2015

+ 638 Change, 2000 to 2015

+ 18.3% % Change, 2000 to 2015



Housing Units by Type, 2015

3,872 Employment, 2015

+ 176 Change, 2002 to 2015

+ 4.8% % Change, 2002 to 2015

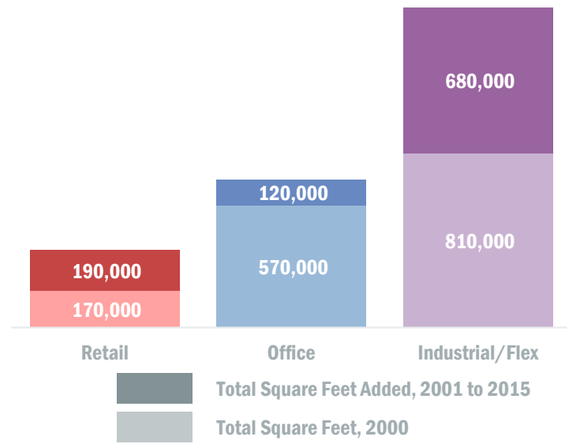
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

360,000 Retail SF, 2015

690,000 Office SF, 2015

1,490,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

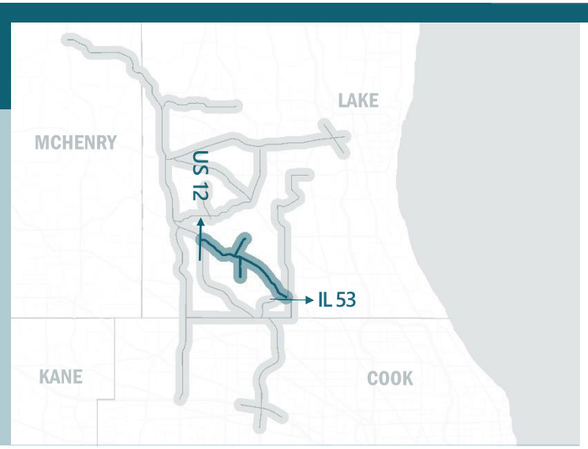
4.3 CORRIDOR 4

OLD MCHENRY RD
MIDLOTHIAN RD
QUENTIN RD

11 MILES

6 AFFECTED COMMUNITIES

7,208 ACRES [1]
WITHIN HALF MILE IMACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL **3,193** ACRES

COMMERCIAL 236 ACRES
INDUSTRIAL 160 ACRES
INSTITUTIONAL 185 ACRES
TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2] **876**
OPEN SPACE **1,124**

AGRICULTURAL **892**

VACANT/ UNDER CONSTRUCTION **542**

DEVELOPED/RESERVED
5,774 ACRES | 80%

UNDEVELOPED
1,434 ACRES | 20%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

HAWTHORN WOODS
2,039 ACRES | 576 ACRES

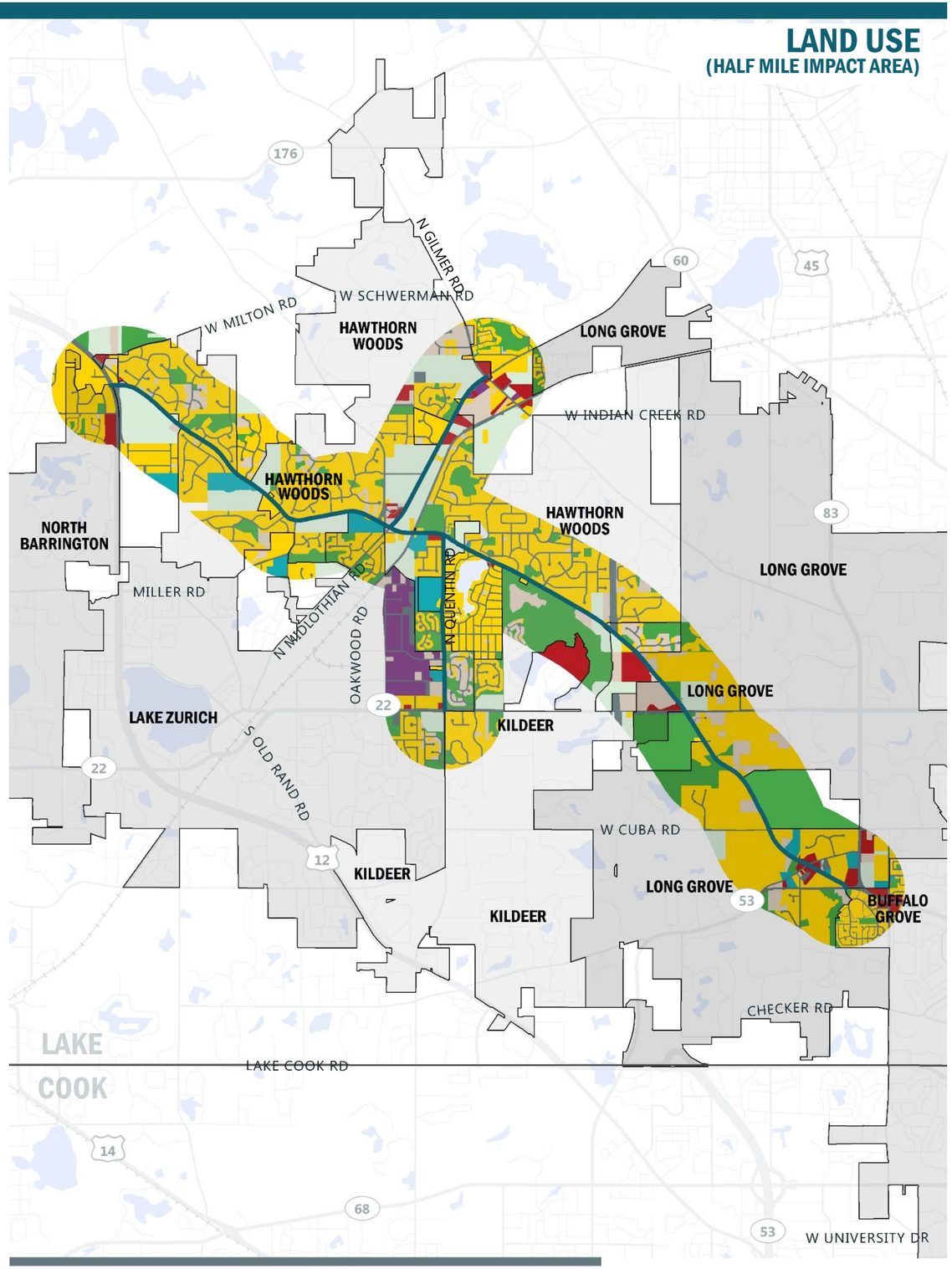
LONG GROVE
1,203 ACRES | 225 ACRES

LAKE ZURICH
478 | 56 ACRES

UNINCORPORATED AREAS
1,355 ACRES | 462 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



5 Miles

Sources: CMAP; Esri; SB Friedman; US Census

4.4 CORRIDOR 6

IL ROUTE 53
I-90
I-290

Corridor 6 (IL Route 53) extends approximately 12 miles from Higgins Road to Lake Cook Road through northwest Cook County and includes segments of I-90 and I-290. The Corridor 6 analysis area[1] traverses parts of 5 communities (Schaumburg, Rolling Meadows, Palatine, Arlington Heights, and Long Grove) as well as unincorporated areas of Cook and Lake Counties.

Demographics

The 2015 population and count of housing units within the Corridor 6 analysis area were essentially unchanged from 2000 levels. Both measures declined less than 1%, population to about 44,000 and housing units to approximately 18,000. Employment overall was down 10% from 2002 levels, a decline of about 6,400 jobs to a total of 55,600 jobs. Professional, Scientific, and Technical Services declined by more than 7,700 jobs over this time period with Manufacturing (-1,600) also showing steep job declines. However, growth in Healthcare and Social Assistance (+1,700) and Administration & Support, Waste Management and Remediation (+1,100) partially offset those losses.

Land Use

The Corridor 6 analysis area includes 8,161 acres, 18% of which is unincorporated. Communities with the most land within the analysis area are Rolling Meadows, Schaumburg, and Palatine. Approximately half the area within the analysis area is either residential (2,141 acres) or T/C/U/W (1,936 acres), including significant residential areas in Rolling Meadows and Palatine as well as substantial roadway facilities within the analysis area (I-90, I-290, IL-53). Residential units within the analysis area are primarily in multifamily units (60% of the total), followed by single-family detached (29%) and single-family attached (11%).

Approximately 20% of the analysis area is commercial, about half of which is located in Schaumburg, reflecting the regionally significant retail, office, and employment agglomerations at the I-90/I-290 interchange. Other major commercial and industrial/flex concentrations are located near the intersections of IL-53 with US-14 (Northwest Highway) and IL-68 (Dundee Road). The analysis area includes Cook County Forest Preserve's Ned Brown Preserve/Busse Woods in its southeast corner as well as some other open spaces throughout its length, though the analysis area is largely built out. While there was some retail and office development between 2000 and 2015 (retail inventory grew by 650,000 SF or 13%; office inventory grew by 340,000 SF or 3%), the inventory of industrial/flex space was unchanged and residential units (as noted above) were essentially unchanged as well. Most of the increase in retail was from three developments in Schaumburg, Rolling Meadows, and Long Grove. This area is largely built out – only 2% of land (187 acres) is undeveloped.

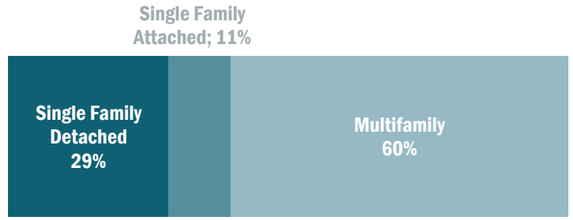
43,827 Population, 2015	**- 251** Change, 2000 to 2015	**- 0.6%** % Change, 2000 to 2015
16,475 Households, 2015	**- 687** Change, 2000 to 2015	**- 4.0%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

17,833 Housing Units, 2015

- 95 Change, 2000 to 2015

- 0.5% % Change, 2000 to 2015

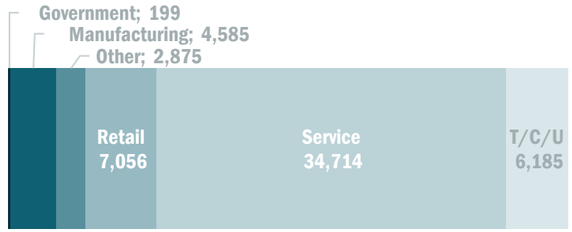


Housing Units by Type, 2015

55,614 Employment, 2015

- 6,431 Change, 2002 to 2015

- 10.4% % Change, 2002 to 2015



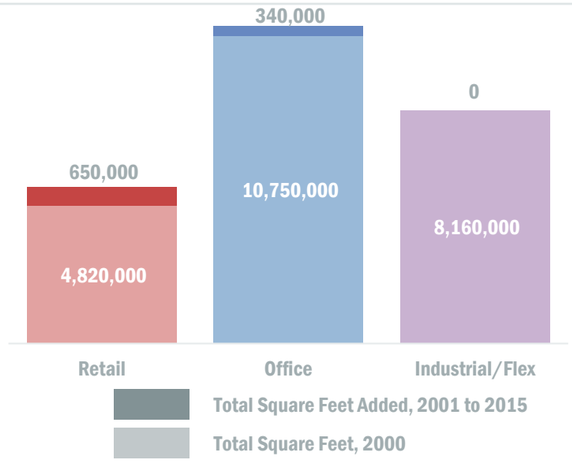
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

5,470,000 Retail SF, 2015

11,090,000 Office SF, 2015

8,160,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

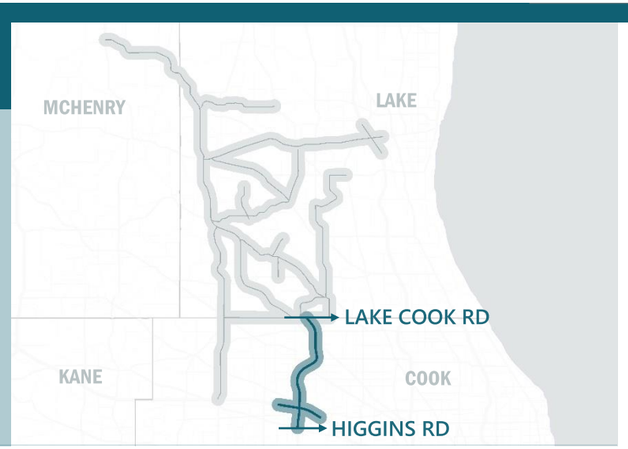
4.4 CORRIDOR 6

IL ROUTE 53
I-90
I-290

12 MILES

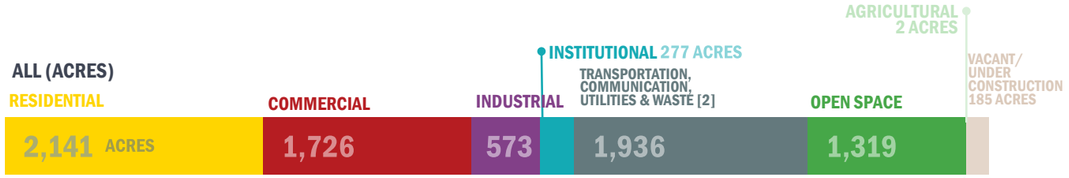
5 AFFECTED COMMUNITIES

8,161 ACRES [1]
WITHIN HALF MILE IMACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

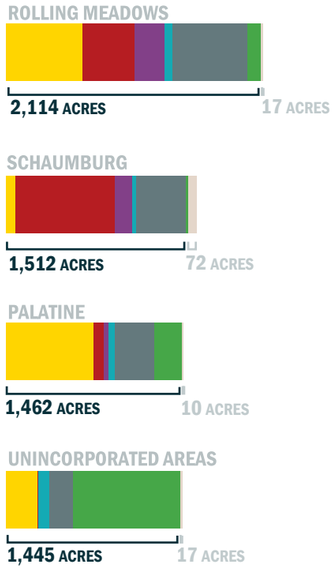
ALL (ACRES)



DEVELOPED/RESERVED
7,973 ACRES | 98%

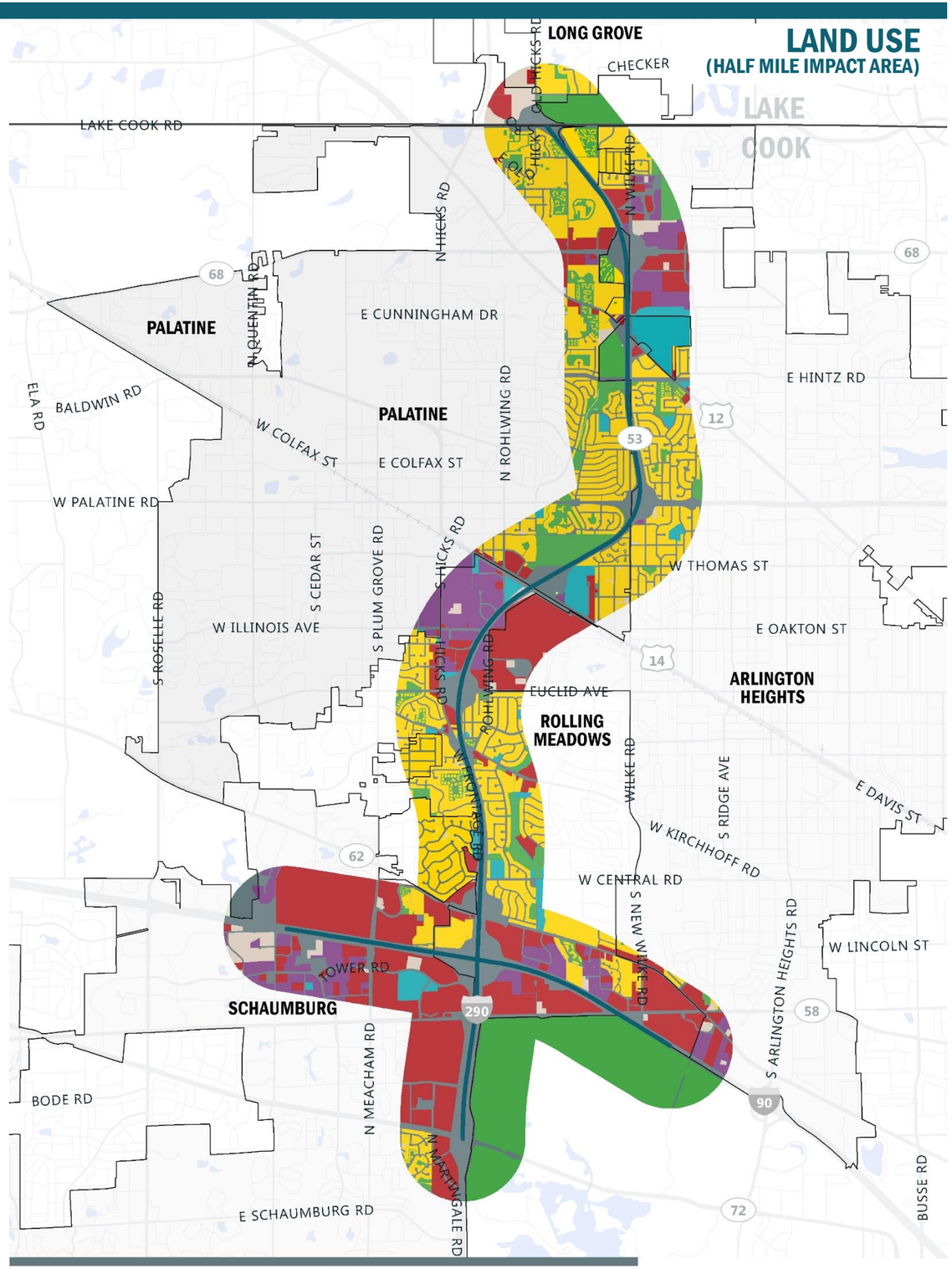
UNDEVELOPED
187 ACRES | 2%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.5 CORRIDOR 7

IL ROUTE 53
IL ROUTE 83
LAKE COOK RD
ARLINGTON HEIGHTS RD

Corridor 7 consists of approximately 16 miles of roadways across five distinct segments of the following four roadways in southern and central Lake/northern Cook Counties: IL Route 53, IL Route 83, Lake Cook Road, and Arlington Heights Road. The analysis area[1] traverses 10 communities (Long Grove, Vernon Hills, Buffalo Grove, Deer Park, Kildeer, Palatine, Arlington Heights, Mundelein, Grayslake, and Libertyville) and unincorporated areas.

Demographics

Overall, population, households and housing units were relatively stable, while employment grew to a greater extent from 2000/2002 to 2015. Population reached 31,000 in 2015, an increase of about 3% from 2000. Employment increased 14.3% (+900 jobs), reaching a total of approximately 7,300 jobs in 2015. Nearly all jobs are in either Service (3,700), Utilities/Transportation and Warehousing/Wholesale Trade (2,100) or Retail (1,100). The strongest employment growth occurred in Service sector professions, while retail and manufacturing employment declined over the period.

Land Use

The Corridor 7 analysis area includes 10,271 acres, about 22% of which is unincorporated. Long Grove, Grayslake and Buffalo Grove have the most acreage within the analysis area. Residential is the largest land use (36% of acreage), followed by open space (17%). Approximately 21% of the acreage is either agricultural or vacant/under construction, land which may undergo land use change in the future, depending on transportation access, community plans and market conditions.

Corridor 7 connects multiple commercial nodes (i.e., Deer Park Town Center, downtown Grayslake, the retail agglomeration at US Route 45 and Townline Road in Mundelein, and the Mundelein Crossings power center in western Mundelein), but does not directly pass through any. There is limited industrial land use (157 acres total), located primarily in Grayslake and Palatine.

Development occurred across all land uses from 2000 to 2015: 600,000 SF of retail development (mostly in three developments in Long Grove and Mundelein), 180,000 SF of office, and 500,000 SF of industrial/flex (entirely within Grayslake and Mundelein). Employment growth and non-residential development outpaced residential development from 2000 to 2015. Much of the remaining land available for development within the analysis area is along IL Route 83 between IL Route 60 and IL Route 137.

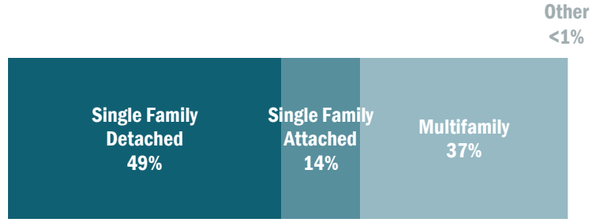
31,043 Population, 2015	**+ 926** Change, 2000 to 2015	**+ 3.1%** % Change, 2000 to 2015
10,982 Households, 2015	**+ 42** Change, 2000 to 2015	**+ 0.4%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

11,569 Housing Units, 2015

+ 339 Change, 2000 to 2015

+ 3.0% % Change, 2000 to 2015

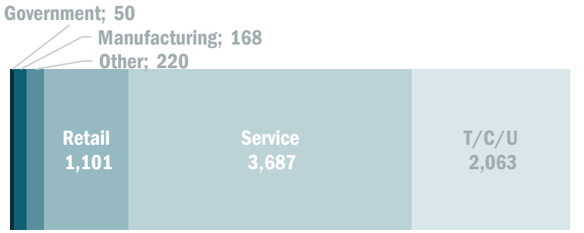


Housing Units by Type, 2015

7,289 Employment, 2015

+ 913 Change, 2002 to 2015

+ 14.3% % Change, 2002 to 2015



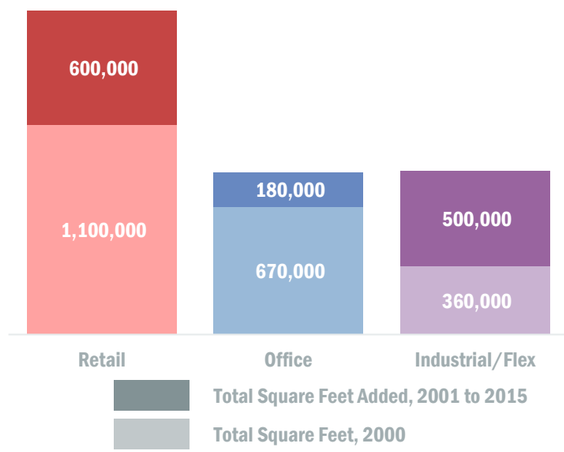
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

1,700,000 Retail SF, 2015

850,000 Office SF, 2015

860,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

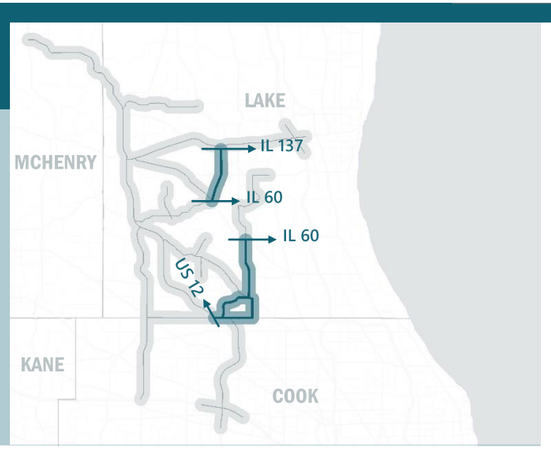
4.5 CORRIDOR 7

IL ROUTE 53
IL ROUTE 83
LAKE COOK RD
ARLINGTON HEIGHTS RD

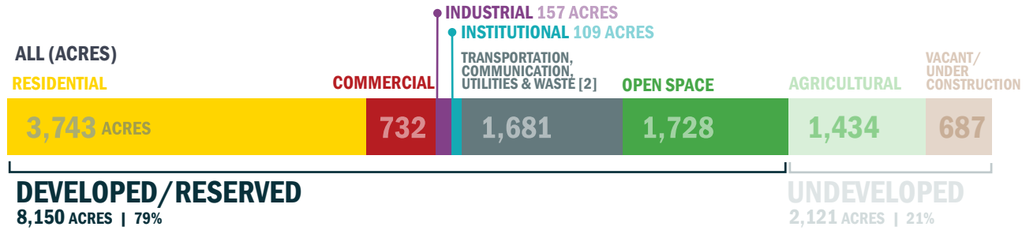
16 MILES

10 AFFECTED COMMUNITIES

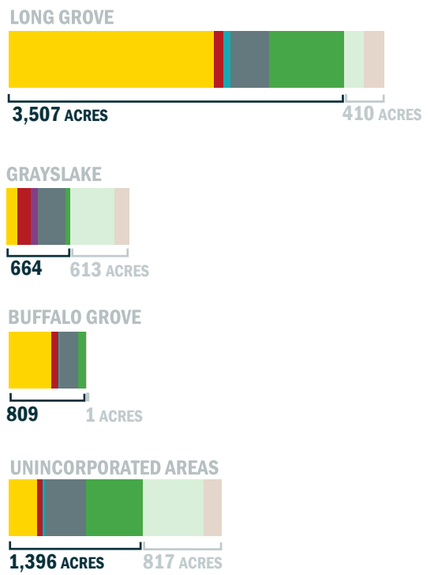
10,271 ACRES [1]
WITHIN HALF MILE IMACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

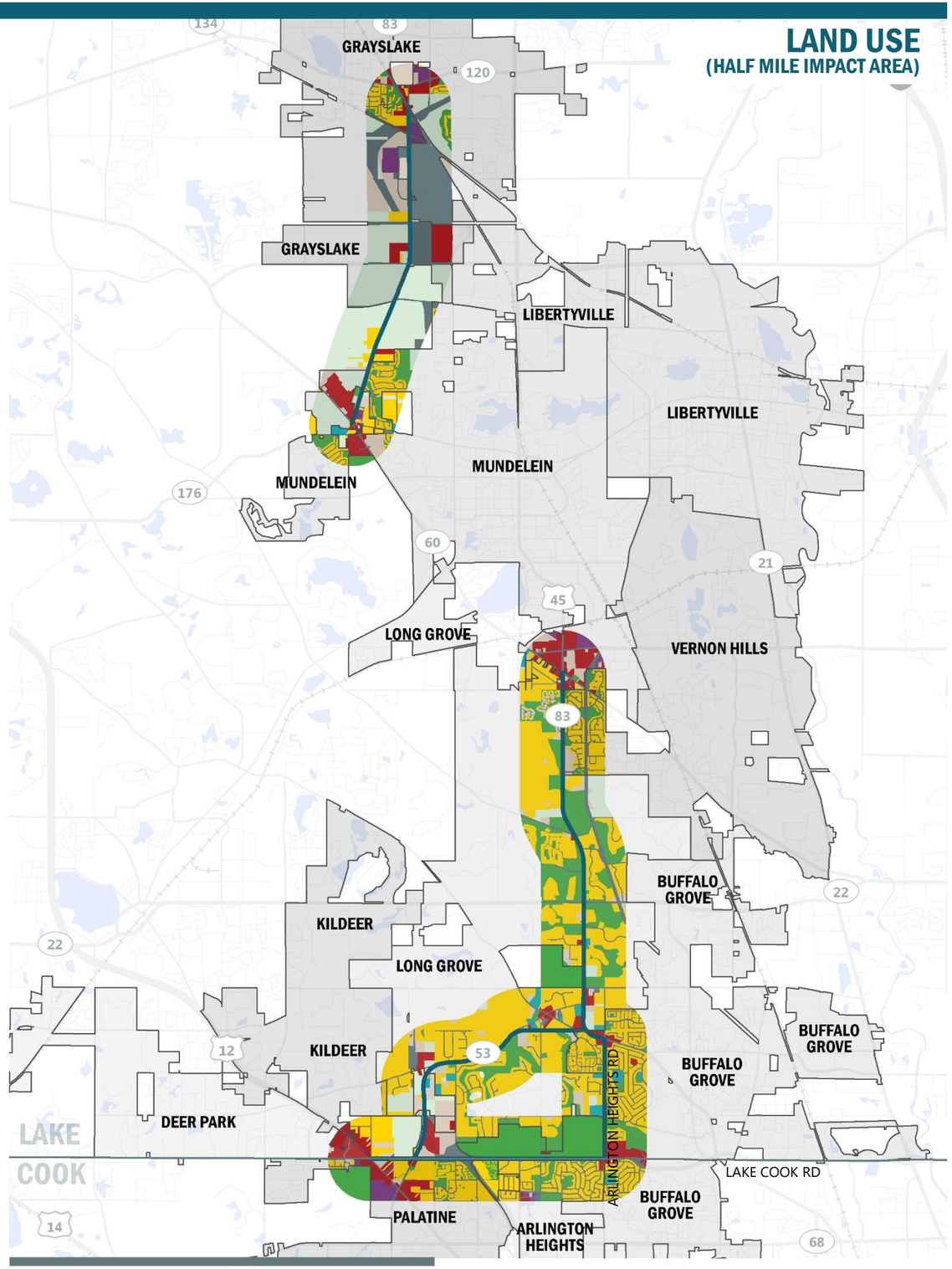


COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.6 CORRIDOR 8 LAKE COOK RD

Corridor 8 (Lake Cook Road) extends approximately 5 miles from IL 59/Hough Street to US 12, running along the border between Lake and Cook Counties. The Corridor 8 analysis area[1] includes portions of 4 communities (Barrington, Deer Park, Palatine, and Kildeer) and unincorporated areas.

Demographics

The analysis area was characterized by stable population and growing employment from 2000/2002 to 2015. Population declined slightly (by 53 people), reaching about 10,424 residents in 2015. The number of jobs increased by approximately 1,300, or 16%. Service sectors gained nearly 1,000 jobs during this time period with the retail (+600) and manufacturing (+400) sectors also experiencing job gains.

Land Use

The Corridor 8 analysis area includes 3,664 acres, approximately 31% of which is unincorporated. Communities with the most land within the analysis area are Barrington, Deer Park, and Palatine. Approximately half the land in the analysis area is residential. Approximately 80% of units are single-family (mainly single-family detached), with the remaining approximately 20% in multifamily properties. Other major land uses are T/C/U/W, open space, and commercial.

Corridor 8 primarily passes through areas of cul-de-sac residential subdivisions, but also connects downtown Barrington on the west with the major retail agglomeration around the Deer Park Town Center on the east. Open space (including parts of the Cook County Forest Preserve's Deer Grove Forest Preserve) is interspersed with residential land uses, with industrial limited primarily to one industrial site in Palatine.

Retail and office both added considerable square footage (230,000 SF and 580,000 SF, respectively) when compared to 2000 totals (increases of 19.8% and 89.2% respectively). Compared with the relatively modest increase in housing units (roughly 250 units or 6.0%), it appears Corridor 8 was more attractive for non-residential uses since 2000. Limited vacant/under construction and agricultural land (211 acres total) remains in the analysis area.

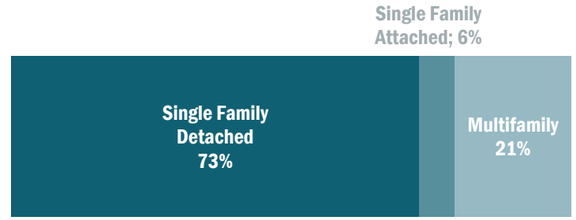
10,424 Population, 2015	**- 53** Change, 2000 to 2015	**- 0.5%** % Change, 2000 to 2015
3,822 Households, 2015	**- 16** Change, 2000 to 2015	**- 0.4%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

4,213 Housing Units, 2015

+ 239 Change, 2000 to 2015

+ 6.0% % Change, 2000 to 2015

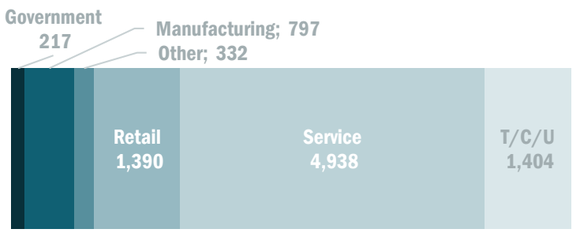


Housing Units by Type, 2015

9,078 Employment, 2015

+ 1,275 Change, 2002 to 2015

+ 16.3% % Change, 2002 to 2015



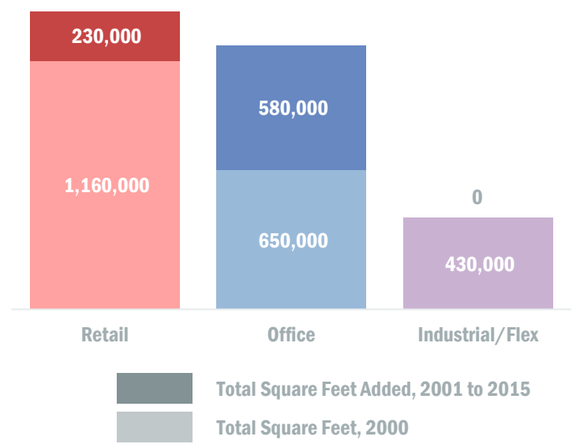
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

1,390,000 Retail SF, 2015

1,230,000 Office SF, 2015

430,000 Industrial/Flex SF, 2015



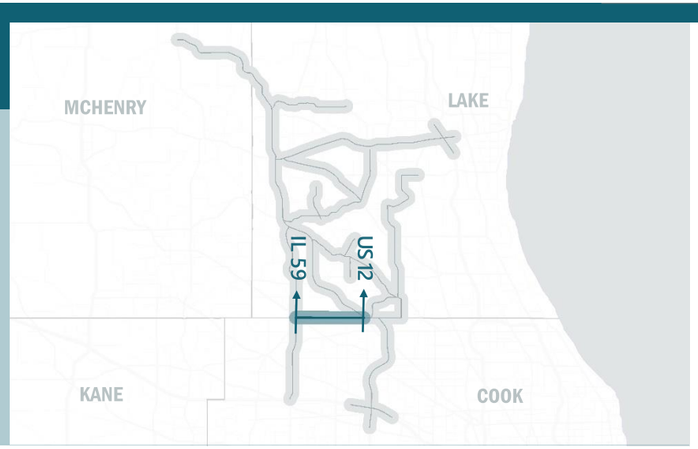
Building Square Feet, 2000 and 2015

CORRIDOR 8 LAKE COOK RD

5 MILES

4 AFFECTED COMMUNITIES

3,664 ACRES [1] WITHIN HALF MILE IMACT AREA



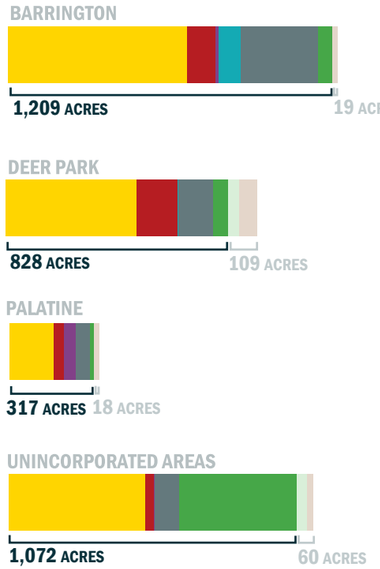
LAND USE (HALF MILE IMPACT AREA) [1]

ALL (ACRES)

DEVELOPED/RESERVED
3,453 ACRES | 94%

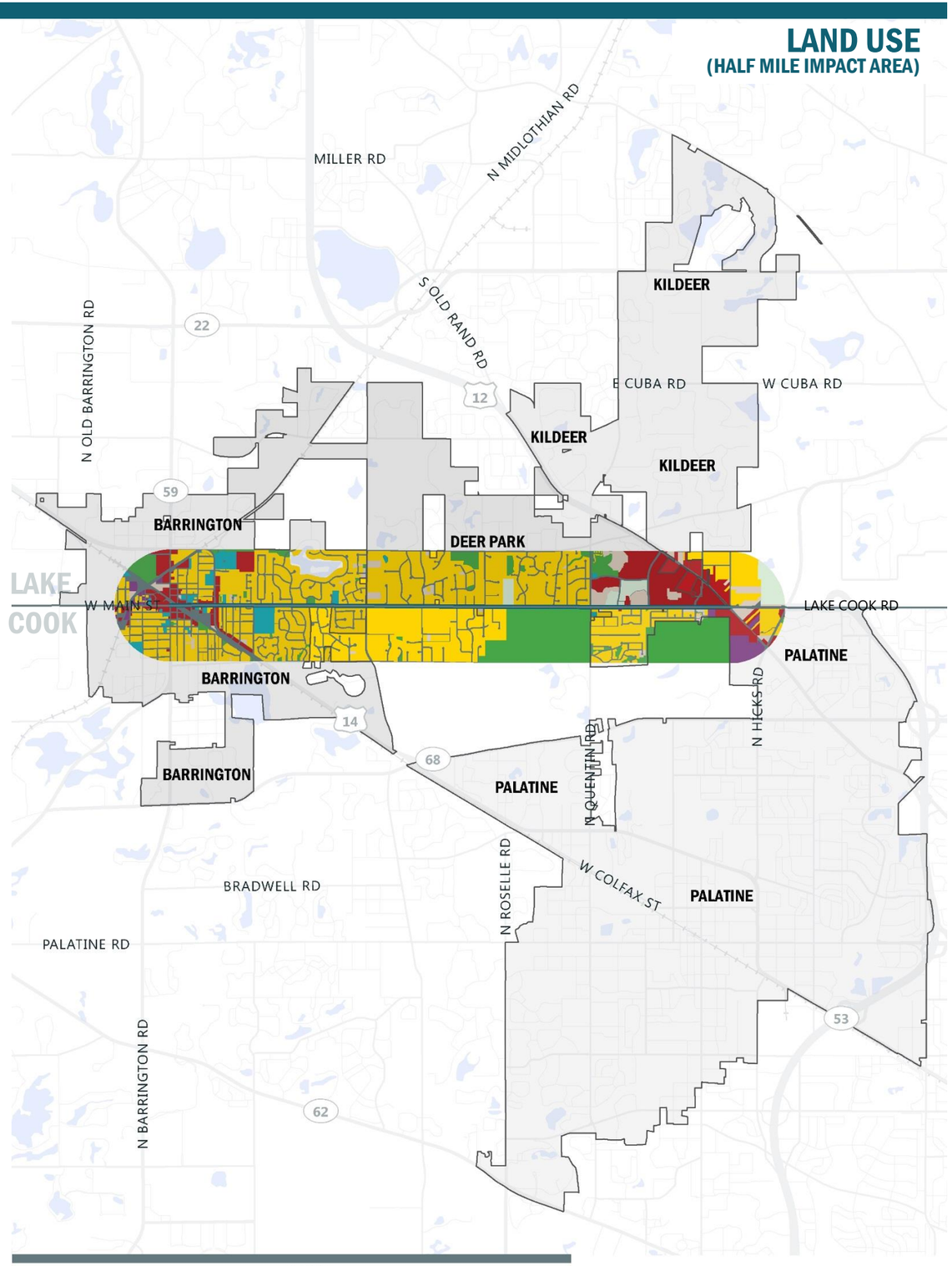
UNDEVELOPED
211 ACRES | 6%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.7 CORRIDOR 9 IL ROUTE 59 BARRINGTON RD

Corridor 9 (IL Route 59/Barrington Road) extends approximately 13 miles from I-90 to US Route 12 in northwestern Cook and southwestern Lake Counties. The Corridor 9 analysis area[1] traverses 10 communities (South Barrington, Hoffman Estates, Barrington Hills, Inverness, Barrington, Deer Park, North Barrington, Lake Barrington, Tower Lakes, and Wauconda) and unincorporated areas.

Demographics
The analysis area was characterized by increasing population and declining employment from 2000/2002 to 2015. Population grew by 5% (630 people) over the period, reaching nearly 14,000 in 2015. Employment fell by 6% (-700 jobs) to about 11,700 in 2015. Construction (-500) and manufacturing (-300) sectors lost the most jobs during the period, with service sector employment also declining (-300).

Land Use
The Corridor 9 analysis area includes 8,862 acres, approximately 25% of which is unincorporated. Communities with the most land in the analysis area are North Barrington, Barrington, and South Barrington. Nearly half the total acres within the analysis area are residential, and close to 85% of residential units are single-family units. Other major land uses are open space and T/C/U/W. Commercial and industrial combined comprise only 7% of total land area.

Commercial and industrial land uses are tightly clustered in certain areas – around the Barrington Road/I-90 interchange at the Corridor's southern end, at its intersections with IL Route 68, at Lake Cook Road, and in downtown Wauconda. Outside of these areas land uses are generally a mix of residential, open space, and institutional uses. The analysis area also includes a portion of the Cook County Forest Preserve's Crabtree Forest Preserve near its southern end.

The analysis area experienced some new retail and office development between 2000 and 2015 (adding 310,000 SF or 22.1% and 170,000 SF or 9.2%, respectively). Nearly 900 acres of land are agricultural or vacant/under construction and may experience land use changes in the future, depending on transportation access, market factors and community plans.

13,908 Population, 2015 | **+ 630** Change, 2000 to 2015 | **+ 4.7%** % Change, 2000 to 2015

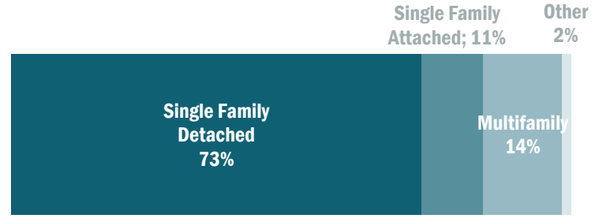
5,241 Households, 2015 | **+ 116** Change, 2000 to 2015 | **+ 2.3%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

5,735 Housing Units, 2015

+ 436 Change, 2000 to 2015

+ 8.2% % Change, 2000 to 2015



Housing Units by Type, 2015

11,691 Employment, 2015

- 685 Change, 2002 to 2015

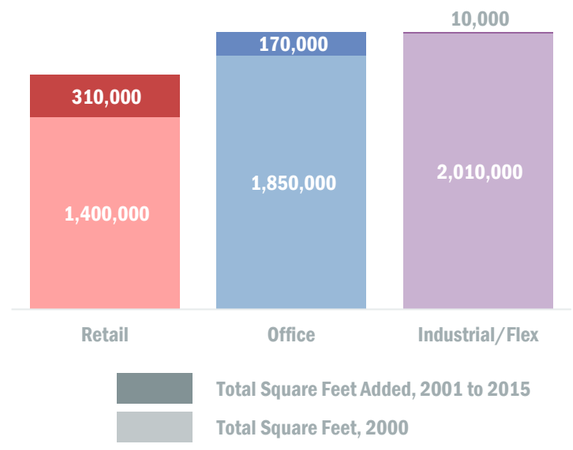
- 5.5% % Change, 2002 to 2015

Employment by Sector, 2015
See Table 5.2 for detailed list of industries within each sector

1,710,000 Retail SF, 2015

2,020,000 Office SF, 2015

2,020,000 Industrial/Flex SF, 2015



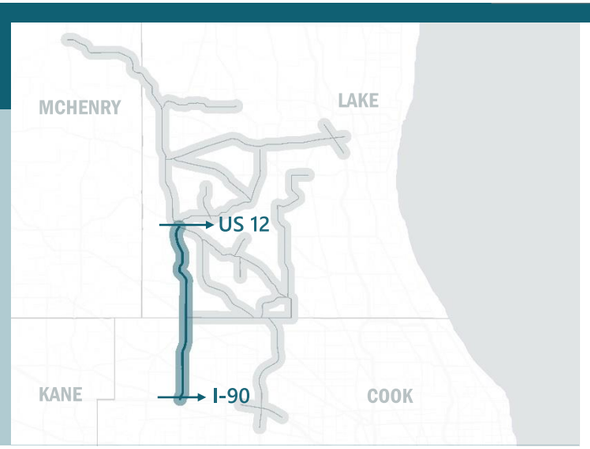
Building Square Feet, 2000 and 2015

4.7 CORRIDOR 9 IL ROUTE 59 BARRINGTON RD

13 MILES

10 AFFECTED COMMUNITIES

8,862 ACRES [1] WITHIN HALF MILE IMACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL 4,110 ACRES | COMMERCIAL 499 | INDUSTRIAL 152 ACRES | INSTITUTIONAL 330 ACRES | TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2] 1,219 | OPEN SPACE 1,659 | AGRICULTURAL 390 ACRES | VACANT/ UNDER CONSTRUCTION 502

DEVELOPED/RESERVED 7,969 ACRES | 90%

UNDEVELOPED 892 ACRES | 10%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

NORTH BARRNINGTON
1,254 ACRES | 106 ACRES

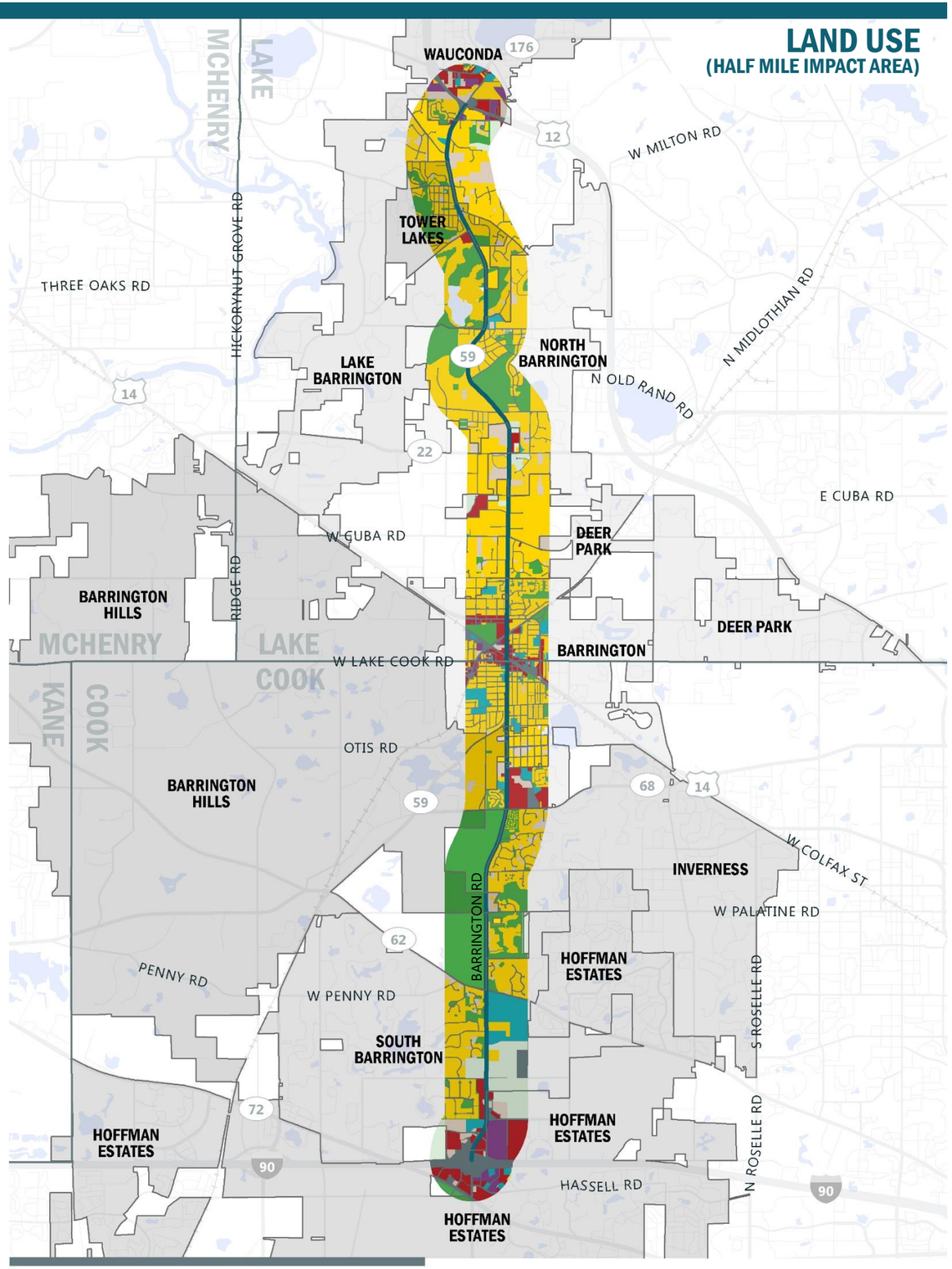
BARRINGTON
1,317 ACRES | 43 ACRES

SOUTH BARRINGTON
928 | 244 ACRES

UNINCORPORATED AREAS
1,992 ACRES | 262 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.8 CORRIDOR 11

IL ROUTE 120
I-94

Corridor 11 (IL Route 120) extends approximately 16 miles across central Lake County from IL 59 to just east of O'Plaine Road and includes adjacent portions of I-94. The Corridor 11 analysis area[1] traverses 10 communities (Lakemoor, Volo, Round Lake, Round Lake Park, Hainesville, Grayslake, Gurnee, Waukegan, Green Oaks, and Park City) and unincorporated areas of Lake County.

Demographics

Population, the number of housing units, and employment have all grown strongly over the 2000/2002 to 2015 period. The analysis area added more than 6,200 people (+28%). Similarly, the number of housing units grew by 2,030 (+24%). Employment grew by an even greater amount: a 66% increase (+3,600 jobs) between 2002 and 2015. Employment growth was heavily driven by an increase of almost 3,200 Manufacturing sector jobs, partially due to the development of the Baxter Headquarters within the analysis area. Overall employment in all other sectors also grew by approximately 450 jobs.

Land Use

The Corridor 11 analysis area includes 10,511 acres, 32% of which is unincorporated. Communities with the most land within the analysis area are Grayslake, Gurnee, and Waukegan. The three largest land uses are approximately 64% of the total acreage – residential (23%), agriculture (22%), and open space (19%).

Crossing Lake County west to east, Corridor 11 crosses several different landscapes. Land use is more undeveloped at the western end near Volo with a mix of industrial land uses, open space, and agriculture intermixed with some commercial and residential. Centrally, in the Grayslake area, land use appears more developed but just as varied with different types of residential (older gridded residential streets as well as cul-de-sac style residential), as well as commercial and industrial land uses. Further east, the analysis area captures a portion of the Almond Marsh Forest Preserve before intersecting I-94 and ending in an area of residential and commercial development in the Gurnee/Waukegan/Park City area. Along segments of I-94 in the analysis area are some agricultural lands and open space along the Des Plaines River.

Just as other metrics increased strongly during the analysis period in the analysis area, so did retail, office, and industrial/flex inventories, increasing by 47%, 59%, and 110% respectively. 400,000 SF of the new industrial/flex development was a single data center in Volo. There are 3,119 acres (30% of total acreage) of currently agricultural or vacant/under construction areas remaining. This is land that may undergo land use change in the future depending on transportation access, community plans and market conditions.

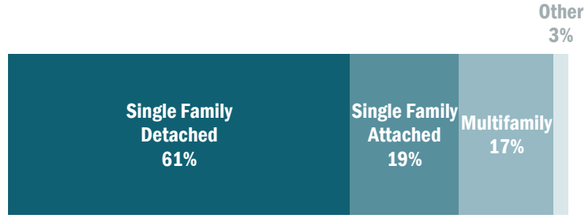
28,872 Population, 2015	+ 6,231 Change, 2000 to 2015	+ 27.5% % Change, 2000 to 2015
10,244 Households, 2015	+ 1,907 Change, 2000 to 2015	+ 22.9% % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

10,604
Housing Units, 2015

+ 2,030
Change, 2000 to 2015

+ 23.7%
% Change, 2000 to 2015

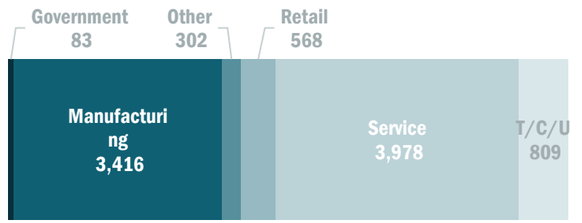


Housing Units by Type, 2015

9,156
Employment, 2015

+ 3,632
Change, 2002 to 2015

+ 65.7%
% Change, 2002 to 2015

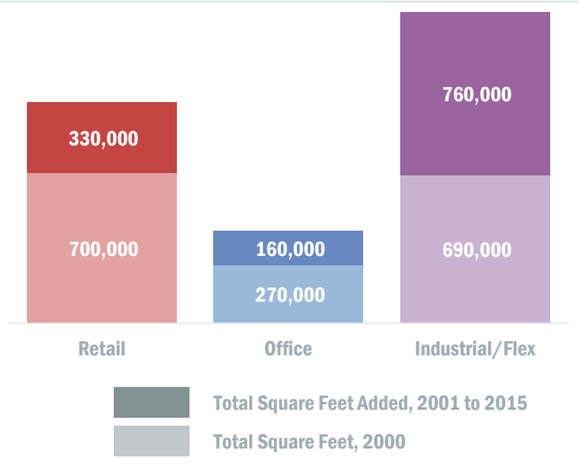


Employment by Sector, 2015
See Table 5.2 for detailed list of industries within each sector

1,030,000
Retail SF, 2015

430,000
Office SF, 2015

1,450,000
Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

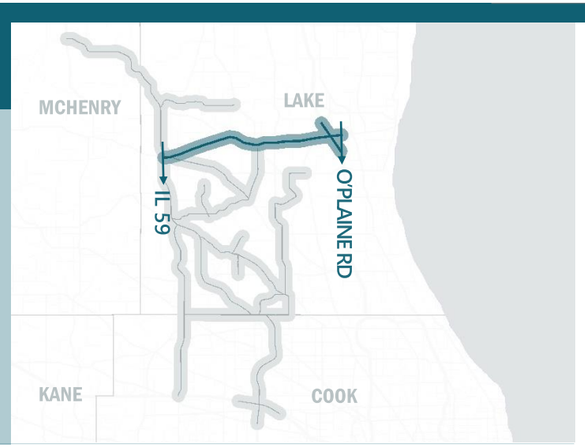
4.8 CORRIDOR 11

IL ROUTE 120
I-94

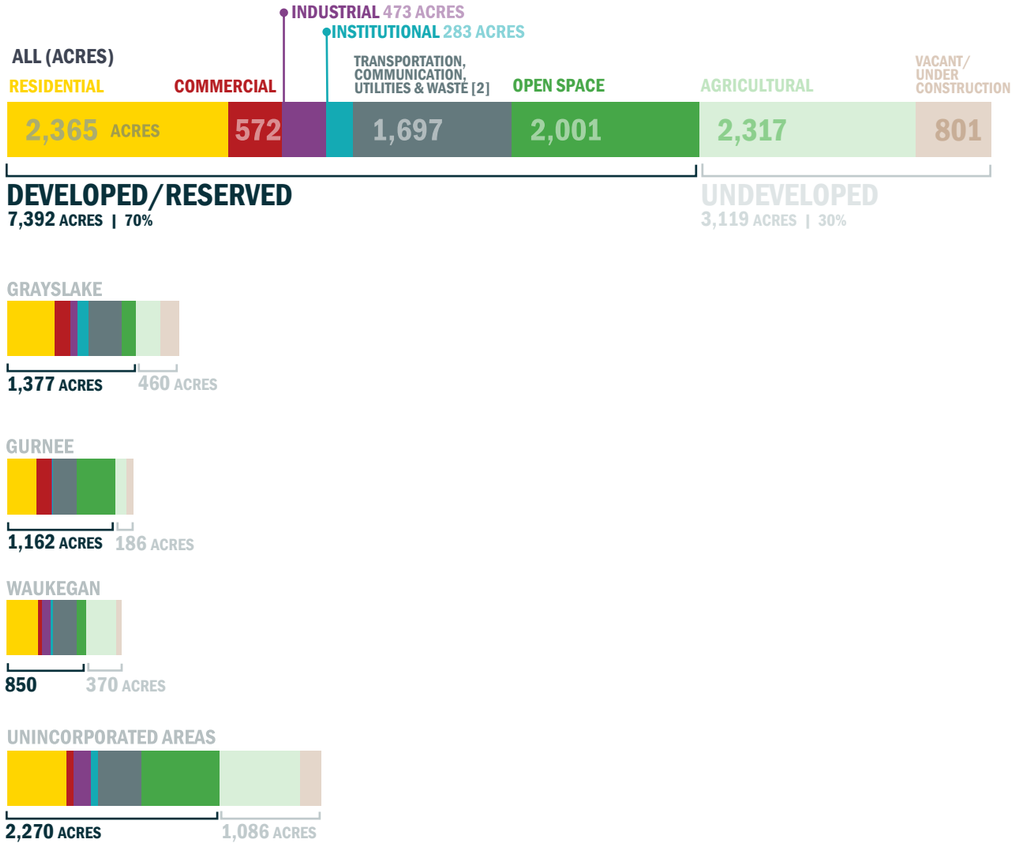
16 MILES

10 AFFECTED COMMUNITIES

10,511 ACRES [1]
WITHIN HALF MILE IMACT AREA



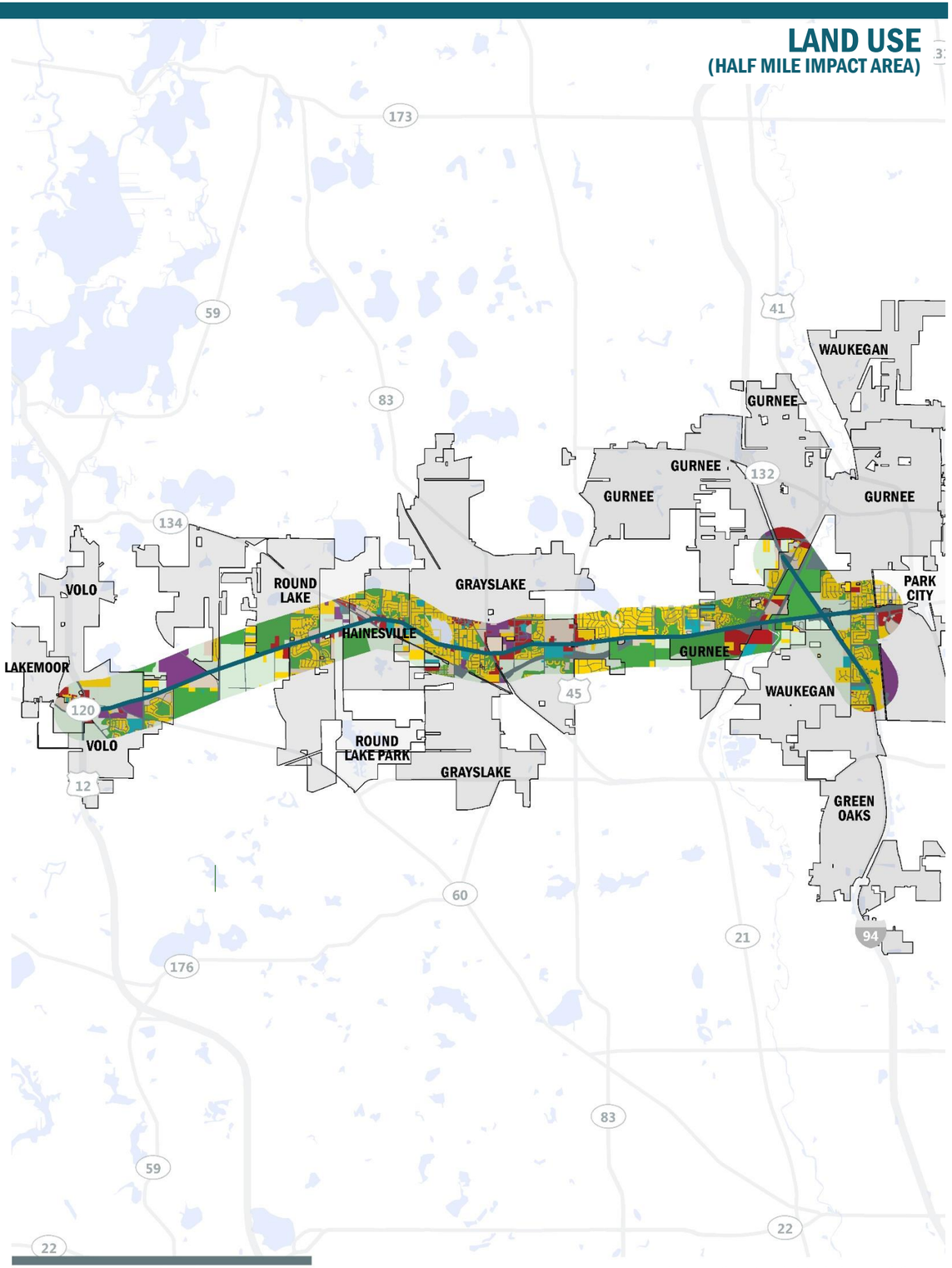
LAND USE (HALF MILE IMPACT AREA) [1]



COMMUNITIES WITH MOST IMPACT AREA ACREAGE

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.9 CORRIDOR 13

IL ROUTE 176
FAIRFIELD RD

Corridor 13 is made up of two roadway segments totaling approximately 9 miles in central Lake County: IL 176 (from US 12 to IL 60/IL 83) and Fairfield Road (from Ivanhoe Road to Gilmer Road). The Corridor 13 analysis area[1] traverses 3 communities (Wauconda, Hawthorn Woods, and Mundelein) and unincorporated areas.

Demographics

Corridor 13 experienced robust population, household and housing unit growth from 2000 to 2015, while employment grew modestly from 2002 to 2015. Population increased 30% (+1,800 people), reaching approximately 7,900 in 2015. Employment grew 9% (+200 jobs), reaching nearly 2,800 jobs in 2015. The Retail sector experienced the greatest increase in employment, adding over 400 jobs over the period. Service sector employment, thought the largest employment sector overall, fell by more than 200 jobs over the period.

Land Use

The Corridor 13 analysis area includes 5,725 acres, 61% of which is unincorporated. Portions of Wauconda, Mundelein, and Hawthorn Woods also fall within the analysis area. The largest land use is open space (Lakewood Forest Preserve and adjacent protected open spaces), occupying approximately 2,300 acres, or 40% of total acreage. Residential land is the second largest land use (24%, 1,400 acres) followed by agriculture (16%, 936 acres).

Lakewood Forest Preserve and adjacent protected open spaces occupy the central portion of the analysis area and effectively divide the more developed parts of the analysis area. Downtown Wauconda contains a mix of commercial, residential, and institutional land uses at the west end of the analysis area. Residential development and agricultural land are located at the north end near the Fairfield Road and Gilmer Road intersection. At the eastern end, there is a mix of residential dwellings, smaller strip centers, standalone retail, and office.

Retail and industrial/flex development occurred from 2000 to 2015. Retail square footage increased by 180,000 SF or 41%, while industrial/flex increased by 120,000 SF over a modest base, resulting in an 86% increase. Nearly 1,200 acres of agricultural or vacant/under construction land may change land use in the future, depending on transportation access, market factors and community plans.

7,941 Population, 2015 | **+ 1,831** Change, 2000 to 2015 | **+ 30.0%** % Change, 2000 to 2015

3,310 Households, 2015 | **+ 826** Change, 2000 to 2015 | **+ 33.3%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

3,521 Housing Units, 2015

+ 855 Change, 2000 to 2015

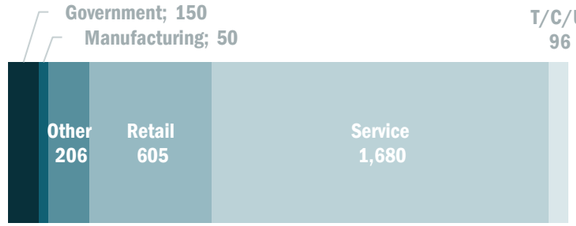
+ 32.1% % Change, 2000 to 2015

Housing Units by Type, 2015

2,787 Employment, 2015

+ 227 Change, 2002 to 2015

+ 8.9% % Change, 2002 to 2015



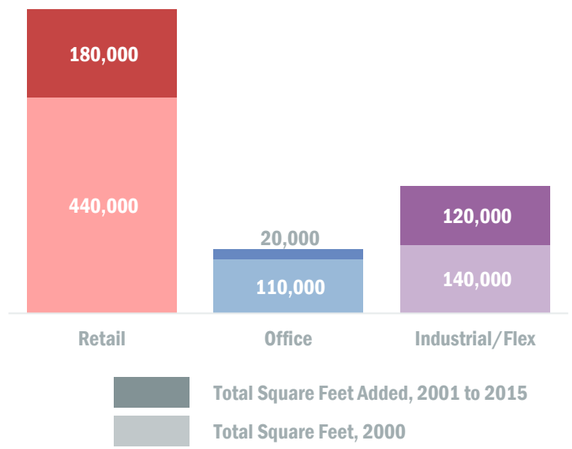
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

620,000 Retail SF, 2015

130,000 Office SF, 2015

260,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

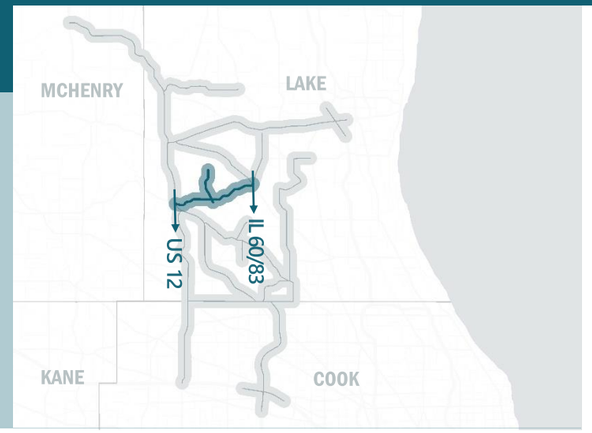
4.9 CORRIDOR 13

IL ROUTE 176
FAIRFIELD RD

9 MILES

3 AFFECTED COMMUNITIES

5,725 ACRES [1]
WITHIN HALF MILE IMACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL **1,395** ACRES

COMMERCIAL 251 ACRES
INDUSTRIAL 51 ACRES
INSTITUTIONAL 83 ACRES
TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2] 493 ACRES

OPEN SPACE **2,291**

AGRICULTURAL **936**

VACANT/ UNDER CONSTRUCTION **227**

DEVELOPED/RESERVED
4,563 ACRES | 80%

UNDEVELOPED
1,162 ACRES | 20%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

WAUCONDA
1,282 ACRES | 107 ACRES

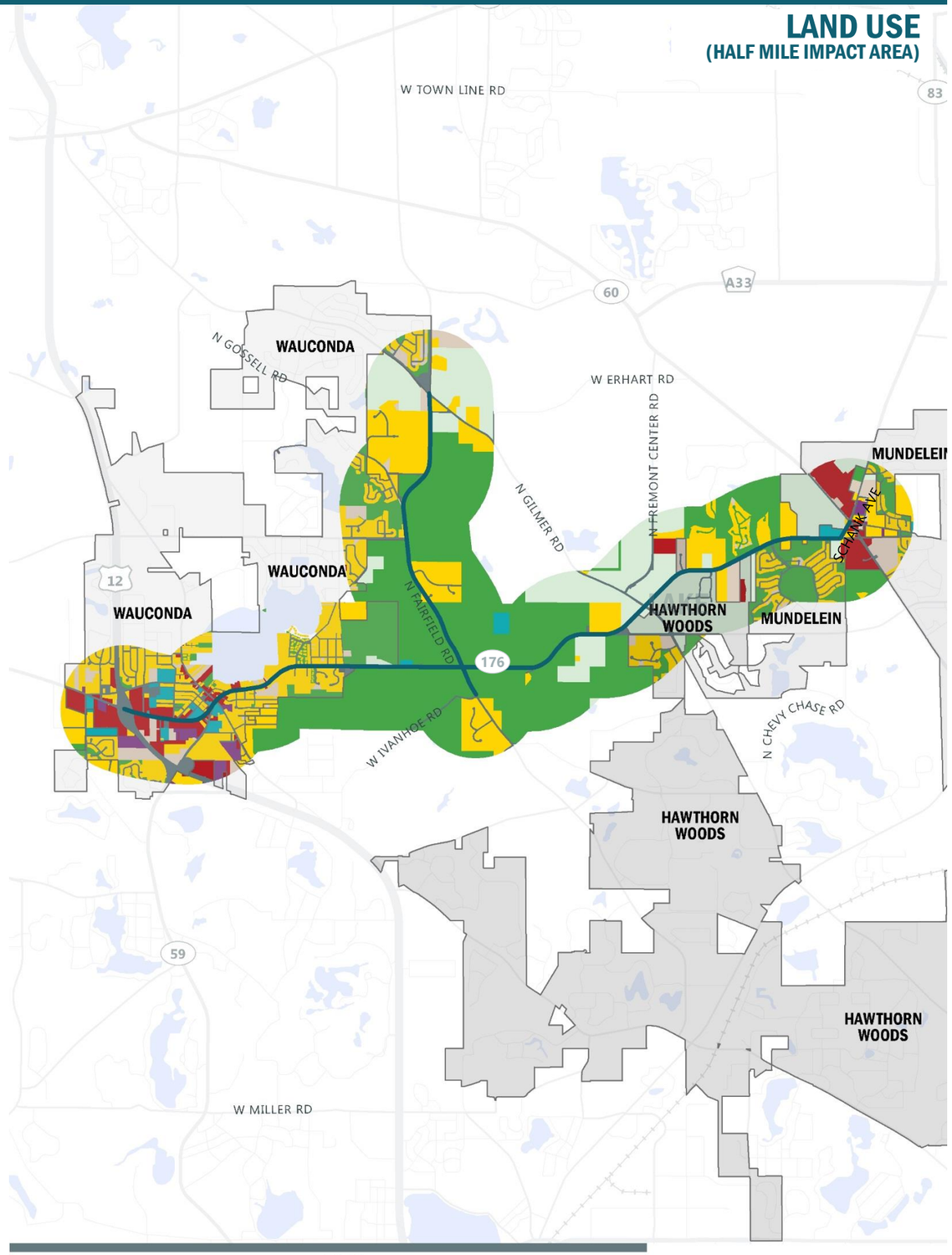
MUNDELEIN
392 | 148 ACRES

HAWTHORN WOODS
87 | 221 ACRES

UNINCORPORATED AREAS
2,802 ACRES | 686 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE
(HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.10 CORRIDOR 14 IL ROUTE 59 ROLLINS RD

Corridor 14 is made up of two roadway segments totaling approximately 5 miles in northwest Lake County: IL 59 (from US 12 to Rollins Rd) and Rollins Road (from IL 59 to IL 83). The Corridor 14 analysis area[1] traverses 4 communities (Fox Lake, Round Lake Beach, Round Lake Heights, and Grayslake) and unincorporated areas.

Demographics

Employment growth outpaced growth in population, households, and housing units during the analysis period. Employment grew by over 900 jobs, or 29%, between 2002 and 2015. Accommodation and Food Services experienced the largest absolute gain in employment, adding approximately 850 jobs. Health Care and Social Assistance and Educational Services also grew by more than 100 jobs each, though Retail Trade lost nearly 250 jobs. The inventory of housing units grew by 13% (approx. 900 units), while the count of households and population grew by 11% (approx. 700 households) and 10% (approx. 2,100 people) respectively, from 2000 to 2015.

Land Use

The Corridor 14 analysis area includes 4,122 acres, 35% of which is unincorporated. Communities with the most land within the analysis area are Round Lake Beach, Fox Lake, and Round Lake Heights. Residential is the largest land use, occupying 1,700 acres (41% of the total acreage), followed by open space (18%, 742 acres), and T/C/U/W (18%, 725 acres). Corridor 14 runs from the southern and eastern portions of Fox Lake at its western end, east to the intersection of Rollins Road and IL Route 83 in Round Lake Beach. Corridor 14 links largely residential areas in southeast Fox Lake, lower density retail strips and older residential development on a full street grid in Round Lake Heights and western Round Lake Beach, and a substantial retail agglomeration at the intersection of Rollins Road and IL Route 83 at its eastern end in Round Lake Beach. This retail agglomeration contains multiple big box stores and retail outlots. Corridor 14 also passes through Grant Woods Forest Preserve. Approximately 450 acres of land remains agricultural or vacant/under construction in the analysis area, indicating that about 11% of the total land area may change land use in the future, depending on transportation access, market factors and community plans.

Approximately 300,000 SF of retail was added to the Corridor 14 analysis area from 2000 to 2015, a 24% increase. Approximately 200,000 SF of that came from just two new retail developments – a 99,000 SF development in Fox Lake and a 97,000 SF development in Round Lake Beach. No new office or industrial development occurred within the analysis area between 2000 and 2015.

22,873 Population, 2015 | **+ 2,116** Change, 2000 to 2015 | **+ 10.2%** % Change, 2000 to 2015

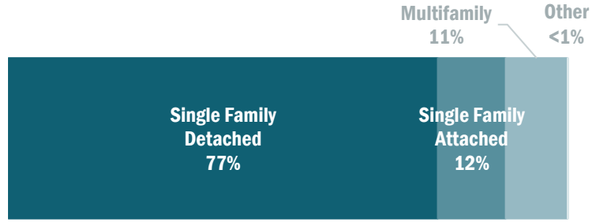
6,994 Households, 2015 | **+ 683** Change, 2000 to 2015 | **+ 10.8%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

7,472 Housing Units, 2015

+ 869 Change, 2000 to 2015

+ 13.2% % Change, 2000 to 2015

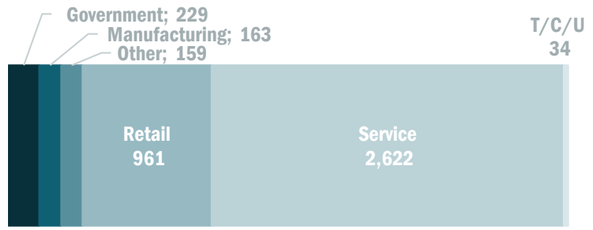


Housing Units by Type, 2015

4,168 Employment, 2015

+ 938 Change, 2002 to 2015

+ 29.0% % Change, 2002 to 2015



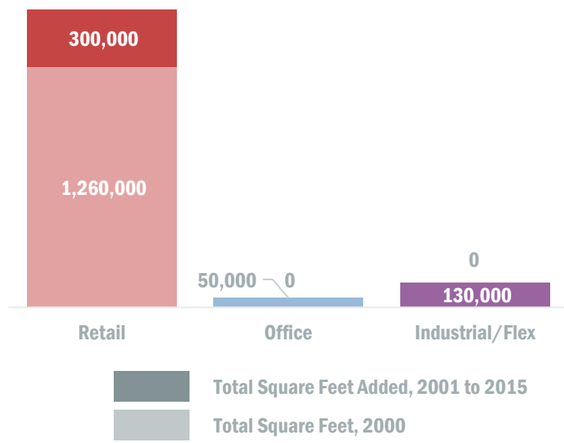
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

1,560,000 Retail SF, 2015

50,000 Office SF, 2015

130,000 Industrial/Flex SF, 2015



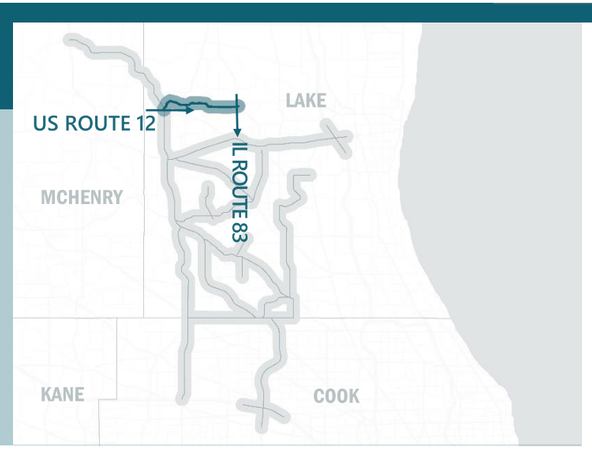
Building Square Feet, 2000 and 2015

4.10 CORRIDOR 14 IL ROUTE 59 ROLLINS RD

5 MILES

4 AFFECTED COMMUNITIES

4,122 ACRES [1] WITHIN HALF MILE IMPACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2]	OPEN SPACE	AGRICULTURAL	VACANT/ UNDER CONSTRUCTION
1,700 ACRES	331	32 ACRES	143 ACRES	725	742	43 ACRES	407

DEVELOPED/RESERVED
3,673 ACRES | 89%

UNDEVELOPED
449 ACRES | 11%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

ROUND LAKE BEACH
1,427 ACRES | 118 ACRES

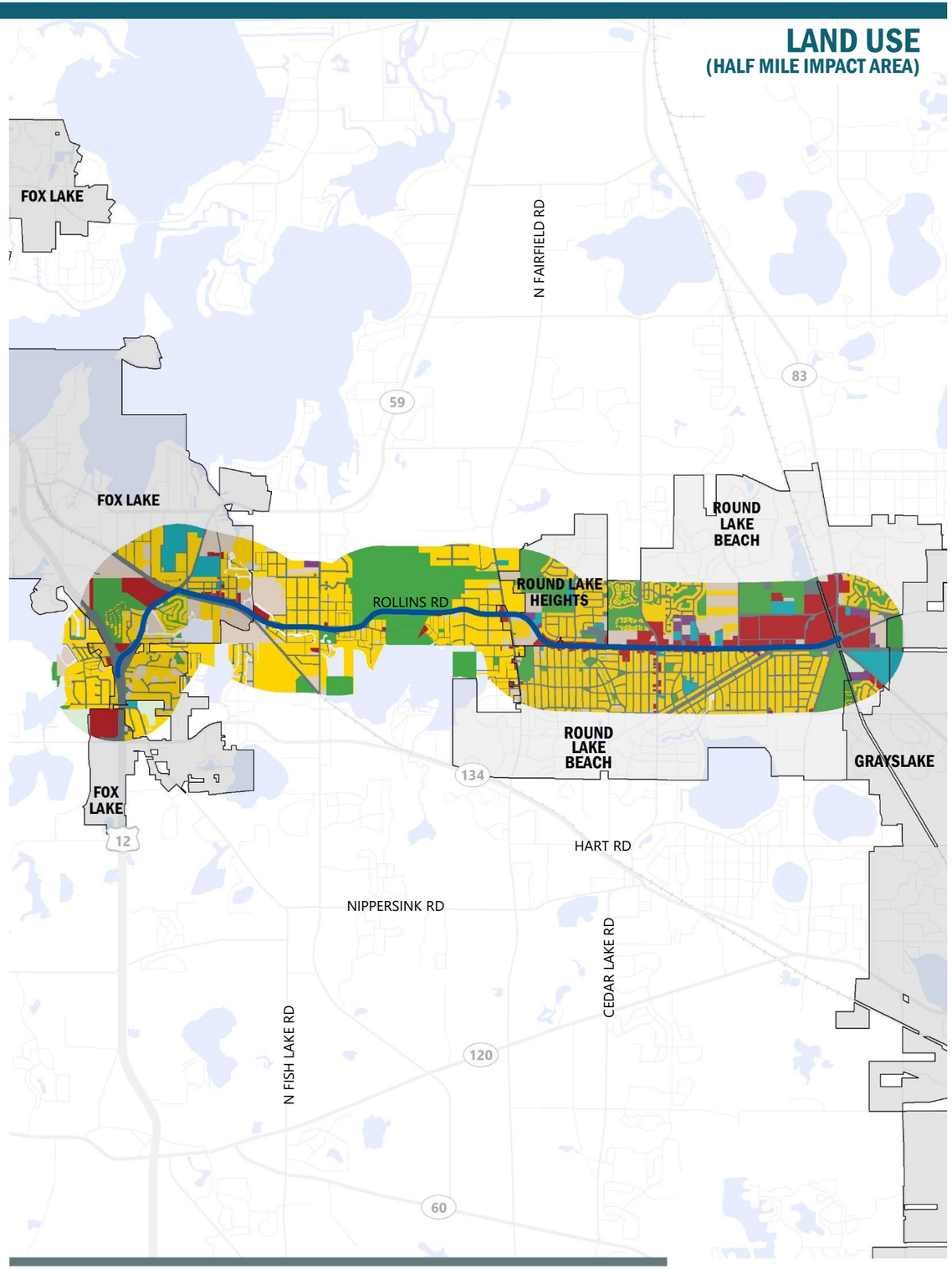
FOX LAKE
657 ACRES | 132 ACRES

ROUND LAKE HEIGHTS
258 ACRES | 34 ACRES

UNINCORPORATED AREAS
1,294 ACRES | 163 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



4.11 CORRIDOR 15

IL ROUTE 176
BUTTERFIELD RD
IL ROUTE 137

Corridor 15 is made up of three roadway segments totaling approximately 5 miles in central Lake County: IL 176 (from US 45 to Butterfield Road); Butterfield Road (from IL 176 to IL 137/Peterson Road); and IL 137/Peterson Road (from Butterfield Road to IL 21/Milwaukee Avenue). The Corridor 15 analysis area[1] includes parts of 2 communities (Mundelein and Libertyville) as well as unincorporated areas.

Demographics

While the population within ½ mile of Corridor 15 shrank slightly, declining by approximately 430 residents (-4%) from 2000 to 2015, the number of housing units increased by 6% (+235). In contrast, employment grew strongly from 2002 to 2015, rising 30% (+1,300) jobs to about 5,700. Nearly all new jobs were in the Service (+900) and Public Administration (+500) sectors.

Land Use

The Corridor 15 analysis area includes 3,498 acres, most of which is within Libertyville and Mundelein, though 16% of the analysis area is unincorporated. Residential land is the largest land use category, occupying 1,186 acres, or about 1/3 of the analysis area's acreage. Open space is the next largest land use category (18%, 622 acres) followed by T/C/U/W (18%, 619 acres) and institutional (17%, 586 acres). Much of this acreage is in a single grouping of religious facilities just northeast of downtown Mundelein around Saint Mary's Lake. Because of the corridor's coiled shape, Corridor 15 wraps around this institutional land use, dividing the other land uses. Southwest of the institutional cluster, downtown Mundelein contains a mix of mainly residential and commercial land uses. Cul-de-sac style residential development wraps around to the east and north, while a collection of strip retail centers are located at the far northeastern edge of the analysis area.

The Corridor has seen limited growth in retail (60,000 SF) and office (40,000 SF) since 2000 and no industrial/flex development. Only 262 acres (7% of the analysis area) is agricultural or vacant/under construction, leaving relatively little area which may be likely to undergo land use change in the future.

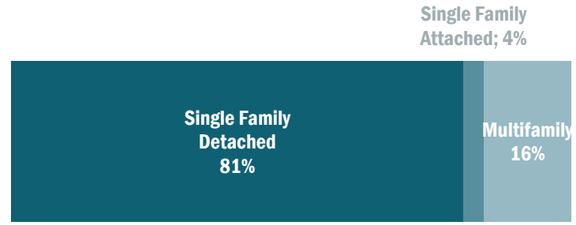
11,392 Population, 2015	**- 430** Change, 2000 to 2015	**- 3.6%** % Change, 2000 to 2015
3,888 Households, 2015	**+ 128** Change, 2000 to 2015	**+ 3.4%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the ½ mile analysis area from the roadway's approximate centerline (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

4,056 Housing Units, 2015

+ 235 Change, 2000 to 2015

+ 6.2% % Change, 2000 to 2015

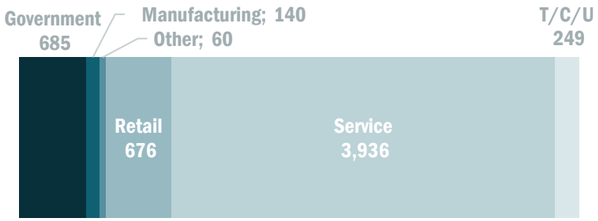


Housing Units by Type, 2015

5,746 Employment, 2015

+ 1,328 Change, 2002 to 2015

+ 30.1% % Change, 2002 to 2015



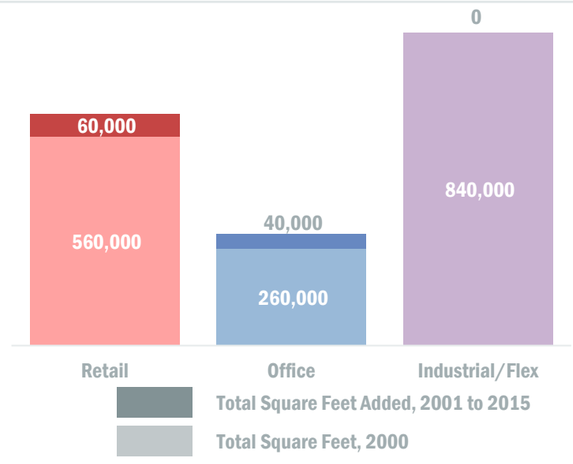
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

620,000 Retail SF, 2015

300,000 Office SF, 2015

840,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

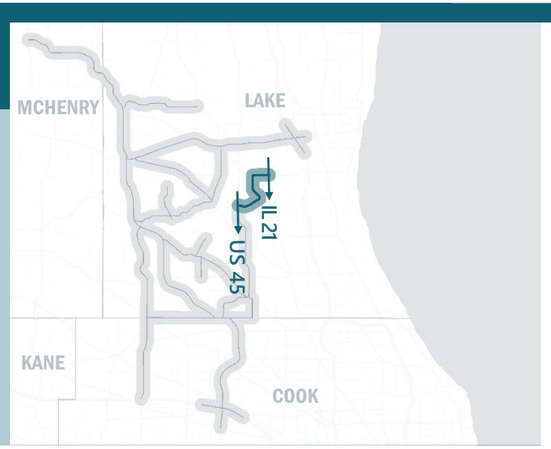
4.11 CORRIDOR 15

IL ROUTE 176
BUTTERFIELD RD
IL ROUTE 137

5 MILES

2 AFFECTED COMMUNITIES

3,498 ACRES [1] WITHIN HALF MILE IMACT AREA



LAND USE (HALF MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2]	OPEN SPACE	AGRICULTURAL	VACANT/ UNDER CONSTRUCTION
1,186 ACRES	193 ACRES	30 ACRES	586	619	622	100 ACRES	162

DEVELOPED/RESERVED
3,236 ACRES | 93%

UNDEVELOPED
262 ACRES | 7%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

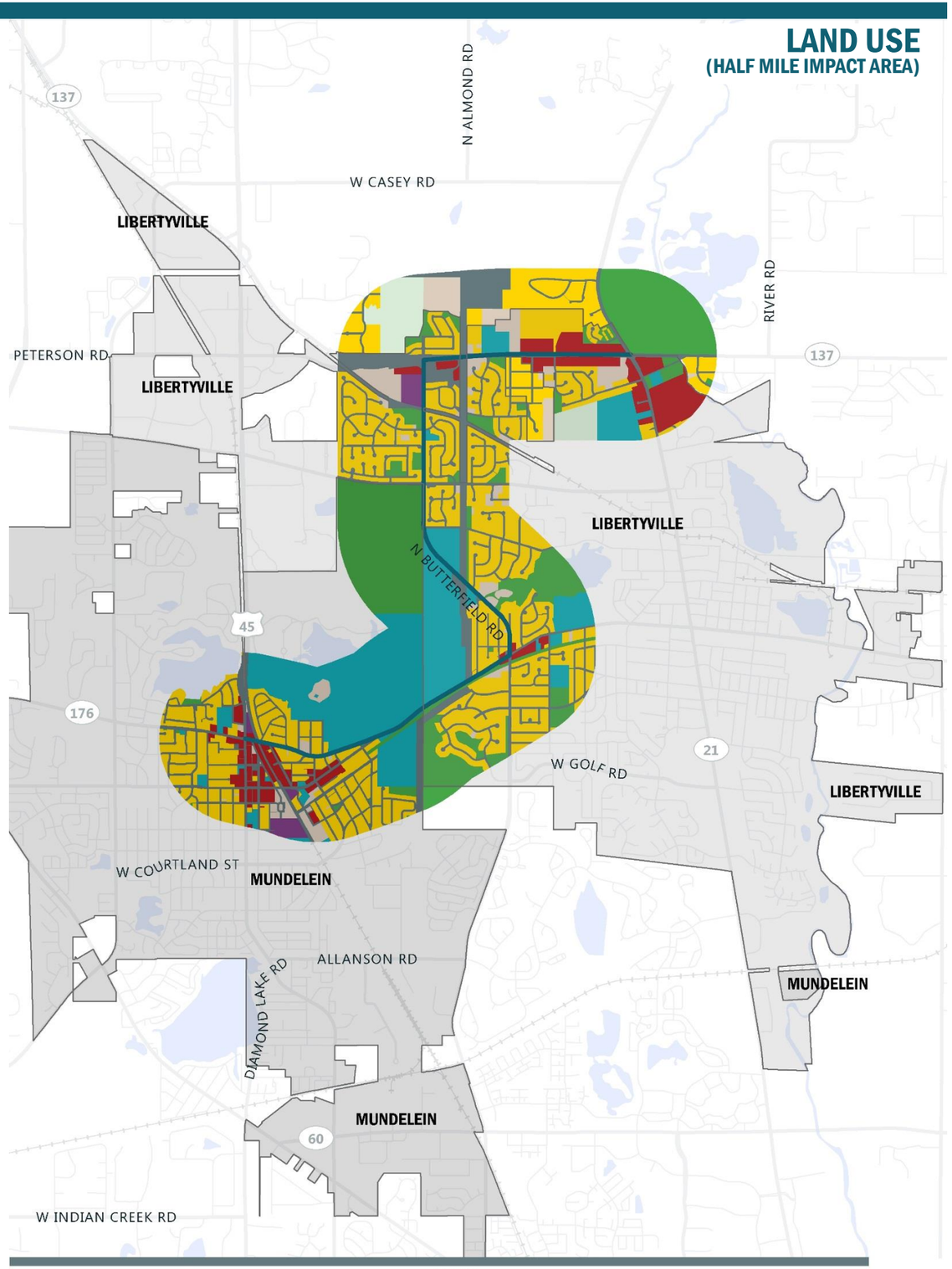
LIBERTYVILLE
1,653 ACRES | 114 ACRES

MUNDELEIN
1,126 ACRES | 31 ACRES

UNINCORPORATED AREAS
457 ACRES | 117 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (HALF MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.12 CORRIDOR 16

Demographics
Corridor 16 would be a new approximately 14-mile roadway that connects northwestern Cook County with central Lake County, running from the Palatine/Arlington Heights area north to Grayslake. A two-mile analysis area around Corridor 16 traverses parts of 14 communities as well as unincorporated areas.

The 2015 population in the Corridor 16 analysis area was approximately 132,000, an increase of 7% since 2000. The number of housing units increased by nearly 10% over the period, with over 4,000 new housing units developed. Though population increased, total employment decreased by over 6,000 jobs (12%) between 2002 and 2015, falling below 47,000. Professional and other service jobs made up more than half of the jobs in the analysis area in 2015, even though a majority of job losses (about 4,800) were from the service sector. This overall decline is a result of substantial losses in Professional, Scientific, and Technical jobs (-8,000) offset by gains in certain service sectors such as Accommodation and Food Services (+ 1,600). Construction and Retail sectors also lost large numbers of jobs (1,284 and 1,141 respectively).

Land Use
The Corridor 16 analysis area includes 42,915 acres, 24% of which is unincorporated. Communities with the most land within the analysis area are Long Grove, Grayslake, and Mundelein. Corridor 16 travels through primarily residential land uses at its southern end, including the communities of Long Grove, Hawthorn Woods, Palatine, and Kildeer. In each of these communities, approximately half of the acreage within the analysis area is residential. In contrast, at the northern end of Corridor 16 in Grayslake and unincorporated Lake County, residential land use is not as dominant and there is a greater share of undeveloped land and other uses. Larger concentrations of commercial and industrial land uses are located at the southern and northern ends of the analysis area: in the Arlington Heights/Palatine/Deer Park and Grayslake/Libertyville areas, respectively. Smaller developments are distributed throughout the analysis area. Undeveloped land that may undergo land use change in the future (i.e., agricultural or vacant land uses), depending on transportation access, market conditions and community plans, totals over 9,000 acres (21% of acreage) in the analysis area. Undeveloped land is concentrated in the northern and central portions of the analysis area, with smaller sites throughout. Protected open spaces also exist throughout the analysis area, with no clear concentration at a single location.

The amount of retail, office, and industrial/flex square footage in the analysis area was substantial in 2000 and grew by 19-29% depending on land use from 2000 to 2015. Retail increased by 1,400,000 SF, office by 1,140,000 SF, and industrial/flex by 1,960,000 SF.

132,210 Population, 2015 | **+ 8,637** Change, 2000 to 2015 | **+ 7.0%** % Change, 2000 to 2015

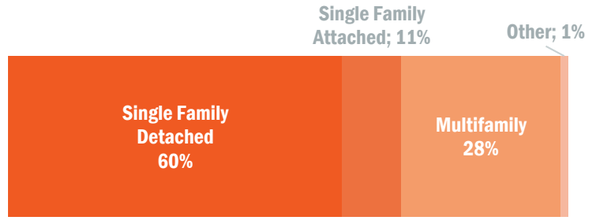
46,403 Households, 2015 | **+ 3,286** Change, 2000 to 2015 | **+ 7.6%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

48,560 Housing Units, 2015

+ 4,256 Change, 2000 to 2015

+ 9.6% % Change, 2000 to 2015

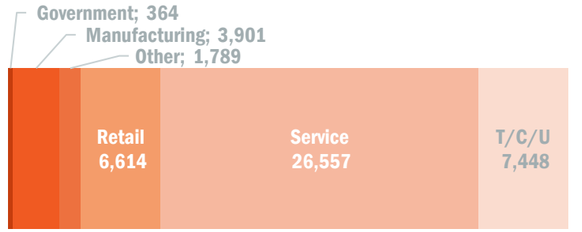


Housing Units by Type, 2015

46,673 Employment, 2015

- 6,068 Change, 2002 to 2015

- 11.5% % Change, 2002 to 2015

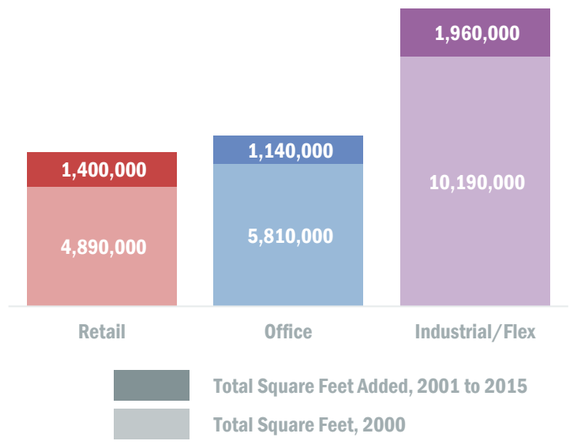


Employment by Sector, 2015
See Table 5.2 for detailed list of industries within each sector

6,290,000 Retail SF, 2015

6,950,000 Office SF, 2015

12,150,000 Industrial/Flex SF, 2015



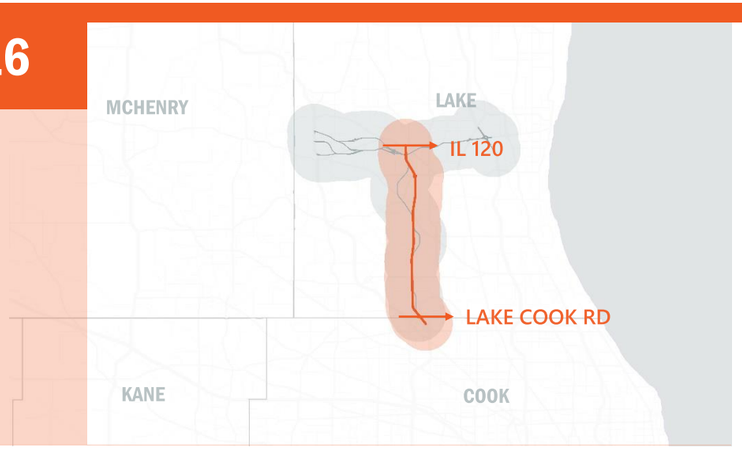
Building Square Feet, 2000 and 2015

4.12 CORRIDOR 16

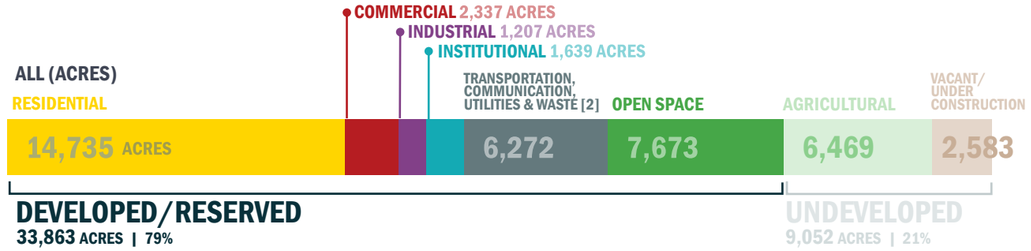
14 MILES

14 AFFECTED COMMUNITIES

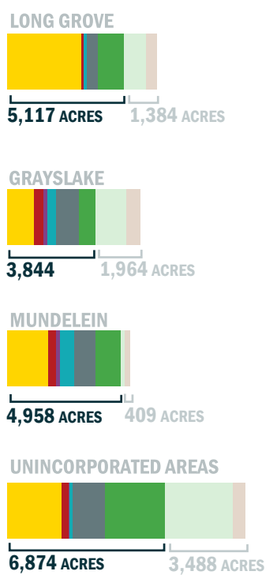
42,915 ACRES [1] WITHIN TWO MILE IMACT AREA



LAND USE (TWO MILE IMPACT AREA) [1]

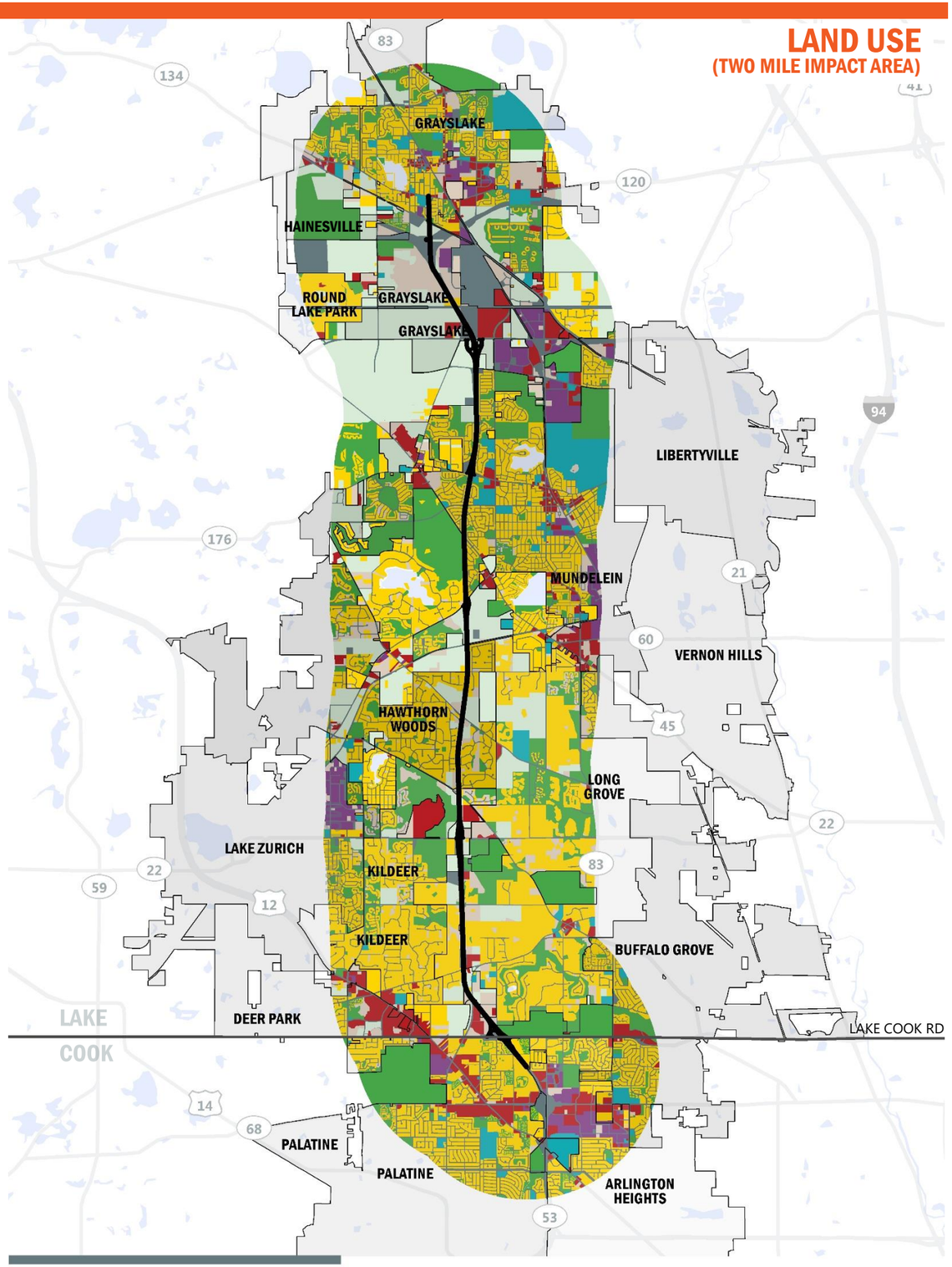


COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.13 CORRIDOR 17

Corridor 17 (new alignment) is an approximately 2-mile alternate routing option for a segment of Corridor 16 in south central Lake County from north of Cuba Road to north of Lake Cook Road. The Corridor 17 analysis area[1] includes portions of 8 communities (Arlington Heights, Palatine, Deer Park, Buffalo Grove, Kildeer, Lake Zurich, Long Grove, and Hawthorn Woods) as well as unincorporated areas of Lake and Cook Counties.

Demographics

The 2015 population within the analysis area increased modestly from 2000 to 2015, growing by 4% or about 1,900 residents. The number of housing units also rose modestly, increasing by 2%. Employment fell significantly within the analysis area from 2002 to 2015: more than 1 in 4 jobs (over 7,000 positions) were lost over the period. Critically, nearly 7,700 Professional, Scientific, and Technical and 900 Finance and Insurance jobs were lost, though these losses were partially offset by employment gains in other sectors, including Health Care and Social Assistance (+1,100), Manufacturing (+400), Other Services (+300) and Management of Companies and Enterprises (+300).

Land Use

The Corridor 17 analysis area includes 13,429 acres, 17% of which is unincorporated. Communities with the most land within the analysis area are Long Grove, Kildeer, and Palatine. Residential, open space, and T/C/U/W combined make up more than 75% of the land use within the analysis area and are all generally distributed throughout the area. The analysis area is generally developed or reserved for open space, with only 12% of the area (1,600 acres) agricultural or vacant/under construction land uses which may undergo land use change in the future, depending on transportation access, market conditions and community plans. A majority (85%) of agricultural or vacant/under construction land is in Long Grove, Kildeer, or unincorporated areas.

Much of the commercial development in the analysis area is located in the Dundee and Rand Road corridors in Palatine and Deer Park. Significant new retail and office development occurred in the analysis area between 2000 and 2015: 860,000 SF of retail was added (mostly in six developments in Deer Park, Long Grove, Kildeer, and Lake Zurich), a 31% increase, and 640,000 SF of office was developed (more than half in the 350,000 SF Reserve at Deer Park), a 23% increase. In addition, 160,000 SF of Industrial/Flex space was developed, an 8% increase over the 2000 inventory.

50,748 Population, 2015 | **+ 1,855** Change, 2000 to 2015 | **+ 3.8%** % Change, 2000 to 2015

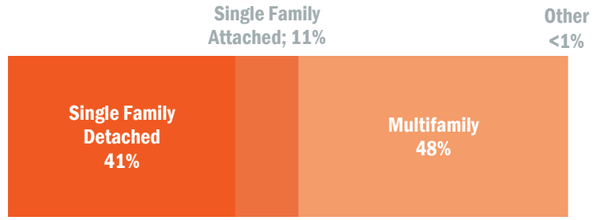
17,336 Households, 2015 | **- 171** Change, 2000 to 2015 | **- 1.0%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

18,393 Housing Units, 2015

+ 341 Change, 2000 to 2015

+ 1.9% % Change, 2000 to 2015

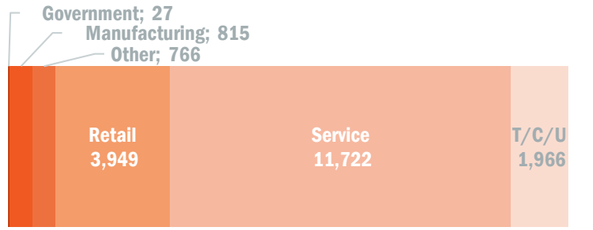


Housing Units by Type, 2015

19,245 Employment, 2015

- 7,036 Change, 2002 to 2015

- 26.8% % Change, 2002 to 2015



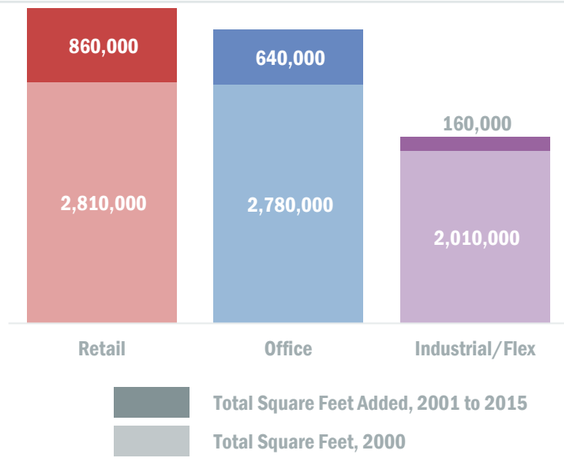
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

3,670,000 Retail SF, 2015

3,420,000 Office SF, 2015

2,170,000 Industrial/Flex SF, 2015



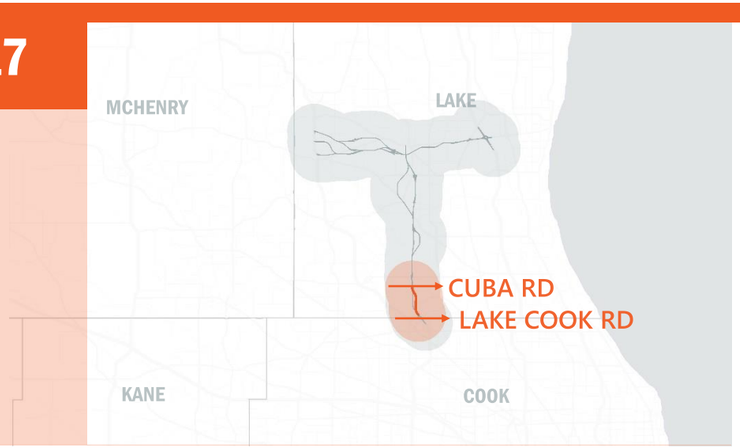
Building Square Feet, 2000 and 2015

4.13 CORRIDOR 17

2 MILES

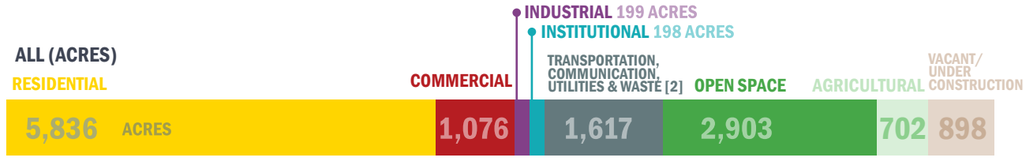
8 AFFECTED COMMUNITIES

13,429 ACRES [1] WITHIN TWO MILE IMACT AREA



LAND USE (TWO MILE IMPACT AREA) [1]

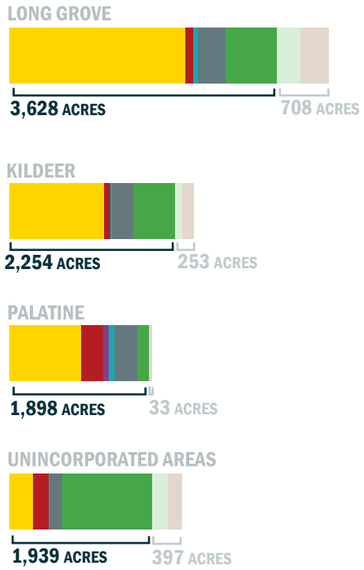
ALL (ACRES)



DEVELOPED/RESERVED
11,829 ACRES | 88%

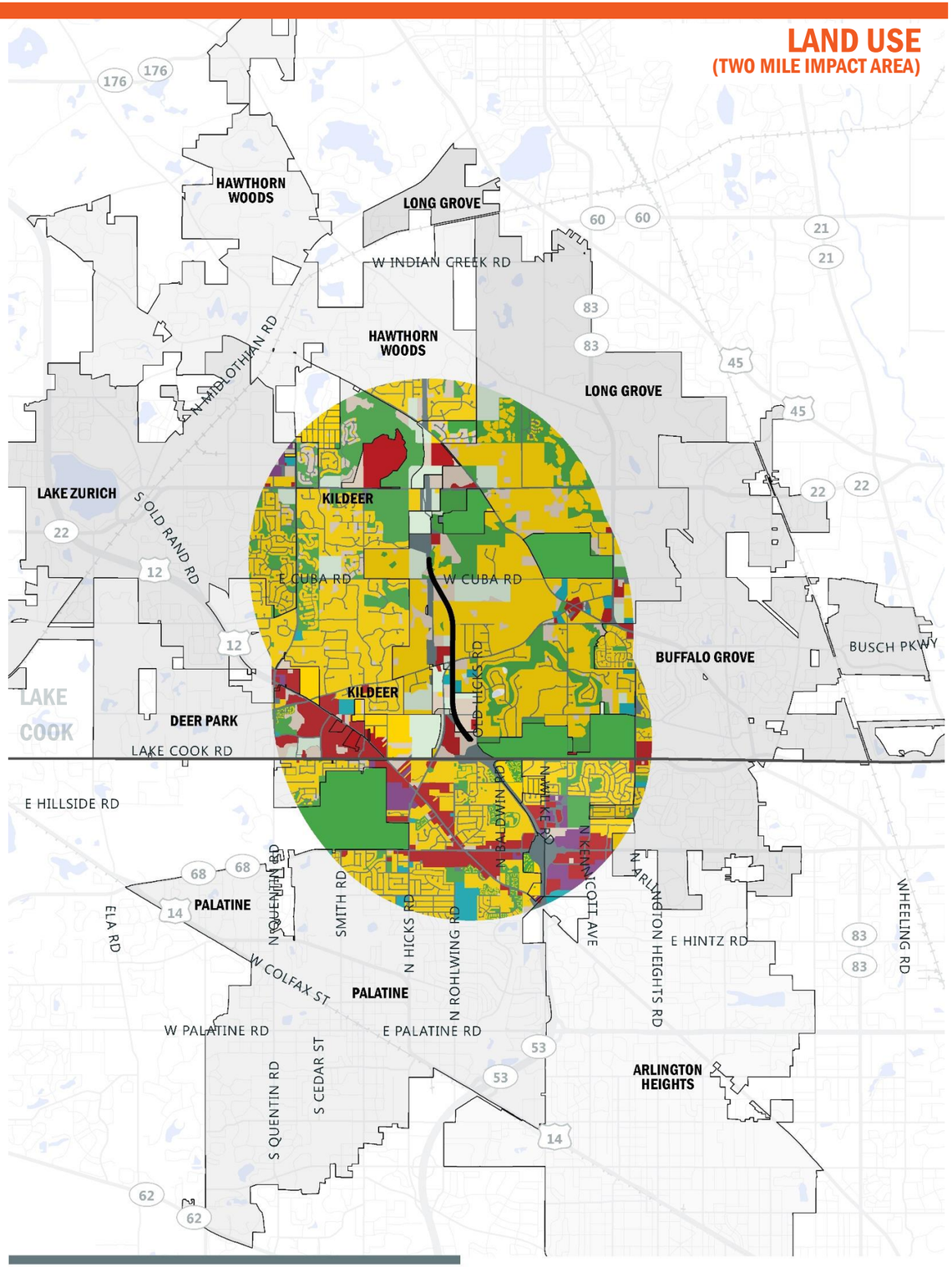
UNDEVELOPED
1,600 ACRES | 12%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.14 CORRIDOR 18

Corridor 18 (new alignment) is an approximately 3-mile alternate routing option for a segment of Corridor 16 in central Lake County from north of Midlothian Road to south of Gilmer Road. The Corridor 18 analysis area[1] includes parts of 7 communities (Kildeer, Lake Zurich, Long Grove, Hawthorn Woods, Vernon Hills, Indian Creek, and Mundelein) as well as unincorporated areas.

Demographics

While population increased 6% from 2000 to 2015 (2,520 additional residents to a 2015 total of 41,721), growth in housing units was higher, with nearly 1,800 units added, representing a 14% increase from 2000. Overall employment within the analysis area declined slightly from 2002 to 2015, with a loss of approximately 700 jobs (-4%). This relative stability masked considerable shifting among individual industries. Manufacturing employment experienced the largest absolute change, increasing by over 1,600 jobs. The next largest changes among industries were in Retail (-1,100) and Finance and Insurance (-1,000).

Land Use

The Corridor 18 analysis area includes 16,003 acres, 24% of which is unincorporated. Communities with the most land within the analysis area are Mundelein, Long Grove, and Hawthorn Woods.

Land use immediately adjacent to Corridor 18 is primarily agricultural and residential, though there are smaller amounts of commercial, institutional, and open spaces nearby. Within the two-mile analysis area, industrial land uses are primarily located around the perimeter, in Mundelein and Lake Zurich. Commercial areas are similarly around the edges of the analysis area, primarily in Mundelein or in unincorporated areas (including the Kemper Lakes Business Center). Protected open spaces in the analysis area appear to include multiple golf courses and open space surrounding residential developments. Approximately 20% of the analysis area (3,167 acres) is agricultural or vacant/under construction land, which may undergo land use change in the future, depending on transportation access, community plans and market factors.

The amount of industrial/flex space in the analysis area increased by approximately 23% from 2000 to 2015, with nearly 1 million SF developed over the period. Retail and office square footage also increased, though to a lesser extent. Retail increased by 160,000 SF (13%), and office increased by 270,000 SF (16%).

41,721 Population, 2015 | **+ 2,520** Change, 2000 to 2015 | **+ 6.4%** % Change, 2000 to 2015

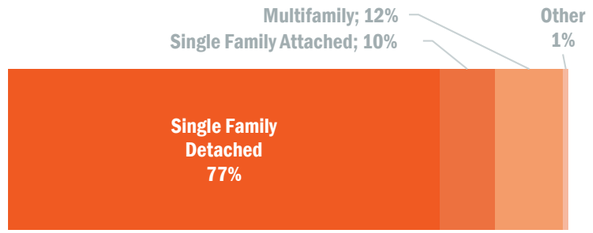
14,231 Households, 2015 | **+ 1,427** Change, 2000 to 2015 | **+ 11.1%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

14,922 Housing Units, 2015

+ 1,797 Change, 2000 to 2015

+ 13.7% % Change, 2000 to 2015

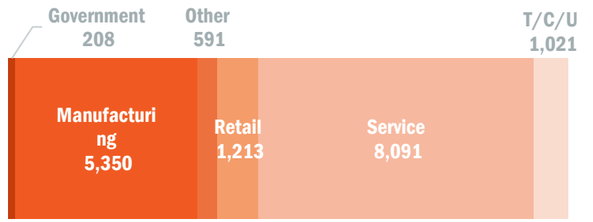


Housing Units by Type, 2015

16,474 Employment, 2015

- 680 Change, 2002 to 2015

- 4.0% % Change, 2002 to 2015



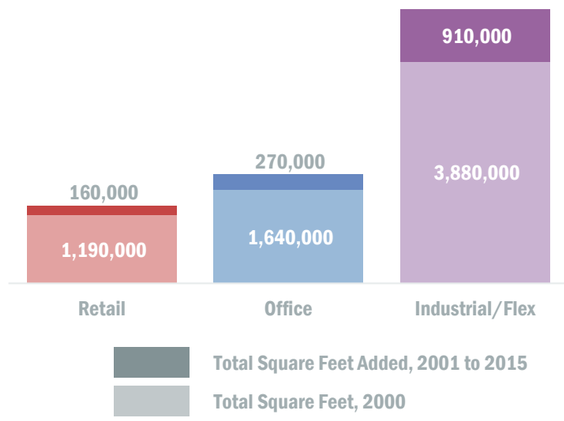
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

1,350,000 Retail SF, 2015

1,910,000 Office SF, 2015

4,790,000 Industrial/Flex SF, 2015



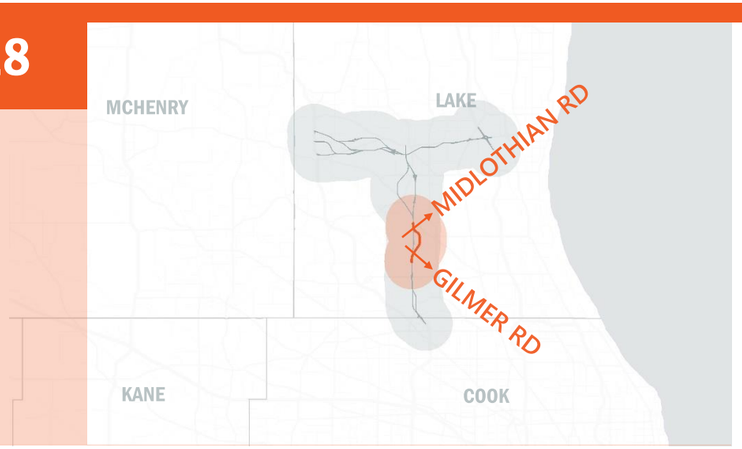
Building Square Feet, 2000 and 2015

4.14 CORRIDOR 18

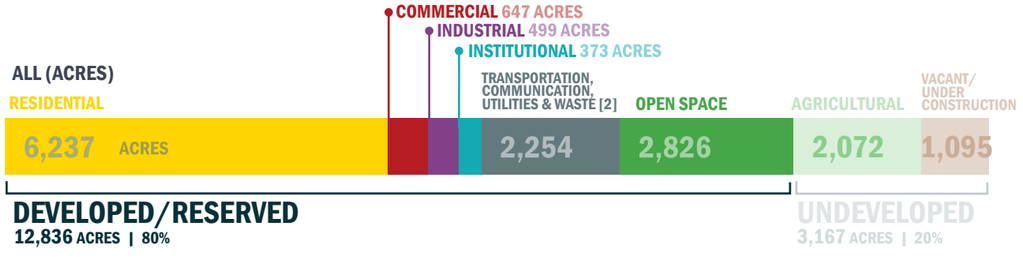
3 MILES

7 AFFECTED COMMUNITIES

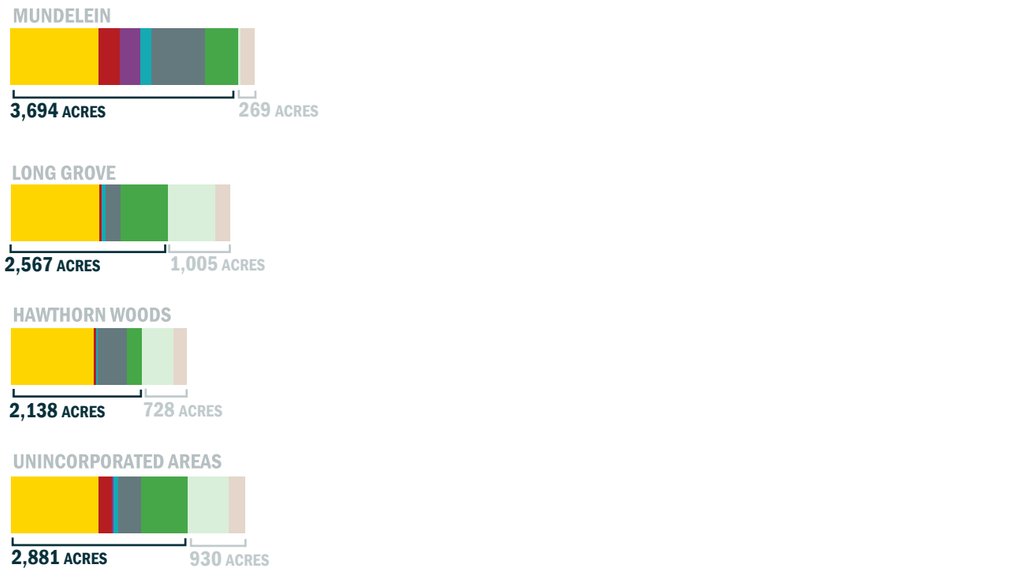
16,003 ACRES [1] WITHIN TWO MILE IMACT AREA



LAND USE (TWO MILE IMPACT AREA) [1]

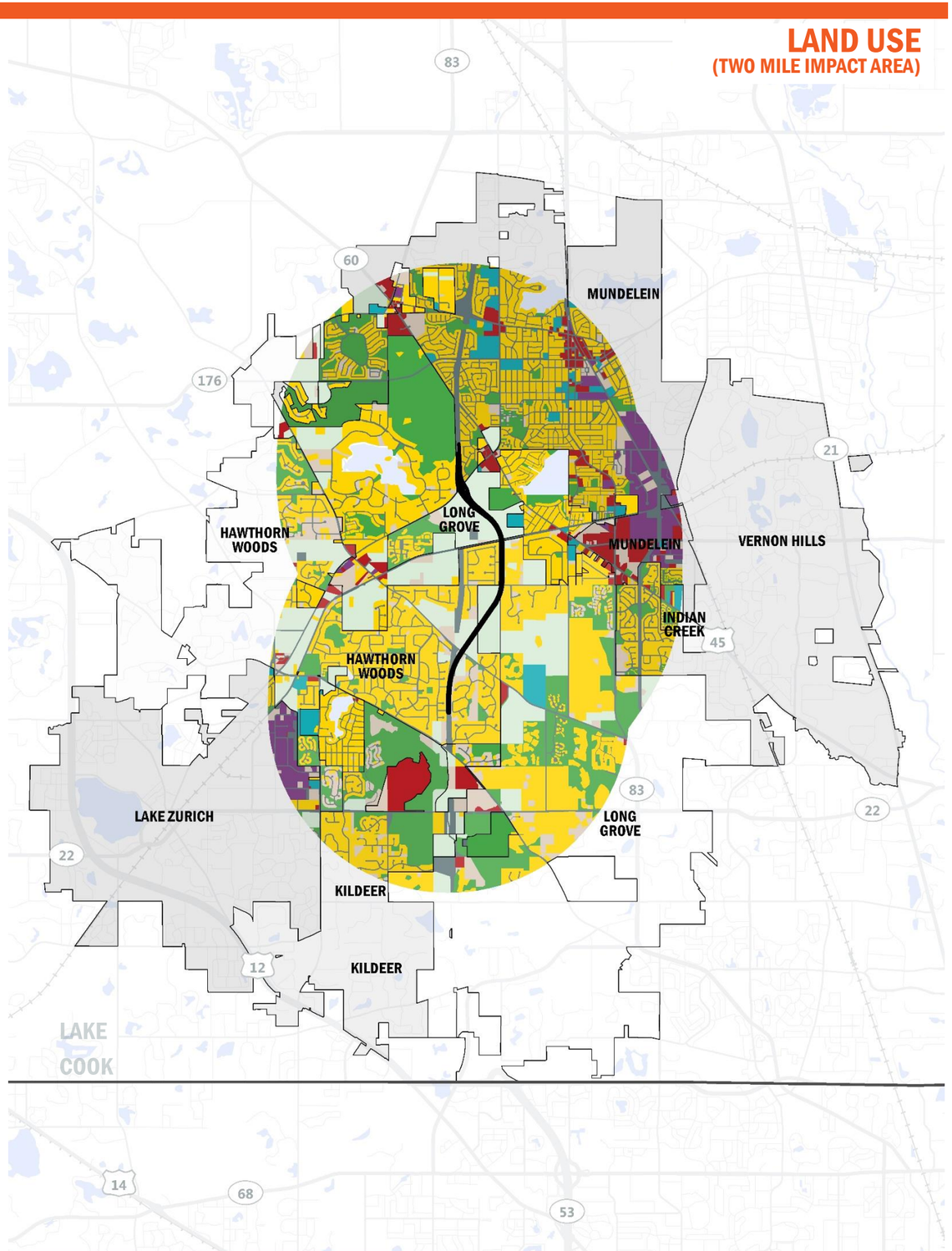


COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.15 CORRIDOR 20

Corridor 20 totals approximately 7-miles of existing and new alignments connecting central Lake County with east central Lake County and I-94, extending from west of IL 83 to east of I-94. It utilizes existing IL 120 for a portion of the alignment. The two-mile analysis area[1] around Corridor 20 includes portions of 10 communities (Round Lake Park, Grayslake, Hainesville, Libertyville, Third Lake, Gurnee, Green Oaks, Waukegan, Park City, and North Chicago) as well as unincorporated areas.

Demographics

Population and housing unit growth was consistent in the Corridor 20 analysis area from 2000 to 2015, with both rising approximately 9%. This translates to approximately 5,400 new residents and 2,100 new housing units. Employment grew more significantly from 2002 to 2015, rising 28% (+8,200 jobs). Jobs in the Manufacturing sector led the increase (+4,400), with employment more than doubling. Health Care and Social Assistance also nearly doubled, adding about 1,400 jobs. Administration & Support, Waste Management and Remediation employment increased by nearly 1,100 jobs. Most job declines were confined to Wholesale Trade, which lost over 1,700 jobs over the period.

Land Use

The Corridor 20 analysis area includes 27,918 acres, 35% of which is unincorporated. Communities with the most land within the analysis area are Grayslake, Gurnee, and Waukegan. These three communities and unincorporated areas account for 87% of the analysis area's land area. The land use mix is varied within the analysis area: residential, agriculture, T/C/U/W, and open space each comprise about one fifth of the land area, with the remainder split among commercial, industrial, institutional, and vacant/under construction. Corridor 20 itself largely passes through developed areas, with portions of Grayslake and Gurnee north of the corridor and a string of forest preserves, golf courses, and residential open spaces to the south. Agricultural and vacant/under construction land totals 7,614 acres (27%) and is located near the eastern end around I-94 in Waukegan, at its western end in Grayslake and south of the corridor. This land may undergo future land use change depending on transportation access, market factors, and community plans. Accompanying the increase in manufacturing employment within the analysis area was an increase in industrial/flex space between 2000 and 2015. Over 3 million SF of industrial/flex space was added over the period. Nearly all of the industrial/flex development occurred on the eastern edge of the analysis area in Gurnee and Waukegan. Retail and office also posted large percentage increases. Retail increased by 730,000 SF (a 45% increase), half of which was a 204,000 SF big box store in Waukegan and a 160,000 SF indoor sports center in Libertyville. Office increased by 510,000 SF (a 32% increase) with half coming from the five largest buildings which were developed in Gurnee and Grayslake.

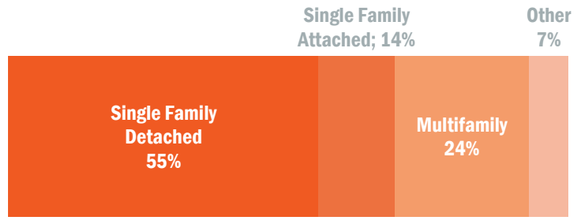
63,588 Population, 2015	**+ 5,421** Change, 2000 to 2015	**+ 9.3%** % Change, 2000 to 2015
23,652 Households, 2015	**+ 1,880** Change, 2000 to 2015	**+ 8.6%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

24,509 Housing Units, 2015

+ 2,102 Change, 2000 to 2015

+ 9.4% % Change, 2000 to 2015

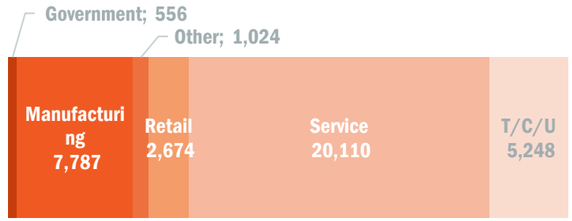


Housing Units by Type, 2015

37,399 Employment, 2015

+ 8,212 Change, 2002 to 2015

+ 28.1% % Change, 2002 to 2015



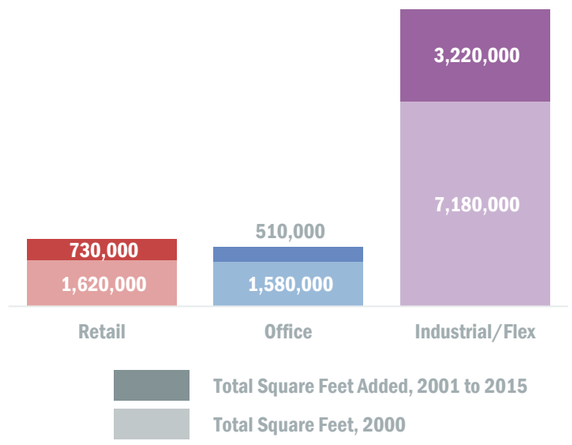
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

2,350,000 Retail SF, 2015

2,090,000 Office SF, 2015

10,400,000 Industrial/Flex SF, 2015



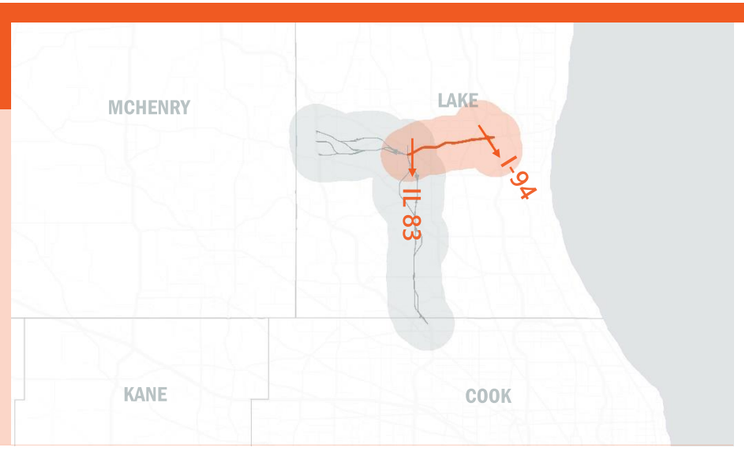
Building Square Feet, 2000 and 2015

CORRIDOR 20

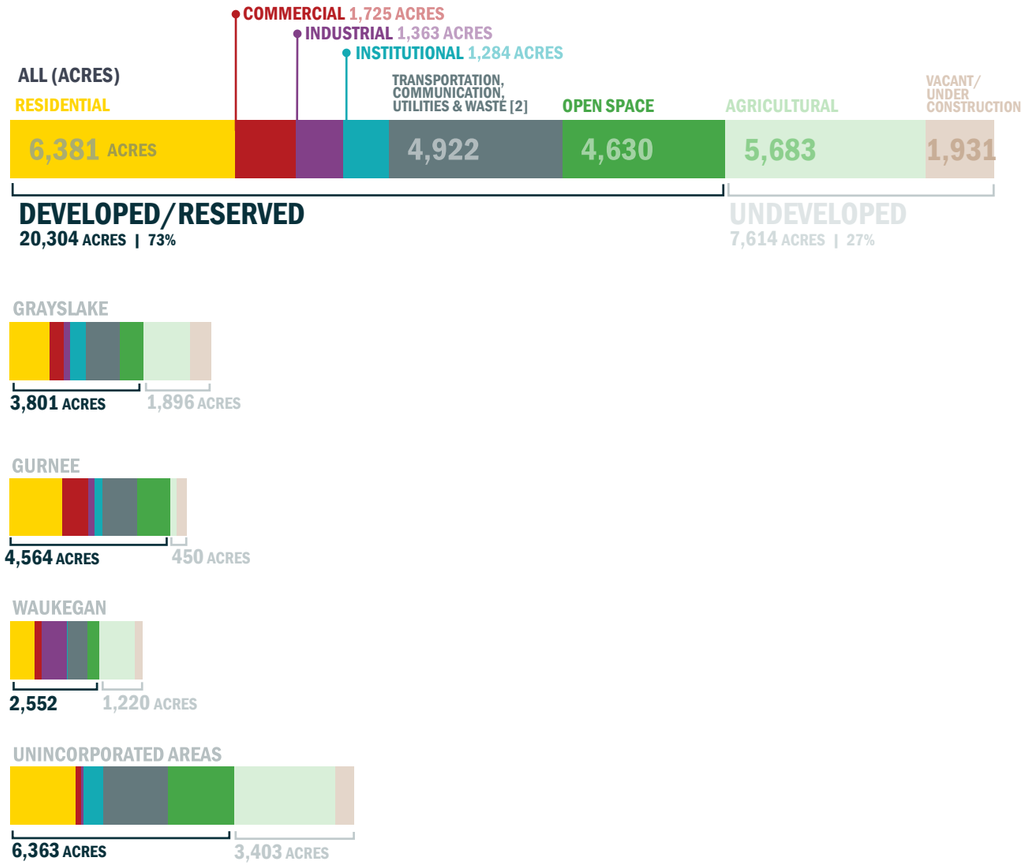
7 MILES

10 AFFECTED COMMUNITIES

27,918 ACRES [1] WITHIN TWO MILE IMACT AREA



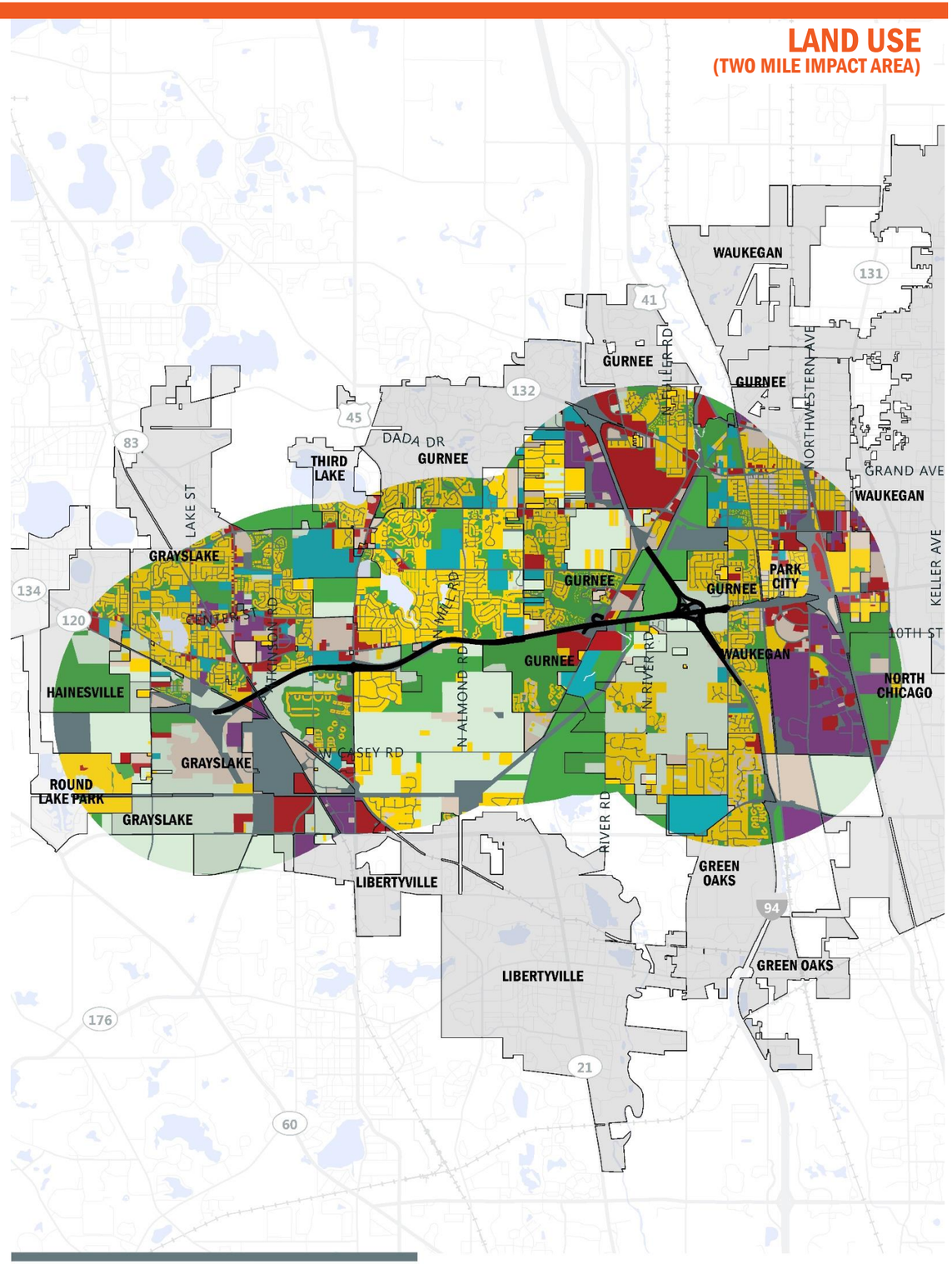
LAND USE (TWO MILE IMPACT AREA) [1]



COMMUNITIES WITH MOST IMPACT AREA ACREAGE

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.16 CORRIDOR 21

Corridor 21 (new alignment) would be a new approximately 13-mile roadway that connects central Lake County with west central Lake County, extending from US 12 to west of IL 83. The two-mile analysis area[1] around Corridor 21 includes portions of 10 communities (Lakemoor, Volo, Fox Lake, Wauconda, Round Lake, Round Lake Beach, Round Lake Park, Hainesville, Grayslake, and Libertyville) as well as unincorporated areas of Lake and McHenry Counties.

Demographics

Population and the number of housing units increased significantly between 2000 and 2015, rising by 67% and 65%, respectively. Population increased by 22,925, and 8,256 new housing units were developed, representing substantial land use change over the period. In addition to strong population gains, the analysis area experienced strong, broad-based job growth from 2002 to 2015, with over 6,200 new jobs created (+70%). Employment increased in nearly every category displayed in the accompanying graphic, led by Manufacturing (+2,900) and Transportation and Warehousing (+1,000).

Land Use

The Corridor 21 analysis area includes 26,051 acres, 41% of which is unincorporated. Communities with the most land within the analysis area are Grayslake, Round Lake, and Volo. The land use mix is varied within the analysis area, with residential, agriculture, and open space accounting for nearly 70% of the acreage. Notably, 31% of the area (8,133 acres) is either agricultural or vacant/under construction and may experience land use change in the future, depending on transportation access, market conditions and community plans. Approximately half of this land is in unincorporated areas, with significant amounts in Grayslake and Volo as well. Corridor 21 itself passes through a significant area of agricultural and vacant/under construction land east of Volo. Corridor 21 also passes through the Northbrook Sports Club east of Grayslake, as well as areas of residential development and institutional land uses before ending in the area of the Volo Bog.

Growth in building square footage has matched the robust growth noted above in population and employment. Industrial/flex increased by the largest absolute amount, with 1 million SF of new development, an increase of 62%. More than half of this development occurred in two developments – a 400,000 SF data center in Volo and a 215,000 SF distribution facility in Grayslake. Retail square footage increased 47% from 2000 to 2015, an increase of 300,000 SF. Office similarly grew strongly, increasing by 150,000 SF (+75%) over the period.

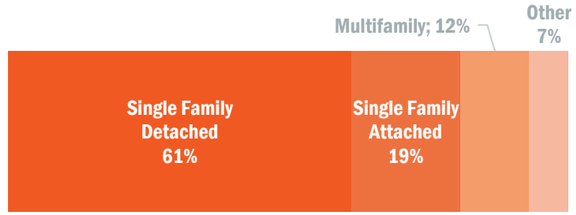
56,970 Population, 2015	+ 22,925 Change, 2000 to 2015	+ 67.3% % Change, 2000 to 2015
19,827 Households, 2015	+ 7,772 Change, 2000 to 2015	+ 64.5% % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

20,928
Housing Units, 2015

+ 8,256
Change, 2000 to 2015

+ 65.2%
% Change, 2000 to 2015

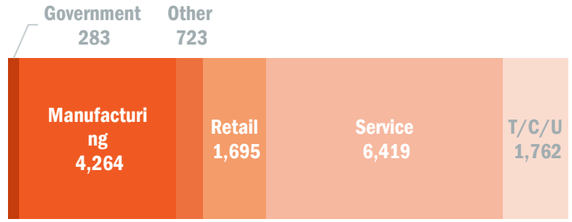


Housing Units by Type, 2015

15,146
Employment, 2015

+ 6,215
Change, 2002 to 2015

+ 69.6%
% Change, 2002 to 2015

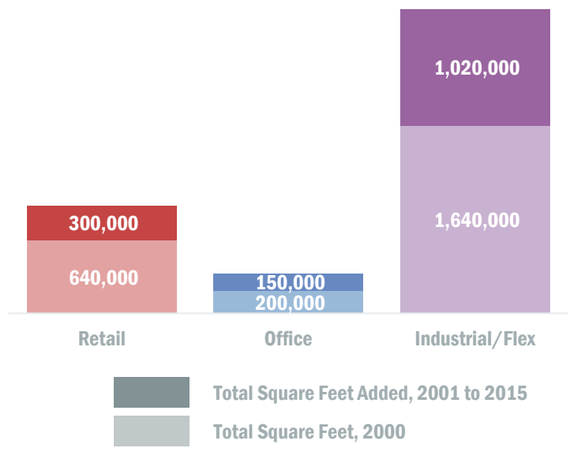


Employment by Sector, 2015
See Table 5.2 for detailed list of industries within each sector

940,000
Retail SF, 2015

350,000
Office SF, 2015

2,660,000
Industrial/Flex SF, 2015



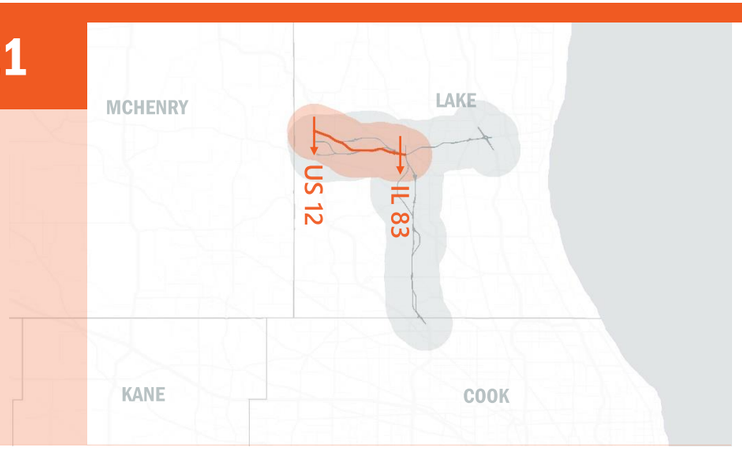
Building Square Feet, 2000 and 2015

4.16 CORRIDOR 21

13 MILES

10 AFFECTED COMMUNITIES

26,051 ACRES [1] WITHIN TWO MILE IMACT AREA



LAND USE (TWO MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2]	OPEN SPACE	AGRICULTURAL	VACANT/ UNDER CONSTRUCTION
6,034 ACRES	801 ACRES	809 ACRES	869 ACRES	3,622	5,783	6,029	2,103

DEVELOPED/RESERVED
17,918 ACRES | 69%

UNDEVELOPED
8,133 ACRES | 31%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

GRAYSLAKE
3,261 ACRES | 1,831 ACRES

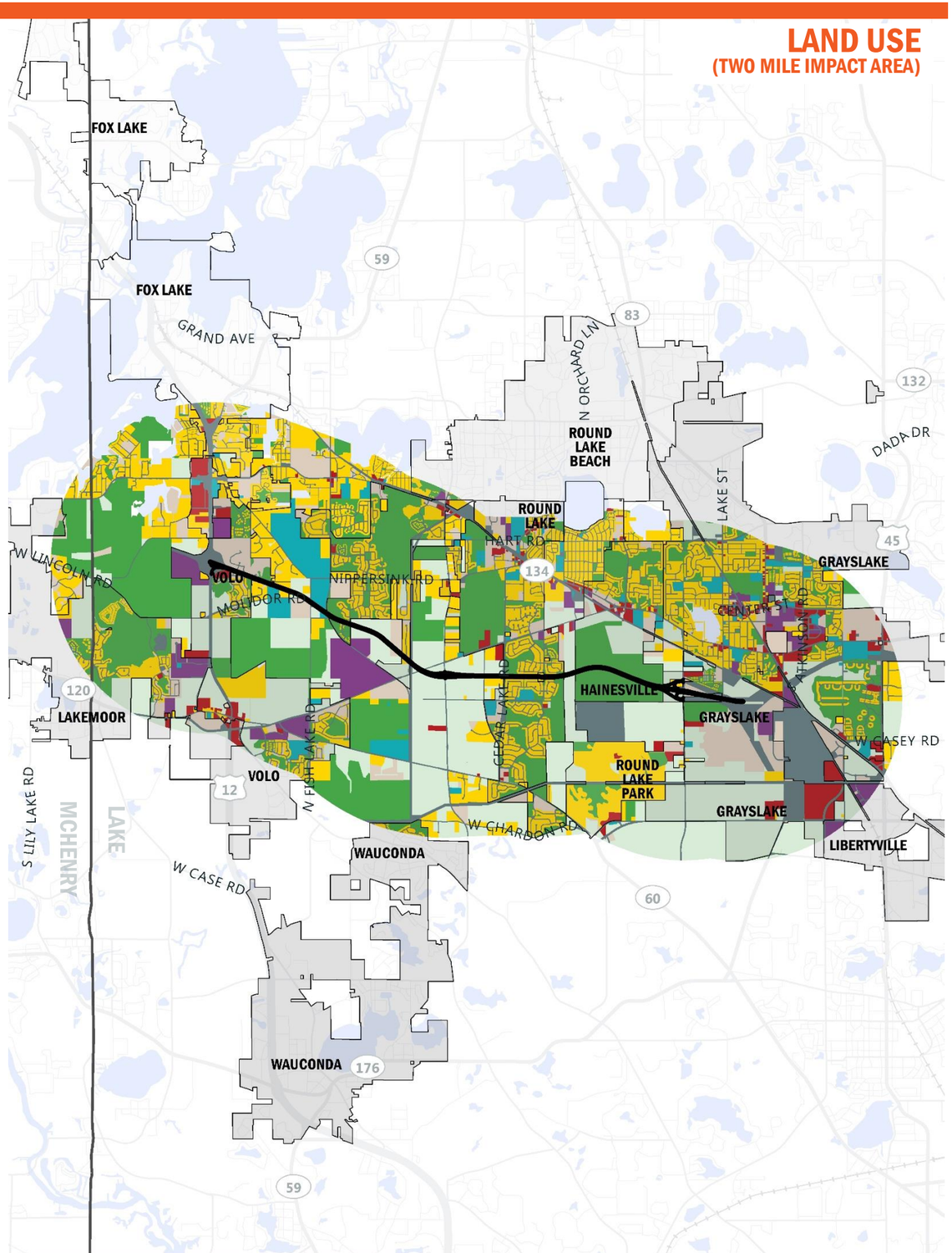
ROUND LAKE
3,132 ACRES | 325 ACRES

VOLO
1,091 | 830 ACRES

UNINCORPORATED AREAS
6,711 ACRES | 3,957 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.17 CORRIDOR 22

Demographics
Corridor 22 is an approximately 2-mile alternate routing option for a segment of Corridor 21 in central Lake County in the Grayslake area. The two-mile analysis area includes portions of 6 communities as well as unincorporated areas.

The Corridor 22 analysis area experienced considerable growth in population and housing units between 2000 and 2015. Population grew by 11,700 (+44%) and nearly 4,000 new housing units were added (+41%). Employment growth was not as robust but still strong, rising 17% (+1,300 jobs). The largest growth industries were Transportation and Warehousing (+946 jobs), Educational Services (+406), and Health Care and Social Assistance (+342). Job losses by industry were more modest, with Construction seeing the largest decline (- 322 jobs).

Land Use
The Corridor 22 analysis area includes 13,830 acres, 25% of which is unincorporated. Communities with the most land within the analysis area are Grayslake, Round Lake, and Round Lake Park. Corridor 22 would pass immediately through areas already classified as T/C/U/W, adjacent to the existing Station Park residential development in Grayslake, and through the open space of the Northbrook Sports Club. Areas in the northern portion of the analysis area are generally more developed – including residential, commercial, industrial, and institutional areas of Grayslake, while areas to the south are generally less developed. About 35% of the total acreage in the analysis area (4,788 acres) is undeveloped (either agriculture or vacant/under construction) and is more likely to undergo land use change in the future, depending on transportation access, community plans and market factors.

Retail, office, and industrial/flex all increased by modest square footages from 2000 to 2015: 150,000 SF were added to the retail inventory, 140,000 SF to the office inventory, and 440,000 SF to the industrial/flex inventory.

38,395 Population, 2015 | **+ 11,722** Change, 2000 to 2015 | **+ 43.9%** % Change, 2000 to 2015

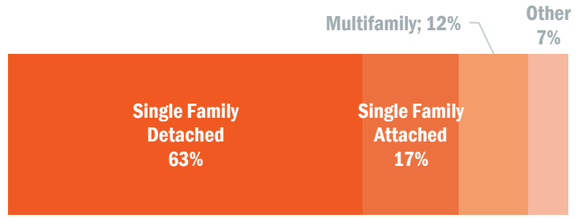
13,164 Households, 2015 | **+ 3,851** Change, 2000 to 2015 | **+ 41.4%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

13,585 Housing Units, 2015

+ 3,946 Change, 2000 to 2015

+ 40.9% % Change, 2000 to 2015

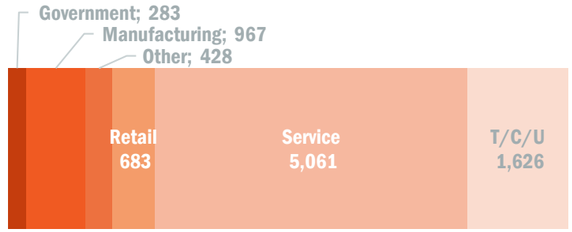


Housing Units by Type, 2015

9,048 Employment, 2015

+ 1,329 Change, 2002 to 2015

+ 17.2% % Change, 2002 to 2015

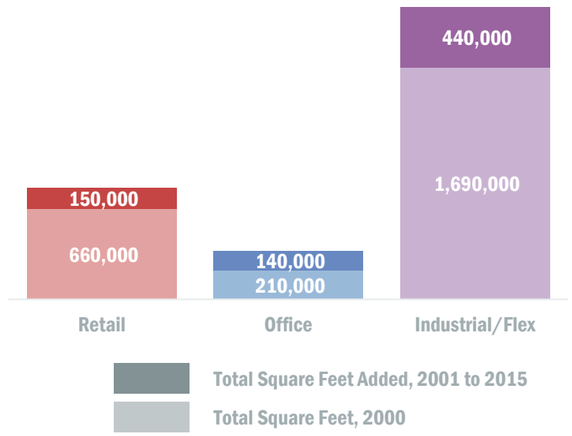


Employment by Sector, 2015
See Table 5.2 for detailed list of industries within each sector

810,000 Retail SF, 2015

350,000 Office SF, 2015

2,130,000 Industrial/Flex SF, 2015



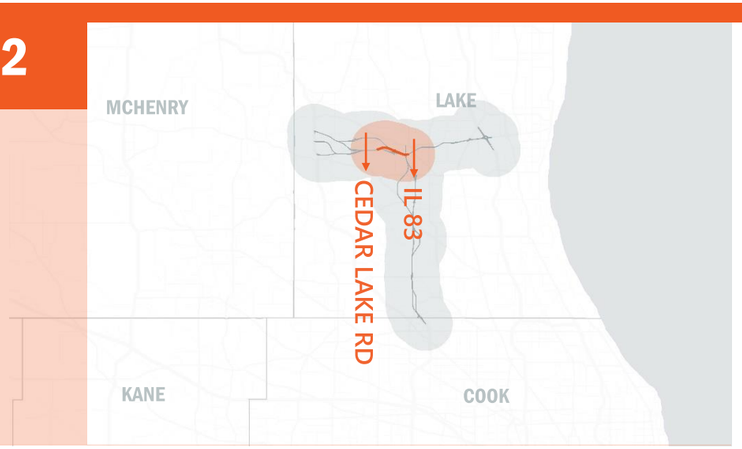
Building Square Feet, 2000 and 2015

4.17 CORRIDOR 22

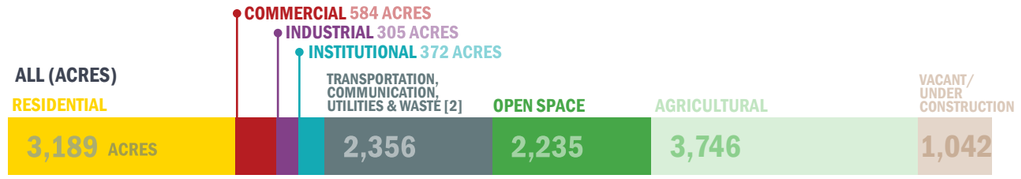
2 MILES

6 AFFECTED COMMUNITIES

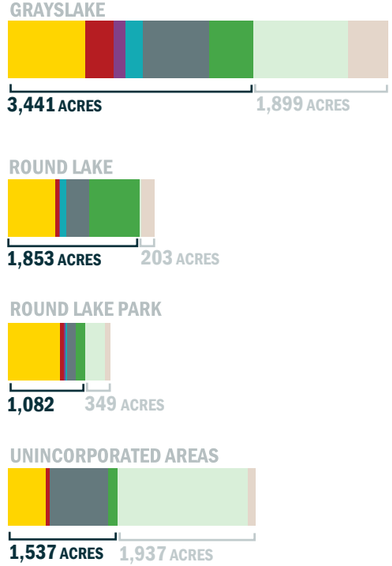
13,830 ACRES [1] WITHIN TWO MILE IMACT AREA



LAND USE (TWO MILE IMPACT AREA) [1]

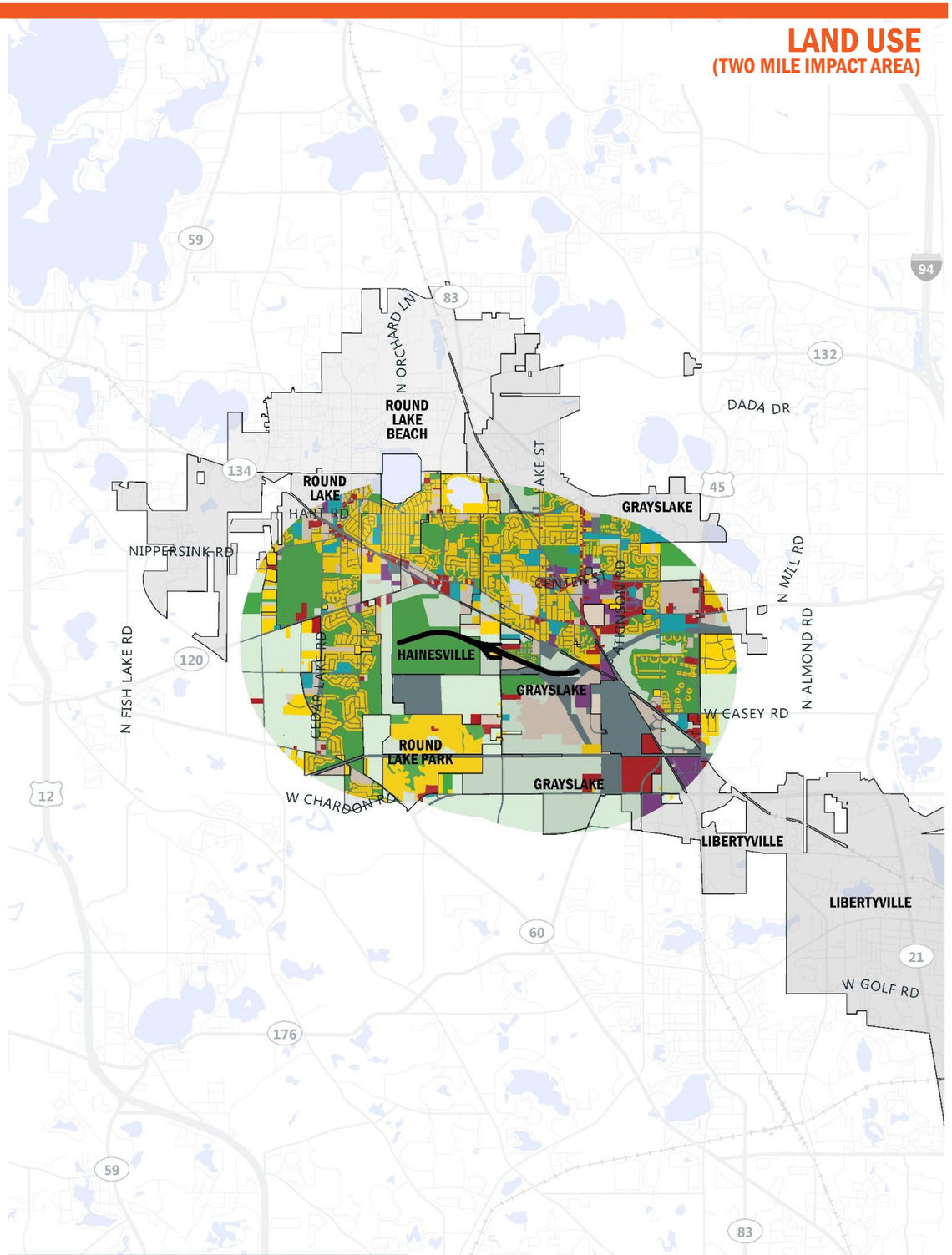


COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.18 CORRIDOR 23

Corridor 23 (new alignment) is an approximately 4-mile south alignment option for a portion of Corridor 21 from US 12 to Cedar Lake Road in west central Lake County. The two-mile analysis area[1] around Corridor 23 includes portions of 8 communities (Wauconda, Volo, Lakemoor, Round Lake Park, Hainesville, Grayslake, Round Lake, and Fox Lake) as well as unincorporated areas of Lake and McHenry Counties.

Demographics

Corridor 23 has experienced significant growth from 2000 to 2015, with population, housing units, and employment all more than doubling 2000/2002 levels by 2015. The analysis area added over 20,000 residents and nearly 7,000 housing units during the period, increases of 125% and 114%, respectively. Employment growth was broad-based but driven by an increase of over 3,000 Manufacturing jobs.

Land Use

The Corridor 23 analysis area includes 18,494 acres, 46% of which is unincorporated. Communities with the most land within the analysis area are Round Lake, Volo, and Lakemoor. Most land within the analysis area is either open space or agriculture. The analysis area includes several open space features, including the Northbrook Sports Club, the Nippersink Forest Preserve, the Kettle Grove Forest Preserve, the Marl Flat Forest Preserve, YMCA Camp Duncan, and the Volo Bog. Corridor 23 also passes through several areas of agricultural or vacant/under construction land. These areas total 5,840 acres (32% of all acreage) and may undergo land use change in the future, depending on transportation access, market factors, and community plans. Residential land makes up 21% of the analysis area but, with some exceptions, is generally located toward the periphery of the analysis area rather than adjacent to Corridor 23.

As with population and employment, retail and industrial/flex square footage more than doubled from 2000 to 2015. 280,000 SF was added to retail's 2000 inventory of 160,000 SF and 630,000 SF was added to the industrial/flex inventory of 430,000 SF from 2000. It appears 400,000 SF of the new industrial/flex development consisted of the Mastercard International facility built in Volo in 2007. Only a minor amount of office exists in the analysis area, and none was developed from 2000 to 2015.

37,116 Population, 2015 | **+ 20,606** Change, 2000 to 2015 | **+ 124.8%** % Change, 2000 to 2015

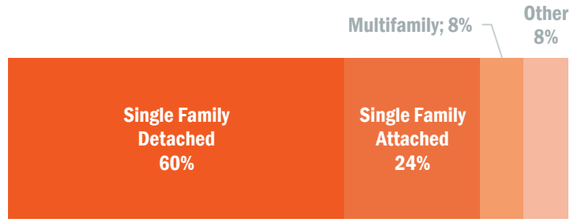
12,356 Households, 2015 | **+ 6,612** Change, 2000 to 2015 | **+ 115.1%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

13,101 Housing Units, 2015

+ 6,982 Change, 2000 to 2015

+ 114.1% % Change, 2000 to 2015

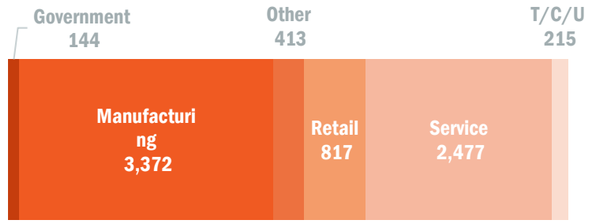


Housing Units by Type, 2015

7,438 Employment, 2015

+ 4,535 Change, 2002 to 2015

+ 156.2% % Change, 2002 to 2015



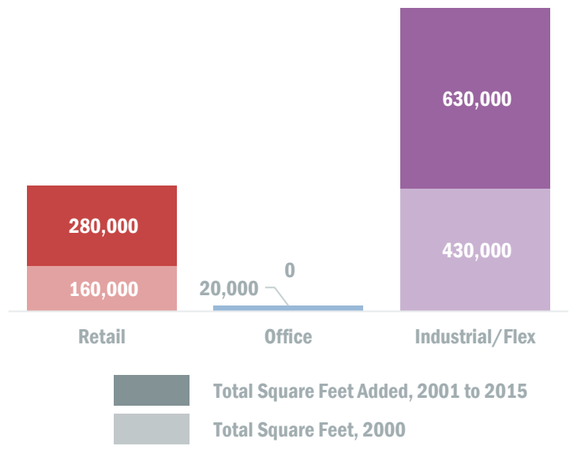
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

440,000 Retail SF, 2015

20,000 Office SF, 2015

1,060,000 Industrial/Flex SF, 2015



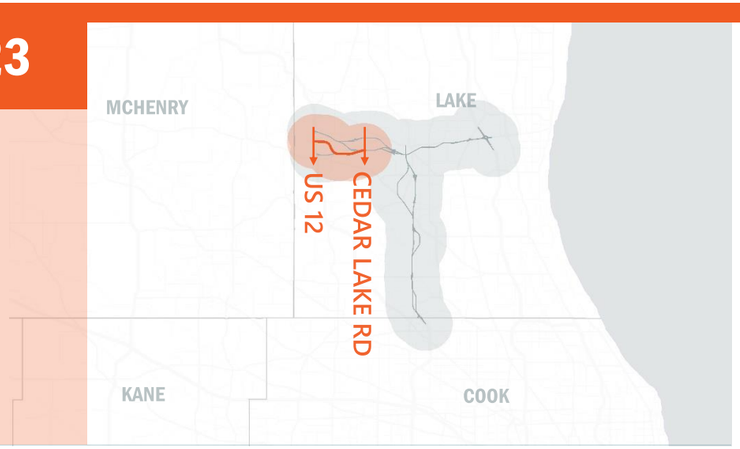
Building Square Feet, 2000 and 2015

4.18 CORRIDOR 23

4 MILES

8 AFFECTED COMMUNITIES

18,494 ACRES [1] WITHIN TWO MILE IMACT AREA



LAND USE (TWO MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2]	OPEN SPACE	AGRICULTURAL	VACANT/ UNDER CONSTRUCTION
3,891 ACRES	389 ACRES	613 ACRES	655 ACRES	2,040	5,065	4,595	1,245

DEVELOPED/RESERVED
12,654 ACRES | 68%

UNDEVELOPED
5,840 ACRES | 32%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

ROUND LAKE
2,912 ACRES | 301 ACRES

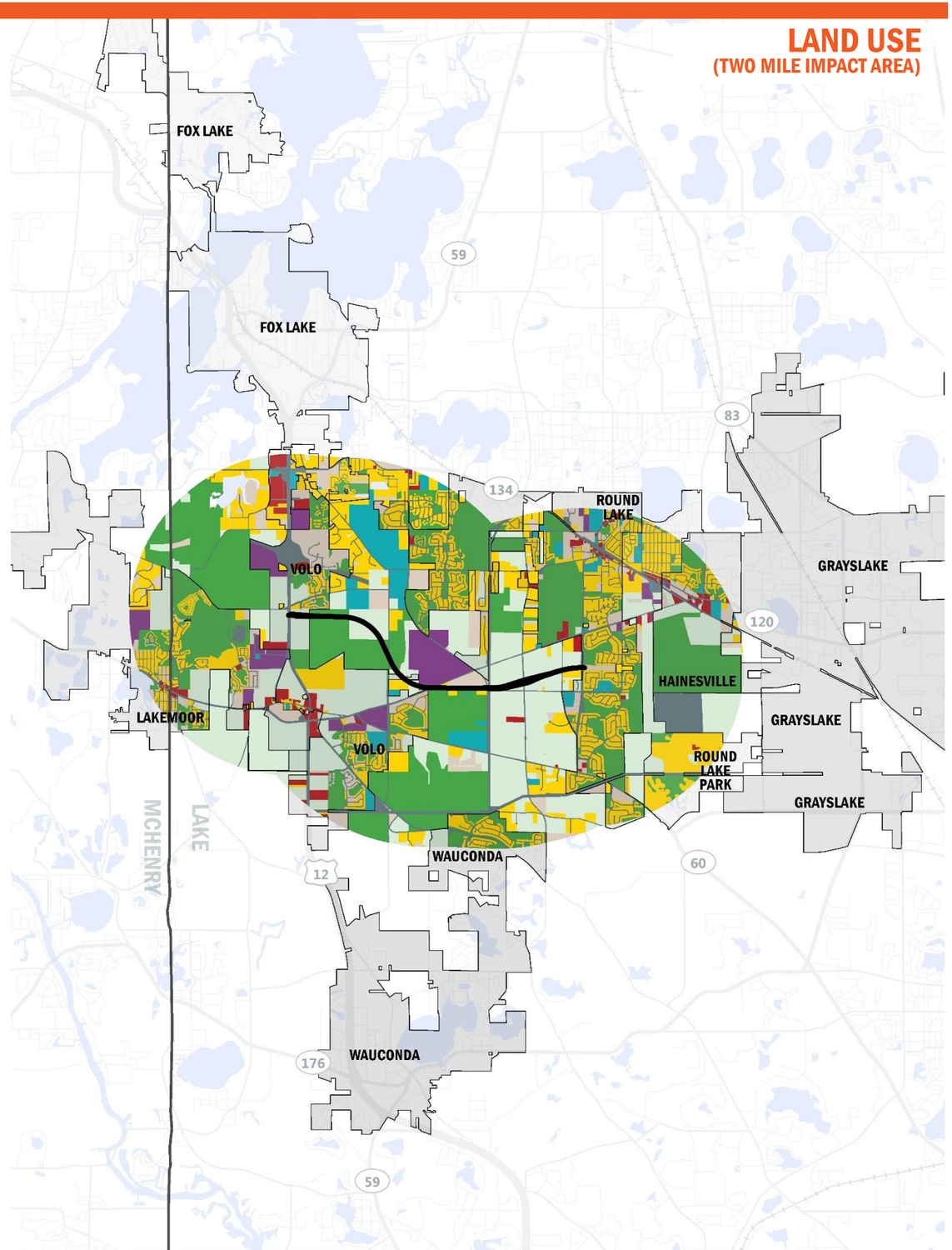
VOLO
1,338 | 1,116 ACRES

LAKEMOOR
1,196 | 507 ACRES

UNINCORPORATED AREAS
5,160 ACRES | 3,309 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.19 CORRIDOR 24

Corridor 24 (new alignment) is an approximately 2-mile south alignment option for a portion of Corridor 23 from US 12 to IL 120 in west central Lake County. The two-mile analysis area[1] around Corridor 24 includes portions of 5 communities (Island Lake, Wauconda, Volo, Lakemoor, and Round Lake) as well as unincorporated areas of Lake and McHenry Counties.

Demographics

Corridor 24 experienced rapid growth in percentage terms from 2000 to 2015, with population, housing units, and employment all more than doubling, though from relatively modest base values in 2000. Population and housing units grew by approximately 8,300 (+171%) and 2,900 (+149%), respectively. Employment growth was even more pronounced: increasing by nearly 4,100 (+376%) from 2002 to 2015. Though many sectors experienced job growth, much of the growth was driven by an increase of nearly 3,100 Manufacturing jobs.

Land Use

The Corridor 24 analysis area includes 12,124 acres, 57% of which is unincorporated. Communities with the most land within the analysis area are Volo, Lakemoor, and Round Lake. Corridor 24 travels generally west-east from a point on US 12 just north of downtown Volo on its western end to the southern edge of the Baxter headquarters on its eastern end. Much of the Corridor's path is through agricultural land, but it is also proximate to commercial, institutional, residential, and industrial land uses. About 27% of the analysis area (3,240 acres) is open space, including the Marl Flat Forest Preserve, YMCA Camp Duncan, Fish Lake Beach Camping Resort, Singing Hills Forest Preserve, and the Volo Bog. An additional 4,927 acres (41%) is either agricultural or vacant/under construction land, which may change land use in the future, depending on transportation access, market factors, and community plans.

The Corridor 24 analysis area added 590,000 SF of industrial/flex space from 2000 to 2015, 400,000 SF of which was the Mastercard International facility built in Volo in 2007. Retail added 80,000 SF, doubling the retail inventory from 2000. Only a minor amount of office exists in the analysis area, and none was developed from 2000 to 2015.

13,230 Population, 2015 | **+ 8,349** Change, 2000 to 2015 | **+ 171.1%** % Change, 2000 to 2015

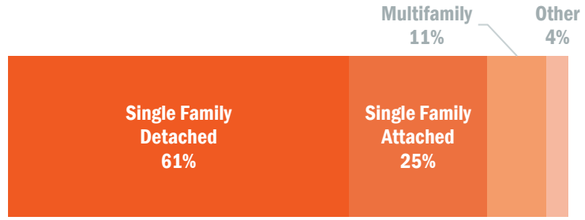
4,495 Households, 2015 | **+ 2,944** Change, 2000 to 2015 | **+ 153.0%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

4,925 Housing Units, 2015

+ 2,944 Change, 2000 to 2015

+ 148.6% % Change, 2000 to 2015

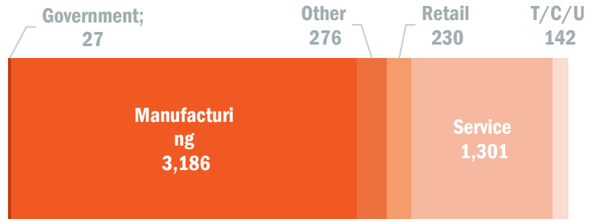


Housing Units by Type, 2015

5,162 Employment, 2015

+ 4,077 Change, 2002 to 2015

+ 375.8% % Change, 2002 to 2015



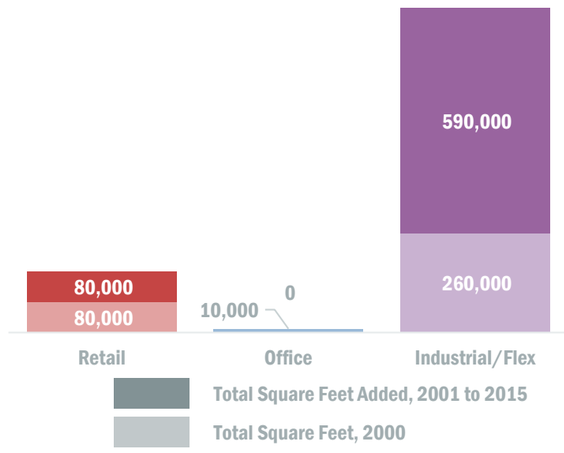
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

160,000 Retail SF, 2015

10,000 Office SF, 2015

850,000 Industrial/Flex SF, 2015



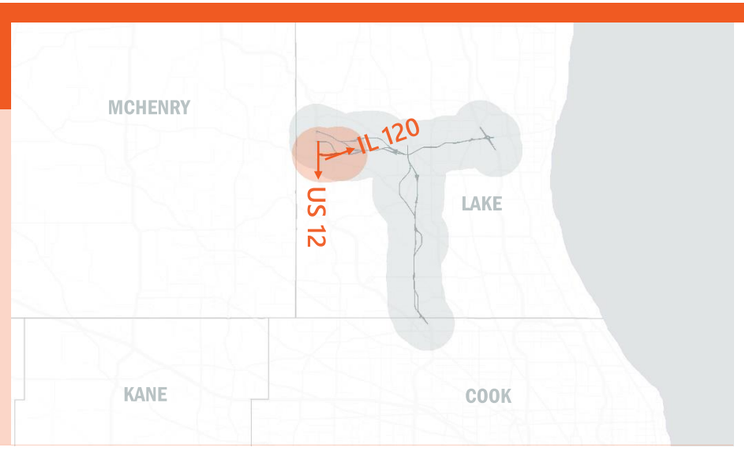
Building Square Feet, 2000 and 2015

CORRIDOR 24

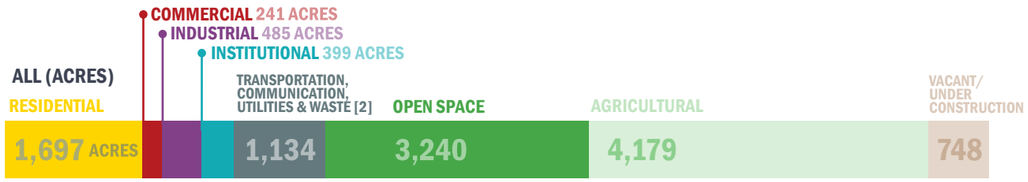
2 MILES

5 AFFECTED COMMUNITIES

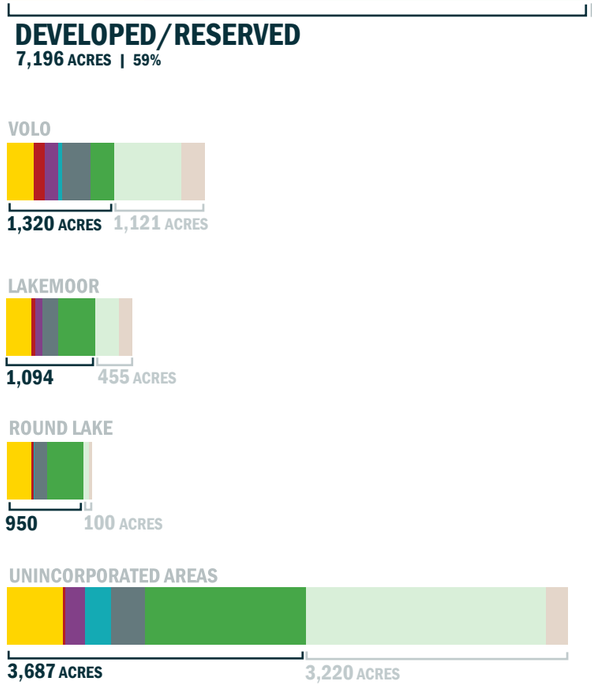
12,124 ACRES [1] WITHIN TWO MILE IMACT AREA



LAND USE (TWO MILE IMPACT AREA) [1]

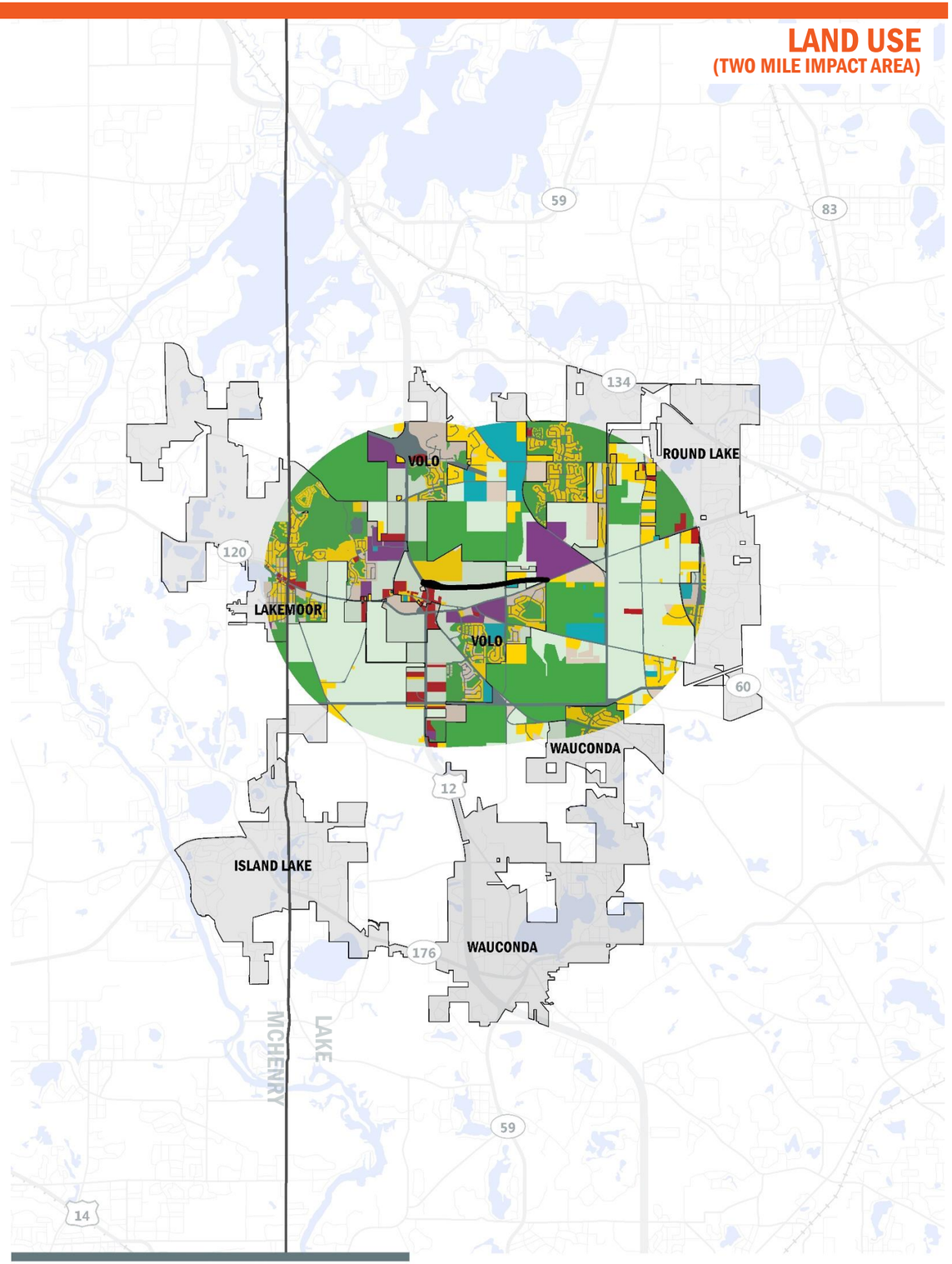


COMMUNITIES WITH MOST IMPACT AREA ACREAGE



[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE (TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

4.20 CORRIDOR 25

Corridor 25 (new alignment) is an approximately 4-mile farther north alignment option for a portion of corridors 21 and 22 from east of Wilson Road to west of Alleghany Road in west central Lake County. The two-mile analysis area[1] around Corridor 25 includes portions of 9 communities (Volo, Lakemoor, Fox Lake, Round Lake Park, Hainesville, Grayslake, Libertyville, Round Lake, and Round Lake Beach) as well as unincorporated areas of Lake County.

Demographics

The analysis area experienced consistent growth in population and housing units between 2000 and 2015, with both metrics increasing by approximately 50%. The analysis area added nearly 20,000 residents, a 48% increase. Housing units increased by about 7,300 over the period (+51%). Employment increased, though at a slower rate, growing by 18% (+2,100 jobs) from 2002 to 2015. Approximately half of the total job growth is attributable to growth in two sectors: Transportation and Warehousing (+864) and Educational Services (+661), while declines were overwhelmingly driven by losses of Construction jobs (-610).

Land Use

The Corridor 25 analysis area includes 20,441 acres, 32% of which is unincorporated. Communities with the most land within the analysis area are Grayslake, Round Lake, and Volo. Land uses immediately adjacent to Corridor 25 include a number of discreet areas of residential development, Nippersink Forest Preserve, Kestrel Ridge Forest Preserve, as well as areas of industrial development and agricultural land use. The northern section of the analysis area is more consistently developed with a mix of land uses, while the southern section of the analysis area is generally more agricultural. Approximately 30% of the acreage (6,132 acres) is either agricultural or vacant/under construction land. These areas may undergo land use change in the future, depending on transportation access, community plans and market factors.

Among non-residential land uses, industrial/flex grew by the most in both absolute and percentage terms – adding nearly 1 million SF, an 80% increase over its 2000 base. More than half of this development occurred in two developments – a 400,000 SF data center in Volo and a 215,000 SF distribution facility in Grayslake. Retail and office grew by similar amounts over the period: 160,000 SF (+67%) and 140,000 SF (+24%), respectively.

61,471 Population, 2015 | **+ 19,984** Change, 2000 to 2015 | **+ 48.2%** % Change, 2000 to 2015

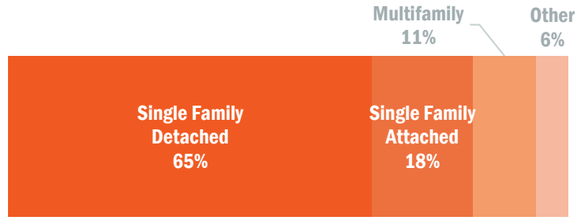
20,457 Households, 2015 | **+ 6,844** Change, 2000 to 2015 | **+ 50.3%** % Change, 2000 to 2015

[1] Corridor demographic and land use data is presented for the 2-mile analysis area from the roadway's approximate centerline and ramps (4 miles total width) and ½ mile from intersecting arterials (1-mile total width).
*Parts may not add to totals and percentages may not sum to 100% due to rounding

21,390 Housing Units, 2015

+ 7,255 Change, 2000 to 2015

+ 51.3% % Change, 2000 to 2015

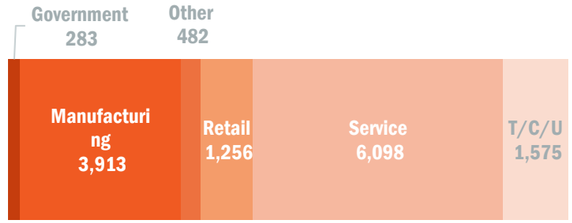


Housing Units by Type, 2015

13,607 Employment, 2015

+ 2,112 Change, 2002 to 2015

+ 18.4% % Change, 2002 to 2015



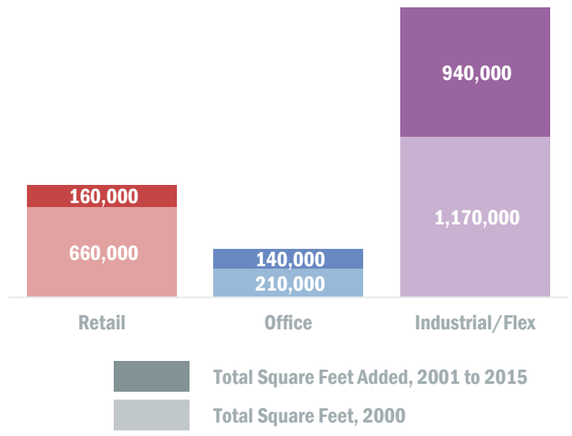
Employment by Sector, 2015

See Table 5.2 for detailed list of industries within each sector

820,000 Retail SF, 2015

350,000 Office SF, 2015

2,110,000 Industrial/Flex SF, 2015



Building Square Feet, 2000 and 2015

4.20 CORRIDOR 25

4 MILES

9 AFFECTED COMMUNITIES

20,441 ACRES [1] WITHIN TWO MILE IMACT AREA

LAND USE (TWO MILE IMPACT AREA) [1]

ALL (ACRES)

RESIDENTIAL	COMMERCIAL	INDUSTRIAL	INSTITUTIONAL	TRANSPORTATION, COMMUNICATION, UTILITIES & WASTE [2]	OPEN SPACE	AGRICULTURAL	VACANT/ UNDER CONSTRUCTION
5,058 ACRES	571 ACRES	655 ACRES	852 ACRES	3,197	3,976	4,580	1,552

DEVELOPED/RESERVED
14,309 ACRES | 70%

UNDEVELOPED
6,132 ACRES | 30%

COMMUNITIES WITH MOST IMPACT AREA ACREAGE

GRAYSLAKE
3,049 ACRES | 1,640 ACRES

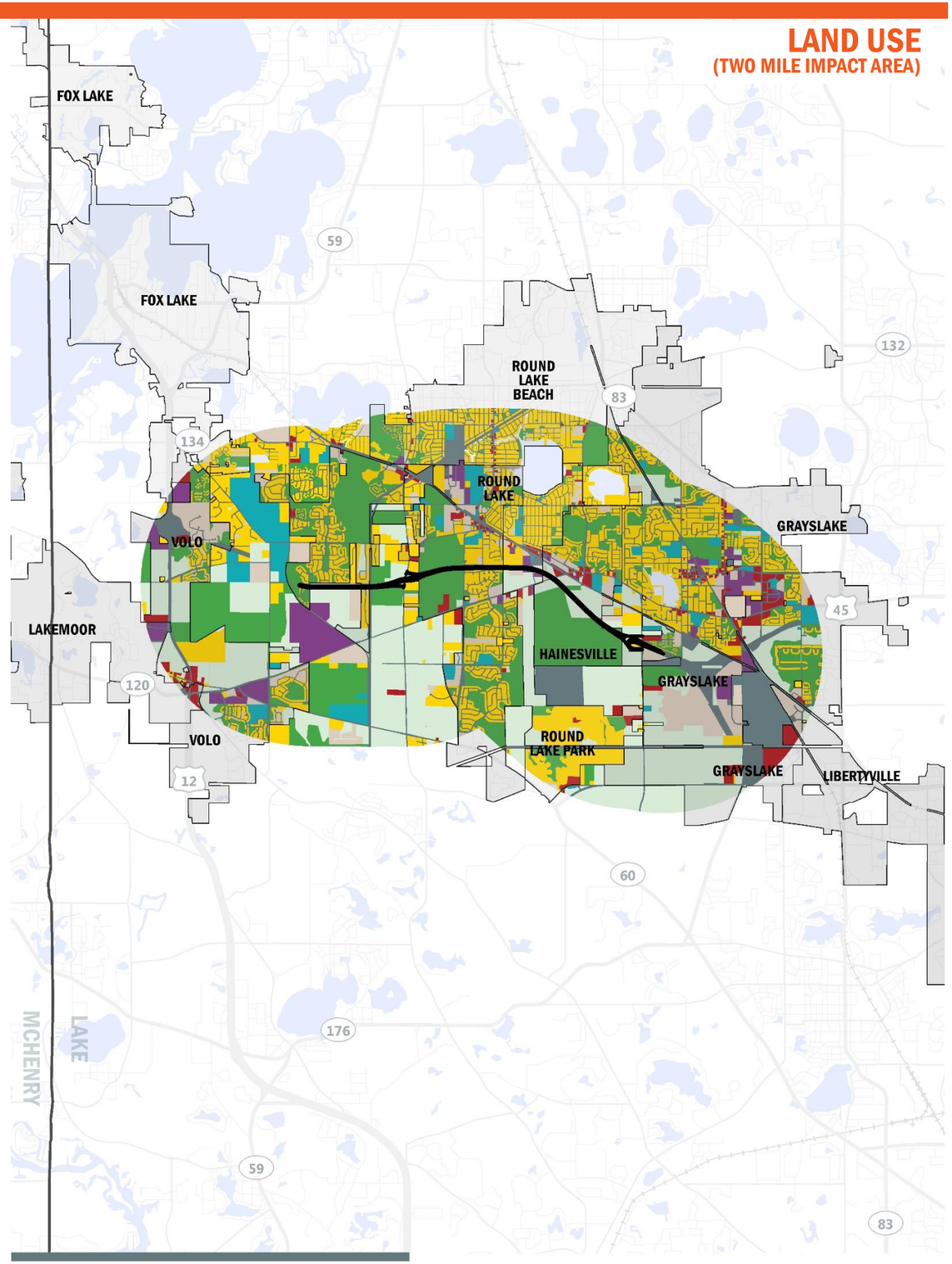
ROUND LAKE
3,036 ACRES | 299 ACRES

VOLO
984 | 799 ACRES

UNINCORPORATED AREAS
3,939 ACRES | 2,701 ACRES

[1] CMAP 2013 Land Use (excludes water area)
[2] Also includes Right-Of-Way and unspecified land uses
*Parts may not add to totals due to rounding

LAND USE
(TWO MILE IMPACT AREA)



Sources: CMAP; Esri; SB Friedman; US Census

5.0 REFERENCES

Table 5.1. Communities Impacted by Corridor | Community Comprehensive Plans

Municipality	Corridor 1	Corridor 2	Corridor 3	Corridor 4	Corridor 6	Corridor 7	Corridor 8	Corridor 9	Corridor 11	Corridor 13	Corridor 14	Corridor 15	Corridor 16	Corridor 17	Corridor 18	Corridor 20	Corridor 21	Corridor 22	Corridor 23	Corridor 24	Corridor 25	Comprehensive Plan
Arlington Heights					●	●							●	●								Village of Arlington Heights Comprehensive Plan
Barrington							●	●														Village of Barrington Comprehensive Plan 2010
Barrington Hills								●														Comprehensive Plan Village of Barrington Hills
Buffalo Grove				●		●							●	●								Comprehensive Plan Update
Deer Park	●					●	●	●					●	●								Village of Deer Park Comprehensive Plan Update
Fox Lake	●										●						●		●		●	Village of Fox Lake Comprehensive Development Plan and Policies Update
Grayslake						●			●		●		●			●	●	●	●		●	Comprehensive Plan: 2005
Green Oaks									●							●						Green Oaks Comprehensive Plan
Gurnee									●							●						Village of Gurnee Comprehensive Land Use Plan Update, 1997
Hainesville									●				●			●	●	●	●		●	Village of Hainesville Comprehensive Plan 2010
Hawthorn Woods	●			●						●			●	●	●							Village of Hawthorn Woods Comprehensive Plan
Hoffman Estates								●														Village of Hoffman Estates Comprehensive Plan
Indian Creek															●							--
Inverness								●														Official Comprehensive Plan
Island Lake																				●		Official Comprehensive Plan of the Village of Island Lake
Kildeer	●			●		●	●						●	●	●							Comprehensive Plan
Lake Barrington								●														Comprehensive Plan Village of Lake Barrington
Lake Zurich	●			●									●	●	●							Comprehensive Plan Update 2003
Lakemoor	●	●							●								●		●	●	●	Village of Lakemoor Comprehensive Plan
Libertyville						●						●	●			●	●	●			●	Libertyville Comprehensive Plan
Long Grove			●	●	●	●							●	●	●							Comprehensive Plan | The Village of Long Grove
Mundelein		●	●			●				●		●	●		●							Village of Mundelein Comprehensive Plan
North Barrington	●			●				●														Village of North Barrington Comprehensive Plan
North Chicago																●						City of North Chicago Comprehensive Plan
Palatine	●				●	●	●						●	●								Village of Palatine Comprehensive Plan
Park City									●							●						--
Richmond	●																					Village of Richmond Comprehensive Plan
Rolling Meadows					●																	Rolling Meadows, Illinois | Comprehensive Plan
Round Lake		●							●								●	●	●	●	●	Village of Round Lake Comprehensive Plan
Round Lake Beach											●						●	●			●	Village of Round Lake Beach Comprehensive Land Use Plan 2009
Round Lake Heights											●											Round Lake Heights Comprehensive Plan
Round Lake Park		●							●				●			●	●	●	●		●	Round Lake Park Comprehensive Plan
Schaumburg					●																	Village of Schaumburg Comprehensive Plan
South Barrington								●														South Barrington 2005
Spring Grove	●																					Village of Spring Grove Comprehensive Land Use Plan
Third Lake																●						--
Tower Lakes								●														Comprehensive Plan for the Village of Tower Lakes
Vernon Hills			●			●							●		●							Village of Vernon Hills Comprehensive Land Use Plan 2012
Volo	●	●							●								●		●	●	●	Village of Volo Comprehensive Plan 2013
Wauconda	●							●		●							●		●	●		Village of Wauconda Comprehensive Plan 2012
Waukegan									●							●						City of Waukegan Comprehensive Plan

5.0 REFERENCES

Table 5.2. Consolidated to Detailed Industrial Categories

Consolidated Industrial Categories	Detailed Industrial Categories
Government	Public Administration
Manufacturing	Manufacturing
Other	Agriculture, Forestry, Fishing and Hunting
Other	Construction
Other	Mining, Quarrying, and Oil and Gas Extraction
Retail	Retail Trade
Service	Accommodation and Food Services
Service	Administration & Support, Waste Management and Remediation
Service	Arts, Entertainment, and Recreation
Service	Educational Services
Service	Finance and Insurance
Service	Health Care and Social Assistance
Service	Information
Service	Management of Companies and Enterprises
Service	Other Services (excluding Public Administration)
Service	Professional, Scientific, and Technical Services
Service	Real Estate and Rental and Leasing
T/C/U	Transportation and Warehousing
T/C/U	Utilities
T/C/U	Wholesale Trade

Source: U.S. Census Bureau via LEHD On-the-Map; SB Friedman

5.0 REFERENCES

Table 5.3. Data Sources

A full listing of data points and sources is included here:

Corridor-level Data [1]:

- Land Use – Chicago Metropolitan Agency for Planning 2013 Land Use Inventory accessed April 2017; U.S. Census Bureau Places 2017 TIGER file accessed August 2017
- 2000 Population, Households, and Housing Units – 2000 Data in 2010 Geography (U.S. Census) via Esri Business Analyst 2017, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- 2015 Population, Households, and Housing Units – 2011-2015 Key Demographic Indicators (ACS) (Esri USA 2017 ACS) via Esri Business Analyst 2017, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- 2015 Households by Poverty Status – 2011-2015 Households by Poverty Status (ACS) (Esri USA 2017 ACS) via Esri Business Analyst 2017, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- 2015 Housing by Units in Structure – 2011-2015 Housing by Units in Structure (ACS) (Esri USA 2017 ACS) via Esri Business Analyst 2017, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- 2015 Population by Age – 2015 Age: 5 Year Increments (Esri) (Esri 2015 Business Analyst Base Data) via Esri Business Analyst 2015, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- 2015 Race/Ethnicity – 2015 Race and Hispanic Origin (Esri) (Esri 2015 Business Analyst Base Data) via Esri Business Analyst 2015, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- 2015 Median Household Income and 2015 Households by Income – 2015 Income (Esri) (Esri 2015 Business Analyst Base Data) via Esri Business Analyst 2015, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- 2002 and 2015 Employment and 2015 Employment Counts by Industry – U.S. Census Bureau via LEHD On-the-Map, SB Friedman accessed 11/14/2018, 2/22/2019, 3/1/2019
- Building Square Feet, 2000 and 2015 – CoStar, SB Friedman accessed May 2018

[1] Counts of population and households are from an alternate data source to the percentage break down of population and household values (i.e., Population by Age, Race/Ethnicity, and Households by Income). Therefore, percentage values for Population by Age, Race/Ethnicity, and Households by Income should be viewed as an indicator of the distribution of population or household characteristics and should not be multiplied by counts provided to generate values.

TCA Study Area/Regional Data:

- Land Use – Chicago Metropolitan Agency for Planning 2013 Land Use Inventory accessed April 2017; U.S. Census Bureau Counties TIGER file
- 2000 Population, Households, and Housing Units – 2000 Census via the U.S. Census Bureau accessed August 2018
- 2015 Population, Households, and Housing Units – 2015 5-Year American Community Survey via the U.S. Census Bureau accessed August 2018
- 2015 Housing Units by Units in Structure – 2015 5-Year American Community Survey via the U.S. Census Bureau accessed March 2019
- 2002 and 2015 Employment – U.S. Census Bureau via LEHD On-the-Map, SB Friedman accessed 11/20/2018 and 11/26/2018
- Building Square Feet, 2000 and 2015 – CoStar, SB Friedman accessed May 2018

TECHNICAL MEMORANDUM #6

Special Lands

Special Lands

This memorandum describes the affected environment for special lands resources.

1.0 Resource Introduction

Recreational and special lands include federally designated sites, state parks, forest preserves (FP), nature preserves (NP), Illinois Natural Areas Inventory (INAI) sites, and local publicly owned parks and recreational areas. Some special lands properties are managed and protected for their recreational qualities while others are managed and protected for their environmental or historical importance and provide open space and habitat for different types of plants and wildlife, including common species and threatened and endangered species that rely on this habitat for survival. Some special lands properties are managed and protected for a combination of their recreational and non-recreational qualities.

2.0 Methodology

Publicly owned recreation and other special lands in the analysis area were identified and located using readily available information from secondary sources (see Section 5.0, References). A desktop survey of available geographic information system (GIS) information was conducted in September and October 2018, and January and February 2019. Field verifications for corridors 1 through 15 were completed between October 10 through 12, 2018. Due to public access limitations, corridors 16 through 25 (which are primarily on new alignment) were evaluated primarily using available GIS and web-based mapping. Based on the field verifications, modifications to GIS layers were made. A 0.25-mile analysis area from the approximate roadway centerline (0.5-mile total width) was used for identifying special lands for all corridors.

3.0 Tri-County Access Study Area

The Tri-County Access (TCA) study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA Study Area: all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA Study Area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

Federal and state special lands within the TCA Study area include:

- One U.S. Fish and Wildlife Service (USFWS) National Wildlife Refuge (NWR) (Hackmatack National Wildlife Refuge)
- Five National Park Service (NPS) National Natural Landmark (NNL) sites (Busse Forest Nature Preserve NNL; Volo Bog Nature Preserve NNL; Wauconda Bog Nature Preserve NNL; Illinois Beach Nature Preserve NNL; and Chiwaukee Prairie NNL)
- Five state parks (Illinois Beach State Park, Red Wing Slough, Chain O'Lakes State Park, Volo Bog, and Morraine Hills State Park)
- 70 Illinois nature preserve (NP) sites
- 110 INAI sites

In addition to the federal and state sites, numerous county and local recreational parks and preserves are within the study area. In Cook County, DuPage, and Lake, county-owned recreation areas are

referred to as forest preserves; in McHenry County, they are conservation districts; and in Kenosha County, they are county parks. Finally, other public park/recreation areas are owned by townships, municipalities, and open space entities. Within the TCA study area, there are:

- 177 county forest preserves, conservation districts, and county parks
- 1,293 local parks
- 633 open space areas[1]

Combined, these sites provide open space and habitat for different types of plants and wildlife, including common and threatened and endangered species, and varied recreation facilities and opportunities, including picnic sites, playgrounds, and activities such as biking, golfing, hiking, and canoeing, as well as passive recreation.

4.0 System Alternative Corridors

4.1 Corridor 1

There are 30 special land sites within the Corridor 1 analysis area (Table 1). This includes 1 USFWS NWR, 1 state park, 7 forest preserve or conservation district sites, 15 local parks, 1 Illinois nature preserve, and 5 INAI sites.

Table 1. Special Lands, Corridor 1

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	1	38
NPS National Natural Landmark	0	0
State Park	1	5
County Forest Preserve/Conservation District	7	375
Local Park	15	100
Illinois Nature Preserve	1	22
Illinois Natural Area (INAI)	5	244

The heaviest concentrations of special lands occur in McHenry County toward the northern terminus of the corridor (between IL 31 and State Park Road, and from Volo through the Wauconda area (between Molidor Road and Milton Road).

Between IL 31 and State Park Road (mileposts [MP] 3.3 to 10.0), are Hackmatack National Wildlife Refuge (this is the only corridor that is proximate to the refuge), two McHenry County Conservation District (MCCD) sites (Glacial Park and Nippersink Canoe Base) and several NPs and INAI sites. Between Molidor and Milton roads (MP 15.4 to 24.1) are three Lake County Forest Preserve District (LCFPD) sites (Fish Lake and Marl Flat, Singing Hills, and Lakewood). At the corridor's southern terminus (at Lake Cook Road) is Deer Grove FP (Forest Preserve District of Cook County [FPDCC] site). Other public lands are scattered throughout the corridor. Each special land site is described in detail in Table 2 and displayed on the Corridor 1 Special Lands exhibits.

[1] Data is for Lake County only; data is not available for Cook, DuPage, McHenry, and Kenosha counties. Not all open space areas have a recreation component.

Table 2. Corridor 1 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Federal or State Sites					
Hackmatack National Wildlife Refuge	Northeast McHenry Co IL and southern Walworth Co, Wisconsin (MP 3.2)	N	USFWS	11,200	• Established in 2012 and intended to link and expand existing conservation areas to benefit migratory birds and endangered species • Consists of a planned conservation core of 11,200 acres of land, plus conservation corridors that connect to the core
Volo Bog State Natural Area	West of US 12, north of Sullivan Lake Rd (MP 15.0)	N	IDNR	1,152	• Contains visitor center and interpretive trails; • Recreational uses: hiking, cross-country skiing, and hunting • Portion of Volo Bog beyond the analysis area is designated Illinois NP (Volo Bog NP), INAI site (Volo Bog INAI 1005), and NPS NNL
County Forest Preserves/Conservation Districts					
Glacial Park	US 12 east of IL 31 (MP 4.2)	N	MCCD	3,452	• Recreational uses: hiking, biking, horseback riding, fishing, birdwatching, snowshoeing/ cross-country skiing, snowmobiling, and sledding • A portion of the park (beyond the analysis area) designated Illinois NP (Glacial Park NP) and Delta Kames INAI site (0711) • Part of the Hackmatack NWR
Spring Grove Fen	North side of Canadian Pacific RR tracks, west of Wilmot Rd (MP 7.5)	Y	MCCD	33.4	• No public access or recreation use; managed to preserve special vegetation • Majority of the site is dedicated NP and INAI site (0712)
Nippersink Canoe Base	US 12, east of Johnsburg Rd (MP 8.8)	Y	MCCD	347.3	• Recreational uses: canoeing/kayaking, fishing, hiking, and picnic facilities • Portion of the site is Nippersink Marsh INAI site (1492)
Singing Hills Forest Preserve	US 12, north of Case Rd (MP 18.3)	Y	LCFPD	718	• Protected by conservation easement • Recreational uses: hiking, biking, horseback riding, cross-country skiing, and snowmobiling
Lakewood Forest Preserve	East side of US 12, north of Old McHenry Rd (MP 23.6)	Y	LCFPD	2,835	• Recreational uses: picnic facilities, open grass playfield, playground, hiking, horseback riding, cross-country skiing, snowmobile, fishing, ice skating, and sledding • A portion (beyond the analysis area) designated Wauconda Bog NNL
Deer Grove Forest	Quentin Rd and IL 68 (MP 31.9)	N	FPDCC	1,800	• Recreational uses: hiking, biking, and horseback riding

Table 2. Corridor 1 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Preserve (East and West)					
Local Parks					
Village of Richmond Orsolini Park	South side of US 12, east of IL 31 (MP 3.5)	Y	Village of Richmond	14	• Undeveloped; no recreational amenities • Connected to Glacial Park
Lakefront Park	Nippersink Rd east of US 12 (MP 11.2)	Y	Village of Fox Lake	2.7	• Recreational uses: fishing area, sand volleyball courts, playground
Millennium Park	Grand Avenue and Rollins Road (MP 11.5)	N	Village of Fox Lake	3	• Recreational uses: gazebo, benches, walking/biking path
Eagle Point Park	Eagle Point Road and Tremont Avenue (MP 11.9)	N	Village of Fox Lake	0.8	• Recreational uses: basketball, playground, open grass play area
Kings Island Park	Lakeland Ave and Pistakee Way (MP 12.4)	N	Village of Fox Lake	0.2	• Recreational uses: playground, open grass play area
Lagoon Park	West of US 12, south of Bonner Rd (MP 20.7)	N	Wauconda Park District	15	• Recreational uses: baseball/softball • Includes Larkdale Pond
Country Ridge Park	Pine St and Old Country Way (MP 20.8)	N	Wauconda Park District	0.3	• Recreational uses: playground, grass play area
Larkdale Park	Larkdale Row and Minerva Ave (MP 20.9)	N	Wauconda Park District	1.6	• Recreational uses: playground, basketball, open grass playing field
Manor Park	US 12 and Miller Rd (MP 25.9)	Y	Village of Lake Zurich	2	• Recreational uses: soccer, picnic facilities, playground, natural area, trails
Betty Park	Fairway Rd and Betty Dr (MP 26.4)	N	Village of Lake Zurich	0.3	• Small, undeveloped mini-park
Zurites Park	Pleasant Rd and Wilmette Ter (MP 26.8)	N	Village of Lake Zurich	2.7	• Recreational uses: soccer, picnic facilities, playground
Paulus Park	US 12 and IL 22 (MP 27.0)	Y	Village of Lake Zurich	41	• Recreational uses: volleyball, beach, fishing, picnic facilities, playground, natural area, and trails
Orchards Park	West of US 12, behind Village Square Shopping Center (MP 27.5)	N	Village of Lake Zurich	2.5	• Recreational uses: soccer, picnic facilities
Sparrow Ridge Park	West of US 12, north of Cuba Rd (MP 29.1)	Y	Village of Lake Zurich	3.1	• Recreational uses: picnic facilities, playground

Table 2. Corridor 1 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Countryside West Park	Harbor Rd and Bayview Dr (MP 29.6)	N	Village of Lake Zurich	18.3	• Recreational uses: volleyball, fishing, picnic facilities, playground, natural area, and trails
Illinois Nature Preserves					
Spring Grove Fen	North side of Canadian Pacific RR tracks, west of Wilmot Rd (MP 7.5)	Y	MCCD	33.4	• No public access; managed to preserve special vegetation • Protected by conservation easement • NP overlaps with Spring Grove Fen INAI site (0712)
Illinois Natural Area Inventory (INAI) Sites *					
North Branch of Nippersink Creek INAI site (1507)	Crosses US 12 at MP 3.5, east of IL 31	Y	MCCD	521	• INAI designation extends from Wisconsin state line to where it joins Nippersink Creek • INAI categories II and VI
Spring Grove Fen INAI site (0712)	North side of Canadian Pacific RR tracks, west of Wilmot Rd (MP 7.5)	Y	MCCD	33.4	• Portion of the INAI site is within the Spring Grove Fen Conservation District and Spring Grove Fen NP • INAI categories I and III
Nippersink Marsh INAI site (1492)	US 12, east of Johnsburg Rd (MP 8.7)	Y	MCCD	377	• Portion of the INAI site is within Nippersink Canoe Base Conservation District • Managed to preserve various natural communities including savanna and woodland, marsh, fen, and sedge meadow • INAI category I
Stanley Road Bog INAI site (0651)	West of US 12, north side of Brandenburg Rd (MP 14.3)	N	Private	13	• INAI categories I and II
Fish Lake and Marl Flat Forest Preserve INAI site (1682)	East side of US 12, north of IL 120 (MP 16.2)	Y	Private	360	• Located on both public and private land (public portion, owned by LCFPD, is outside of the analysis area; privately held land owned by YMCA Camp Duncan) • Protected by conservation easement • INAI categories I and II

INAI Category Descriptions:

I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, Land and Water Reserves (LWRs), and Natural Heritage Landmarks (NHLs)

VI = Unusual concentrations of flora or fauna and high-quality streams

4.2 Corridor 2

There are 11 special land sites within the Corridor 2 analysis area (Table 3), including 3 forest preserve or conservation district sites, 7 local parks, and 1 INAI site.

Table 3. Special Lands, Corridor 2

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	3	73
Local Park	7	43
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	1	0

The larger expanses of special lands are clustered at the west end of the corridor (generally, from Fish Lake Road to west of Wilson Road [MP 0.5 to 1.8]) as well as in the middle of the corridor (near Peterson Road [MP 4.4]). From east of Fish Lake Road to west of Wilson Road (MP 0.8 to 1.2) are two forest preserves (Singing Hills and Kettle Grove), and around Peterson Road (MP 4.0) is Ray Lake FP. Other public lands are scattered along the corridor. Special lands are described in Table 4 and displayed on the Corridor 2 Special Lands exhibits.

Table 4. Corridor 2 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Singing Hills Forest Preserve	IL 60 and Fish Lake Rd (MP 0.5)	Y	LCFPD	718	• Protected by conservation easement • Recreational uses: hiking, biking, horseback riding, cross-country skiing, and snowmobiling
Kettle Grove Forest Preserve	IL 60, west of Wilson Rd (MP 1.0)	Y	LCFPD	260	• Recreational uses: hiking trails
Ray Lake Forest Preserve	IL 60 and Chardon Rd (MP 4.0)	N	LCFPD	1,010	• Recreational uses: hiking, biking, horseback riding, and cross-country skiing
Local Parks					
Lancaster Falls Park	Bellows Way, north of IL 60 (MP 0.7)	N	Village of Volo	1.6	• Recreational uses: playground, basketball court, open grass play area
Kristina Park	IL 60 and Kristina Ln (MP 3.2)	Y	Round Lake Area Park District	2.96	• Recreational uses: grass play area/open space, picnic facilities • Round Lake Park District Trail within the park
Lakewood Grove Park	IL 60 and Fremont Ave (MP 3.4)	Y	Round Lake Area Park District	12.78	• Recreational uses: grass play area/open space, picnic facilities, natural area, playground, soccer field, and hiking trail.
Raymond Park	West side of IL 60, north of Chardon Rd (MP 3.9)	Y	Round Lake Area Park District	5.91	• Recreational uses: baseball, basketball, picnic facilities, playground, grass play/open space, and hiking trail.

Table 4. Corridor 2 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Ivanhoe Park	Ivanhoe Rd, east of IL 60 (MP 6.6)	N	Fremont Township Parks Dept	2.7	• Recreational use: baseball field
Woodlands Park	East of Ivanhoe Rd, north of Maple Ave (MP 6.6)	N	Mundelein Park District	19	• Recreational uses: playground and picnic facilities
Illinois Natural Area Inventory (INAI) Sites *					
Fish Lake and Marl Flat Forest Preserve (1682)	East side of US 12, north of IL 120 (MP 0.0)	N	Private	360	• Located on both public and private land (public portion, owned by LCFPD, is outside of the analysis area; privately held land owned by YMCA Camp Duncan) • Protected by conservation easement • INAI Categories: I and II

*** INAI Category Descriptions:**

I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

4.3 Corridor 3

There are 8 special land sites within the Corridor 3 analysis area (Table 5), all of which are local parks.

Table 5. Special Lands, Corridor 3

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	0	0
Local Park	8	50
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	0	0

The local parks tend to be small neighborhood recreation sites, except for Diamond Lake near Allanson Road (MP 13.7). Special lands are described in Table 6 and displayed on the Corridor 3 Special Lands exhibits.

Table 6. Corridor 3 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Local Parks					
Kracklauer Park	East side of US 45, south of Division St (MP 13.2)	Y	Mundelein Park District	2.6	• Recreational uses: picnic facilities, playground, tennis
Orchard Basin	West of US 45, north of Orchard St (MP 13.2)	N	Mundelein Park District	2	• Wetland restoration site; viewing platform/seating area at edge of site
Bob Lewandowski Park	US 45 and Lakeview Drive (MP 13.6)	N	Mundelein Park District	3	• Recreational uses: playground, fishing, beach, picnic facilities
Diamond Lake Recreation Center	US 45 and Diamond Lake Rd (MP 13.7)	N	Mundelein Park District	100	• Recreational uses: beach, fishing, picnic facilities
Gordon Ray Park	Ridge Ave and Rays Ln (MP 14.1)	N	Mundelein Park District	6	• Recreational uses: baseball/softball and playground
Clearbrook Park	US 45 and Clearbrook Park Dr (MP 14.3)	Y	Mundelein Park District	4.5	• Recreational uses: baseball/softball, basketball, playground
Hickory Park	US 45 and Hickory St (MP 14.5)	N	Mundelein Park District	7	• Recreational uses: baseball/softball, playground, open grass play area

4.4 Corridor 4

There are 18 special land sites within the Corridor 4 analysis area (see Table 7). This includes 1 forest preserve or conservation district site, 13 local parks, 3 Illinois nature preserves, and 1 INAI site.

Table 7. Special Lands, Corridor 4

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	1	58
Local Park	13	107
Illinois Nature Preserve	3	72
Illinois Natural Area (INAI)	1	71

The greatest concentration of special lands along Corridor 4 are along Old McHenry Road, south of IL 22 (MP 5.8 to 6.5). In this area, adjacent or overlapping each other, are Heron Woods FP, Reed Turner Woodland NP and INAI site, and Kildeer Creek and Woodland Land and Water Reserve (LWR). Other public lands are scattered primarily along the Old McHenry Road portion of the corridor. There are no

special land properties along the Quentin Road portion of the corridor. Specials lands are described in Table 8 and displayed on the Corridor 4 Special Lands exhibits.

Table 8. Corridor 4 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Heron Creek Forest Preserve	SEC IL 22 and Old McHenry Rd (MP 5.9)	Y	LCFPD	242	• Recreational uses: picnic facilities, playground, hiking, biking, and cross-country skiing • Portions of the forest preserve are designated NPs (Kildeer Creek and Woodland LWR, and Reed-Turner Woodland NP) and Reed-Turner Woodland INAI site (0228)
Local Parks					
Bridlewoods Park	Thornfield Lan, north of Old McHenry Rd (MP 0.4)	N	Village of Hawthorn Woods	19	• Recreational uses: playground, soccer/lacrosse, tennis, trails, picnic areas, natural areas, open space
Hawthorn Woods Aquatic Center	East side of Midlothian Rd, south of Kruckenberg Rd (MP 0.9)	Y	Village of Hawthorn Woods	5.8	• Recreational uses: public pool, grass volleyball court
Copperfield Park	Old McHenry Rd and Copperfield Dr (MP 1.6)	N	Village of Hawthorn Woods	7	• Recreational uses: playground, fishing pond, natural area/open space, picnic facilities
Wicklow West Park	O'Malley Dr and Rodgers Ln, south of Old McHenry Rd (MP 2.3)	N	Village of Lake Zurich	0.6	• Recreational uses: playground, open grass play area
Three Corners Park	Old McHenry Rd and Midlothian (MP 2.8)	Y	Village of Hawthorn Woods	3	• Natural area, open grass play area
Heather Highlands Park	South of Old McHenry Rd, west of Quentin Rd (MP 3.0)	N	Village of Hawthorn Woods	1	• Recreational uses: playground, picnic facilities
Hawthorn Woods Community Park	NWC of Old McHenry Rd and Parkview Ln (MP 3.1)	Y	Village of Hawthorn Woods	30	• Recreational uses: baseball/softball, lacrosse, multipurpose field, basketball, tennis, in-line hockey, playground, sledding, trails, picnic facilities, natural areas, and open space
Woodland Park	Old McHenry Rd, east of Hawthorn Dr (MP 4.0)	Y	Village of Hawthorn Woods	7	• Recreational uses: playground, basketball court, picnic area, natural area/open space
Buffalo Creek Park	Old McHenry Rd and Robert Parker Coffin Rd (MP 7.4)	Y	Long Grove Park District	5	• Walking/biking path, open grass area

Table 8. Corridor 4 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Covered Bridge Trail Park	Robert Parker Coffin Rd and Schaeffer Rd (MP 7.5)	N	Long Grove Park District	0.6	• Hiking trail, open grass/wooded area
Crossing Pond Park	Fremont Way and Shambliss Ln (MP 7.9)	N	Private	10	• Park/open space in neighborhood subdivision owned by Homeowner's Association (HOA) • Trails, open grass area
Illinois Nature Preserves					
Walnut Creek - Harriet B. Weber Nature Preserve	North Trl and Westwind Ct, north of Old McHenry Rd (MP 0.7)	Y	Land Conservancy of Lake County	29	• Managed for vegetation and wetland preservation • No recreational amenities
Kildeer Creek and Woodland Land and Water Reserve	West of Old McHenry Rd, south of IL 22 (MP 6.2)	N	LCFPD	63.9	• Designated preserve is within Heron Creek FP • Protected by conservation easement • Managed for wetland, vegetation, and habitat preservation • No recreational amenities
Reed-Turner Woodland Nature Preserve	Old McHenry Rd, south of IL 22 (MP 6.3)	Y	Long Grove Park District	38.2	• Managed for vegetation and wildlife habitat preservation • Protected by conservation easement • Recreational uses include hiking • Designated preserve is within Reed-Turner Woodland INAI site (0228)
Illinois Natural Area Inventory (INAI) Sites *					
Reed-Turner Woodland INAI site (0228)	Old McHenry Rd, south of IL 22 (MP 6.3)	Y	Long Grove Park District	50	• Portions of INAI site are within Heron Creek Forest Preserve and Reed-Turner Woodland NP • INAI Categories II and III

*** INAI Category Descriptions:**

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.5 Corridor 6

There are 15 special land sites within the Corridor 6 analysis area—see Table 9. It includes 2 forest preserve or conservation district sites, 12 local parks, and 1 Illinois nature preserve.

Table 9. Special Lands, Corridor 6

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	111

Table 9. Special Lands, Corridor 6

State Park	0	0
County Forest Preserve/Conservation District	2	309
Local Park	12	97
Illinois Nature Preserve	1	111
Illinois Natural Area (INAI)	0	0

The largest expanse of special lands occurs at the south terminus of the corridor, south of I-90 (Busse Woods FP and NP) and at the north terminus of the corridor (Buffalo Creek FP). Other public lands are scattered along the corridor, most notably around Central Road (MP 2.2) and north of US 14 (MP 5.0). Special lands are described in Table 10 and displayed on the Corridor 20 Special Lands exhibits.

Table 10. Corridor 6 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Federal or State Sites					
Busse Forest Nature Preserve National Natural Landmark (NNL)	I-290/IL 53 and Golf Rd (MP 0.0)	Y	FPDCC	446	• NPS-designated site is within Busse Woods Forest Preserve
County Forest Preserves/Conservation Districts					
Busse Woods/Ned Brown Preserve	I-290/IL 53 and Golf Rd (MP 0.0)	Y	FPDCC	3,558	• Recreational uses: hiking, biking, cross-country skiing, fishing, picnic facilities • 457-acre lake open to canoes, kayaks, and rowboats • Portions of the forest preserve are designated NP (Busse Forest NP), INAI site (Busse Forest INAI 0534) and NPS NNL
Buffalo Creek Forest Preserve	NEC IL 53 and Lake Cook Rd (MP 9.0)	Y	LCFPD	408	• Recreational uses: hiking, biking, and cross-country skiing
Local Parks					
Plum Grove Park	W Frontage Rd and Longacres Ln (MP 2.2)	Y	Rolling Meadows Park District	8	• Recreational uses: playground, tennis, skate park, roller hockey, basketball, picnic facilities, pickleball, clubhouse/event facility
South Salk Park	Peacock Ln and Owl Dr (MP 2.3)	N	Rolling Meadows Park District	22	• Recreational uses: baseball fields, basketball courts, hiking trails, bicycling trails, picnic facilities, playground
Sunset Park	East of IL 53, north of Central Rd (MP 2.3)	Y	Rolling Meadows Park District	3.9	• Recreational use: soccer fields.

Table 10. Corridor 6 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
North Salk Park	East of Owl Dr, south of Kirchoff Rd (MP 2.7)	N	Rolling Meadows Park District	17	• Recreational uses: playground, sledding hill, bicycling trail, disc golf course, foot golf course
South Park	IL 53 and Euclid Ave (MP 3.6)	N	Salt Creek Rural Park District	1.6	• Recreational uses: Playground, tennis courts, pavilion, open grass play field, basketball court.
Twin Lakes Golf Course & Rec Area	NWC of IL 53 and US 14 (MP 5.0)	Y	Salt Creek Rural Park District	67	• Recreational uses: public golf course, driving range, paddle boating, fishing, pavilions, playground, walking paths, horseshoe pit, open grass playing field, tennis courts, basketball court and sand volleyball courts
Rose Park	Williams Ave, south of IL 53 (MP 5.0)	N	Salt Creek Rural Park District	1.5	• Recreational uses: playground, open grass play area
Grealish Park	Joyce and Belle Aves (MP 5.6)	N	Salt Creek Rural Park District	2.5	• Recreational uses: playground, tennis courts, shuffleboard, open grass play area, horseshoe pit
Happiness Park	Cambridge St and Illinois Ave (MP 6.1)	N	Arlington Heights Park District	3.1	• Recreational uses: playground, picnic facilities, open grass play area
Doug Lindberg Park	Anderson and Winston Drs (MP 6.5)	N	Palatine Park District	10	• Recreational uses: trails, playground, picnic facilities, soccer/baseball field, soccer/baseball field
Greenbrier Park	Roanoke Ave and Raleigh St (MP 6.6)	N	Arlington Heights Park District	5	• Recreational uses: baseball/softball field, tennis courts, playground, tot lot, bicycling/walking trails, roller hockey rink
Long Grove Soccer Park	SWC Checker and Old Hicks Rds (MP 9.0)	N	Village of Long Grove	8.7	• Leased by Ela Soccer Club; soccer fields
Illinois Nature Preserves					
Busse Forest Nature Preserve	I-290/IL 53 and Golf Rd (MP 0.0)	Y	FPDCC	440	• Designated NP is within Busse Woods Forest Preserve • Protected by conservation easement • Contains flatwoods, upland forest, and marsh communities
Illinois Natural Area Inventory (INAI) Sites *					
Busse Woods INAI site (0534)	I-290/IL 53 and Golf Rd (MP 0.0)	Y	FPDCC	653	• INAI site is within Busse Woods Forest Preserve • INAI Categories I, II, and III

*** INAI Category Descriptions:**

Table 10. Corridor 6 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description

I = High quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations III = State dedicated NPs, LWRs, and NHLs

4.6 Corridor 7

There are 38 special land sites within the Corridor 7 analysis area (Table 11), including 1 NPS NNL, 2 forest preserve or conservation district sites, 34 local parks, and 1 INAI site.

Table 11. Special Lands, Corridor 7

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	1	0
State Park	0	0
County Forest Preserve/Conservation District	2	304
Local Park	34	268
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	1	26

Special lands border nearly the entire Lake Cook Road segment (Buffalo Creek FP extends from IL 53 to Arlington Heights Road [MP 1.1 to 2.7]). There are also numerous special land properties within the IL 83 roadway segment between Oak Grove Drive (MP 5.6) and Northfield Drive (MP 8.0). Other special land properties are scattered along Arlington Heights Road (from Lake Cook Road to north of Checker Road [MP 2.8 to 3.4) and Hicks Road/IL 53 (at MP 0.3, north of Lake Cook Road; MP 1.4, west of Old Hicks Road; and MP 2.8, west of Old McHenry Road). Special lands are described in Table 12 and displayed on the Corridor 7 Special Lands exhibits.

Table 12. Corridor 7 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Deer Grove Forest Preserve (East)	NEC Quentin Rd and IL 68 (MP 0.0)	N	FPDCC	628	• Recreational uses: hiking, biking, horseback riding
Buffalo Creek Forest Preserve	NEC IL 53 and Lake Cook Rd (MP 2.0)	Y	LCFPD	408	• Recreational uses: hiking, biking, cross-country skiing
Local Parks					
Falcon Park Recreation Center	Old Hicks Rd and Recreation Dr (MP 0.6 on Lake Cook Rd leg)	N	Palatine Park District	N/A	• Public recreation center; turf field, basketball courts, volleyball courts, walking track

Table 12. Corridor 7 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Osage Park	Old Hicks and Coach Rd (MP 0.9 on Lake Cook Rd leg)	N	Wauconda Park District	1.7	• Playground, tennis court, basketball court, open grass playing field
Drexler Tavern Trail Park	SEC IL 53 and Old Hicks Rd (MP 1.4)	Y	Long Grove Park District	2.7	• Passive open space, no formal recreation facilities
Creekside Park	Schaeffer and Nichols Rds, (MP 2.1 on Lake Cook Rd leg)	Y	Arlington Heights Park District	12	• Basketball courts, tennis courts, playground, walking/biking path, sand volleyball court
Lake Terramere Park	Kennicott and Kingsley Drs, (MP 2.3 on Lake Cook Rd leg)	N	Arlington Heights Park District	11	• Playground, walking/biking path
Buffalo Creek Park	Robert Parker Coffin and Old McHenry Rds (MP 2.4 on IL 53 leg)	N	Long Grove Park District	5	• Walking/biking path, open grass area.
Covered Bridge Trail Park	SEC Robert Parker Coffin and Schaeffer Rds (MP 2.5 on IL 53 leg)	N	Long Grove Park District	0.6	• Hiking trail, open grass/wooded area
Sunset Ridge Park	Ashford Ln and Walnut Dr (MP 2.5 on Lake Cook Road leg)	Y	Arlington Heights Park District	2.75	• Basketball courts, playground
Cooper Park	Arlington Heights Rd and Whitehall Dr (MP 2.7 on Lake Cook Road leg)	N	Buffalo Grove Park District	6	• Baseball fields
Bridgewater Farm Open Space Park	IL 53 and Fremont Way/Old McHenry Rd (MP 2.8)	Y	Long Grove Park District	11.4	• Passive open space, no formal recreation facilities
Crossing Pond Park	Fremont Way and Shambliss Ln (MP 2.9 on IL 53 leg)	N	Private	10.9	• Park/open space in neighborhood subdivision, owned by HOA • Trails, open grass area
Nicole Park	NEC Checker Dr and Arlington Heights Rd (MP 3.3)	Y	Buffalo Grove Park District	4	• Soccer fields, playground
Ivy Hall School Park	Aspen Dr and Clohesey Dr (MP 3.6)	N	Buffalo Grove Park District	5	• Baseball field, soccer fields, horseshoe pits, playgrounds • Adjacent to school
Children's Park	Fremont Way and Providence Ln (MP 4.0)	N	Buffalo Grove Park District	4.5	• Baseball field, soccer field, walking/biking path, sand volleyball court
Bicentennial Park	Arlington Heights Rd and Thompson Blvd (MP 4.2)	N	Buffalo Grove Park District	3.3	• Playground, soccer field, walking/biking path, sand volleyball

Table 12. Corridor 7 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Longview Meadows Park	Arlington Heights Rd and IL 22 (MP 5.6)	Y	Long Grove Park District	57.5	• Walking/biking paths
Promontory Park	IL 83 and IL 22 (MP 6.2)	N	Long Grove Park District	17.1	• Passive open space, no formal recreation facilities
Oak Hills Park	IL 83 and Port Clinton Rd (MP 6.5)	N	Long Grove Park District	48.9	• Passive open space, no formal recreation facilities
Lemmon-Hill Park	IL 83 and Gilmer Rd (MP 6.8)	Y	Long Grove Park District	23	• Baseball and softball fields
Gridley Farm Park	IL 83 and Endwood Dr (MP 7.0)	Y	Long Grove Park District	30	• Baseball and softball fields, hiking trails
Highland Pines Park	West side of IL 83, north of Gilmer Rd (MP 7.3)	Y	Long Grove Park District	16.8	• Passive open space, no formal recreation facilities
Stockbridge Wetland	West side of IL 83, south of Ridge Pl (MP 7.5)	Y	Long Grove Park District	23.5	• Passive open space, no formal recreation facilities
Royal Oak Park	IL 83 and Northfield Dr (MP 7.9)	Y	Vernon Hills Park District	5	• Open grass play area
Grosse Pointe Park	Grosse Point Blvd and Southfield Dr (MP 8.2)	N	Vernon Hills Park District	37.4	• Baseball fields, tennis courts, basketball court, playgrounds, walking/biking path
Ivanhoe Park	West side of IL 83, north of IL 60 (MP 12.9)	Y	Fremont Township Parks Department	2.7	• Baseball field
Woodlands Park	East of Ivanhoe Rd, north of Maple Ave (MP 13.0)	Y	Mundelein Park District	19	• Playground, picnic facilities
Longmeadow Park	Sommerset Ln, east of IL 83 (MP 13.5)	N	Mundelein Park District	49	• Baseball/softball fields, picnic facilities, playground, walking path
Open Spaces					
Village of Buffalo Grove Open Space	Arlington Heights Rd and Checker Ln (MP 3.1)	Y	Village of Buffalo Grove	15	• Walking/biking path
Village of Long Grove Open Space	West of IL 83, north of Hilltop Rd (MP 5.6)	Y	Village of Long Grove	19	• Walking/biking path
Illinois Natural Area Inventory (INAI) Sites *					
Long Grove Site (1233)	Hicks Rd, north of Lake Cook Rd (MP 0.3)	Y	Private	12	• INAI Category: II

*** INAI Category Descriptions:**

II = Specific suitable habitat for state-listed species or state-listed species relocations

4.7 Corridor 8

There are 8 special land sites within the Corridor 8 analysis area (Table 13), including 2 forest preserve or conservation district sites, 4 local parks, 1 Illinois nature preserve, and 1 INAI site.

Table 13. Special Lands, Corridor 8

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	2	175
Local Park	4	5
Illinois Nature Preserve	1	101
Illinois Natural Area (INAI)	1	101

Special lands east of Deerpath Road to Quentin Road (MP 3.0 to 3.8) include the 1,100-acre Deer Grove FP West. Local parks are primarily located at the west end of the corridor between IL 59 and US 14 (MP 0.0 to 0.4). Special lands are described in Table 14 and displayed on the Corridor 8 Special Lands exhibits.

Table 14. Corridor 8 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Deer Grove Forest Preserve (East and West)	South side of Lake Cook Rd, from west of Quentin Rd (MP 3.0 to 3.8) to US 12 (MP 4.3 to 4.9)	Y	FPDCC	1,800	• Recreational uses: hiking, biking, and horseback riding • Portions of Forest Preserve contain designated NPs (Deer Grove West Woodland and Wetland NP, and Jens Jensen Grassland and Woods LWR) and INAI site (Deer Grove West INAI 1775 and Jens Jensen Grassland and Woods INAI 1932). (Jens Jensen sites are outside of the analysis area)
Local Parks					
Memorial Park	South of Lake Cook Rd (between Lincoln Ave and Lake St), east side of IL 59 (MP 0.0)	N	Barrington Park District	0.6	• Open grass area, walking path, park benches, memorial statues
David F Nelson Gazebo Park	NEC of Lake Cook Rd and IL 59 (MP 0.0)	Y	Barrington Park District	0.2	• Gazebo, walking path, park benches
Miller Park	South of Lake Cook Rd at Summit St and Russell St (MP 0.3)	N	Barrington Park District	3.1	• Playgrounds, walking path, picnic tables, open grass play area

Table 14. Corridor 8 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Ferndale Park	North of Lake Cook Rd, west of Deerpath Rd (MP 2.7)	N	Village of Deer Park	1.3	• Open grass play area
Illinois Nature Preserves					
Deer Grove West Woodland and Wetland Nature Preserve	NWC Quentin Rd and IL 68 (MP 3.2)	Y	FPDCC	1,090	• Designated preserve is within Deer Grove Forest Preserve (West) • Protected by conservation easement • Contains flatwoods, upland forest, and marsh communities • Recreational uses: hiking, biking, and horseback riding
Illinois Natural Area Inventory (INAI) Sites *					
Deer Grove West INAI site (1775)	NWC Quentin Rd and IL 68 (MP 3.2)	Y	FPDCC	1,113.7	• INAI site is within Deer Grove Forest Preserve (West) • INAI Categories: II and III

INAI Category Descriptions:

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.8 Corridor 9

There are 19 special land sites within the Corridor 9 analysis area—see Table 15. It includes 2 forest preserve or conservation district sites, 13 local parks, 1 Illinois nature preserve, and 3 INAI sites.

Table 15. Special Lands, Corridor 9

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	2	406
Local Park	13	96
Illinois Nature Preserve	1	39
Illinois Natural Area (INAI)	3	222

Special lands tend to be concentrated in two main areas: between IL 62 and IL 68 (MP 2.1 to 4.3) and from south of Miller Road to Kelsey Road (MP 9.8 to 11.6). Between IL 62 and IL 68 are the overlapping Crabtree FP and Crabtree Nature Center INAI site, and the Palatine Road Marsh INAI site. From south of Miller Road to Kelsey Road are Grassy Lake FP, Barrington Bog NP and INAI site, and two local parks (Eton Park and The Commons Recreation Park). Other special lands are scattered throughout the corridor. Special lands are described in detail in Table 16 below and displayed on the Corridor 9 Special Lands exhibits.

Table 16. Corridor 9 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Crabtree Forest Preserve	West side of Barrington Rd, between Algonquin and Dundee Rds (MP 1.2 - 4.3)	Y	FPDCC	1,650	• Recreational uses: hiking • Portion of forest preserve contains Crabtree Nature Center INAI site (0266)
Grassy Lake Forest Preserve	West side of IL 59, south of Miller Rd (MP 9.9)	Y	LCFPD	689	• Recreational uses: hiking and cross-country skiing • Protected by conservation easement
Local Parks					
Miller Park	East of IL 59 at Russell St (MP 5.9)	N	Barrington Park District	3.1	• Playgrounds, walking path, picnic tables, open grass play area
Memorial Park	NEC of IL 59 and Lincoln St (MP 6.0)	Y	Barrington Park District	0.6	• Open grass area, walking path, park benches, memorial statues
David F Nelson Gazebo Park	NEC of IL 59 and Lake Cook Rd (MP 6.1)	Y	Barrington Park District	0.2	• Gazebo, walking path, park benches
Langendorf Park	West of IL 59, south of US 14 (MP 6.5)	N	Barrington Park District	37	• Playgrounds, skate park, walking/biking path, picnic facilities, baseball fields, splashpad, 5-hole golf course, fitness center, community conference room rentals, aquatic center, indoor gymnasium with running track
Eton Park	East of IL 59, south of Miller Rd (MP 10.3)	N	Village of North Barrington	10.7	• Playground, soccer field, basketball court, open grass area
The Commons Recreation Park	West side of IL 59, south of Kelsey Rd (MP 11.2)	Y	Village of Lake Barrington	33	• Open space/recreation area; trails
Cyril Wagner Park/Harriet Graham Park	West of IL 59, north of Kelsey Rd (MP 11.7)	N	Tower Lakes Improvement Association	32	• Park complex (excludes lake), walking path, playground, beach
Bays Park	Warwick Rd and Tower Dr (MP 11.9)	N	Tower Lakes Improvement Association	1.3	• Tennis courts, sand volleyball
Tower Lakes Tennis Courts	Tower Dr and Oxford Rd (MP 11.9)	N	Tower Lakes Improvement Association	0.5	• Tennis courts
Hussissan Park	Melrose Dr and Oxford Ln (MP 12.0)	N	Tower Lakes Improvement Association	1.7	• Soccer field, softball field
Gordon Lewis Park	Cambridge Dr and Oxford Rd (MP 12.1)	N	Tower Lakes Improvement Association	1.4	• Cypress pond

Table 16. Corridor 9 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Oak Grove Park	Oak Grove Cir, west of Il 59 (MP 12.9)	N	Wauconda Park District	0.8	• Playground, park benches
Illinois Nature Preserves					
Barrington Bog Nature Preserve	East side of IL 59, north of Grandview Dr (MP 10.6)	Y	Private/IDNR	41	• Protected by conservation easement • Managed for preservation of bog vegetation and wildlife habitat • No recreational amenities • NP is within INAI site 0661
Illinois Natural Area Inventory (INAI) Sites *					
Crabtree Nature Center INAI site (0266)	West side of Barrington Rd, between Palatine and Dundee Rds (MP 2.2 – MP 4.3)	Y	FPDCC	952	• INAI site is within the Crabtree Forest Preserve • INAI Category: II
Palatine Road Marsh INAI site (1384)	East side of Barrington Rd, north of Palatine Rd (MP 3.3)	N	Private	90	• INAI Category: II
Barrington Bog INAI site (0661)	East side of IL 59, north of Grandview Dr (MP 10.6)	Y	Private	63.6	• INAI site contains Illinois NP • INAI Categories: II and III

*** INAI Category Descriptions:**

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.9 Corridor 11

There are 46 special land sites within the Corridor 11 analysis area (see Table 17). This includes 7 forest preserve or conservation district sites, 33 local parks, 1 Illinois nature preserve, and 5 INAI sites.

Table 17. Special Lands, Corridor 11

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	7	474
Local Park	33	102
Illinois Nature Preserve	1	50
Illinois Natural Area (INAI)	5	193

Special lands are scattered throughout the corridor, but with concentrations in four distinct areas: from Wilson Road to Cedar Lake Road (MP 2.0 to 4.0); through Grayslake (generally from west of IL 137 to Harris Road, MP 7.2 to 8.5); between US 45 and Almond Road (MP 9.5 to 11.2); and between IL 21 and I-94 (MP 12.7 to 13.7). Special lands are described in Table 18 and displayed on the Corridor 11 Special Lands exhibits.

Table 18. Corridor 11 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Marl Flat Forest Preserve	Fish Lake Road, north of IL 120 (MP 1.4)	Y	LCFPD	208	• Recreational uses: hiking, biking, and cross-country skiing • Portion of the forest preserve is a designated INAI site (Fish Lake and Marl Flat Forest Preserve INAI 1682) • Protected by conservation easement
Kettle Grove Forest Preserve	South of IL 120, west of Wilson Rd (MP 2.0)	Y	LCFPD	270	• Recreational uses hiking • Contains forest, wetland, and wildlife habitat conservation area • Portion of forest preserve is designated INAI site (Sargent Marsh INAI 1570)
Kestrel Ridge Forest Preserve	West side of Fairfield Rd, north of IL 120 (MP 3.2)	N	LCFPD	130	• Recreational use includes hiking • Contains forest, wetland, and wildlife habitat conservation area
Nippersink Forest Preserve	East side of Cedar Lake Rd, north of IL 120 (MP 3.5 – MP 4.0)	Y	LCFPD	329	• Recreational uses: hiking, biking, cross-country skiing, snowmobiling, fishing, and picnic facilities • Portion of forest preserve is designated INAI site (Round Lake Marsh INAI 1243)
Almond Marsh Forest Preserve	Almond Rd, south of IL 120 (MP 9.6 – MP 10.6)	Y	LCFPD	503	• Recreational uses: birdwatching. • Contains forest, wetland, and wildlife habitat conservation area • Portion of forest preserve is designated INAI site (Almond Marsh INAI 1253). Also within the forest preserve, but beyond the analysis area, is designated NP (Almond Marsh NP)
Lake Carina Forest Preserve	East side of IL 21 between IL 120 and US 41 (MP 12.8 to 13.6)	Y	LCFPD	481	• Recreational uses include hiking, cross-country skiing, fishing, and picnic facilities

Table 18. Corridor 11 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Independence Grove Forest Preserve	East side of IL 21 between IL 137 and IL 120 (MP 12.8)	Y	LCFPD	1,151	• Recreational uses: hiking, biking, cross-country skiing, boating, canoeing/kayaking, fishing, ice skating, picnic facilities, swimming, playgrounds, sand volleyball court, open grass playfield
Local Parks					
Lancaster Falls Park	South of IL 120, east of Fish Lake Rd (MP 1.6)	N	Village of Volo	1.6	• Playground, basketball court, open grass play area
Monarch Flats Park	South of IL 120, east of Cedar Lake Rd (MP 4.1)	N	Round Lake Area Park District	4.1	• Trails, open grass play area
Parkside Park	South of IL 120, west of Wildspring Rd (MP 4.3)	N	Round Lake Area Park District	5.4	• Baseball field, open grass play area, playground, picnic facilities, walking/biking paths
Bradford Place Park	South of IL 120, east of Curran Rd (MP 4.6)	N	Round Lake Area Park District	2.6	• Open grass play area, playground, picnic facilities, walking/biking paths
Cranberry Lake Natural Area (park)	Cranberry Lake and Centennial Drs (MP 5.5)	N	Private	2.8	• Open grass area • Park/open space owned by Cranberry Lake Condominium Association
Jones Island Park	North of IL 120 at Allegheny Rd (MP 6.2)	N	Grayslake Park District	4	• Playground, open grass play area, beach, swimming
West Trail Park	North of IL 120, west of Allegheny Rd (MP 6.3)	N	Grayslake Park District	4	• Walking/biking path, open grass play area
Cullen Park	South of IL 120 at Alta Dr (MP 6.7)	N	Grayslake Park District	1	• Basketball court, playground
Tooterville Park	South of IL 120, east of Lake St (MP 7.2)	N	Grayslake Park District	5	• Basketball court, walking/biking path, horseshoe pits, picnic facilities, playground, sand volleyball
Village of Grayslake Village Center	NWC IL 120 and Lake St (MP 6.9)	Y	Village of Grayslake	0.4	• Park benches, walking path
East Lake Farms Park	SWC IL 120 and Sommerset Dr (MP 7.3)	Y	Grayslake Park District	3	• Neighborhood park. Wetland/detention/wooded area
Jaycee Park	North of IL 120, west side of Canadian National RR (MP 7.4)	N	Grayslake Park District	7	• Playground, tennis courts, baseball/softball fields, picnic facilities

Table 18. Corridor 11 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Grayslake Recreation Center	North of IL 120 at Atkinson Rd (MP 8.0)	N	Grayslake Park District	2	• Recreation center, playground, gymnastics room
Canterbury Park	SEC IL 120 and Ashford Ln (MP 8.2)	Y	Grayslake Park District	4	• Playground, open grass play area, walking/biking path
Prairie Town Park	South side of IL 120, west of Harris Rd (MP 8.3)	Y	Grayslake Park District	6	• Walking/biking path, open grass play area
Hunter's Cove Park	North of IL 120, west of Bobolink Dr (MP 8.3)	N	Grayslake Park District	8	• Playground, open grass play area, picnic facilities, basketball court, natural area, trail
Old Plank Park	North of IL 120, east of US 45 (MP 9.2)	N	Wildwood Park District	0.6	• Playground, open grass play area
Boulder Park	North of IL 120 at Battershall Rd (MP 9.8)	N	Wildwood Park District	0.5	• Picnic facilities, fishing
Lake Shore Drive Park	North of IL 120 at Battershall Rd (MP 9.8)	N	Wildwood Park District	0.4	• Picnic facilities, fishing
Twin Lakes Park	North of IL 120 at Mill Rd (MP 10.1)	N	Wildwood Park District	6.8	• Playground, softball field, picnic facilities, soccer field, walking/biking path
Dunhill Park	Leonard Dr and Crossland Blvd (MP 12.0)	N	Fairway Ridge HOA	0.5	• Neighborhood park owned by HOA. Playground, open grass play area
HeatherRidge Woods Park	NWC IL 120 and I-94 (MP 12.5)	N	Gurnee Park District	11.5	• Hiking/biking trails, wildlife conservation
Rudd Farm Park	South of IL 120, west side of I-94 (I-94 MP 14.2)	Y	Waukegan Park District	14.4	• Basketball court, fishing, hiking trail, picnic facilities, tennis court
Kings Park	Providence Rd, west of O'Plaine Rd (MP 13.5)	N	Gurnee Park District	6	• Baseball/softball fields, playground, open grass play area
Diversity Park	South of IL 120, east of I-94 at Hill and Lawn Aves (MP 13.7)	N	Waukegan Park District	1.2	• Playground, open grass play area; includes Diversity Park Pond
Providence Park	North of IL 120, east of I-94 at Longmeadow Dr and Waterbury Ave (MP 13.9)	N	Gurnee Park District	1	• Playground, walking/biking trails, picnic facilities
Serenity Park	South of IL 120, east side of I-94 (I-94 MP 14.2)	N	Waukegan Park District	5.2	• Walking/biking path, volleyball, picnic facilities, playground, tennis court

Table 18. Corridor 11 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Open Spaces					
Village of Grayslake Open Space	Junior Ave and Seymour Ave (MP 7.1)	N	Village of Grayslake	1	• Recreation uses include gazebo, open grass play area
Illinois Nature Preserves					
Dokum Mskoda Sedge Meadow Nature Preserve	South of IL 120, east side of I-94 (MP 14.2)	Y	IDNR	100	• Protected by conservation easement • Recreational uses include hiking • Contains forest, wetland, and wildlife habitat conservation area
Illinois Natural Area Inventory (INAI) Sites *					
Fish Lake and Marl Flat Forest Preserve (1682)	Fish Lake Road, north of IL 120 (MP 1.1)	N	Private	208	• Located on both public and private land (public portion, owned by LCFPD, is outside of the analysis area; privately-held land includes YMCA Camp Duncan) • Protected by conservation easement • INAI Categories: I and II
Sargent Marsh INAI site (1570)	South side of IL 120, west of Wilson Rd (MP 2.0)	N	LCFPD	30	• This INAI site is within Kettle Grove Forest Preserve • II
Round Lake Marsh INAI site (1243)	North side of IL 120, east of Fairfield Rd (MP 3.8)	Y	LCFPD	222.3	• This INAI site is within Nippersink Forest Preserve. • INAI Category: II
Almond Marsh INAI site (1253)	Almond Rd, south of IL 120 (MP 10.0)	Y	LCFPD, Private	428	• This INAI site is partially within Almond Marsh Forest Preserve • Located on both public and private land (public portion owned by LCFPD) • INAI Categories I, II, and III
Oak Grove Botanical Area INAI site (0654)	East side of I-94, from south of IL 137 to south of IL 120 (MP 14.2)	Y	Private	415	• INAI Category II

*** INAI Category Descriptions:**

I = High quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.10 Corridor 13

Table 19 summarizes the various types of special land properties within the Corridor 13 analysis area. There are 9 special land sites within the Corridor 13 analysis area, including 2 forest preserve or conservation district sites, 4 local parks, 1 Illinois nature preserve, and 2 INAI sites.

Table 10A. Special Lands, Corridor 19

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	2	1,006
Local Park	4	6
Illinois Nature Preserve	1	162
Illinois Natural Area (INAI)	2	330

A substantial portion of this corridor's special land property is Lakewood FP, which is on both the east and west sides of Fairfield Road and north and south sides of IL 176. Lakewood FP contains a nature preserve and two INAI sites within and overlapping its boundary. Special lands are described in Table 20 and displayed on the Corridor 13 Special Lands exhibits.

Table 20. Corridor 13 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Lakewood Forest Preserve	IL 176 and Fairfield Rd (MP 3.2)	Y	LCFPD	2,835	• Recreational uses: picnic facilities, open grass playfield, playground, hiking, horseback riding, cross-country skiing, snowmobile, fishing, ice skating, and sledding • Portions of the forest preserve are designated NP (McLean Woods and Wetlands NP), INAI sites (Wauconda Bog INAI 1002 and McLean Woods and Wetlands INAI 1823)
Countryside Golf Course	South of IL 176, west of IL 83/60 (MP 16.6)	N	LCFPD	440	• Two 18-hole public golf courses
Local Parks					
Osage Park	North of IL 176 and Osage St (MP 0.9)	N	Wauconda Park District	1.7	• Playground, tennis court, basketball court, open grass playing field
Memorial Park	SWC IL 176 and Main St (MP 1.2)	Y	Wauconda Park District	0.2	• Walking path, memorial
Beach Park	North of IL 176, east of Main St (MP 1.3 on IL 176 leg)	N	Wauconda Park District	2	• Boating, playground, ice skating

Table 20. Corridor 13 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Woodlands Park	North of IL 176, east of IL 83 (MP 6.6)	N	Mundelein Park District	19	• Playground, picnic facilities
Illinois Nature Preserves					
McLean Woods and Wetlands Nature Preserve	East side of Fairfield Rd (MP 1.4), north of IL 176	Y	LCFPD	533	• Designated preserve within Lakewood Forest Preserve • Protected by conservation easement • Managed for habitat and vegetation conservation purposes • Recreation uses include hiking trails
Illinois Natural Area Inventory (INAI) Sites *					
Wauconda Bog INAI site (1002)	North and south of IL 176, east of Main St (MP 1.3)	Y	LCFPD, Private	71	• Portion of INAI site is within Lakewood Forest Preserve • Located on both public and private land (public portion owned by LCFPD) • INAI Categories I, II, and III
McLean Woods and Wetlands INAI site (1823)	East side of Fairfield Rd (MP 1.4), north of IL 176	Y	LCFPD	533	• INAI site is within Lakewood Forest Preserve. • INAI Category III

*** INAI Category Descriptions:**

I = High quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.11 Corridor 14

There are 21 special land sites within the Corridor 14 analysis area (Table 21). This includes 1 forest preserve or conservation district site, 18 local parks, 1 Illinois nature preserve, and 1 INAI site.

Table 21. Special Lands, Corridor 14

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	1	184
Local Park	18	74
Illinois Nature Preserve	1	47
Illinois Natural Area (INAI)	1	59

Along Corridor 14, there is a large area of special lands between Wilson Road and Fairfield Road (MP 2.0 to 3.5), which includes the overlapping Grant Woods FP and Gavin Bog and Prairie NP and INAI site.

Other special lands are scattered throughout the corridor. Special lands are described in Table 22 and displayed on the Corridor 14 Special Lands exhibits.

Table 22. Corridor 14 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Grant Woods Forest Preserve	North and south sides of Rollins Rd, between Wilson and Fairfield Rds (MP 2.3)	Y	LCFPD	1,226	• Recreational uses: hiking, biking, snowmobiling, cross-country skiing, canoeing/kayaking, picnic facilities • Portion of forest preserve is designated NP (Gavin Bog and Prairie NP) and INAI site (Gavin Bog and Prairie INAI 0794)
Local Parks					
Veteran's Park	North of Rollins Rd, east of IL 59 (MP 1.0)	N	Village of Fox Lake	12	• Skatepark, baseball fields, pavilions
Everbreeze Stanton Park	South of Rollins Rd, west of Grove St (MP 2.9)	N	Grant Township	0.7	• Playground, open grass
Shaw Park	North of Rollins Rd, west of Fairfield Rd (MP 3.4)	N	Round Lake Area Park District	1.95	• Baseball field, basketball court, open grass, picnic facilities, playground, walking trail
Tomahawk Trail Park	North of Rollins Rd, west of Lotus Dr (MP 3.7)	N	Round Lake Area Park District	0.2	• Playground, open grass
Shagbark Nature Preserve Park	North of Rollins Rd, east of Fairfield Rd (MP 3.7)	N	Round Lake Area Park District	37.8	• Basketball court, picnic facilities, natural area, hiking trails, playground, soccer field, tennis courts
Fairfield Sports Park	South of Rollins Rd on Lake Shore Dr (MP 2.9)	N	Round Lake Area Park District	14.3	• Baseball fields, natural area, open grass play field
Greenview Park	South of Rollins Rd at Cherokee Dr and Golfview Dr (MP 3.8)	N	Round Lake Area Park District	0.8	• Playground, open grass play area
Arrowhead Park	North of Rollins Rd, east of Lotus Dr (MP 4.1)	N	Round Lake Area Park District	0.6	• Playground
Sunset Park	South of Rollins Rd, west of Meadowbrook Dr (MP 4.2)	N	Round Lake Area Park District	2	• Picnic facilities, open grass playfield.
Morningside Park	South of Rollins Rd, east of Goldenrod Ter (MP 4.4)	N	Round Lake Area Park District	0.4	• Playground, open grass play area

Table 22. Corridor 14 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Lakewood Park	South of Rollins Rd, east of Park Dr (MP 4.8)	N	Round Lake Area Park District	2.2	• Baseball fields
Willow Ridge Park	North of Rollins Rd, west of Circuit Dr (MP 4.8)	N	Round Lake Area Park District	0.5	• Playground, open grass play area
Fairview Park	South of Rollins Rd, east of Lakeshore Dr (MP 4.9)	N	Round Lake Area Park District	0.5	• Playground, open grass play area
East End Park	South of Rollins Rd, east of East End Ave (MP 5.6)	N	Round Lake Area Park District	0.3	• Playground, open grass play area
Gateway Park	South of Rollins Rd, west of Hainesville Rd (MP 5.9)	N	Round Lake Area Park District	1.9	• Hiking/biking trail, open grass play area, picnic facilities
Renwood Golf Course	South of Rollins Rd, east of Hainesville Rd (MP 6.0)	N	Round Lake Area Park District	140	• Public 18-hole golf course
Open Spaces					
Round Lake Beach Open Space	South side of Rollins Rd from East End Ave to Hainesville Rd (MP 5.6 – 6.0)	Y	Village of Round Lake Beach	17.2	• Recreation uses include a paved walking/biking path
Illinois Nature Preserves					
Gavin Bog and Prairie Nature Preserve	North side of Rollins Rd, between Wilson and Fairfield Rds (MP 2.5)	N	LCFPD	105	• Designated preserve is within Grant Woods Forest Preserve • Protected by conservation easement • Managed for preservation of bog vegetation and wildlife habitat • Recreation uses include hiking
Illinois Natural Area Inventory (INAI) Sites *					
Gavin Bog and Prairie INAI Site (0794)	North side of Rollins Rd, between Wilson and Fairfield Rds (MP 2.5)	N	LCFPD	105	• INAI site is within Grant Woods Forest Preserve • INAI Categories I, II, and III

*** INAI Category Descriptions:**

I = High quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.12 Corridor 15

Within the Corridor 15 analysis area there are 14 special land sites (see Table 23), including 2 forest preserve or conservation district sites and 12 local parks.

Table 23. Special Lands, Corridor 15

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	2	44
Local Park	12	72
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	0	0

There are three areas where special lands are primarily located: along IL 176 east of Stritch Drive (MP 1.1); along Butterfield Road at Harding Avenue (MP 2.0) and Virginia Avenue (MP 3.3). In addition, at the eastern terminus (MP 4.8) is the 1,150-acre Independence Grove FP. Other public lands are scattered within the corridor analysis area. Special lands are described in Table 24 and displayed on the Corridor 15 Special Lands exhibits.

Table 24. Corridor 15 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Independence Grove Forest Preserve	East side of IL 21 between IL 137 and IL 120 (MP 4.8)	Y	LCFPD	1,151	• Recreational uses: hiking, biking, cross-country skiing, boating, canoeing/kayaking, fishing, ice skating, picnic facilities, swimming, playgrounds, sand volleyball court, open grass playfield
Wilmot Woods Forest Preserve	South side of IL 137, east of IL 21 (MP 4.8)	N	LCFPD	245	• Recreation uses include hiking
Local Parks					
Memorial Park	South side of IL 176, east of Brice Ave (MP 0.7)	Y	Mundelein Park District	0.2	• Open grass area, walking path, veteran's memorial
Kenloch Park	North of IL 176, west of Harding Ave (MP 1.6)	N	Village of Libertyville	0.4	• Playground
Dymond Park	South of IL 176, east of Dymond Rd (MP 1.7)	N	Village of Libertyville	17.9	• Soccer fields
Blueberry Park	East of Butterfield Rd, north of Park Ave (MP 1.9)	N	Village of Libertyville	9	• Basketball court, walking/biking paths, picnic facilities, playground, open grass play area
Paradise Park	East of Butterfield Rd, north of Park Ave (MP 2.1)	Y	Village of Libertyville	8.5	• Open grass play area, walking/biking paths

Table 24. Corridor 15 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Pine Meadow Golf Club	SWC Butterfield Rd and Winchester Rd (MP 2.6)	Y	Mundelein Park District	264.6	• Public golf course
Jo Ann Eckmann Park	West of Butterfield Rd, north of Winchester Rd (MP 3.0)	N	Village of Libertyville	4.8	• Playground, grass athletic practice fields
Willis Overholser Park	NWC Butterfield Rd and Virginia Ave (MP 3.3)	Y	Village of Libertyville	6.7	• Playground, soccer field, open grass play area
Timber Creek Park	Darnell St, north of IL 137 (MP 3.8)	N	Village of Libertyville	9	• Picnic facilities, playground, open grass play area
Gilbert Stiles Park	Cass Ave, south of IL 137 (MP 4.4)	N	Village of Libertyville	3.5	• Playground, open grass play area
Adler Memorial Park	East side of Milwaukee Ave, south of IL 137 (MP 4.8)	N	Village of Libertyville	101.5	• Baseball/softball field; cross-country skiing, disc golf, picnic facilities, ice skating, open grass play area, walking/biking path, pavilion, playground, pool, sledding, volleyball court
Open Spaces					
Route 137 Open Space	North of Peterson Rd, west of Butterfield Rd (MP 3.6)	N	Libertyville Township Open Space District	92.2	• Bike trails
Butterfield Road Open Space	South of IL 176, west of Butterfield Rd (MP 1.2)	N	Libertyville Township Open Space District	129.4	• Bike trails (connect to North Shore Bike Path/Grand Illinois Trail just north of open space property)

4.13 Corridor 16

Within the Corridor 16 analysis area are 30 special land sites (see Table 25). This includes 4 forest preserve or conservation district sites, 23 local parks, 1 Illinois nature preserve, and 2 INAI sites.

Table 25. Special Lands, Corridor 16

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	4	223
Local Park	23	153

Table 25. Special Lands, Corridor 16

Type	Number	Acreage in Analysis Area
Illinois Nature Preserve	1	7
Illinois Natural Area (INAI)	2	24

There are three areas where special lands are primarily located: the Lake Cook Road and IL 53 area (MP 9.0); Cuba Rd to IL 22 (MP 11.1 to 12.2); and Midlothian Road to Winchester Road (MP 15.7 to MP 19.2). At Lake Cook Road and IL 53 is Buffalo Creek FP, Long Grove INAI site, and several local parks. Between Cuba Road and IL 22 are the overlapping Heron Creek FP, Reed-Turner Woodland INAI site, Kildeer Creek and Woodland LWR, and Egret Marsh FP. Further north, between Midlothian and Winchester roads, is the Countryside Golf Club and numerous local parks. Special lands are described in Table 26 and displayed on the Corridor 16 Special Lands exhibits.

Table 26. Corridor 16 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Buffalo Creek Forest Preserve	NEC IL 53 and Lake Cook Rd (MP 9.0)	Y	LCFPD	408	• Recreation uses include hiking, biking, cross-country skiing
Heron Creek Forest Preserve	SEC IL 22 and Old McHenry Rd (MP 11.8)	Y	LCFPD	242	• Recreation uses include picnic facilities, playground, hiking, biking, cross-country skiing. • Portion of forest preserve is designated NP (Kildeer Creek and Woodland LWR) and INAI site (Reed-Turner Woodland INAI 0228)
Egret Marsh Forest Preserve	South side of IL 22, west of Salem Lake Dr (MP 12.1)	N	LCFPD	120	• No recreational amenities
Countryside Golf Course	IL 83/60, south of Hawley St (MP 16.6)	Y	LCFPD	440	• Two 18-hole public golf courses
Local Parks					
Osage Park	Southeast of Lake Cook Rd and IL 53 interchange, at Old Hicks and Coach Rds (MP 8.7)	N	Wauconda Park District	1.7	• Playground, tennis court, basketball court, open grass playing field
Long Grove Soccer Park	Corridor 16 and Old Hicks Rd (MP 9.3)	Y	Village of Long Grove	8.7	• Leased by Ela Soccer Club; soccer fields
Glenstone Park	Corridor 16 and Cuba Rd (MP 11.2)	Y	Private	17.6	• Park/open space owned by HOA; walking/biking path
Wortham Park	Midlothian Rd, east of Corridor 16 (MP 16.0)	N	Mundelein Park District	9	• Baseball/softball fields, playground, tennis courts, picnic facilities, walking path

Table 26. Corridor 16 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Wilderness Park	East of Midlothian Rd, on Hillside Dr (MP 16.2)	N	Mundelein Park District	2	• Two sites make up the park (south and north) • Fishing, natural area, playground, picnic facilities, walking path
Orchard View Park	East of Corridor 16, on IL 83/IL 60 (MP 16.4)	N	Mundelein Park District	5	• Playground, walking path, wetland
Cambridge Country Park	East of Corridor 16 at Midlothian Rd and Courtland St (MP 16.7)	N	Mundelein Park District	11	• Fishing, playground, walking path, senior activity hut, open grass play area. Includes the Regent Center
Scott Brown Park	East of Corridor 16 at Southport Rd and Compton Ln (MP 6.8)	Y	Mundelein Park District	6	• Baseball/softball fields, basketball courts, tennis courts, playground
Leo Leathers Park	Corridor 16, south of IL 176 (MP 17.5)	Y	Mundelein Park District	21	• Baseball/softball fields, basketball courts, fishing, tennis courts, playground, picnic facilities, disc golf course, walking path
Unnamed Park	Franklin St and Westfield Way, west of Corridor 16 (MP 17.9) – 18.2	Y	Mundelein Park District	1	• Wetland ponds; no recreational use
Unnamed Park	Kettering Rd, west of Corridor 17 (MP 18.1)	Y	Mundelein Park District	2.9	• Mundelein Bike Path; connects east to Mechanics Grove School
Unnamed Park	East of Corridor 16, adjacent to Mechanics Grove School (MP 18.2)	Y	Mundelein Park District	2.6	• Mundelein Bike Path; connects to Mechanics Grove School
Longmeadow Park	West of Corridor 16 on SoMPerset Ln (MP 18.4)	N	Mundelein Park District	49	• Baseball/softball fields, picnic facilities, playground, walking path
Asbury Park	East of Corridor 16 at Midlothian Rd and Sheffield Ave (MP 18.8)	N	Mundelein Park District	12	• Baseball/softball field, fishing, playground, picnic facilities, walking path
Alleghany Park	West of Corridor 16 at Alleghany and Townline Rds (MP 21.3)	N	Grayslake Park District	40	• Fishing, picnic facilities, playgrounds, soccer fields, baseball/softball fields, tennis courts
Tooterville Park	North side of MD-N Metra tracks, east of Lake St (MP 21.7)	Y	Grayslake Park District	5	• Basketball court, walking/biking path, horseshoe pits, picnic facilities, playground, sand volleyball
East Lake Farms Park	South side of SWC IL 120 at Corridor 16 (MP 22.0)	Y	Grayslake Park District	3	• Open grass play area

Table 26. Corridor 16 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Jaycee Park	North of IL 120, west side of Canadian National RR (MP 22.0)	N	Grayslake Park District	7	• Playground, tennis courts, baseball/softball fields, picnic facilities
Open Spaces					
Village of Grayslake Open Space	North of IL 120 at Seymour and Junior Aves (MP 22.0)	N	Village of Grayslake	1.0	• Gazebo, open grass play area
Illinois Nature Preserves					
Kildeer Creek and Woodland Land and Water Reserve	East of Corridor 16, south of IL 22 (MP 11.7)	N	LCFPD	63.9	• Designated preserve is within Heron Creek Forest Preserve • Protected by conservation easement • Managed for wetland, vegetation, and habitat preservation • No recreational amenities
Illinois Natural Area Inventory (INAI) Sites *					
Long Grove Site (1233)	West of Corridor 16 on Hicks Rd, north of Lake Cook Rd (MP 9.6)	N	Private	12	• INAI Category II
Reed-Turner Woodland INAI site (0228)	East of Corridor 16, south of IL 22 (MP 11.7)	N	Long Grove Park District	50	• Portions of INAI site are within Heron Creek Forest Preserve • INAI Categories II and III

*** INAI Category Descriptions:**

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.14 Corridor 17

Within the Corridor 17 analysis area are 6 special land sites (Table 27), including 2 forest preserve or conservation district sites, 3 local parks, and 1 INAI site.

Table 27. Special Lands, Corridor 17

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	2	20
Local Park	3	28
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	1	12

Special lands are concentrated at the northern and southern project termini. At the southern terminus, near Lake Cook Road and IL 53 (MP 9.0) are the Buffalo Creek FP, Long Grove INAI site, and a local park. At the northern terminus is a local park and Heron Creek FP. Special lands are described in Table 28 and displayed on the Corridor 17 Special Lands exhibits.

Table 28. Corridor 17 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Buffalo Creek Forest Preserve	NEC IL 53 and Lake Cook Rd (MP 9.3)	N	LCFPD	408	• Recreation uses include hiking, biking, and cross-country skiing
Heron Creek Forest Preserve	East of Corridor 17 at Cuba Rd (MP 11.1)	N	LCFPD	242	• Recreation uses include picnic facilities, playground, hiking, biking, and cross-country skiing
Local Parks					
Long Grove Soccer Park	Corridor 17 and Old Hicks Rd (MP 9.3)	Y	Village of Long Grove	8.7	• Leased by Ela Soccer Club; soccer fields
Drexler Tavern Trail Park	SEC IL 53 and Old Hicks Rd (MP 10.2)	Y	Long Grove Park District	2.7	• Passive open space, no formal recreation facilities
Glenstone Park	Corridor 17 and Cuba Rd (MP 11.2)	Y	Private	17.6	• Park/open space owned by HOA; walking/biking path
Illinois Natural Area Inventory (INAI) Sites *					
Long Grove Site (1233)	West of Corridor 17 on Hicks Rd, north of Lake Cook Rd (MP 9.4)	N	Private	12	• INIA Category II

*** INAI Category Descriptions:**

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.15 Corridor 18

Within the Corridor 18 analysis area are 3 special land sites, including 1 forest preserve or conservation district site, and 2 local parks—see Table 29.

Table 29. Special Lands, Corridor 18

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	1	34
Local Park	2	17
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	0	0

Special lands are clustered at the north end of the proposed roadway, and include the Countryside Golf Club, a public golf course, and three local parks, which are described in Table 30 and displayed on the Corridor 18 Special Lands exhibits.

Table 30. Corridor 18 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Forest Preserves					
Countryside Golf Course	IL 83/60 north of Midlothian Rd (MP 16.1)	N	LCFPD	440	• Two 18-hole public golf courses
Local Parks					
Diamond Lake Sports Complex	East of Corridor 18 on IL 83/60, south of Midlothian Rd (MP 15.7)	N	Mundelein Park District	43	• Biking, bocce court, combination sports field (lacrosse, soccer, junior football), horseshoe pit, ice skating, disc golf course, interpretive and educational hiking trails, shuffleboard, sledding, snowmobiling
Wortham Park	East of Corridor 18 on Midlothian Rd (MP 16.3)	N	Mundelein Park District	9	• Baseball/softball fields, playground, tennis courts, picnic facilities, walking path
Orchard View Park	East of Corridor 18 on IL 83/60, north of Midlothian Rd (MP 16.4)	N	Mundelein Park District	5	• Playground, walking path, wetland

4.16 Corridor 20

Within the Corridor 20 analysis area are 19 special land sites – see Table 31. This includes 3 forest preserve or conservation district sites, 13 local parks, 1 Illinois nature preserve, and 2 INAI sites.

Table 31. Special Lands, Corridor 20

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	3	377
Local Park	13	61
Illinois Nature Preserve	1	29
Illinois Natural Area (INAI)	2	100

The heaviest concentrations of special lands occur between US 45 and Almond Road (MP 9.5 to 10.9) and Milwaukee Avenue and I-94 (MP 12.6 to 13.7). Between US 45 and Almond Road are Almond Marsh FP and INAI site, and one local park. Between Milwaukee Avenue and I-94 are two forest preserves (Independence Grove and Lake Carina), totaling more than 1,600 acres. Other public lands are scattered within the corridor analysis area. Special lands are described in Table 32 and displayed on the Corridor 20 Special Lands exhibits.

Table 32. Corridor 20 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Almond Marsh Forest Preserve	Almond Rd, south of IL 120 (MP 10.1)	Y	LCFPD	503	• Recreational uses: birdwatching • Forest, wetland, and wildlife habitat conservation area • Portion of forest preserve is INAI site (Almond Marsh INAI site)
Independence Grove Forest Preserve	East side of IL 21 between IL 137 and IL 120 (MP 12.8)	Y	LCFPD	1,151	• Recreational uses: hiking, biking, cross-country skiing, boating, canoeing/kayaking, fishing, ice skating, picnic facilities, swimming, playgrounds, sand volleyball, and open grass playfield
Lake Carina Forest Preserve	East side of IL 21 between IL 120 and US 41 (MP 12.8)	Y	LCFPD	481	• Recreational uses: hiking, cross-country skiing, fishing, and picnic facilities
Local Parks					
Tooterville Park	North side of MD-N Metra tracks, east of Lake St (MP 7.7)	N	Grayslake Park District	5	• South Creek subdivision neighborhood park • Basketball court, walking/biking path, horseshoe pits, picnic facilities, playground, sand volleyball
Canterbury Park	IL 120 and Ashford Ln (MP 8.8)	N	Grayslake Park District	4	• Canterbury Estates subdivision neighborhood park • Bike path, playground
Prairie Town Park	South side of IL 120 on Kerry Way (MP 8.9)	N	Grayslake Park District	6	• Prairie Towne subdivision neighborhood park • Walking/biking path, open grass play area
John Gage Park	US 45, north of Joines Point Rd (MP 9.4)	N	Grayslake Park District	7	• Prairie Crossing subdivision neighborhood park • Softball/baseball fields, tennis courts, playground, picnic facilities

Table 32. Corridor 20 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Twin Lakes Park	Mill Rd, north of IL 120 (MP 10.8)	N	Wildwood Park District	6.76	• Playground, softball field, picnic facilities, soccer field, walking/biking path
Dunhill Park	North of IL 120 on Leonard Dr (MP 12.1)	N	Fairway Ridge HOA	0.5	• Neighborhood park owned by HOA. Playground, open grass play area
HeatherRidge Woods Park	NWC IL 120 and IL 21 (MP 12.6)	N	Gurnee Park District	11.5	• Hiking/biking trails, wildlife conservation
Rudd Farm Park	South of IL 120 on west side of I-94 (MP 14.2)	N	Waukegan Park District	14.4	• Basketball court, fishing, hiking trail, picnic facilities, tennis court
Kings Park	North of IL 120, west of O'Plaine Rd (MP 14.1)	N	Gurnee Park District	6	• Baseball/softball fields, playground, open grass play area
Diversity Park	South of IL 120, east of I-94 (MP 14.2)	N	Waukegan Park District	1.2	• Playground, open grass play area; includes Diversity Park Pond.
Providence Park	Longmeadow Dr and Waterbury Ave (MP 14.2)	N	Gurnee Park District	1	• Playground, walking/biking trails, picnic facilities
Illinois Nature Preserves					
Dokum Mskoda Sedge Meadow Nature Preserve	South of IL 120, east of I-94 (I-94 MP 12.2)	N	Fields of Cambridge HOA/ Conserve Lake County	100	• Protected by conservation easement • Contains forest, wetland, and wildlife habitat conservation area • Recreation uses include hiking trails
Illinois Natural Area Inventory (INAI) Sites *					
Almond Marsh INAI site (1253)	Almond Rd, south of IL 120 (MP 10.4)	Y	LCFPD, Private	428	• INAI site is partially within Almond Marsh Forest Preserve • Located on both public and private land (public portion owned by LCFPD) • INAI Categories I, II, and III
Oak Grove Botanical Area INAI site (0654)	East side of I-94, from south of IL 137 to south of IL 120 (I-94 MP 12.2)	N	Private	415	• INAI Category II

*** INAI Category Descriptions:**

I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

III = State dedicated NPs, LWRs, and NHLs

4.17 Corridor 21

There are 11 special land sites within the Corridor 21 analysis area, including 1 state park, 2 forest preserve or conservation district sites, 7 local parks, and 1 INAI site (Table 33).

Table 33. Special Lands, Corridor 21

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	1	4
County Forest Preserve/Conservation District	2	28
Local Park	7	61
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	1	2

Special lands are primarily concentrated in the western half of the Corridor 21 (new alignment corridor), west of Fairfield Road (MP 3.8). At the Corridor's western terminus (MP 0.5) are the Volo Bog State Natural Area and Stanley Road Bog INAI site. Two forest preserves (Marl Flat and Kestrel Ridge) are located between Fish Lake Road and Fairfield Road (MP 1.8 to 3.8). Local parks are scattered throughout the corridor analysis area. Special lands are described in Table 34 and displayed on the Corridor 21 Special Lands exhibits.

Table 34. Corridor 21 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Federal or State Sites					
Volo Bog State Natural Area	West of US 12, north of Sullivan Lake Rd (MP 0.3)	N	IDNR	1,152	• Contains visitor center and interpretive trails • Recreational uses: hiking, cross-country skiing, and hunting • Portion of Volo Bog beyond the analysis area is designated NP (Volo Bog NP), INAI site (Volo Bog INAI 1005), and NPS Natural National Landmark (NNL)
County Forest Preserves/Conservation Districts					
Marl Flat Forest Preserve	Fish Lake Road, north of IL 120 (MP 2.1)	Y	LCFPD	208	• Hiking, biking, and cross-country skiing • Portion of the forest preserve beyond the analysis area is a designated INAI site (Fish Lake and Marl Flat Forest Preserve 1682) • Protected by conservation easement
Kestrel Ridge Forest Preserve	North of IL 120, west of Wilson Rd (MP 2.2)	Y	LCFPD	130	• Part of Millennium Trail; hiking and biking trails

Table 34. Corridor 21 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
					• Forest, wetland, and wildlife habitat conservation
Local Parks					
Remington Pointe Central Park	south of Corridor 21, east of US 12 (MP 0.9)	N	Village of Volo	1.5	• Neighborhood park per Village of Volo Comprehensive Plan • Walking/biking path, open grass area
Remington Pointe North Park	South of Corridor 21 on Wentworth Dr. (MP 1.1)	N	Village of Volo	0.9	• Neighborhood park per Village of Volo Comprehensive Plan • Walking/biking path, open grass area
Monarch Flats Park	South of IL 120, east of Cedar Lake Rd (MP 4.7)	N	Round Lake Area Park District	4.1	• Trails, open grass play area
Parkside Park	North of Corridor 21 at Parkside Dr and Winchester Ct (MP 4.9)	N	Round Lake Area Park District	5.4	• Baseball field, open grass play area, playground, picnic facilities, walking/biking paths
Townline Park	South of Corridor 21 on Wildspring Rd (MP 4.9)	N	Round Lake Area Park District	4.7	• Baseball field, soccer field, open grass play area
Hampton Park	South of Corridor 21, east of Wildspring Rd (MP 5.2)	N	Round Lake Area Park District	3.6	• Playground, open grass play area, picnic facilities
Alleghany Park	South of Corridor 21, at Alleghany and Townline Rds (MP 6.9)	N	Grayslake Park District	40	• Fishing, picnic facilities, playgrounds, soccer fields, softball/baseball fields, tennis courts
Illinois Natural Area Inventory (INAI) Sites *					
Stanley Road Bog INAI site (0651)	North of Corridor 21, west of US 12 (MP 0.1)	N	Private	16	• INAI Categories I and II

*** INAI Category Descriptions:**

I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

4.18 Corridor 22

Within the Corridor 22 analysis area are 2 special land sites (Table 35). Both are local park sites.

Table 35. Special Lands, Corridor 22

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0

Table 35. Special Lands, Corridor 22

Type	Number	Acreage in Analysis Area
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	0	0
Local Park	2	30
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	0	0

The two local parks located in the eastern half of the Corridor 22 (new alignment corridor), east of Alleghany Road (MP 6.8). These two parks are described in Table 36 and displayed on the Corridor 22 Special Lands exhibits.

Table 36. Corridor 22 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Local Parks					
Alleghany Park	South of Corridor 22 at Alleghany and Townline Rds (MP 7.4)	N	Grayslake Park District	40	• Fishing, picnic facilities, playgrounds, soccer fields, softball/baseball fields, tennis courts
Tooterville Park	North side of MD-N Metra tracks, east of Lake St (MP 7.8)	N	Grayslake Park District	5	• Basketball court, walking/biking path, horseshoe pits, picnic facilities, playground, sand volleyball

4.19 Corridor 23

Within the Corridor 23 analysis area are 7 special land sites, including 1 state park, 2 forest preserve or conservation district sites, 2 local parks, and 2 INAI sites (Table 36).

Table 37. Special Lands, Corridor 22

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	1	4
County Forest Preserve/Conservation District	2	230
Local Park	2	1.5
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	2	125

Special lands are concentrated west of Wilson Road (MP 3.4). West of US 12 (MP 0.5) is the Volo Bog State Natural Area, which just falls within the corridor analysis area. Between US 12 and Fish Lake Road (MP 0.5 to 2.0) are the overlapping Marl Flat FP and Fish Lake and Marl Flat INAI site, and one local park. Between Fish Lake Road and Wilson Road (MP 2.0 to 3.4) are Kettle Grove FP and Sargent Marsh INAI site, which is within the FP boundary. Special lands are described in Table 38 and displayed on the Corridor 23 Special Lands exhibits.

Table 38. Corridor 23 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Federal or State Sites					
Volo Bog State Natural Area	West of US 12, north of Sullivan Lake Rd (MP 0.2)	N	IDNR	1,152	• Contains visitor center and interpretive trails • Recreational uses: hiking, cross-country skiing, and hunting • Portion of Volo Bog beyond the analysis area is designated NP (Volo Bog NP), INAI site (Volo Bog INAI 1005), and NPS NNL
County Forest Preserves/Conservation Districts					
Marl Flat Forest Preserve	Fish Lake Road, north of IL 120 (MP 2.0)	Y	LCFPD	208	• Recreational uses: hiking, biking, and cross-country skiing • Portion of the forest preserve is a designated INAI site (Fish Lake and Marl Flat Forest Preserve INAI 1682) • Protected by conservation easement
Kettle Grove Forest Preserve	South of IL 120, west of Wilson Rd (MP 3.3)	Y	LCFPD	260	• Recreational uses: hiking • Portion of forest preserve is designated INAI site (Sargent Marsh INAI 1570)
Local Parks					
Remington Pointe South Park	South of Molidor Rd, east of Remington Dr (MP 0.9)	N	Village of Volo	0.7	• Neighborhood park in subdivision • Playground, open grass play area
Monarch Flats Park	South of IL 120, east of Cedar Lake Rd (MP 4.6)	N	Round Lake Area Park District	4.1	• Neighborhood park in subdivision • Hiking/biking trails, open grass play area
Illinois Natural Area Inventory (INAI) Sites					
Fish Lake and Marl Flat Forest Preserve INAI site (1682)	Fish Lake Road, north of IL 120 (MP 2.0)	Y	LCFPD, Private	208	• Located on both public and private land (public portion owned by LCFPD; privately-held land includes YMCA Camp Duncan) • INAI Categories I and II
Sargent Marsh INAI site (1570)	South side of IL 120, west of Wilson Rd (MP 2.9)	N	LCFPD	30	• INAI site is within Kettle Grove Forest Preserve. • INAI Category II

*** INAI Category Descriptions:**

Table 38. Corridor 23 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description

I = High-quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

4.20 Corridor 24

Within the Corridor 24 analysis area are 4 special land sites, including 2 forest preserve or conservation district sites and 2 INAI sites (Table 39).

Table 39. Special Lands, Corridor 24

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	2	29
Local Park	0	0
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	2	100

Public lands are scattered throughout the corridor's length. At the eastern terminus (MP 2.0) is the Kettle Grove FP and Sargent Marsh INAI site. Between US 12 and Fish Lake Road (MP 0.5 to MP 1.5) is the Fish Lake and Marl Flat Forest Preserve INAI site, which contains Marl Flat FP. Special lands are described in Table 40 and displayed on the Corridor 24 Special Lands exhibits.

Table 40. Corridor 24 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Marl Flat Forest Preserve	Fish Lake Road, north of IL 120 (MP 1.5)	Y	LCFPD	208	• Recreational uses: hiking, biking, and cross-country skiing. • Portion of the forest preserve is a designated INAI site (Fish Lake and Marl Flat Forest Preserve INAI 1682)
Kettle Grove Forest Preserve	South of IL 120, west of Wilson Rd (MP 2.0)	Y	LCFPD	260	• Recreational use: hiking • Portion of forest preserve is designated INAI site (Sargent Marsh INAI 1570)

Table 40. Corridor 24 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
Illinois Natural Area Inventory (INAI) Sites *					
Sargent Marsh INAI site (1570)	South side of IL 120, west of Wilson Rd (MP 2.0)	N	LCFPD	30	• INAI site is within Kettle Grove Forest Preserve • INAI Category II
Fish Lake and Marl Flat Forest Preserve INAI site (1682)	Located around Fish Lake, north of IL 120 between US 12 and Fish Lake Rd (MP 1.0)	Y	LCFPD and Private	208	• Located on both public and private land (public portion, owned by LCFPD, is outside of the analysis area; privately held land includes YMCA Camp Duncan) • INAI Categories I and II

*** INAI Category Descriptions:**

I = High quality natural community and natural community restorations

II = Specific suitable habitat for state-listed species or state-listed species relocations

4.21 Corridor 25

Within the Corridor 25 analysis area are 7 special land sites (see Table 41). This includes 3 forest preserve or conservation district sites, 3 local parks, and 1 INAI site.

Table 41. Special Lands, Corridor 25

Type	Number	Acreage in Analysis Area
USFWS National Wildlife Refuge	0	0
NPS National Natural Landmark	0	0
State Park	0	0
County Forest Preserve/Conservation District	3	300
Local Park	3	9
Illinois Nature Preserve	0	0
Illinois Natural Area (INAI)	1	123

Special lands are concentrated in the western half of the corridor (between MP 2.3 and 4.9), and consists of three forest preserves (Marl Flat, Kestrel Ridge, and Nippersink), two local parks, three open spaces with a recreation use, and one INAI site (Round Lake Marsh). Alleghany Park is the only special land east of MP 4.9 and is located at the eastern end of the corridor. Special lands are described in Table 42 and displayed on the Corridor 25 Special Lands exhibits.

Table 42. Corridor 25 Special Lands

Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description
County Forest Preserves/Conservation Districts					
Marl Flat Forest Preserve	Wilson and Levi Waite Rds (MP 2.3)	N	LCFPD	208	• Recreational uses: hiking, biking, and cross-country skiing
Kestrel Ridge Forest Preserve	West side of Fairfield Rd, north of IL 120 (MP 3.3)	Y	LCFPD	130	• Part of Millennium Trail; hiking and biking trails • Forest, wetland, and wildlife habitat conservation
Nippersink Forest Preserve	East side of Cedar Lake Rd, north of IL 120 (MP3.9)	Y	LCFPD	309	• Recreational uses: hiking, biking, cross-country skiing, snowmobiling, fishing, and picnic facilities • A large portion of the preserve is an INAI Natural Area site (Round Lake Marsh INAI 1243)
Local Parks					
Meadowview Park	Litchfield Dr and Savannah Pkwy (MP 2.6)	N	Round Lake Area Park District	8.4	• Basketball courts, picnic facilities, open grass play area, playground, hiking trails
Bright Meadows Park and Natural Area	Wildspring Rd/Forest Ave, east of Cedar Lake Rd (MP 4.5, 4.7)	Y	Round Lake Area Park District	3.6	• Playground, open grass area • Adjacent to Round Lake Open Space
Alleghany Park	Alleghany and Townline Rds (MP 6.7)	N	Grayslake Park District	40	• Fishing, picnic facilities, playgrounds, soccer fields, softball/baseball fields, tennis courts
Open Space					
Village of Round Lake Open Space	Jade Ln, north of IL 120 (MP 3.1)	Y	Village of Round Lake	3.5	• Recreational uses: a walking/biking path • Adjacent and provides access to Kestrel Ridge Forest Preserve
Village of Round Lake Open Space	Dawn Marie Dr, south of Nippersink Rd (MP 3.1)	Y	Village of Round Lake	0.4	• Recreational uses: a walking/biking path • Adjacent and provides access to Kestrel Ridge Forest Preserve
Village of Round Lake Open Space	South side of Forest Ave, east of Cedar Lake Rd (MP 4.4, 4.6)	Y	Village of Round Lake	5.3	• Recreational uses: a walking/biking path • Adjacent to Bright Meadows Park • Provides connection to Nippersink Forest Preserve
Illinois Natural Area Inventory (INAI) Sites *					
Round Lake Marsh INAI site (1243)	West of Cedar Lake Rd between IL 120 and Nippersink Rd (MP 4.0)	Y	LCFPD	225	• INAI site is within Nippersink Forest Preserve • INAI Category II

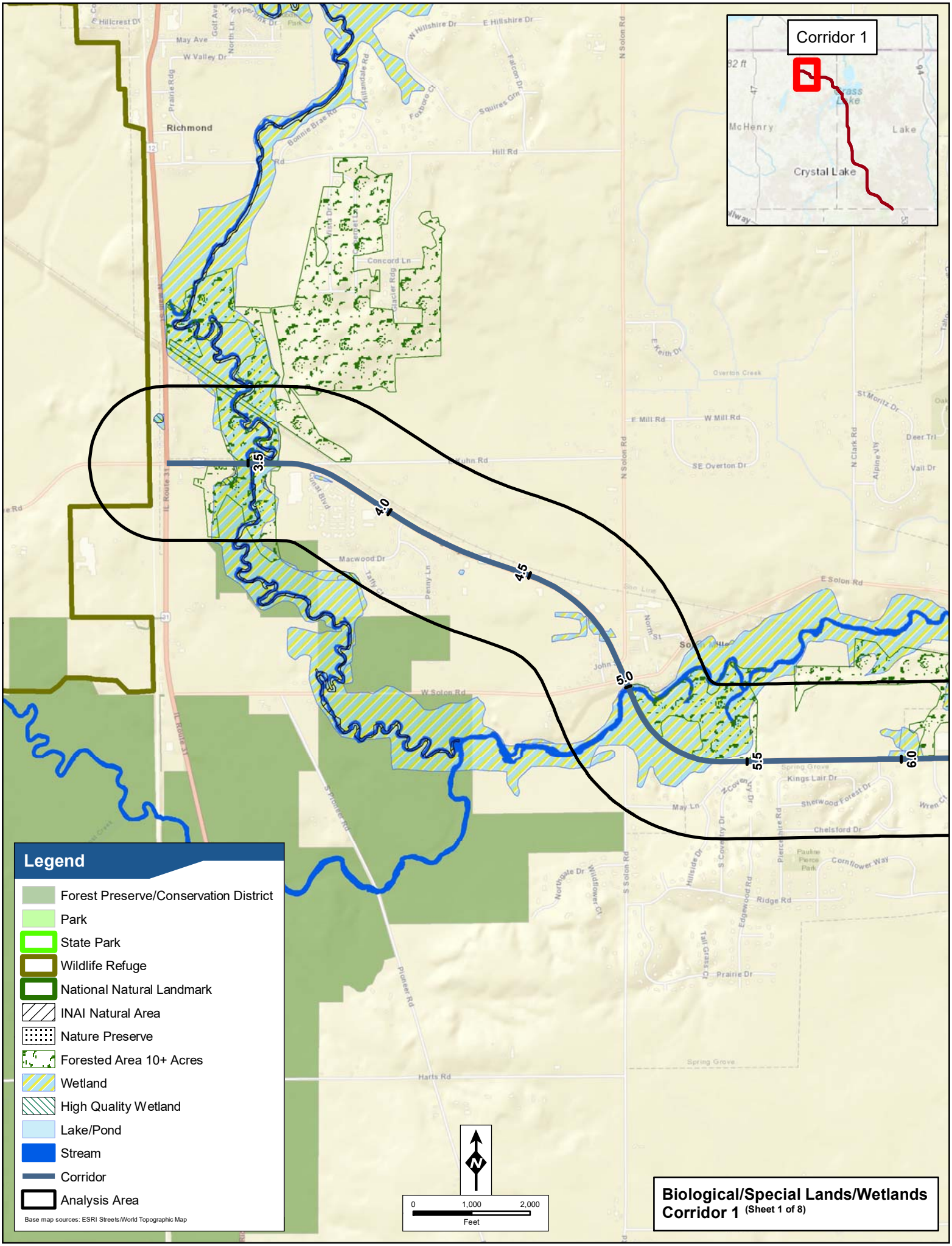
Table 42. Corridor 25 Special Lands

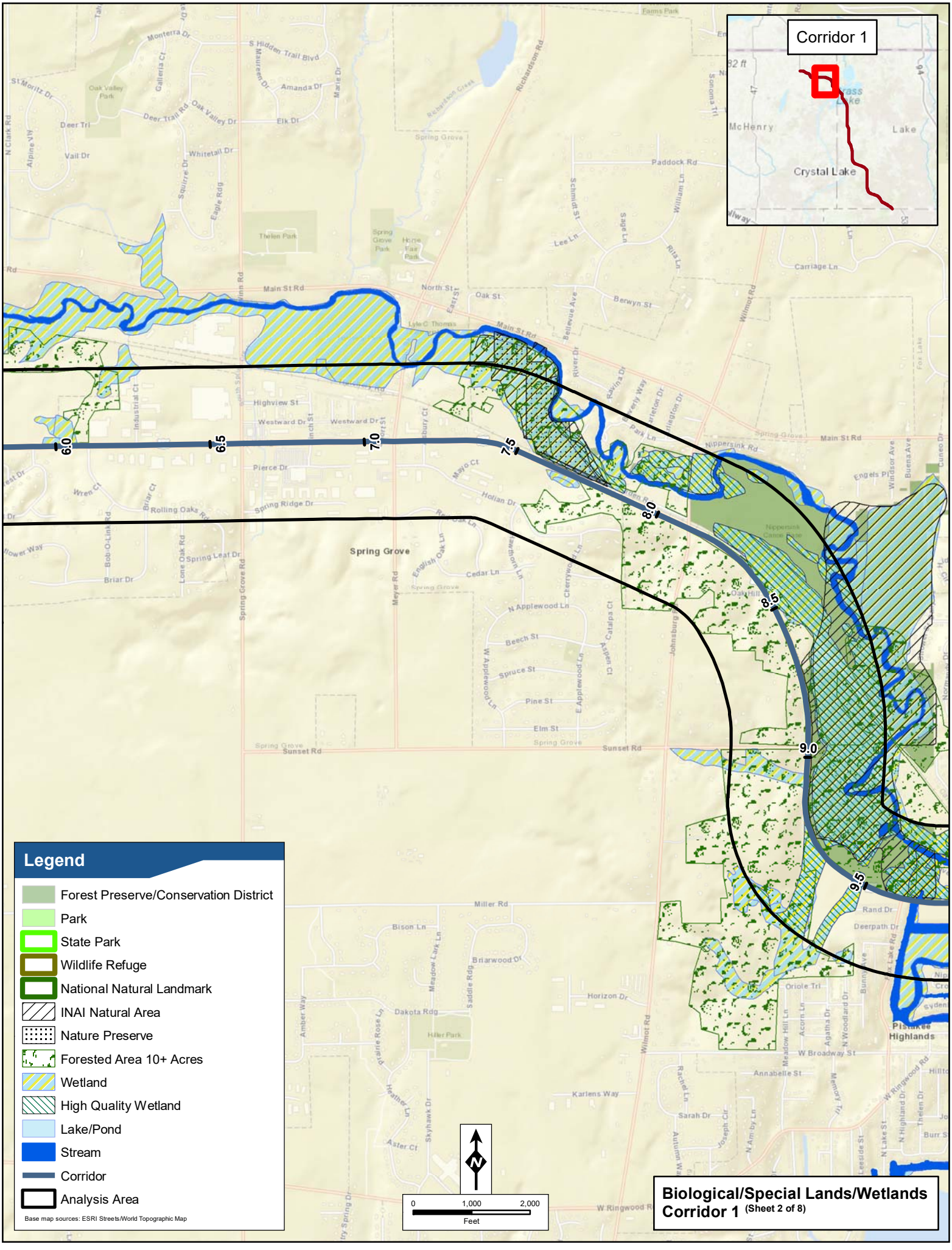
Name	Location	Adjacent to Corridor (Y/N)	Ownership/ Agency with Jurisdiction	Size (Acres)	Description

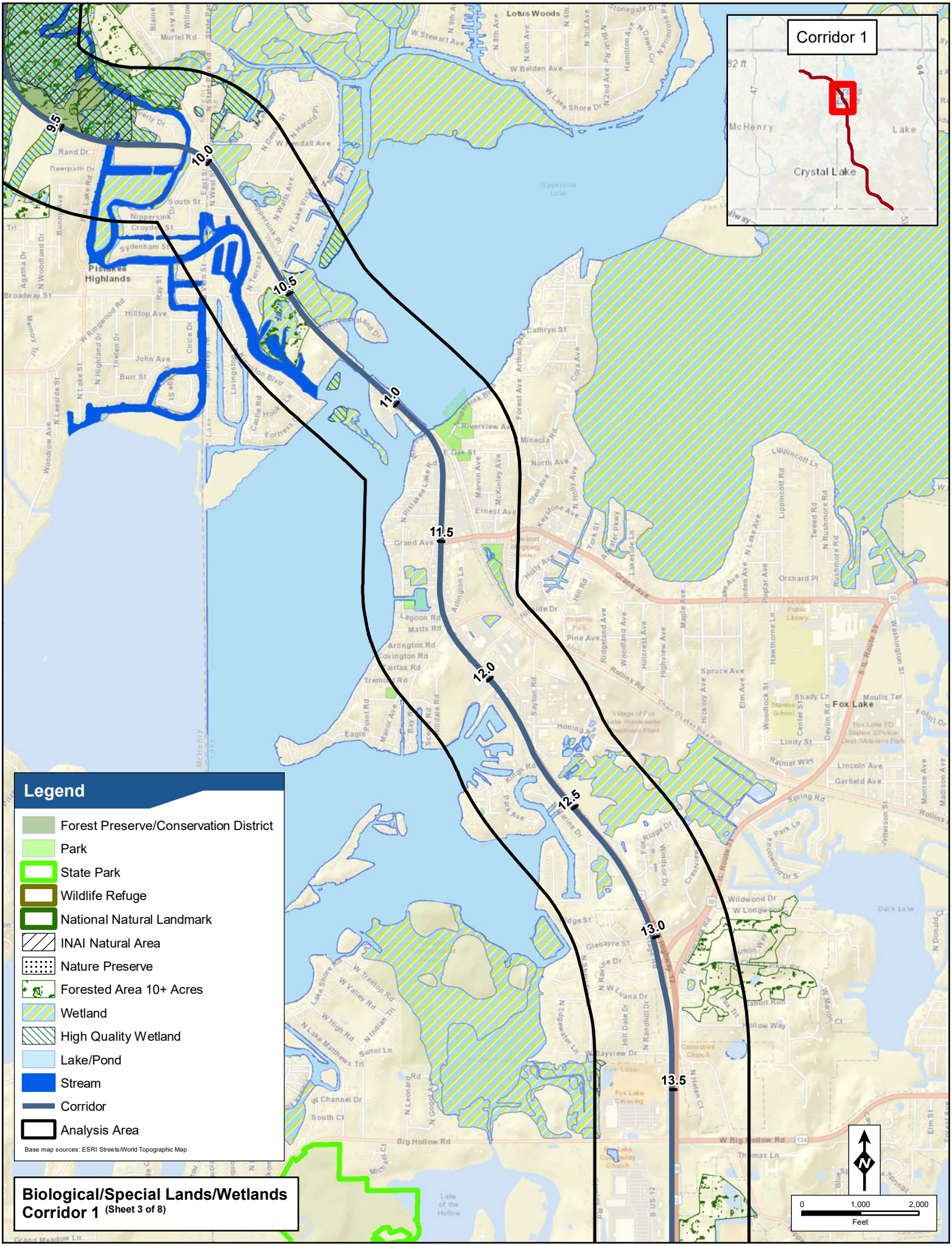
*** INAI Category Descriptions:**

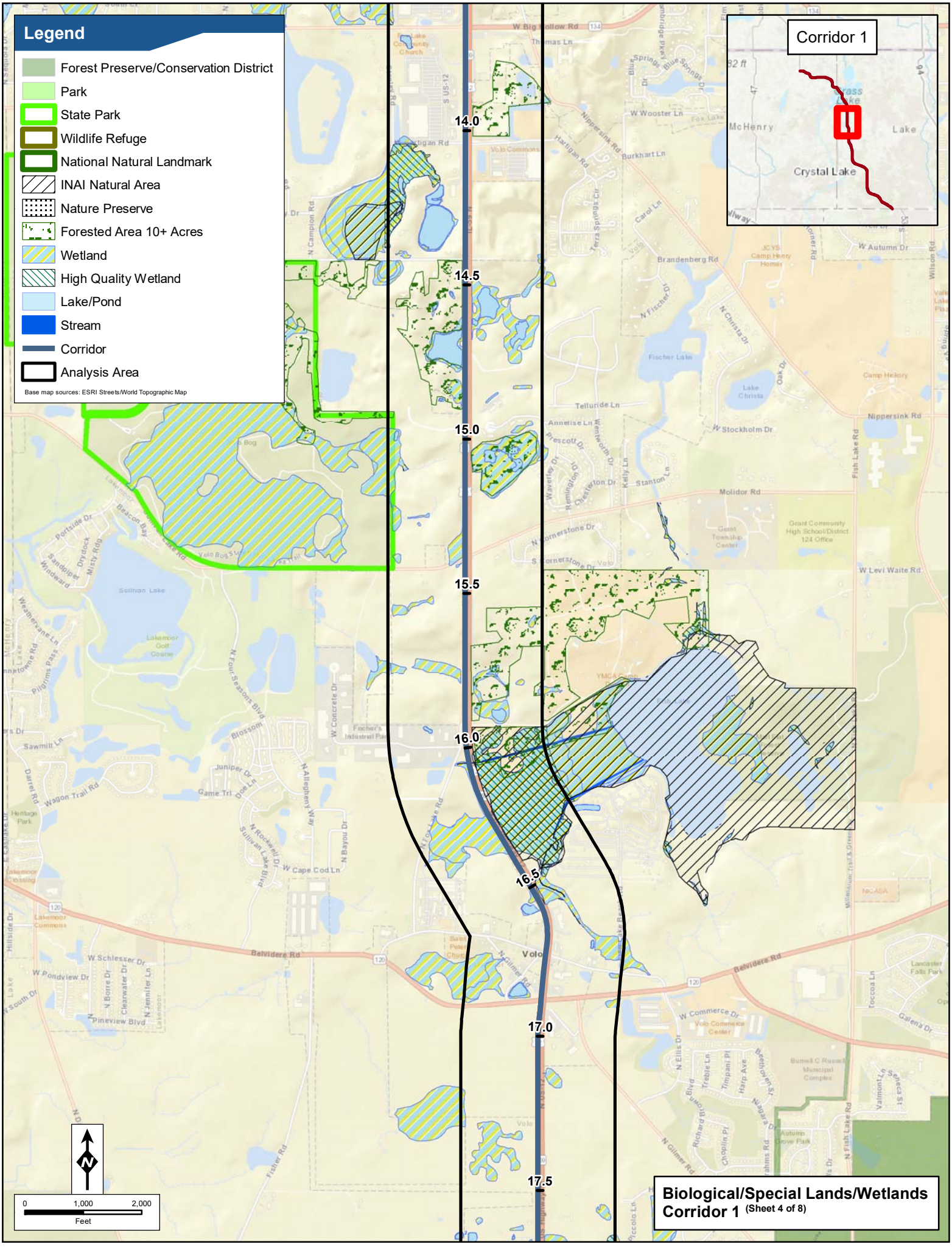
II = Specific suitable habitat for state-listed species or state-listed species relocations

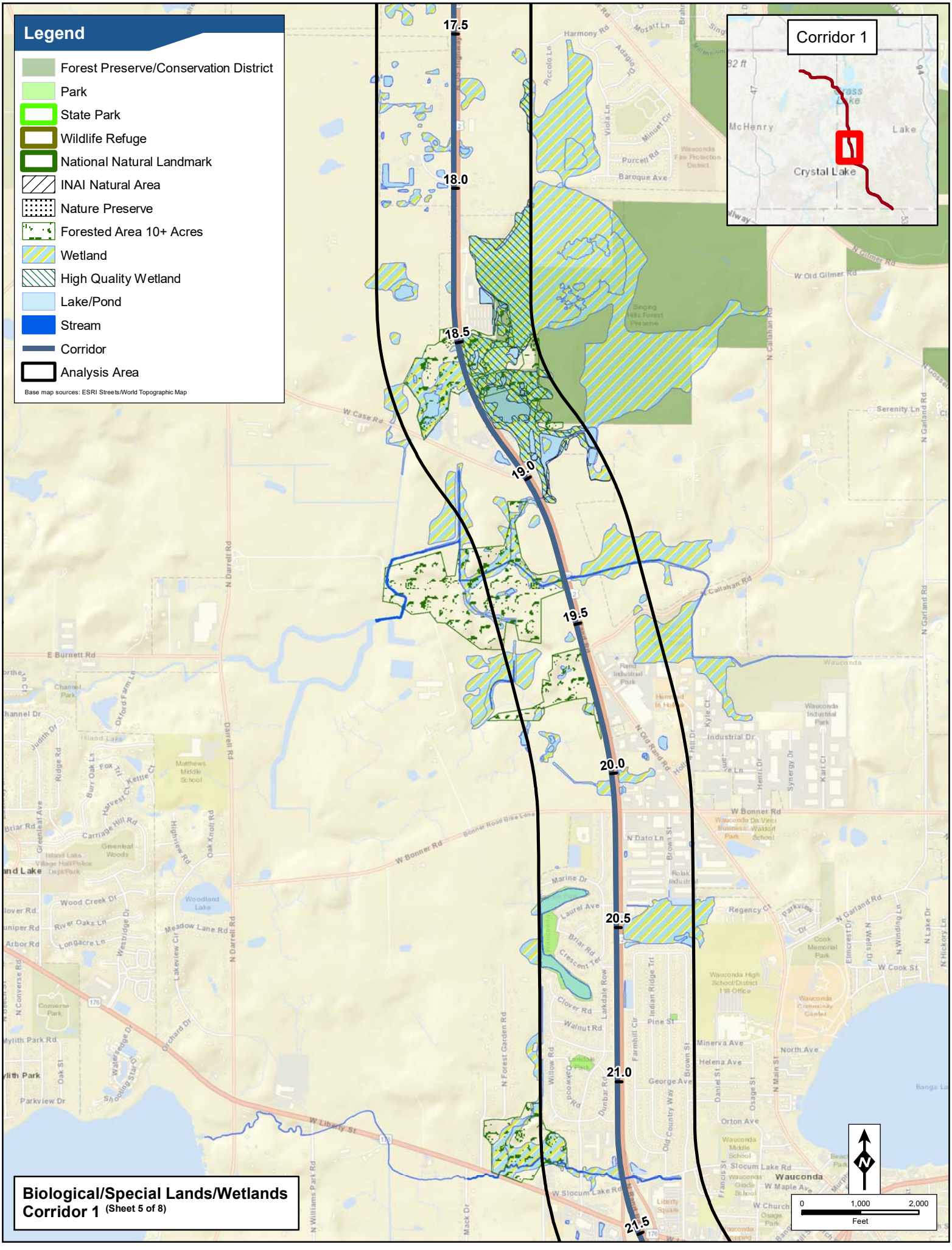
Attachment A: Special Lands Figures

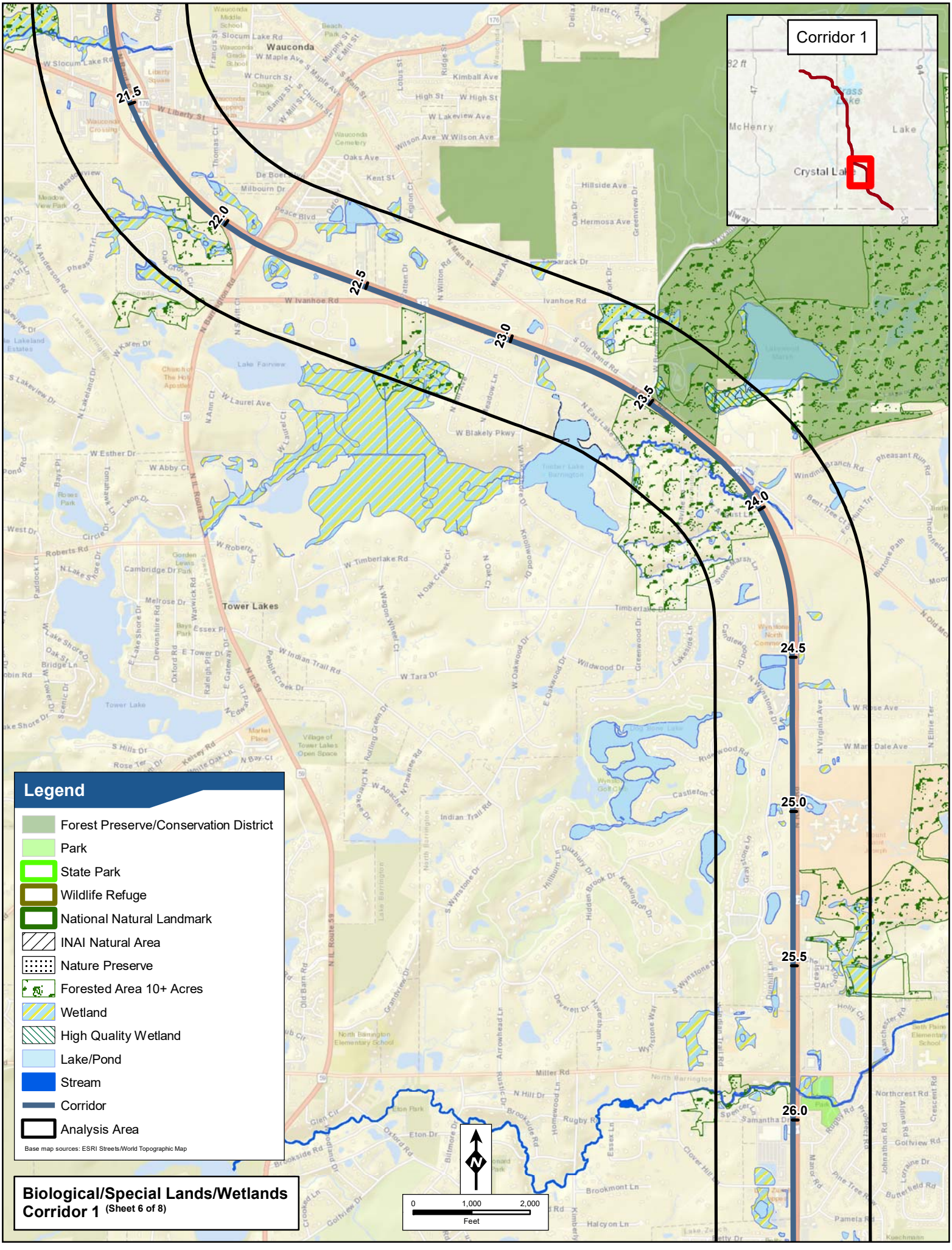

Corridor 1
Richmond
Crystal Lake
McHenry
Lake
3.5
4.0
4.5
5.0
5.5
6.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 1 of 8)

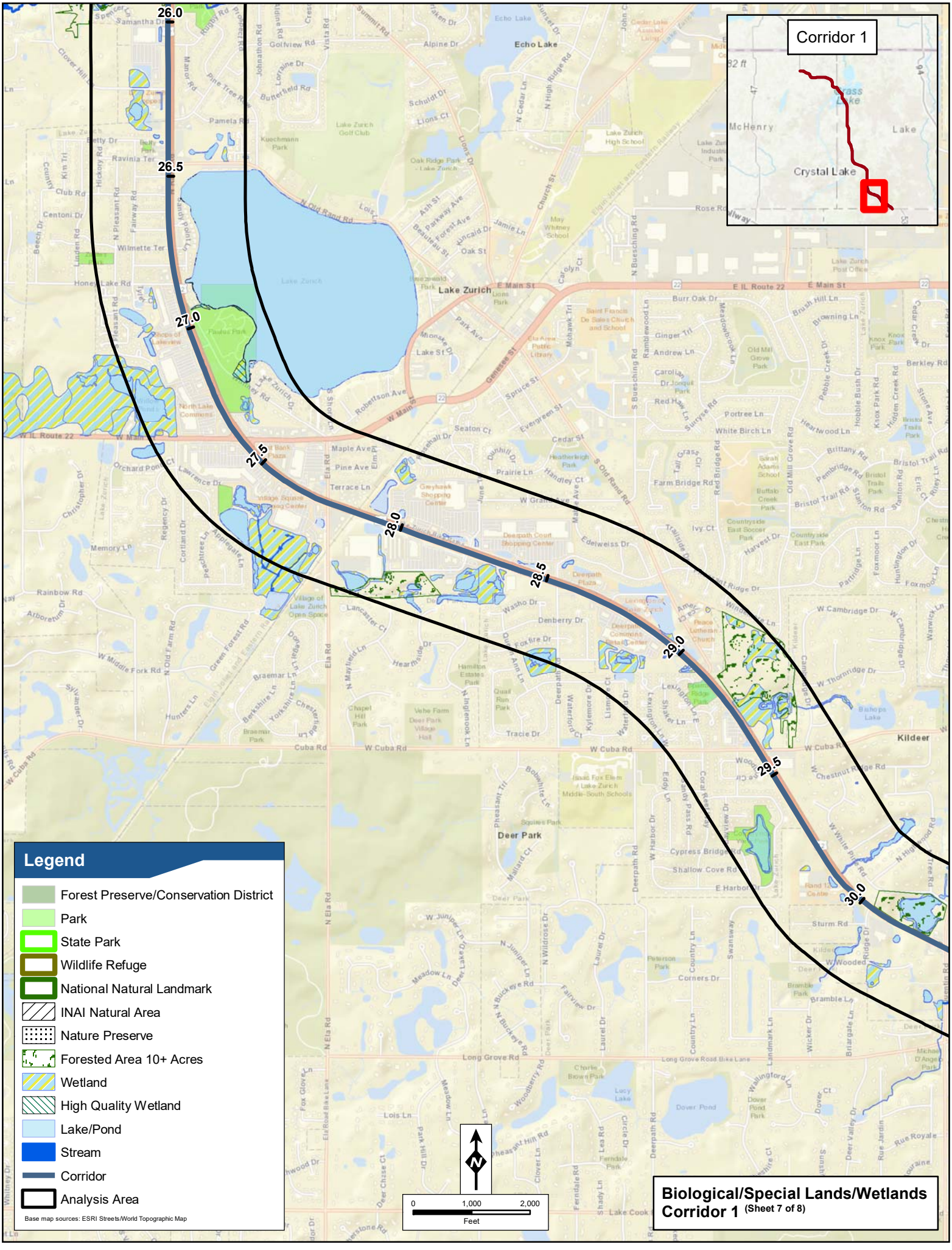

Corridor 1
McHenry
Lake
Crystal Lake
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
Spring Grove
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 2 of 8)

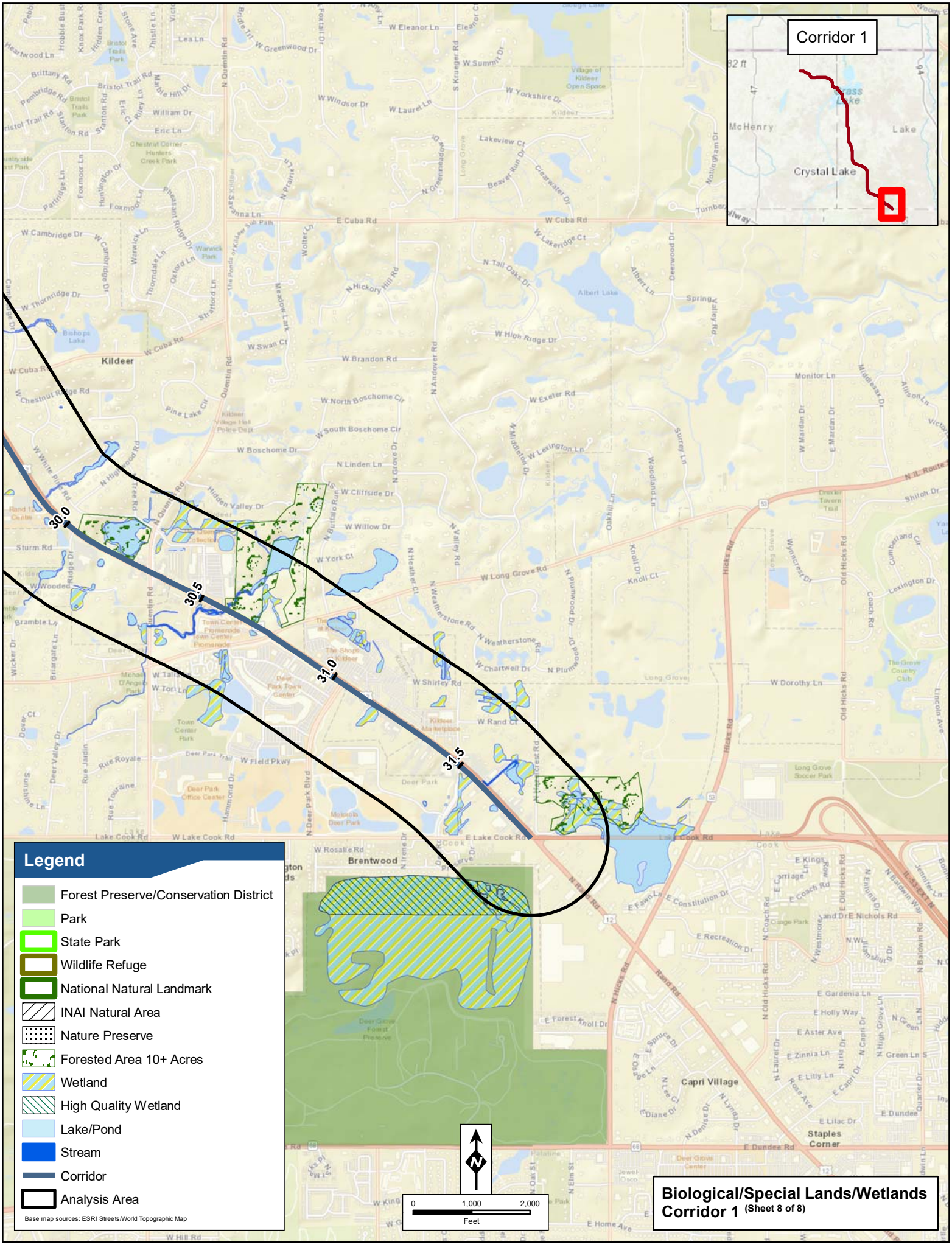

Corridor 1
82 ft
McHenry
Lake
Crystal Lake
9.5
10.0
10.5
11.0
11.5
12.0
12.5
13.0
13.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 3 of 8)
N
0
1,000
2,000
Feet

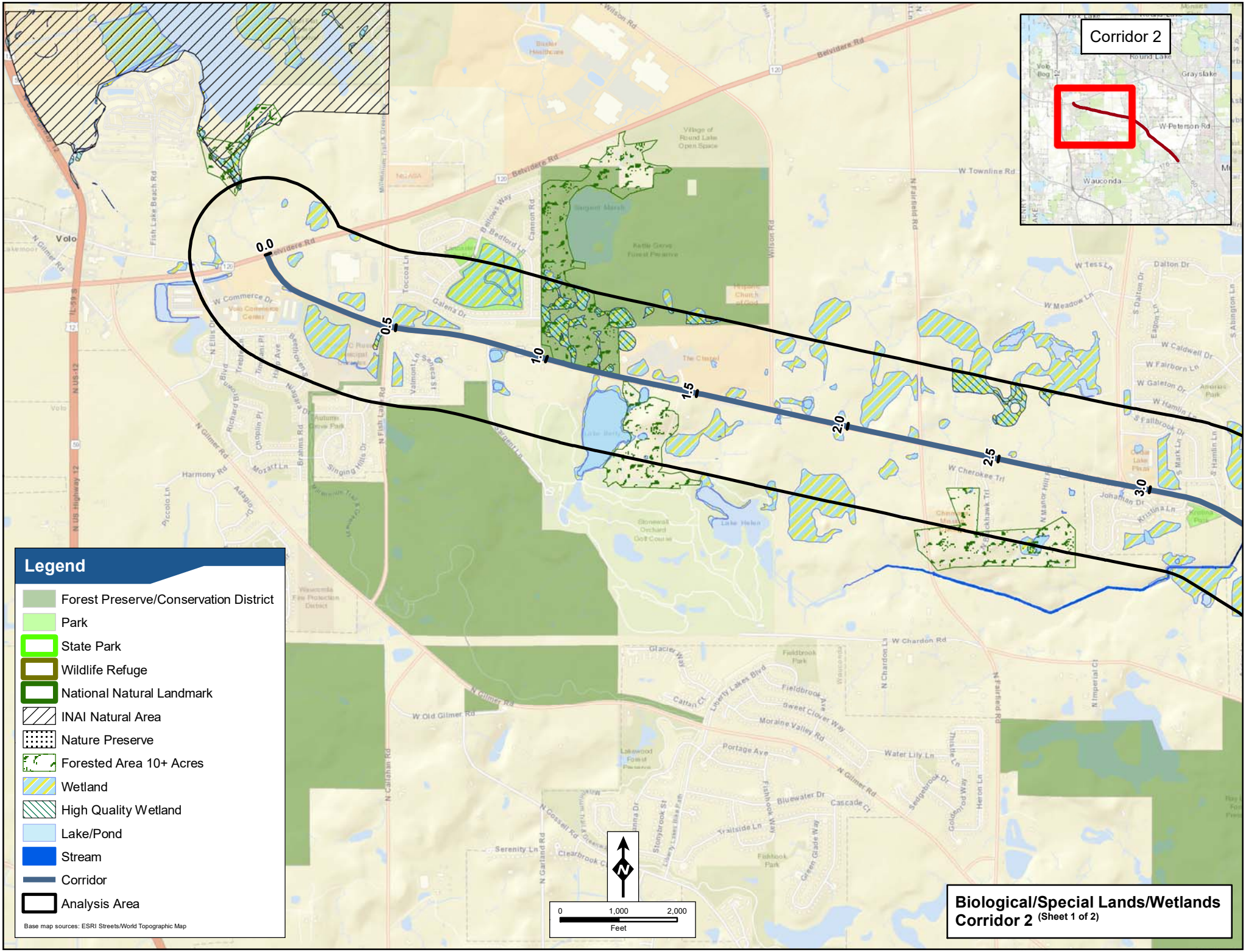

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 1
14.0
14.5
15.0
15.5
16.0
16.5
17.0
17.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 4 of 8)

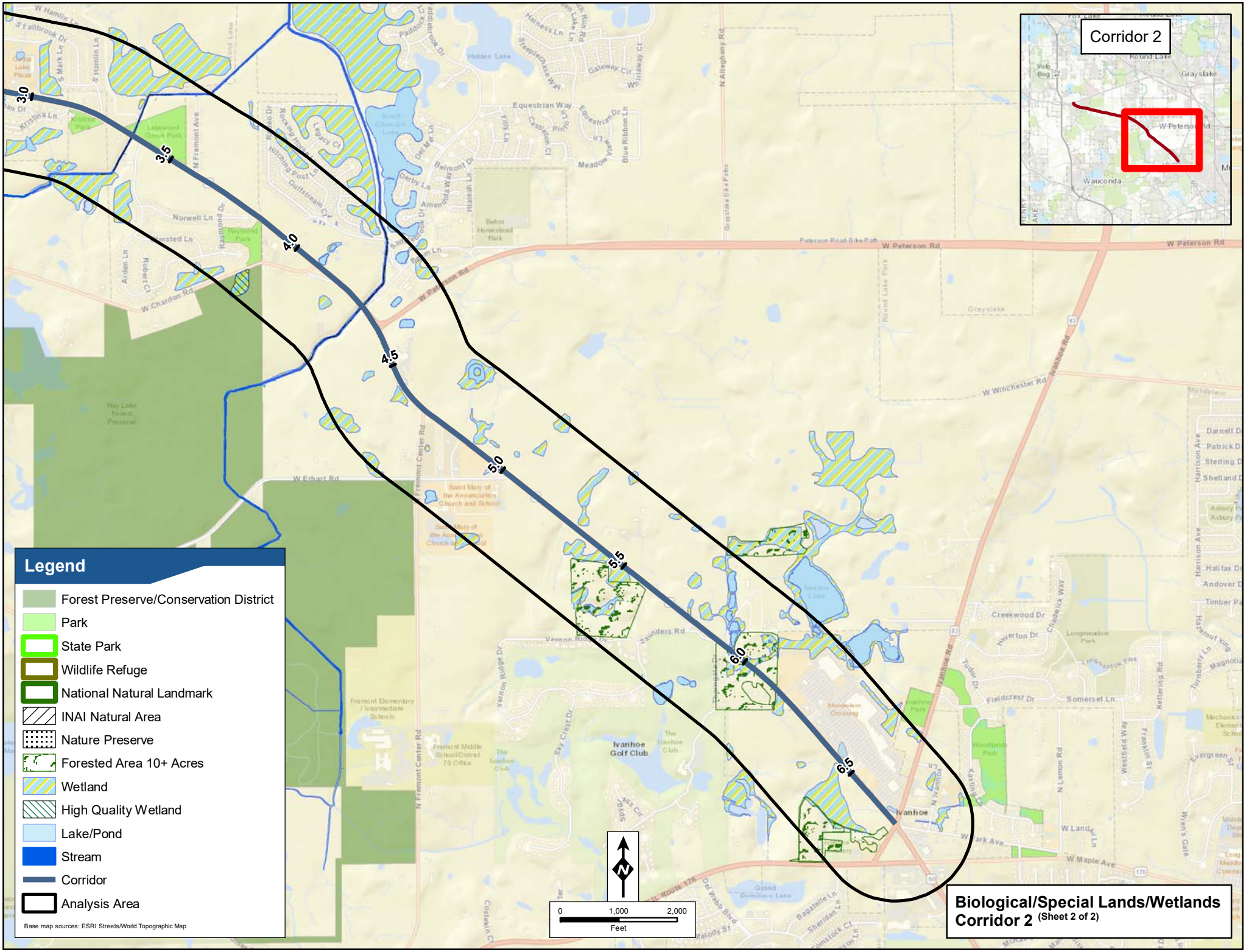

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 1
Crystal Lake
17.5
18.0
18.5
19.0
19.5
20.0
20.5
21.0
21.5
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 5 of 8)
0
1,000
2,000
Feet

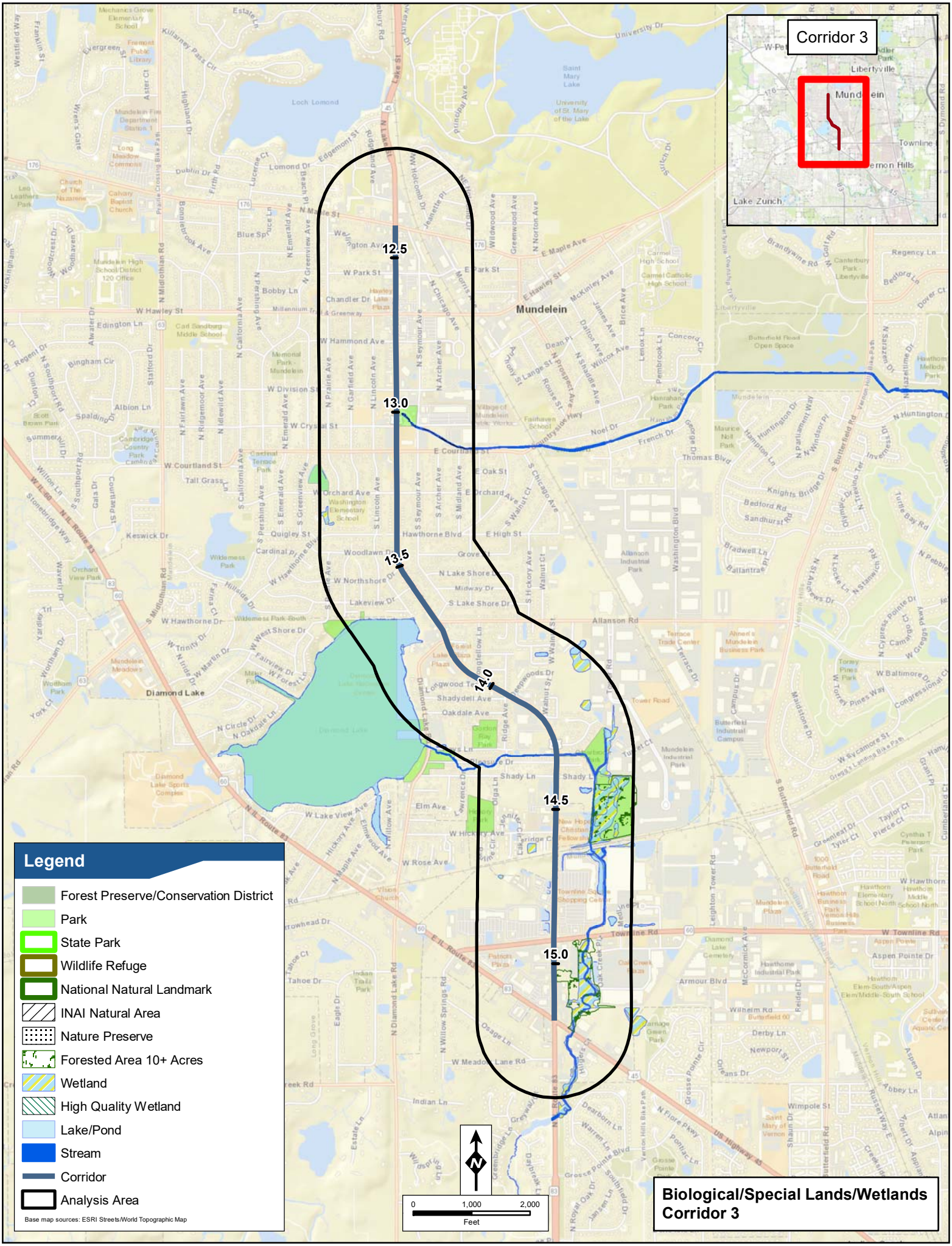

Corridor 1
21.5
22.0
22.5
23.0
23.5
24.0
24.5
25.0
25.5
26.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 6 of 8)

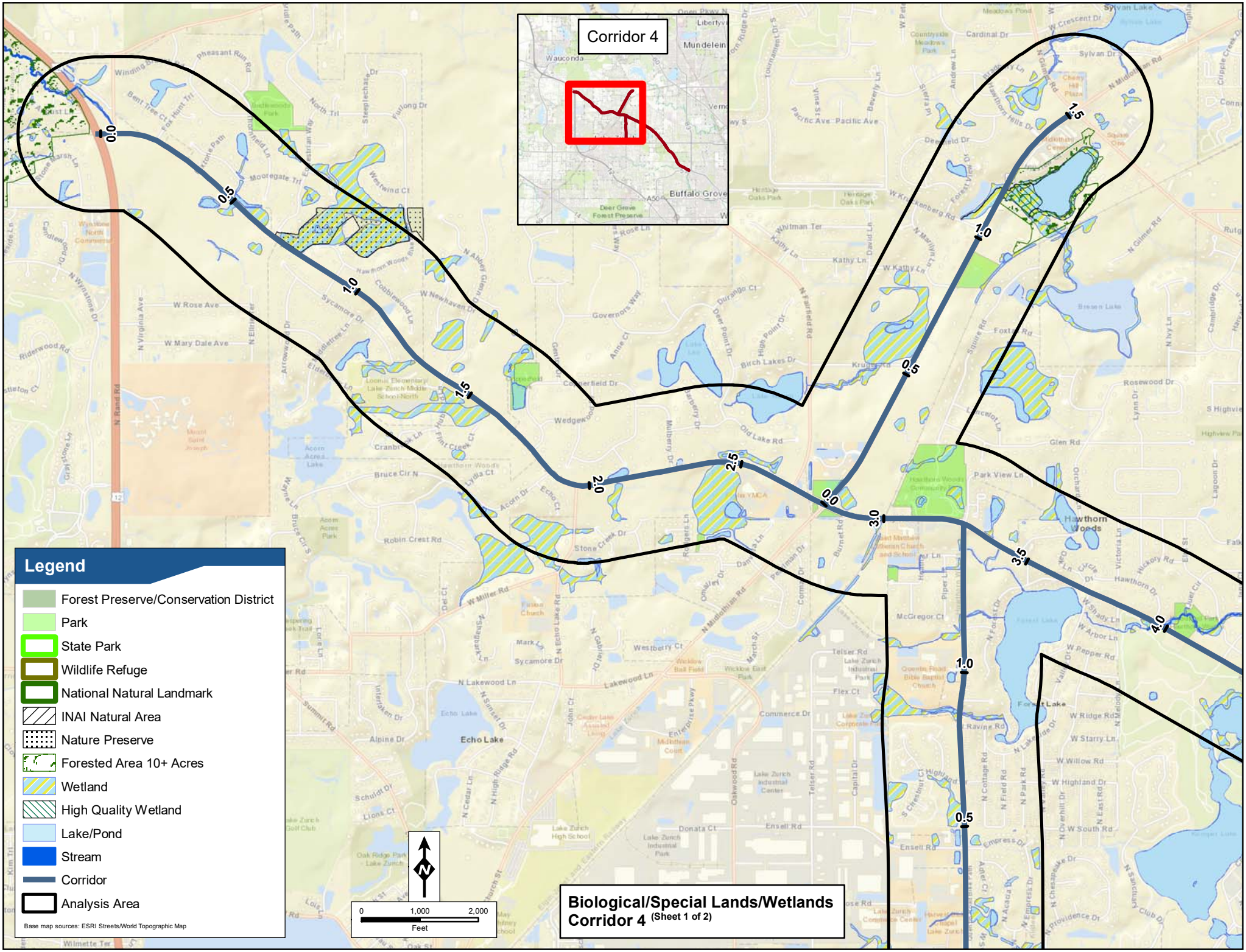

Corridor 1
26.0
26.5
27.0
27.5
28.0
28.5
29.0
29.5
30.0
Echo Lake
Lake Zurich
Crystal Lake
Deer Park
Kildeer
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 7 of 8)

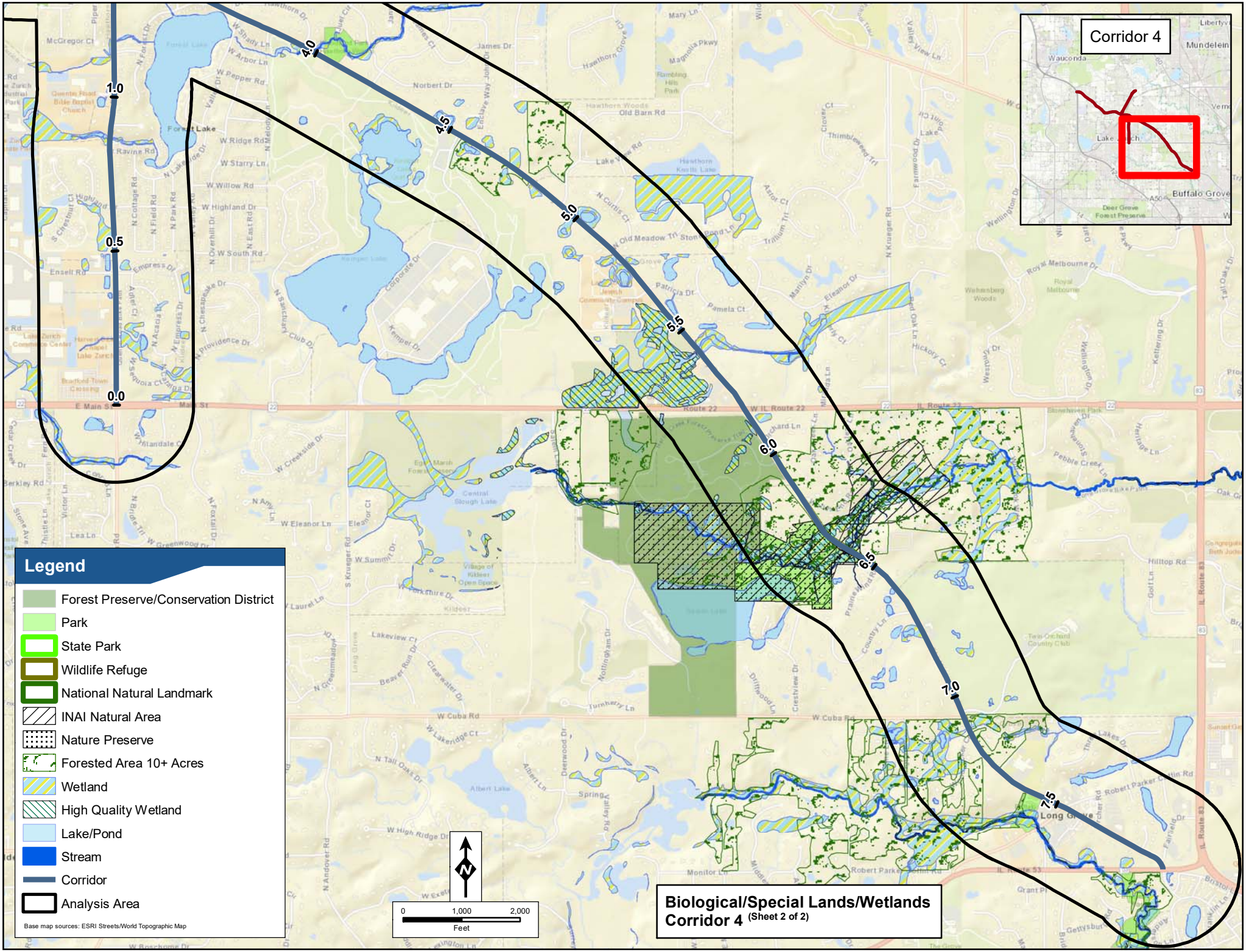

Corridor 1
McHenry
Lake
Crystal Lake
30.0
30.5
31.0
31.5
Kildeer
Brentwood
Capri Village
Staples Corner
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 8 of 8)

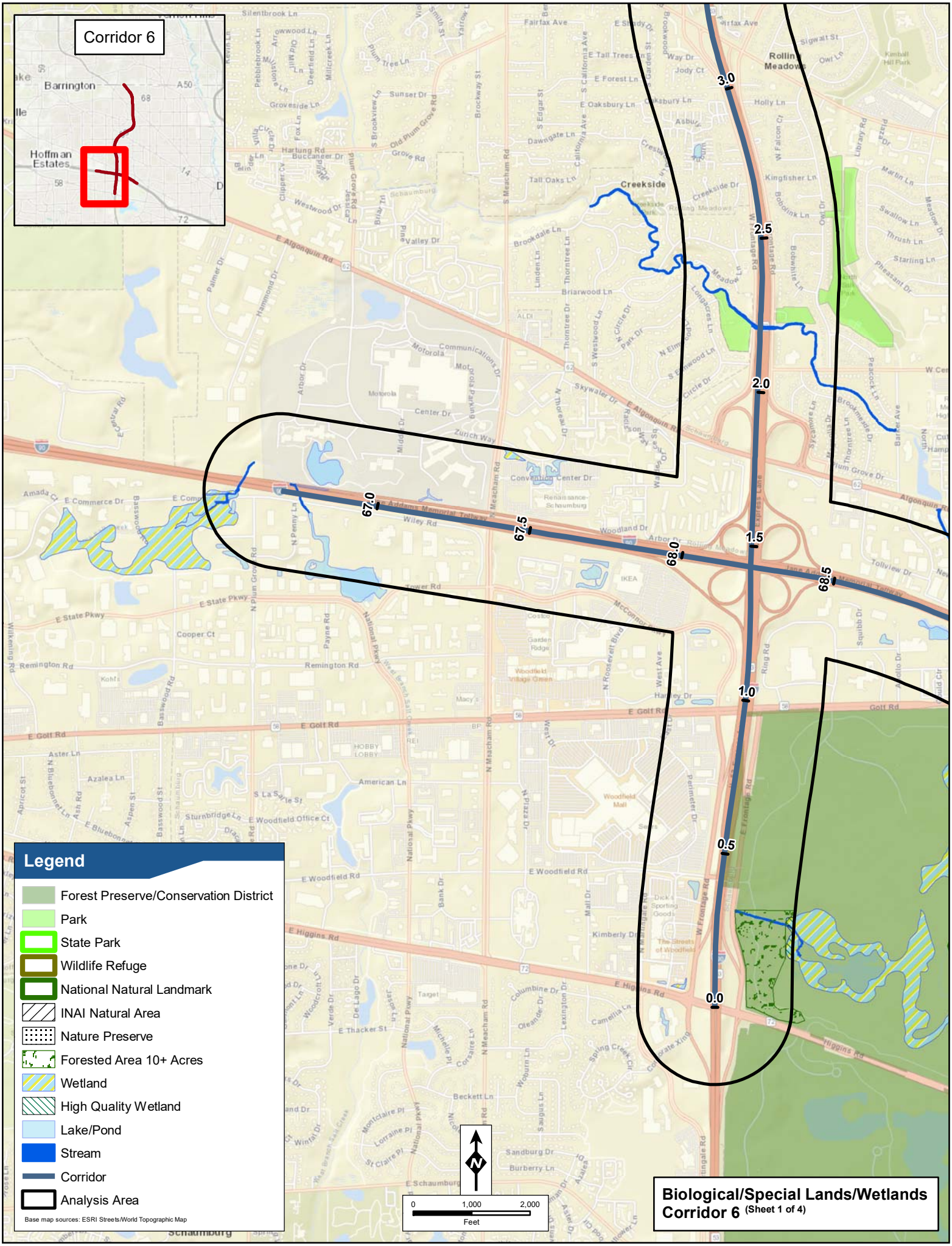

Corridor 2
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 2 (Sheet 1 of 2)

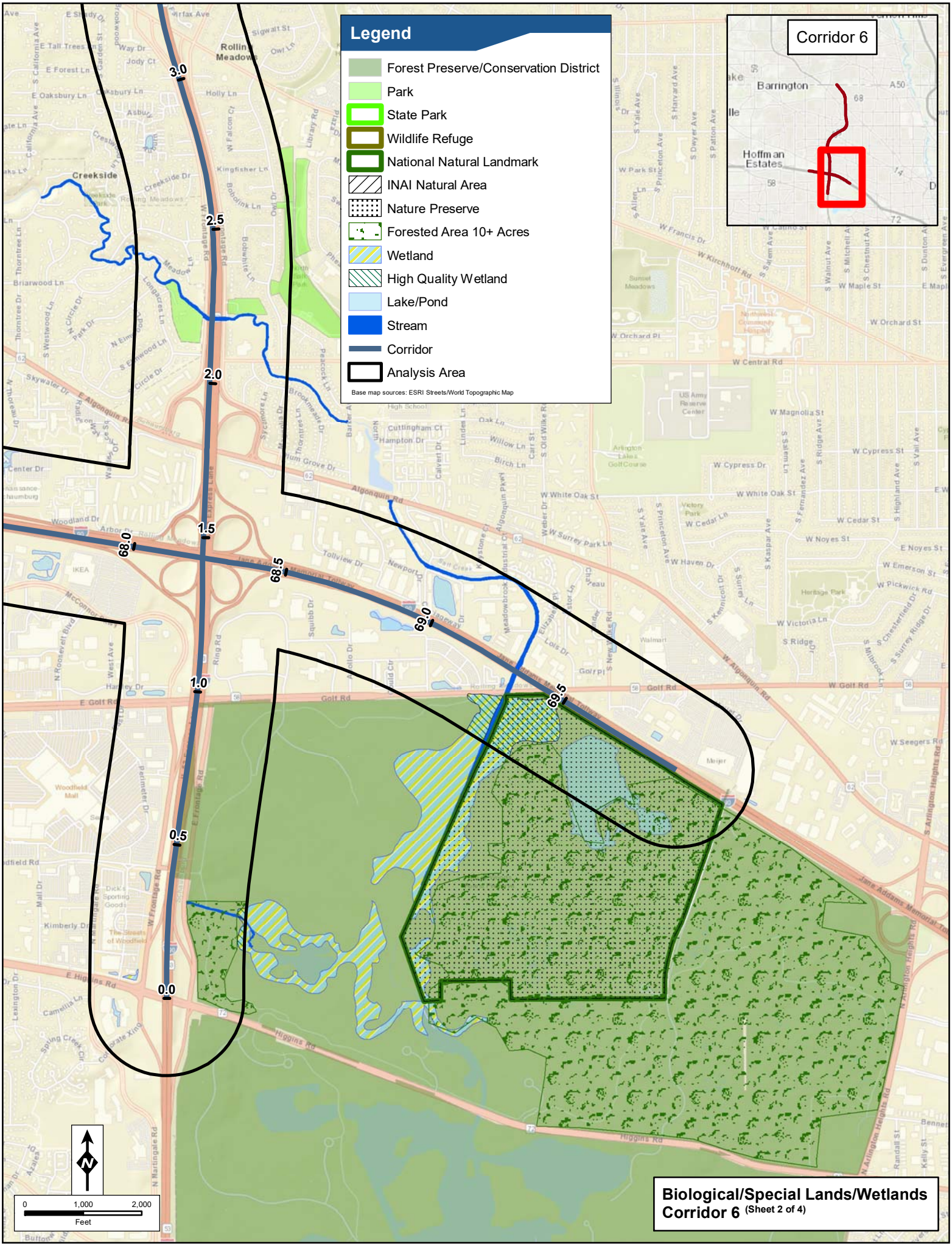

Corridor 2
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Ivanhoe Golf Club
Ivanhoe
W Peterson Rd
W Chardon Rd
W Erhart Rd
W Winchester Rd
Biological/Special Lands/Wetlands
Corridor 2 (Sheet 2 of 2)

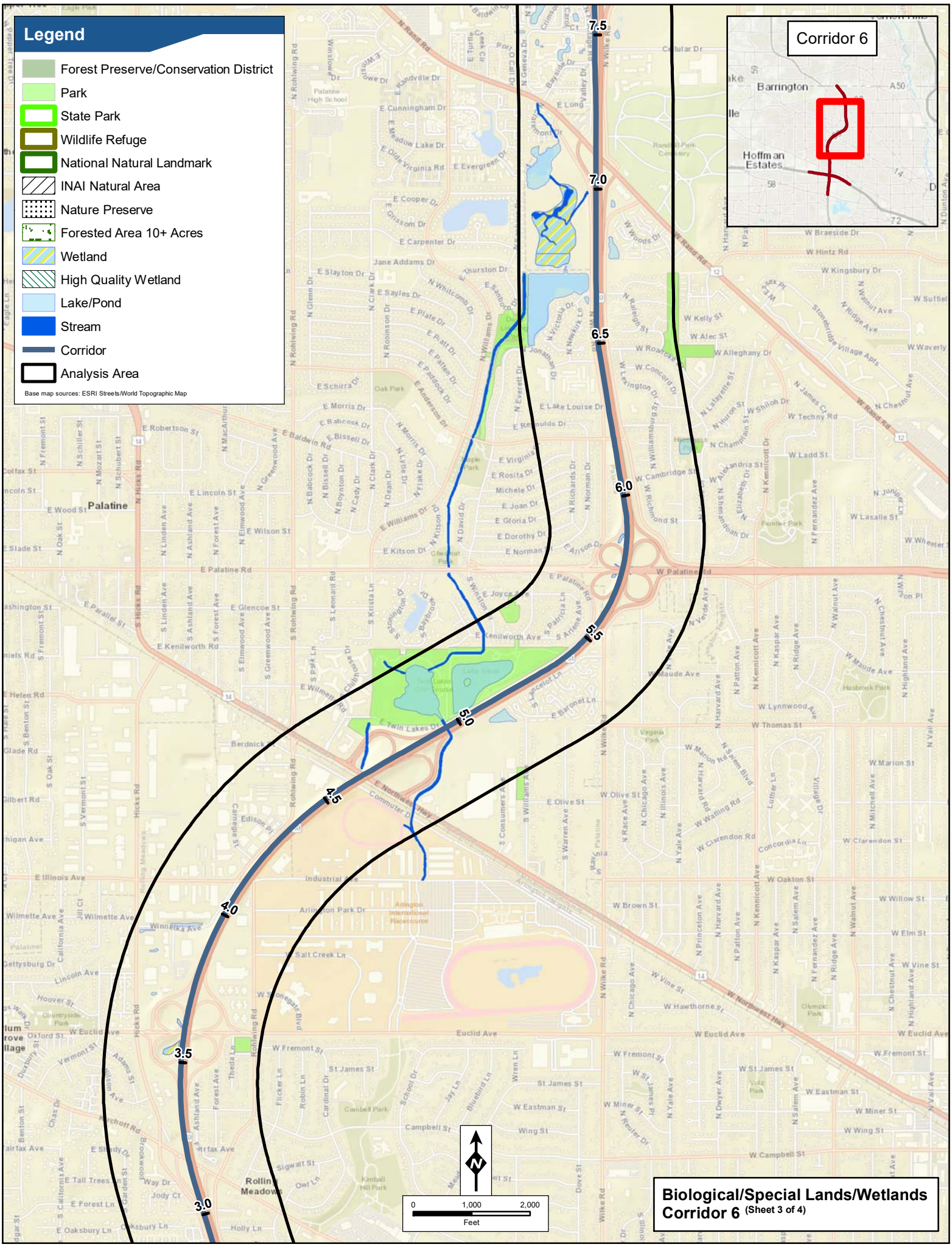

Corridor 3
Libertyville
Mundelein
Lake Zurich
12.5
13.0
13.5
14.0
14.5
15.0
Diamond Lake
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 3

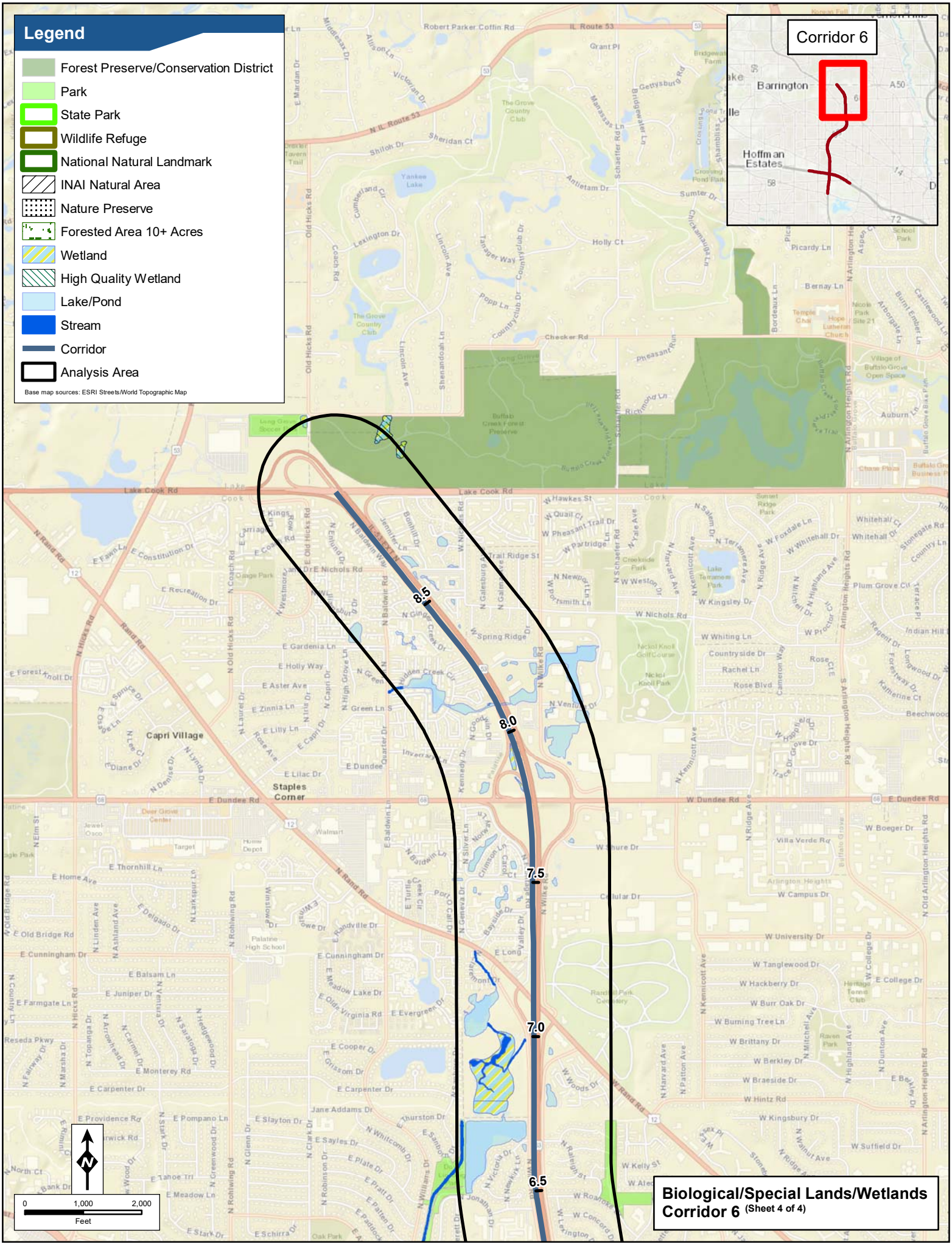

Corridor 4
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 4 (Sheet 1 of 2)
0.0
0.5
1.0
1.5
0.2
2.5
0.0
3.0
3.5
4.0
1.0
0.5
1.5
1.0
0.5
Echo Lake
Hawthorn Woods

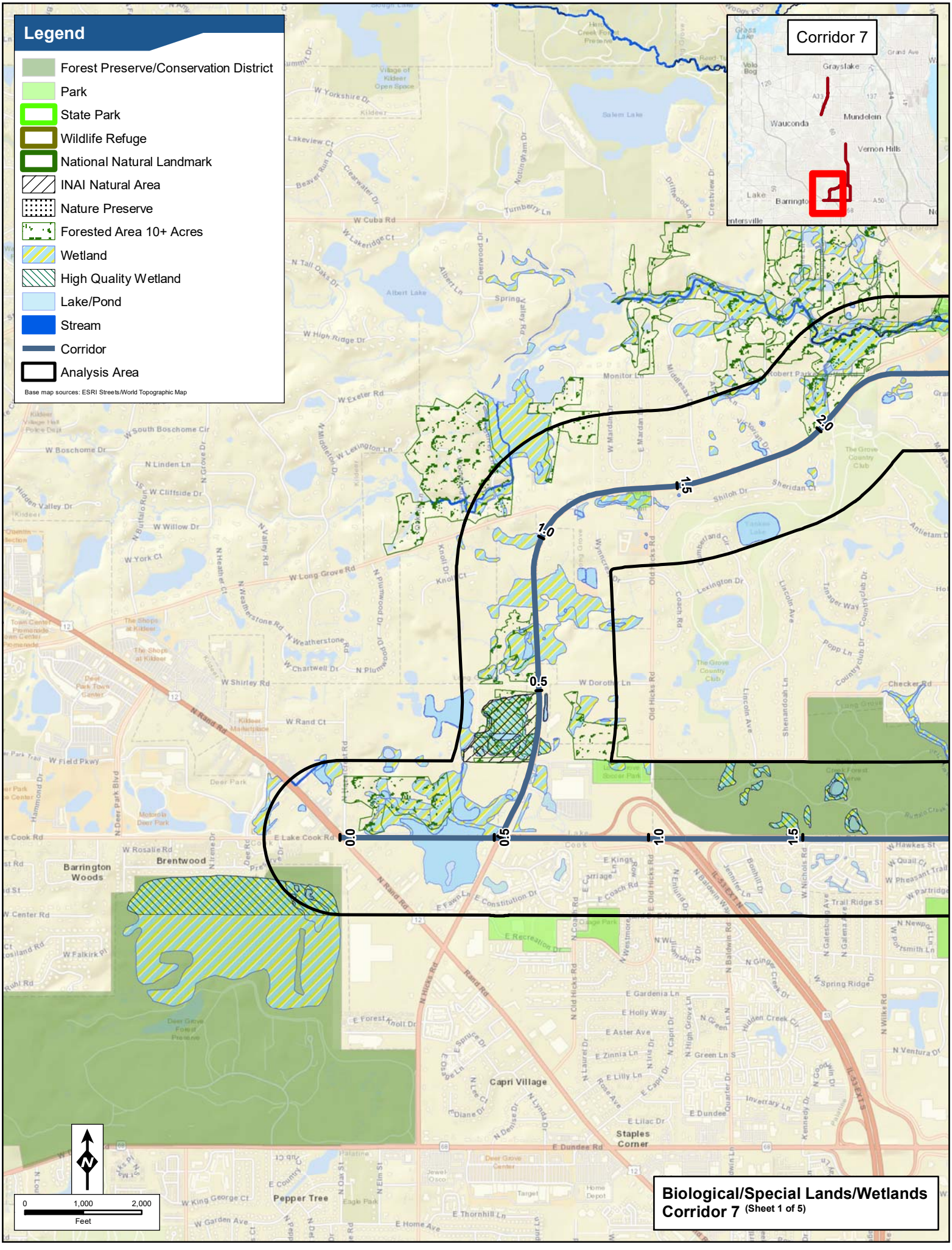

Corridor 4
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 4 (Sheet 2 of 2)
0.0
0.5
1.0
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5

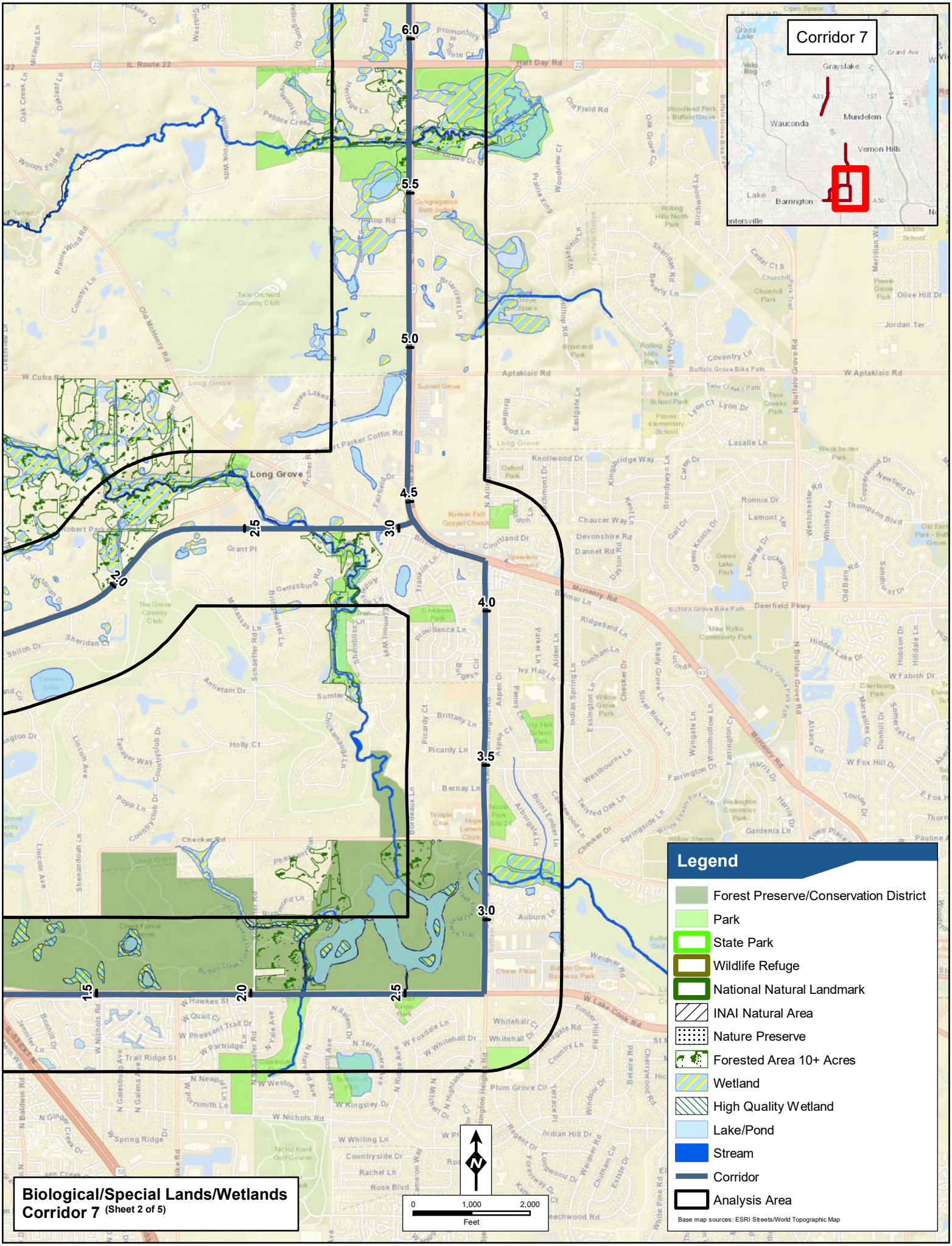

Corridor 6
Barrington
Hoffman Estates
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.9
2.7
5.7
6.8.0
6.8.5
Creekside
Rolling Meadows
Schaumburg
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 1 of 4)


Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
3.0
2.5
2.0
1.5
1.0
0.5
0.0
68.0
68.5
69.0
69.5
Creekside
Rollin Meadows
Algonquin Rd
Golf Rd
Higgins Rd
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 2 of 4)

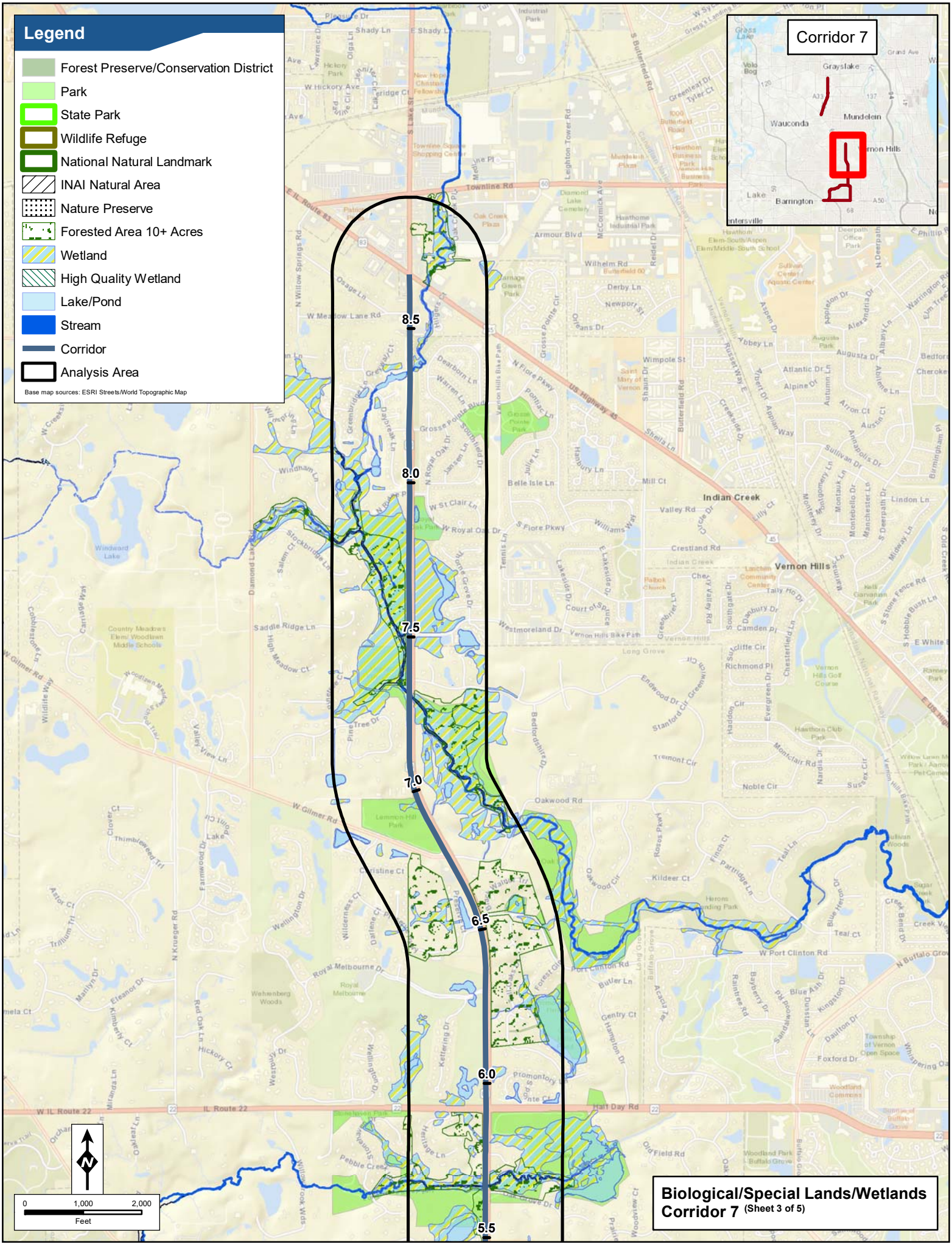

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
Palatine
Rolling Meadows
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 3 of 4)

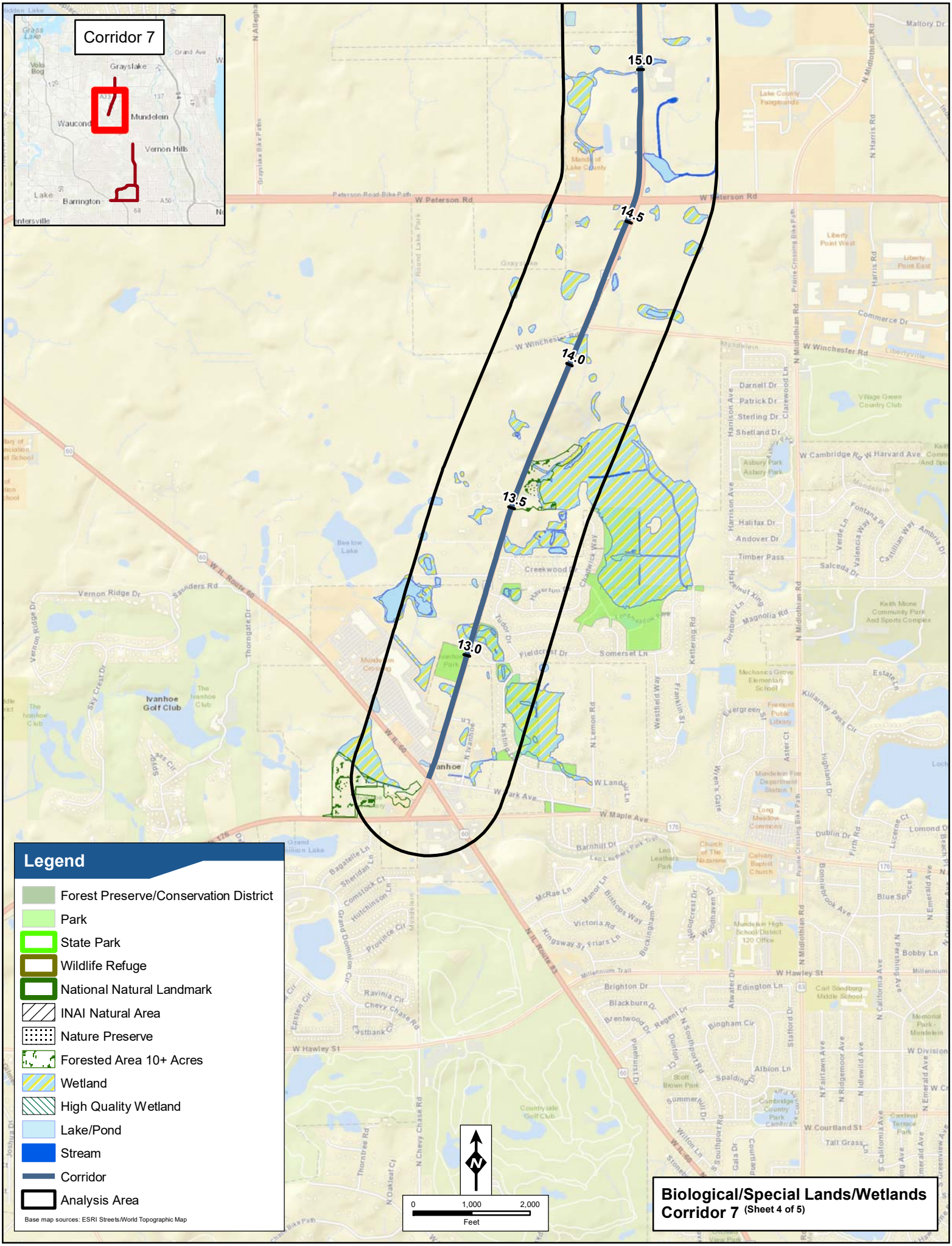

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
8.5
8.0
7.5
7.0
6.5
Capri Village
Staples Corner
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 4 of 4)

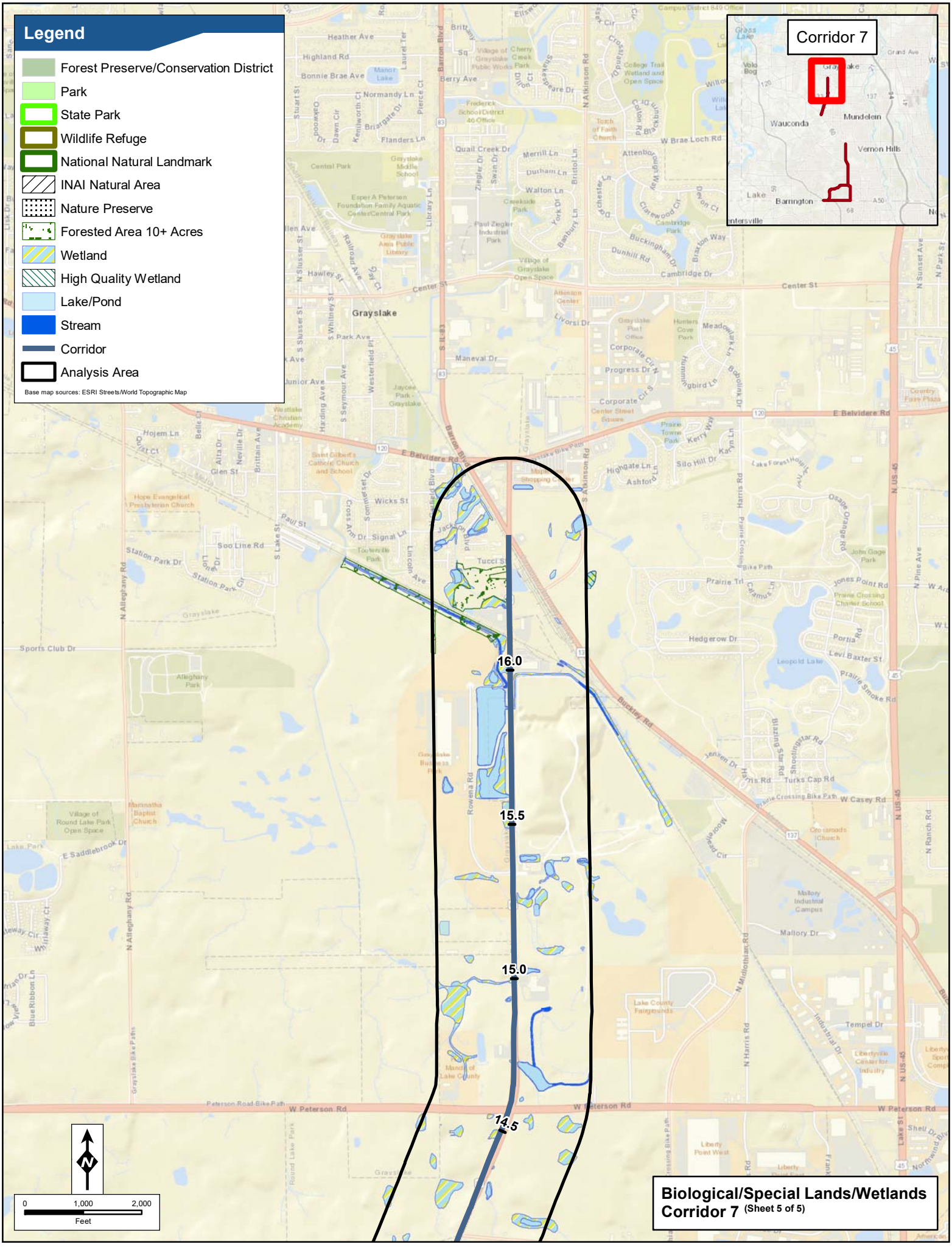

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Mundelein
Wauconda
Vernon Hills
Barrington
0.0
0.5
1.0
1.5
2.0
Barrington Woods
Brentwood
Capri Village
Staples Corner
Pepper Tree
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 1 of 5)

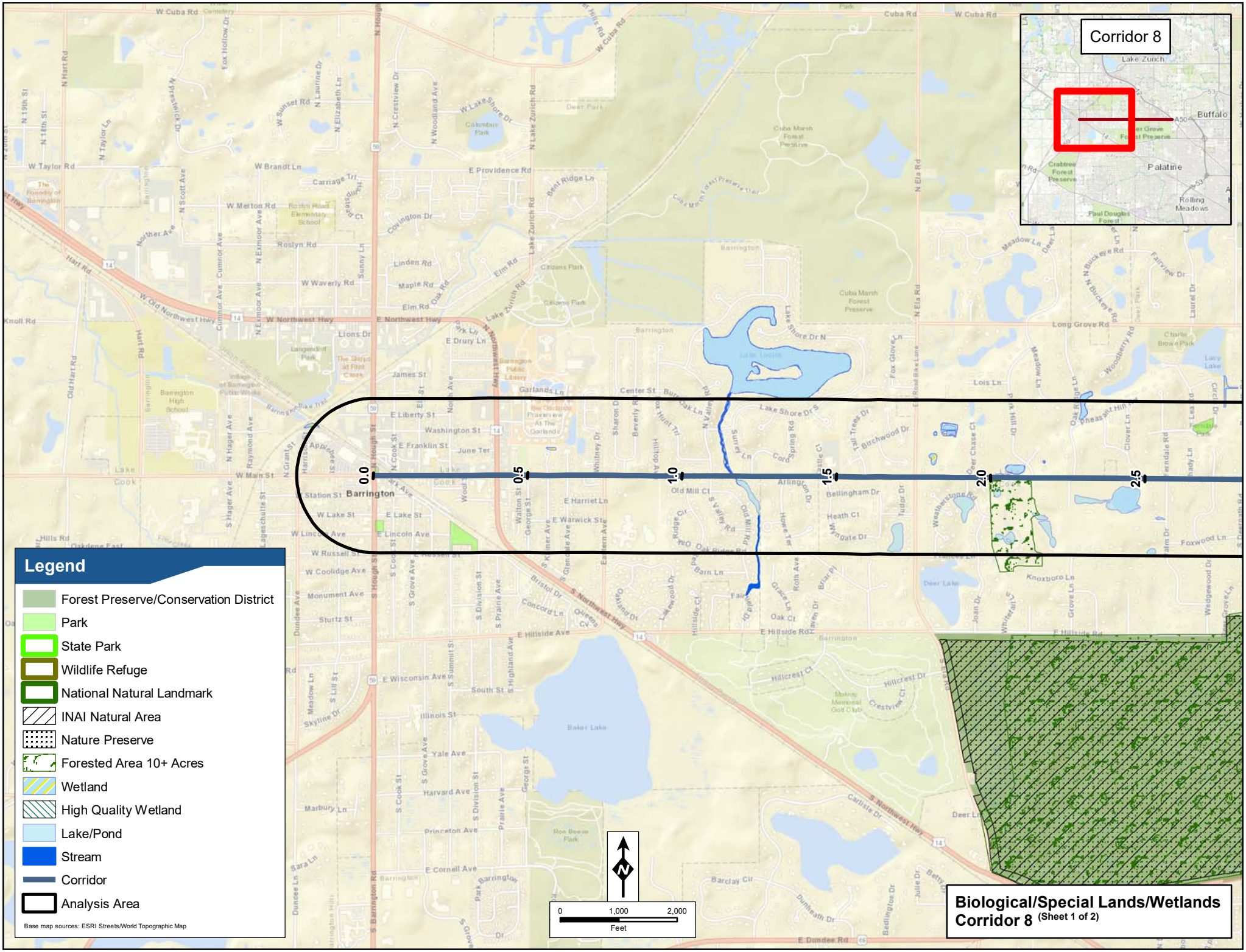


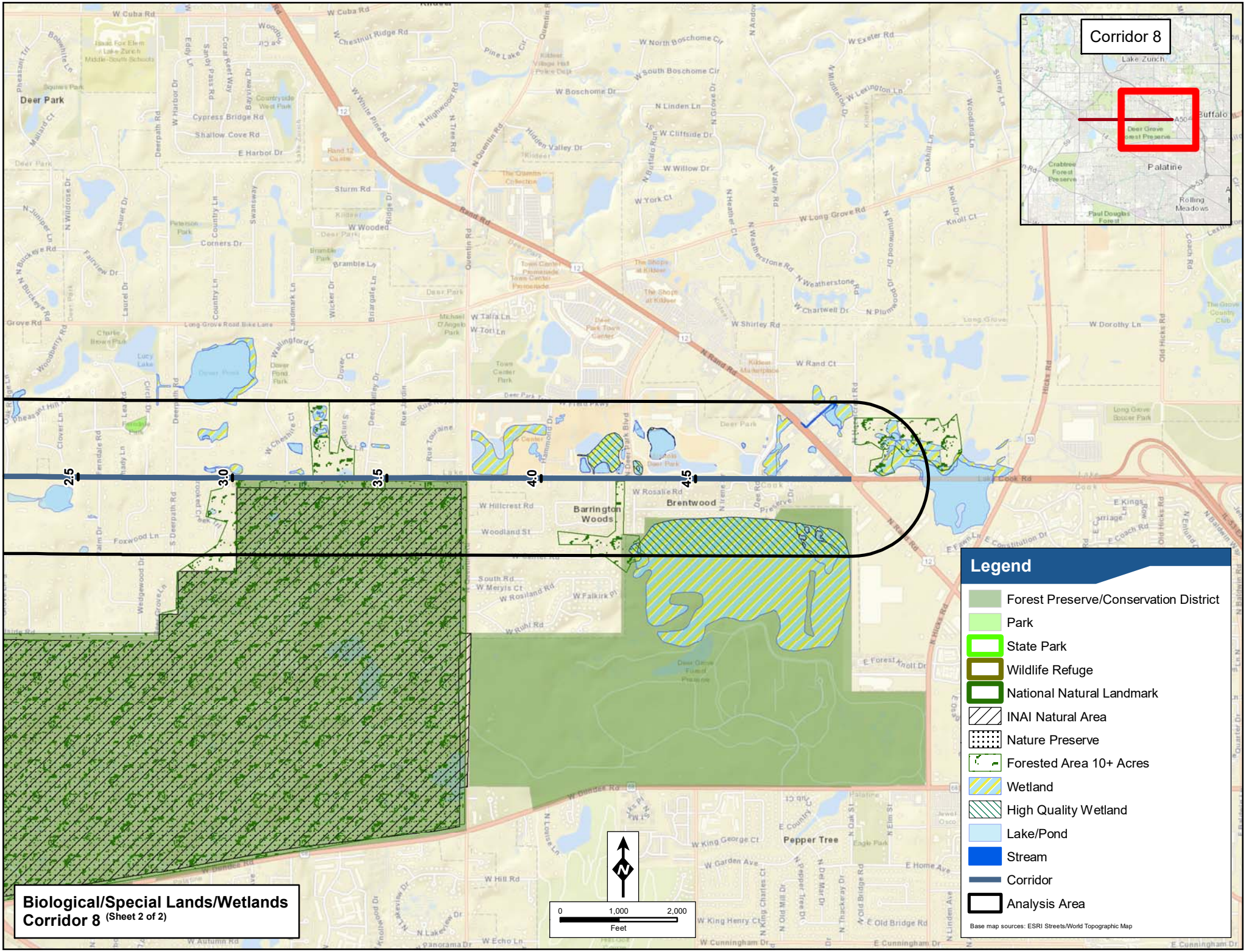
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 2 of 5)

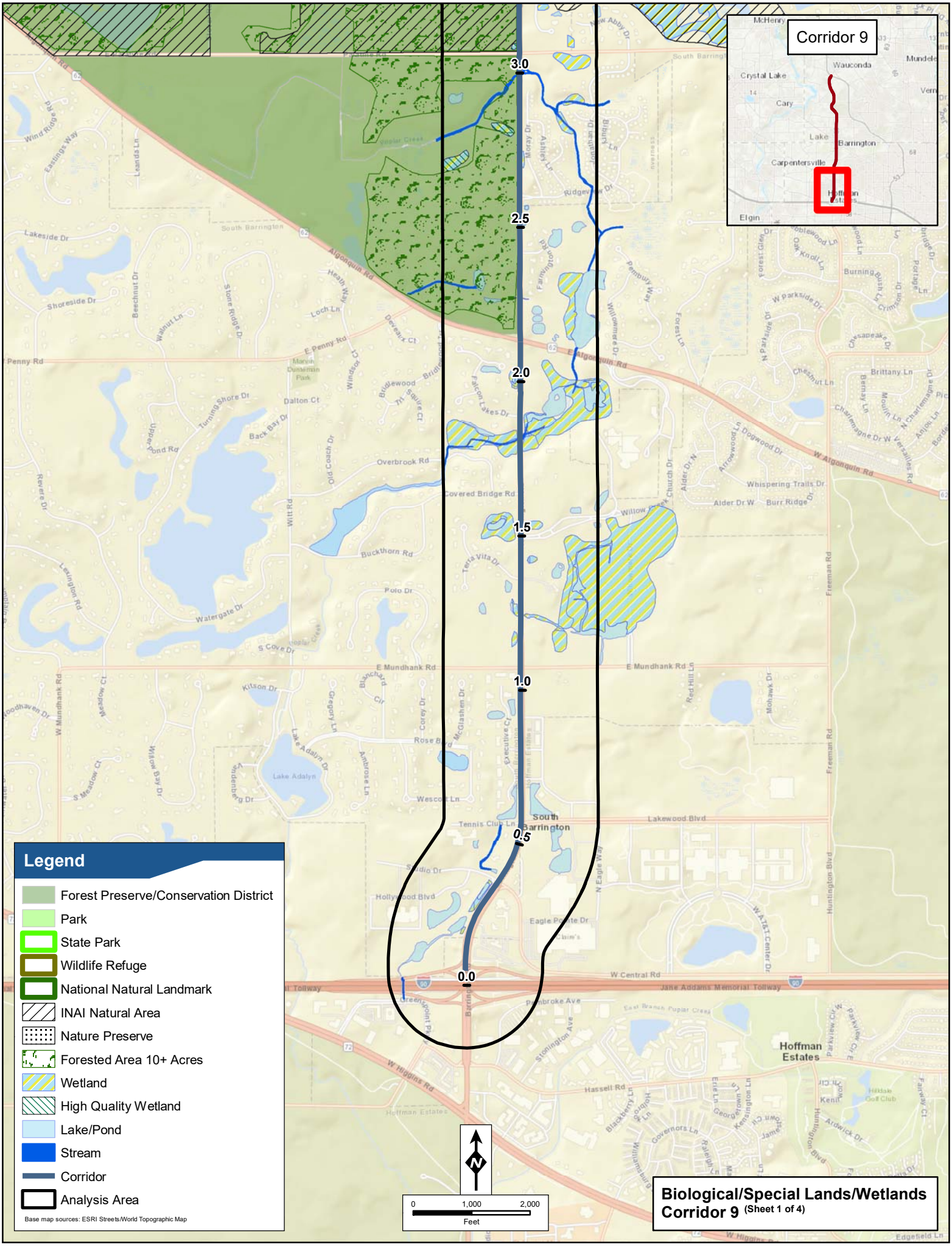

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Mundelein
Wauconda
Vernon Hills
Lake Barrington
8.5
8.0
7.5
7.0
6.5
6.0
5.5
Indian Creek
Vernon Hills
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 3 of 5)

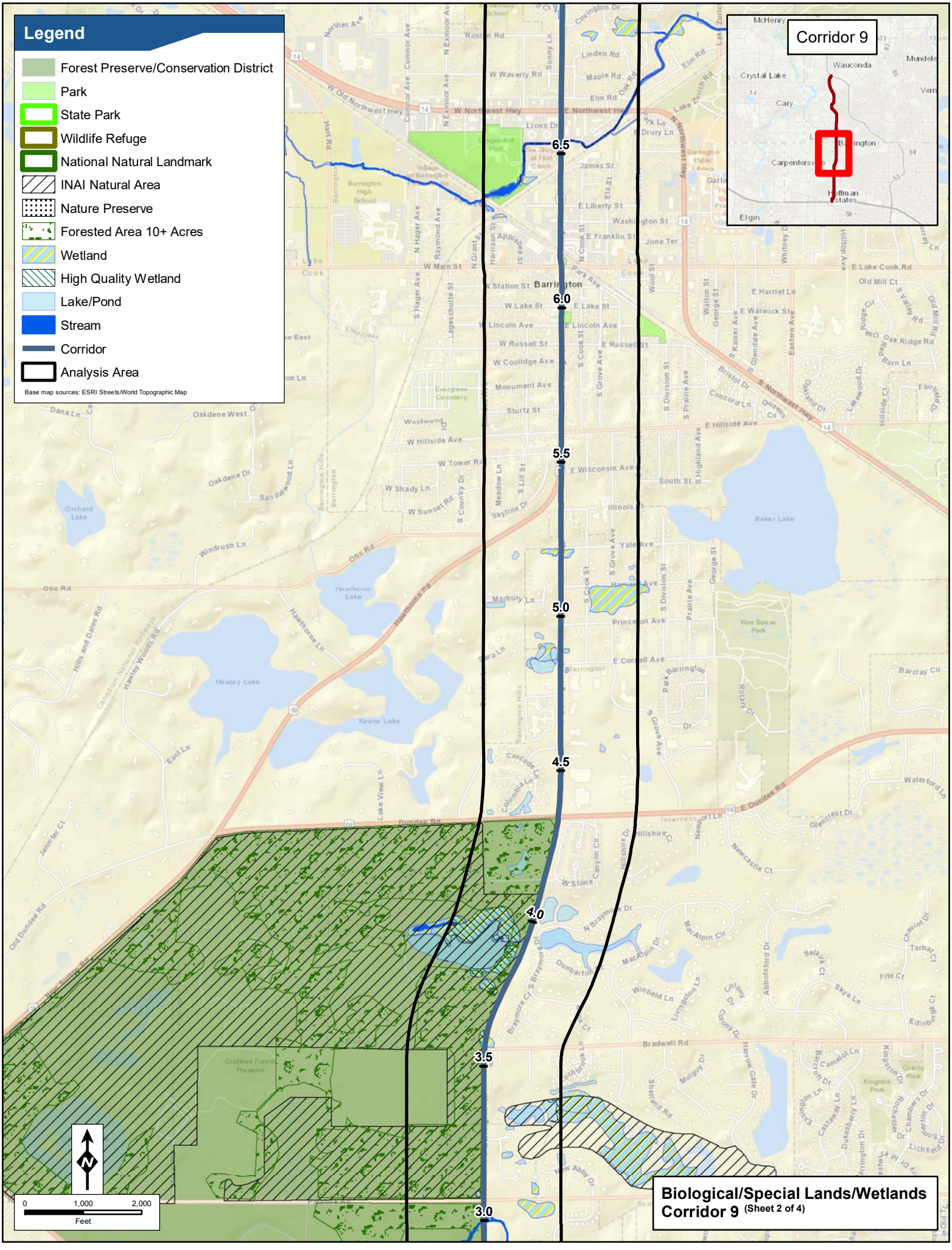

Corridor 7
Grayslake
Mundelein
Vernon Hills
Barrington
15.0
14.5
14.0
13.5
13.0
W Peterson Rd
W Winchester Rd
W Cambridge Rd
N Harvard Ave
W Maple Ave
W Hawley St
W Courtland St
W IL Route 60
N Midlothian Rd
Ivanhoe Golf Club
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 4 of 5)

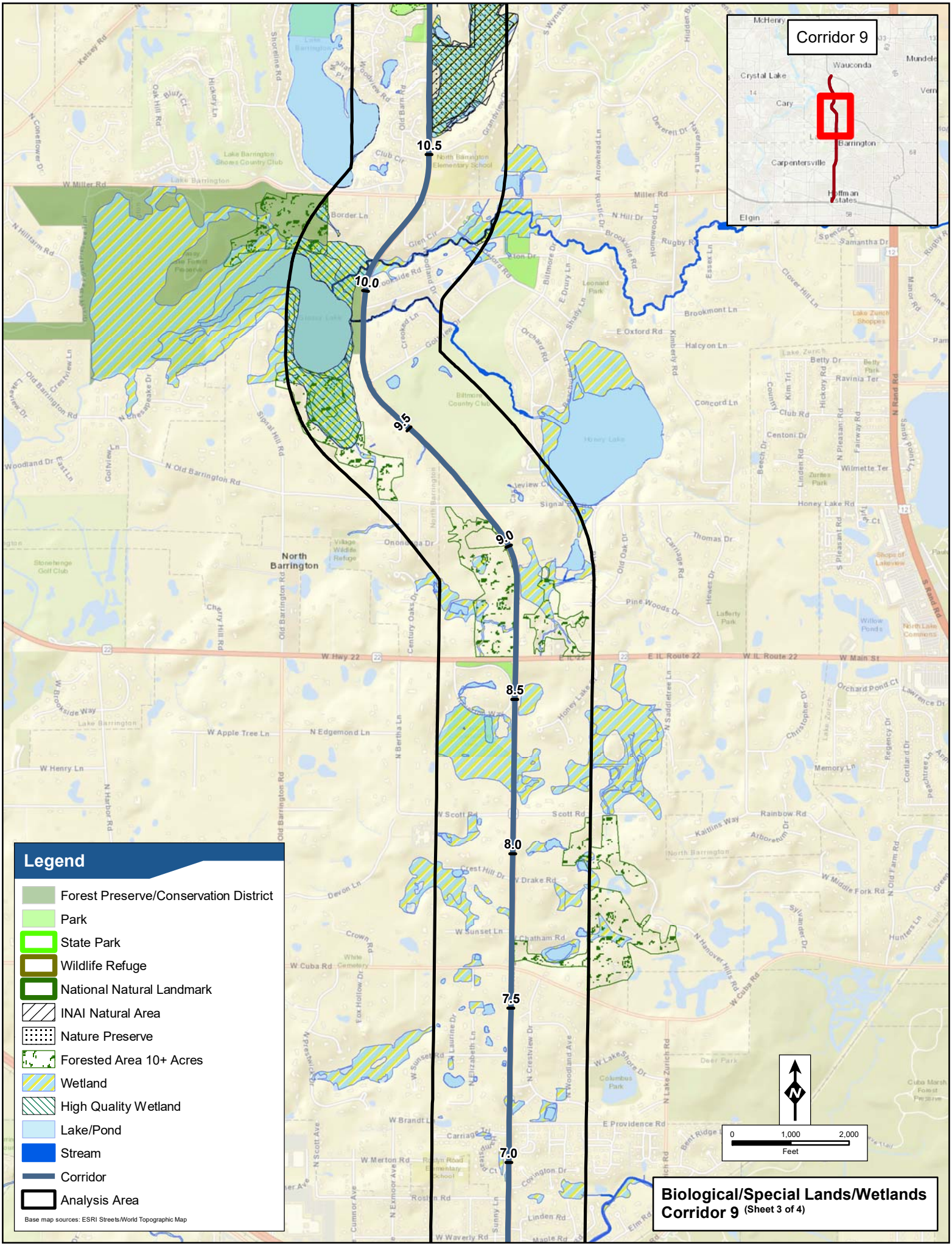

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Wauconda
Mundelein
Vernon Hills
Lake Barrington
16.0
15.5
15.0
14.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 5 of 5)

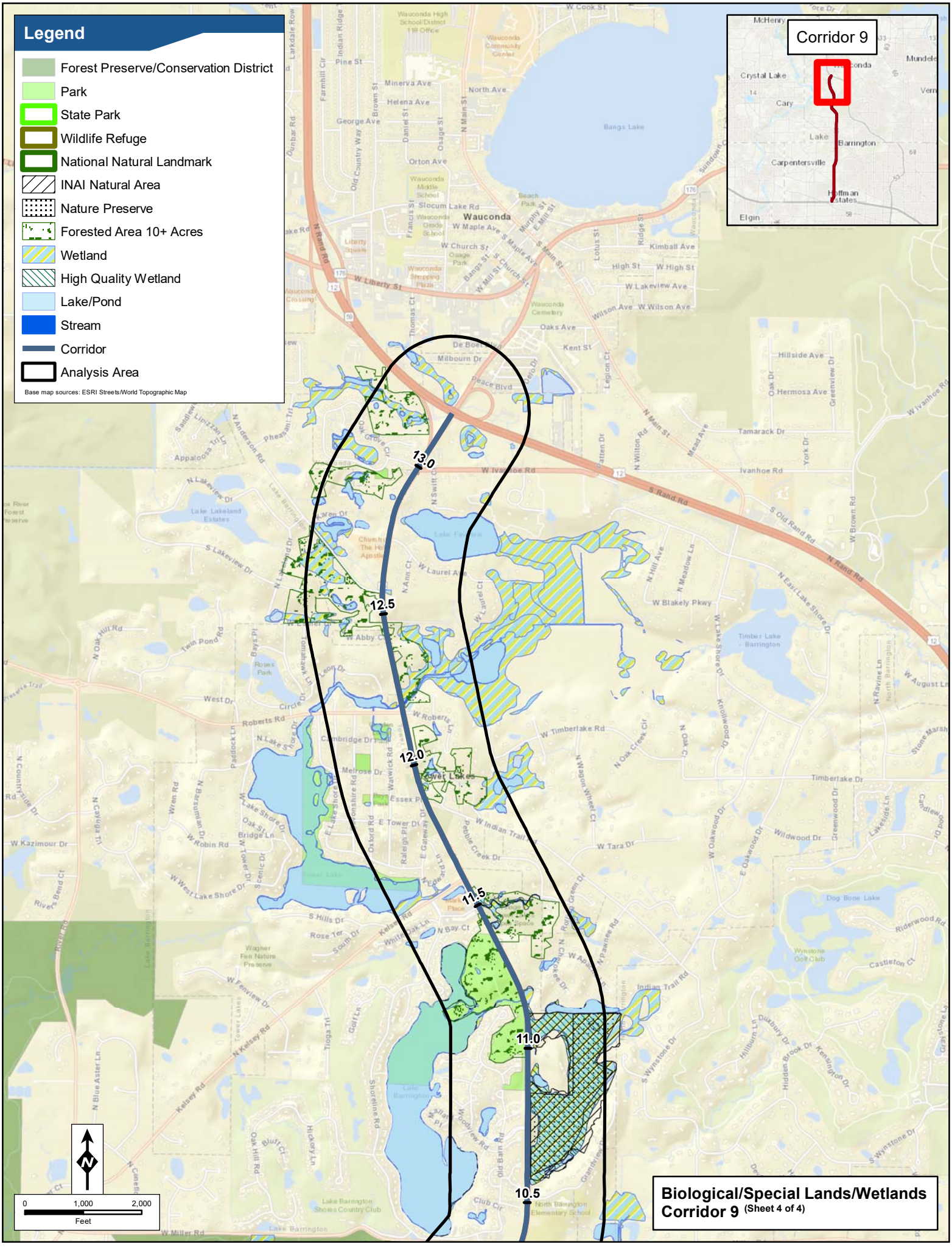

Corridor 8
Lake Zurich
Buffalo
Palatine
Rolling Meadows
0.0
0.5
1.0
1.5
2.0
2.5
Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 8 (Sheet 1 of 2)

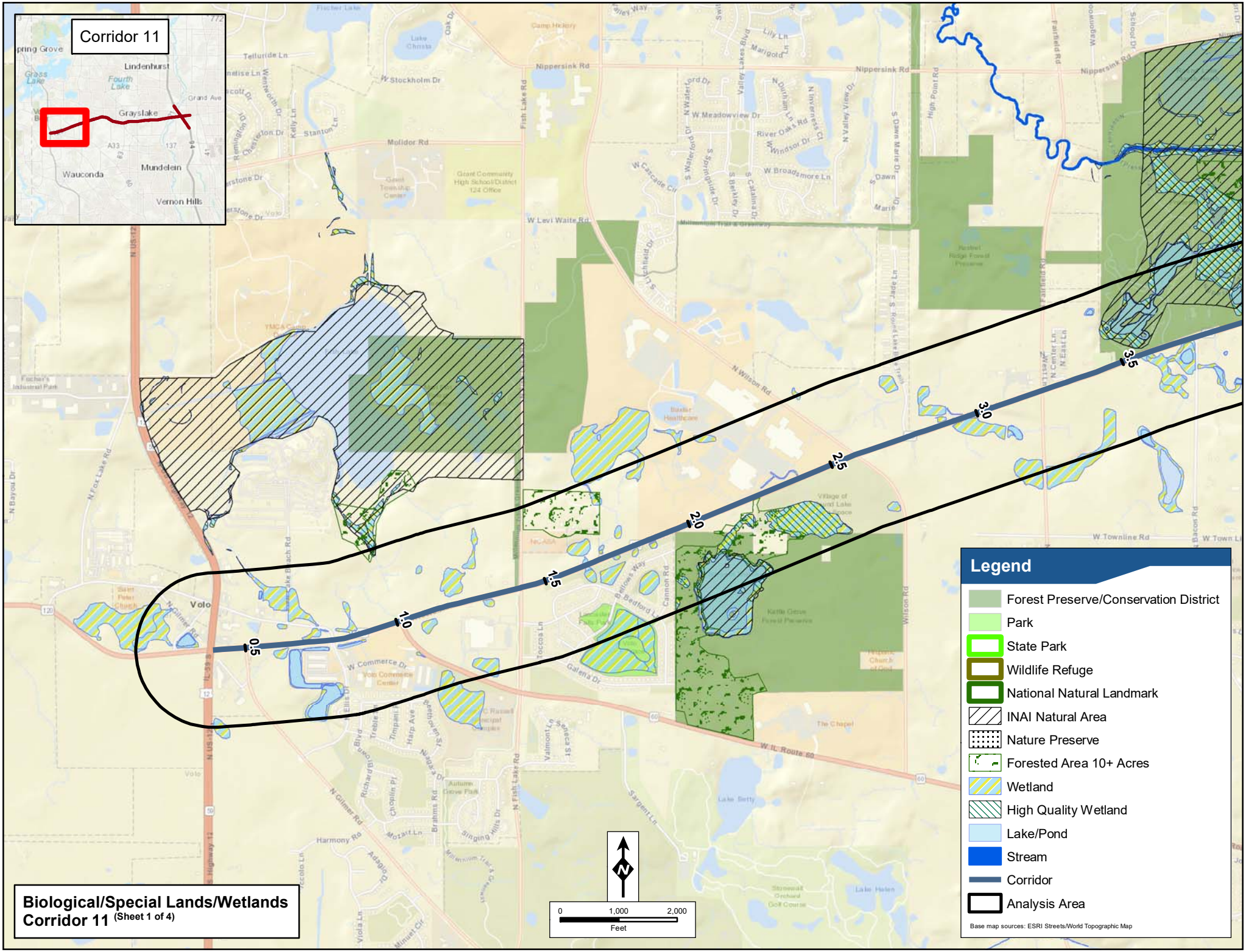

Corridor 8
Lake Zurich
Buffalo
Palatine
Deer Grove Forest Preserve
Crabtree Forest Preserve
Rolling Meadows
Paul Douglas Forest
2.5
3.0
3.5
4.0
4.5
Deer Park
Barrington Woods
Brentwood
Pepper Tree
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 8 (Sheet 2 of 2)


Corridor 9
McHenry
Wauconda
Mundelein
Crystal Lake
Cary
Lake Barrington
Carpentersville
Hoffman Estates
Elgin
3.0
2.5
2.0
1.5
1.0
0.5
0.0
South Barrington
Hoffman Estates
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 1 of 4)

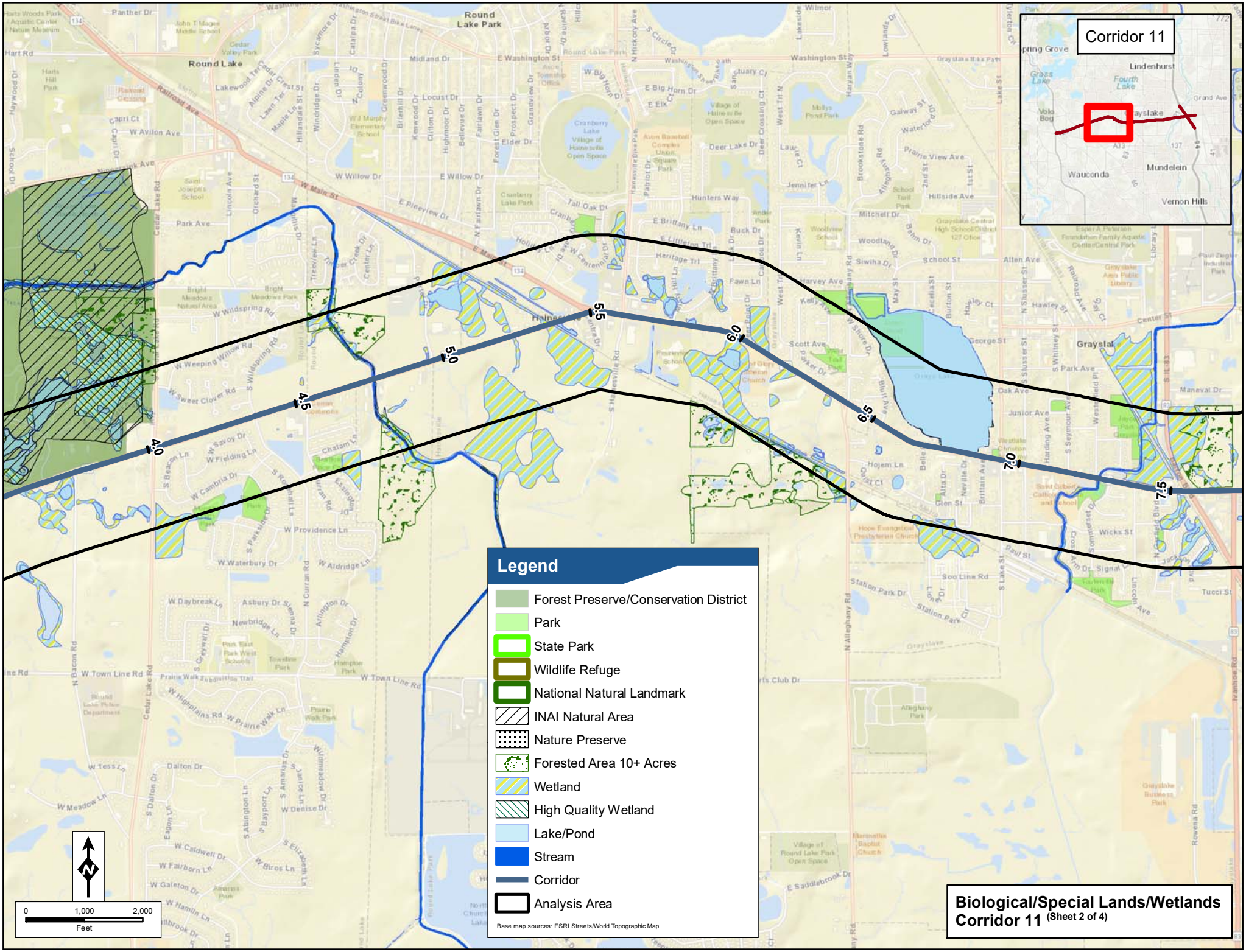

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 9
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 2 of 4)

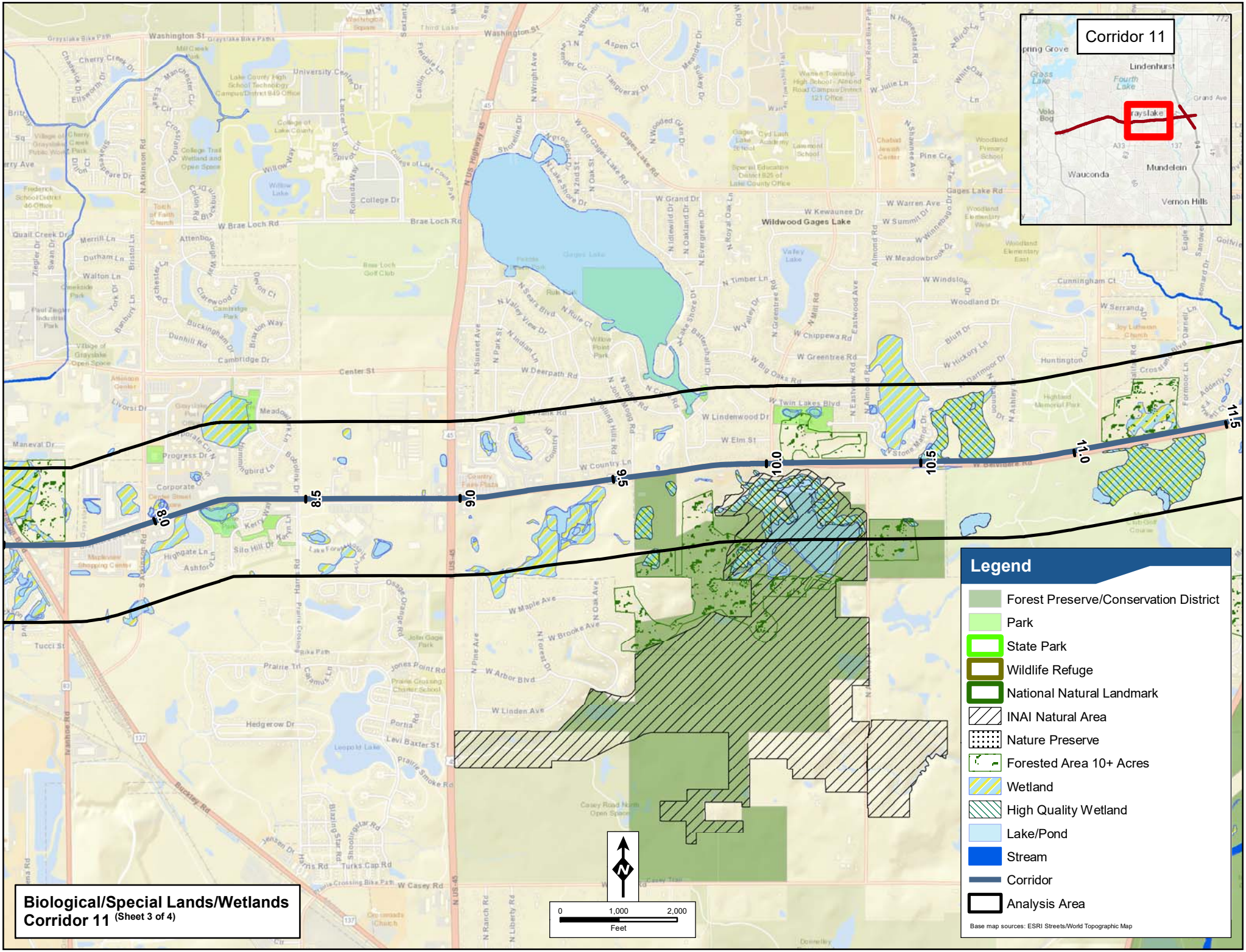

Corridor 9
McHenry
Wauconda
Crystal Lake
Cary
Barrington
Carpentersville
Hoffman Estates
Elgin
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
North Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 3 of 4)


Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 9
13.0
12.5
12.0
11.5
11.0
10.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 4 of 4)

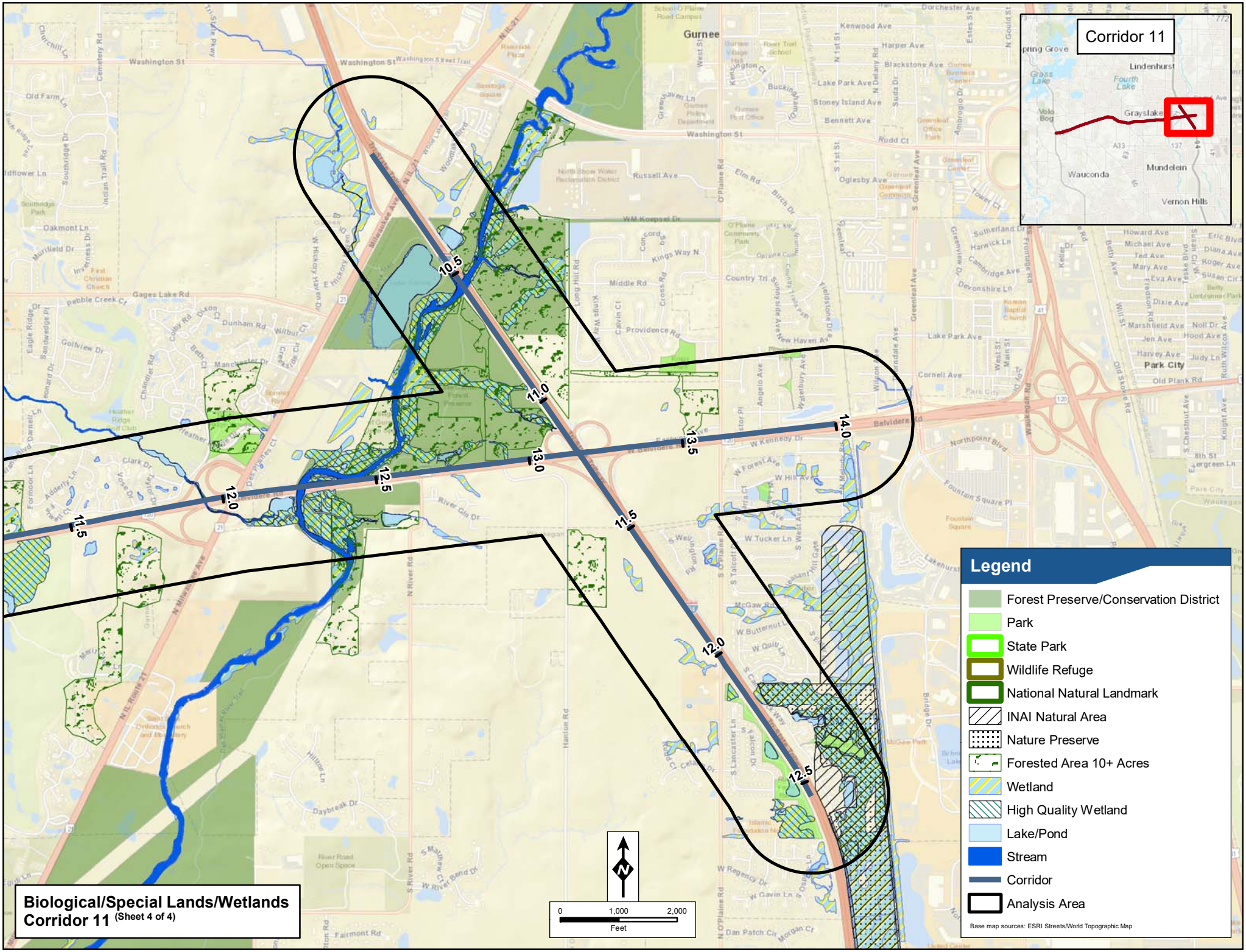


Biological/Special Lands/Wetlands
Corridor 11 (Sheet 1 of 4)

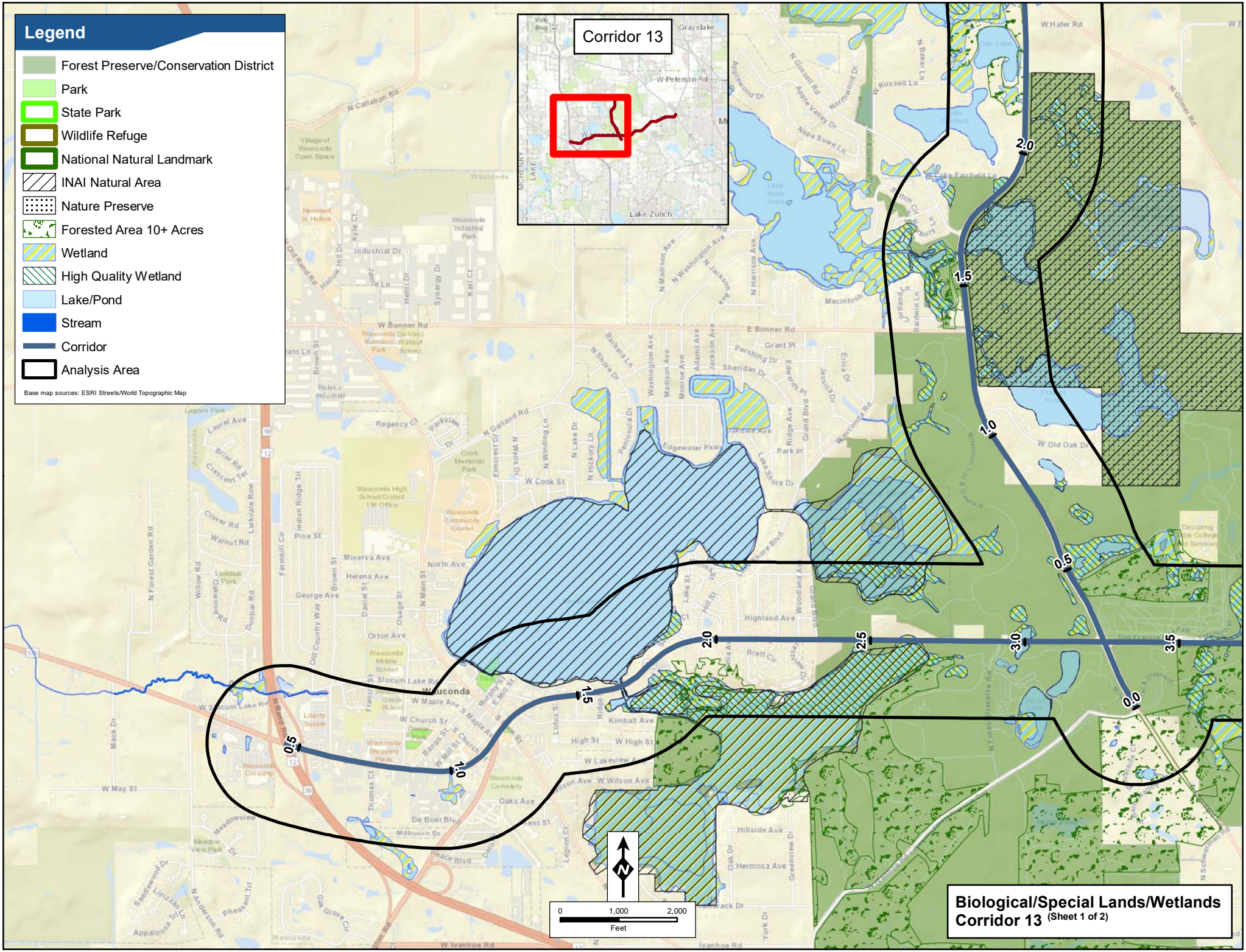

Corridor 11
Lindenhurst
Fourth Lake
Grayslake
Wauconda
Mundelein
Vernon Hills
Round Lake Park
Round Lake
Hainesville
Grayslake
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 2 of 4)

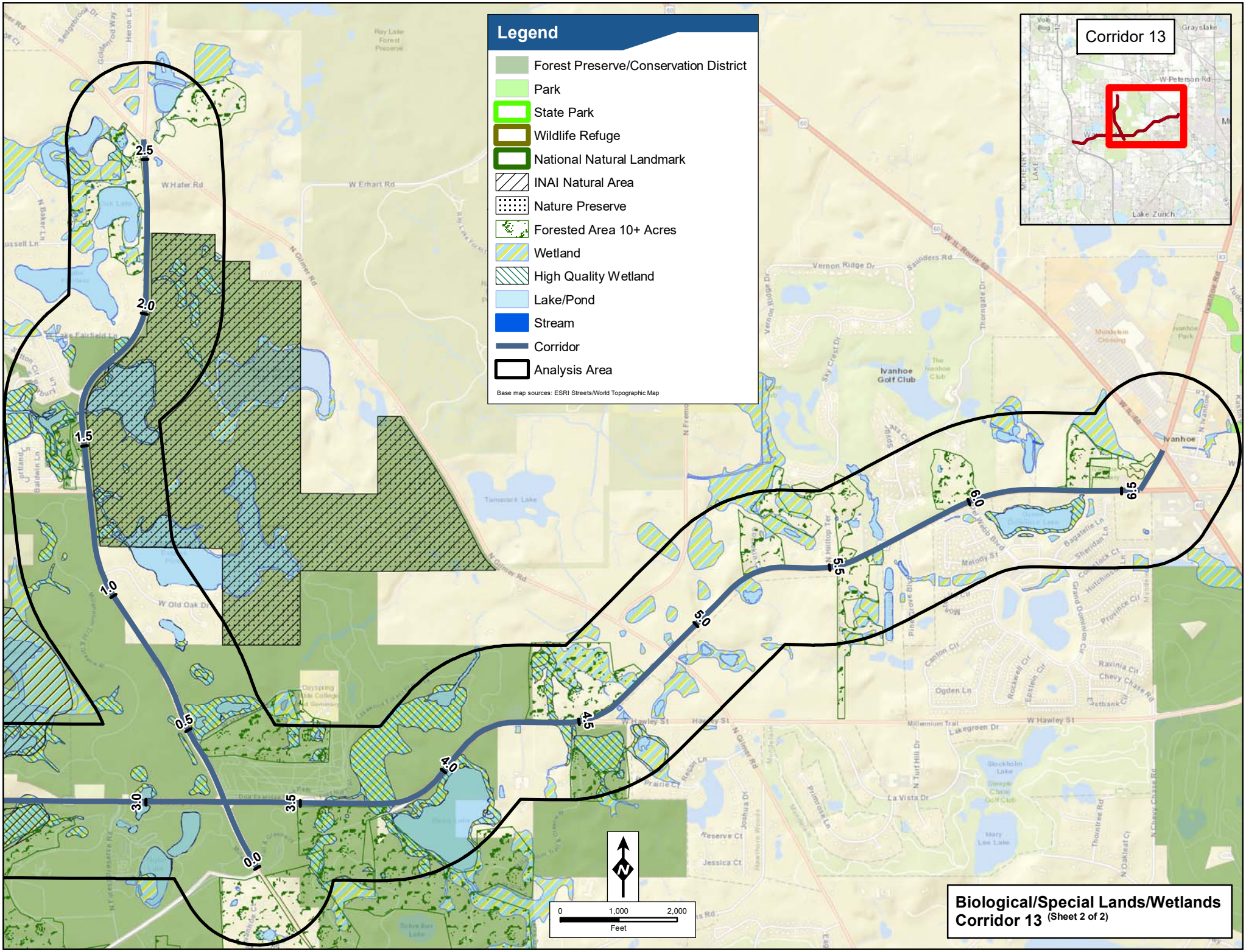


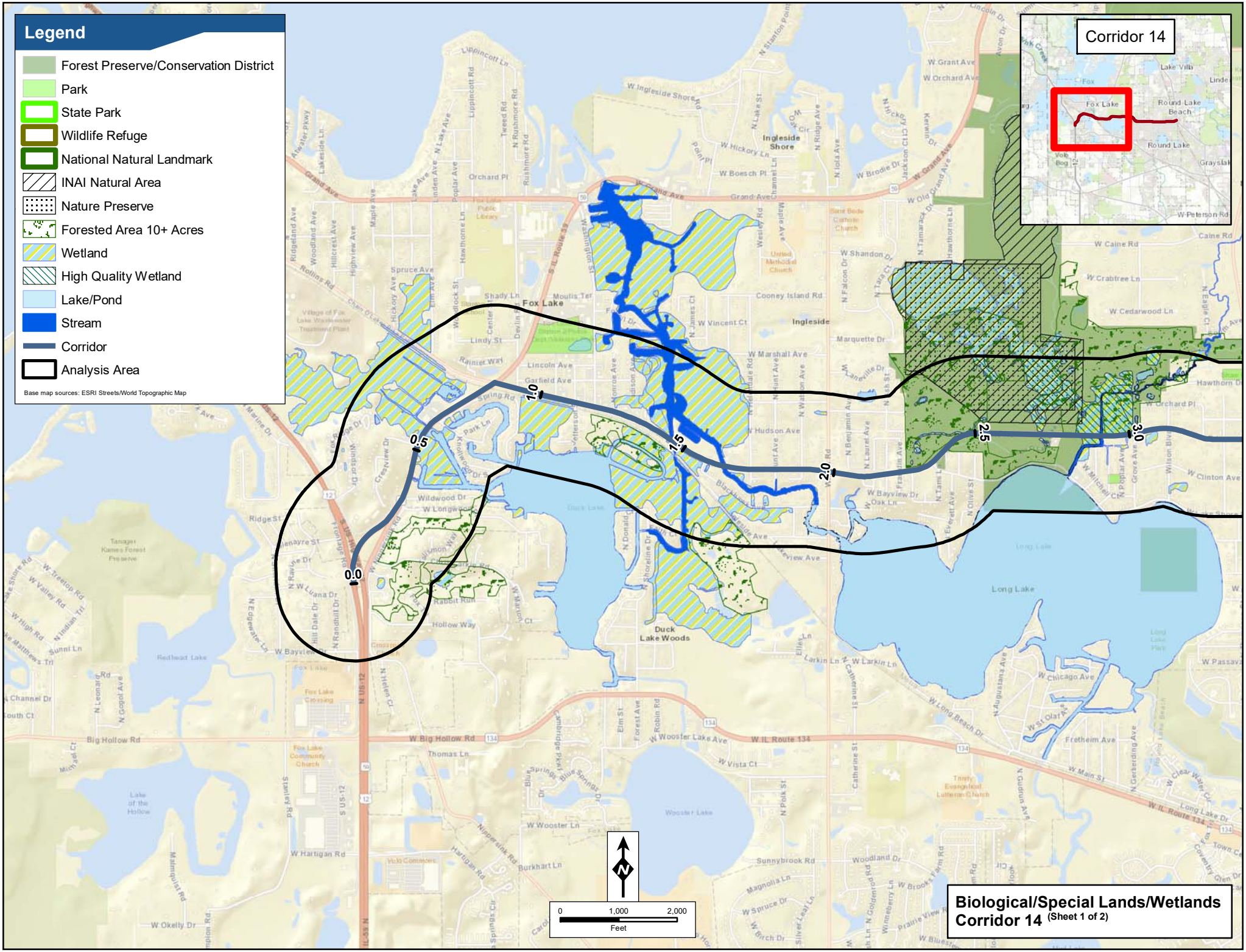
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 3 of 4)

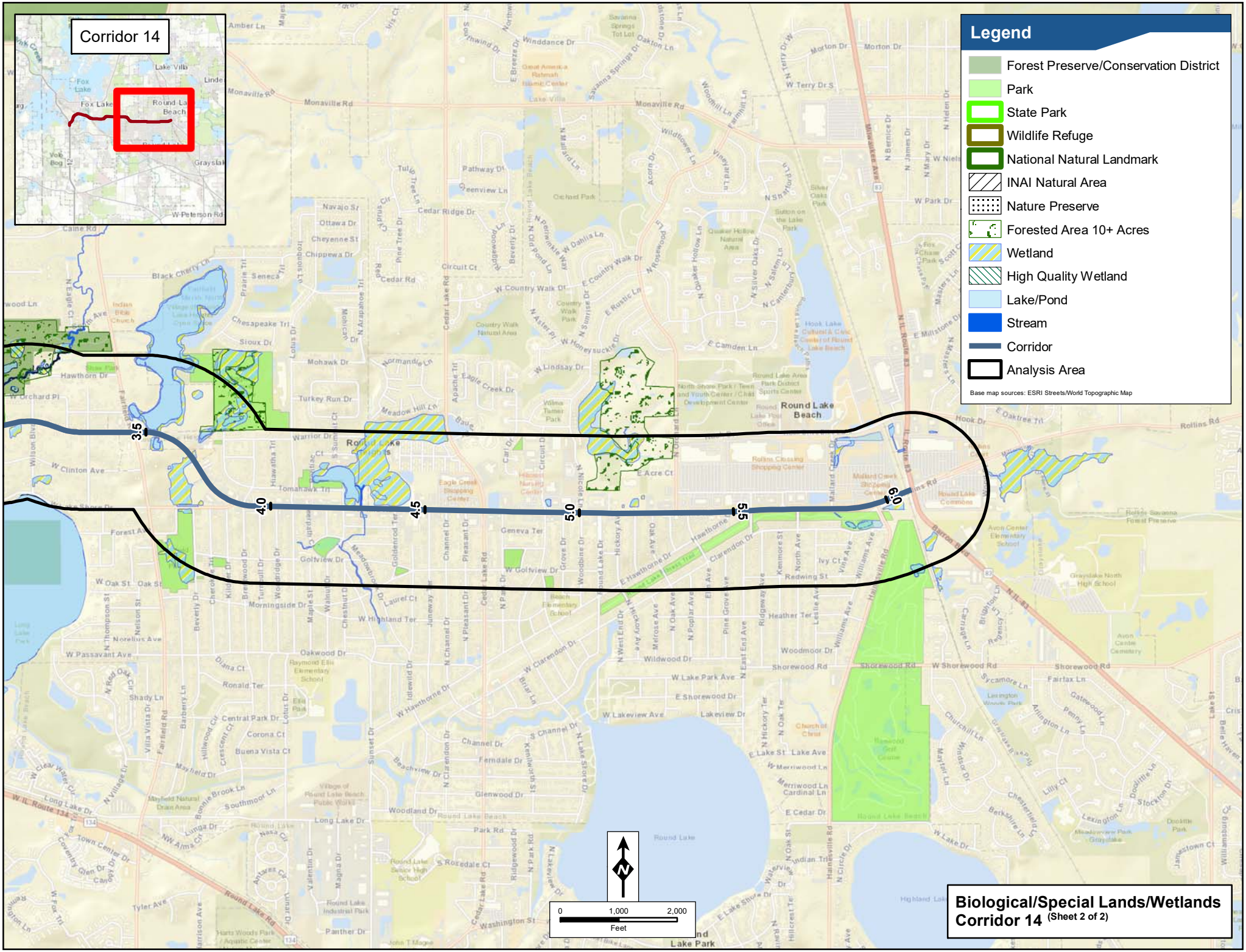


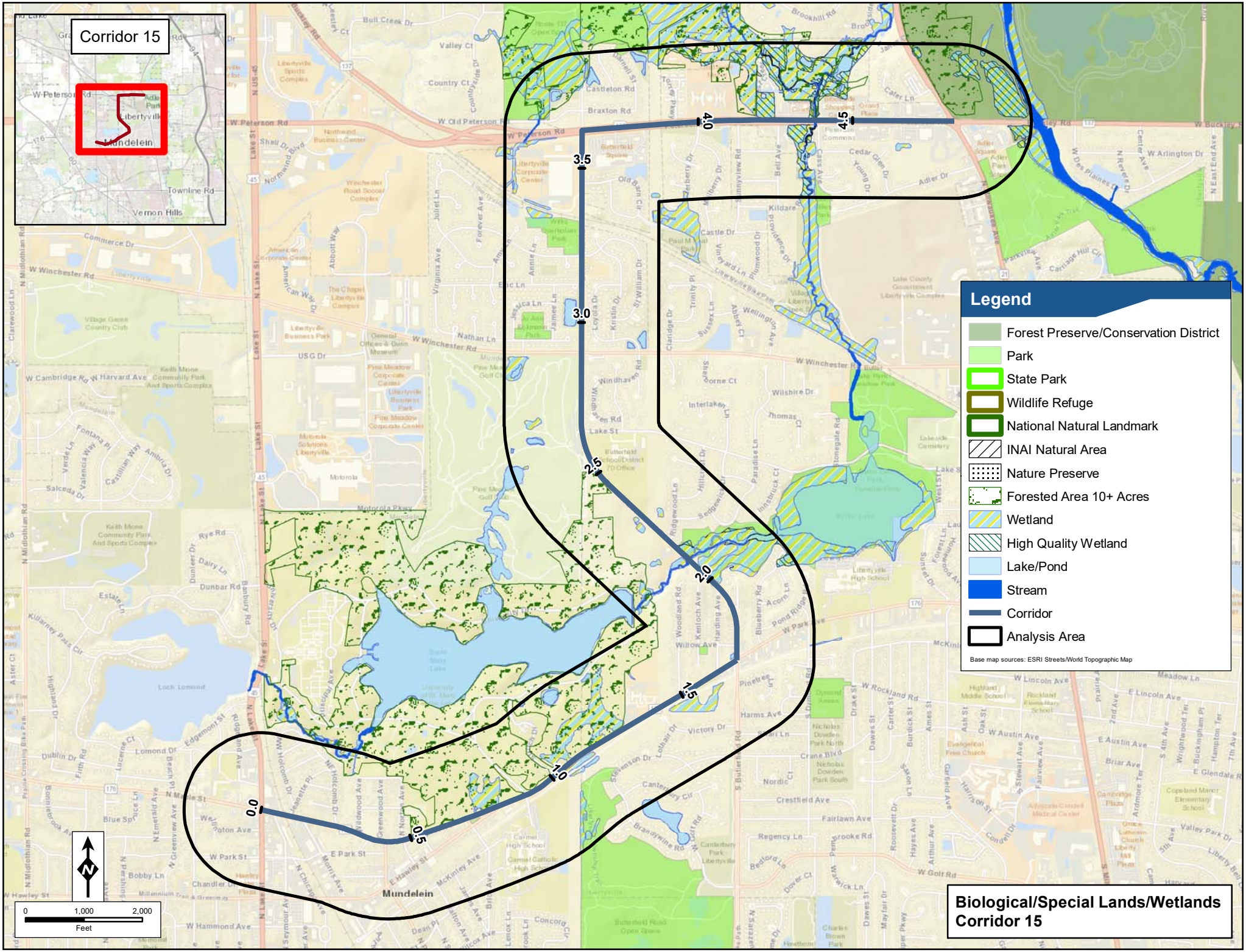
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 4 of 4)

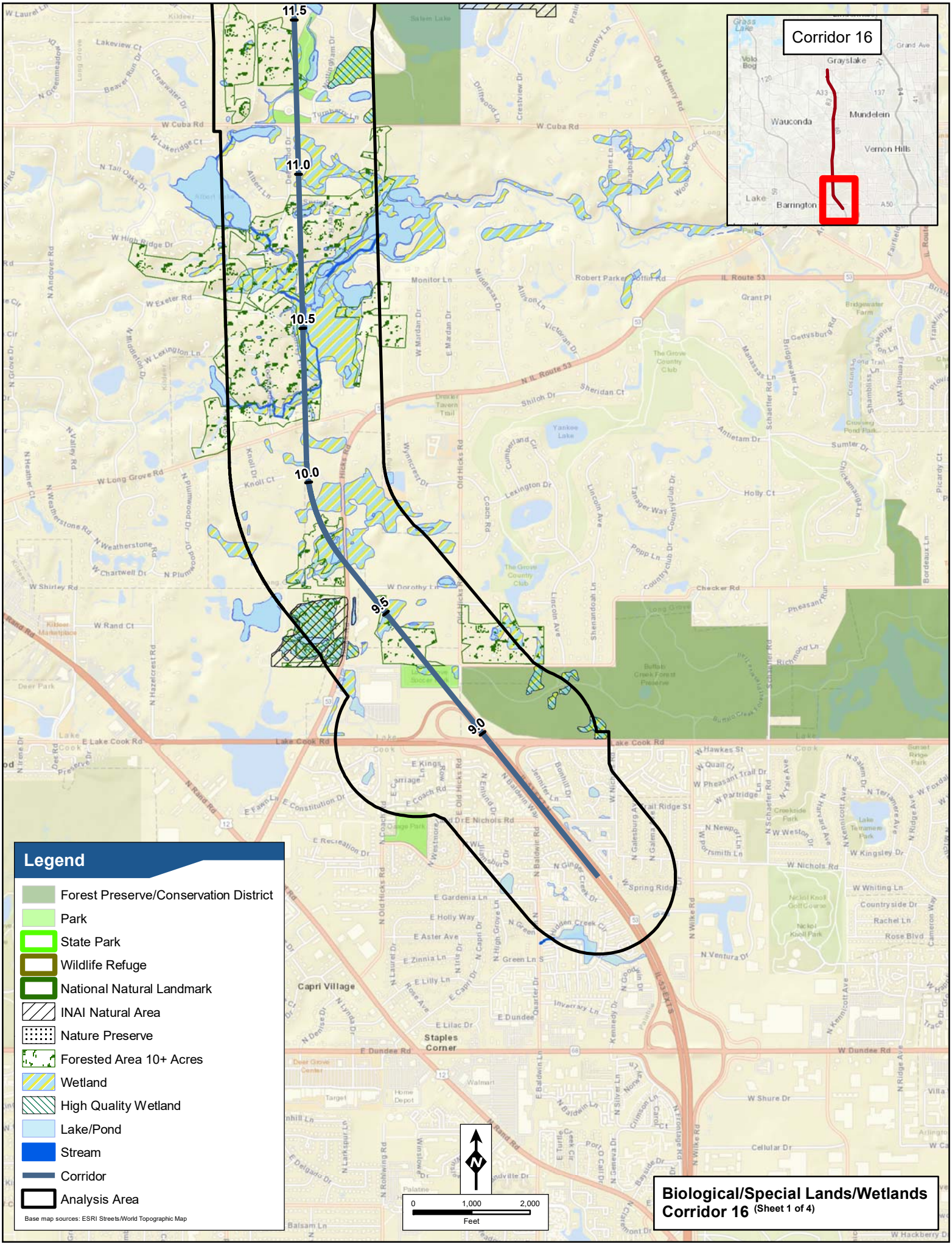

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 13
Grayslake
Lake Zurich
W Peterson Rd
Wauconda
W Hafer Rd
W Bonner Rd
E Bonner Rd
W Cook St
Highland Ave
W Maple Ave
W Church St
W Lakeview Ave
W Wilson Ave
Oaks Ave
W May St
W Ivanhoe Rd
Hillside Ave
Hermosa Ave
W Old Oak Dr
Edgewater Pkwy
Kimball Ave
High St
W High St
Peace Blvd
De Boer Blvd
Milbourn Dr
Orton Ave
North Ave
Minerva Ave
Helena Ave
George Ave
Pine St
W Stocum Lake Rd
N Main St
N Rand Rd
Old Country Way
Dunbar Rd
N Forest Garden Rd
Willow Rd
Lakedale Row
Clover Rd
Walnut Rd
Briar Rd
Laurel Ave
Lagoon Park
Regency Ct
N Gartland Rd
Parkview Dr
Industrial Dr
Hollow Hill Dr
Kyle Ct
Synergy Dr
Karl Ct
N Callahan Rd
Village of Wauconda Open Space
Wauconda Industrial Park
Wauconda High School/District 118 Office
Wauconda Community Center
Cook Memorial Park
Wauconda Middle School
Wauconda Shopping Plaza
Wauconda Cemetery
Wauconda Crossing
Liberty Square
Meadowview Park Dr
Meadowview
Appaloosa Trl
Saddlewood Dr
Lipizzan Trl
N Anderson Rd
Pheasant Trl
Oak Grove Cir
Ivanhoe Rd
Macintosh
Lake Fairfield Ln
Napa Suwe Ln
Apple Valley Dr
Applewood Dr
N Goosell Rd
Northwood Dr
W Russell Ln
N Baker Ln
N Glimer Rd
N Madison Ave
N Washington Ave
N Jackson Ave
N Harrison Ave
Barbara Ln
N Shore Dr
Washington Ave
Madison Ave
Monroe Ave
Adams Ave
Jackson Ave
Pershing Dr
Sheridan Dr
Grant Pl
Erica Dr
Jessica Dr
Grand Blvd
Park Pl
Lake Shore Dr
Wauconda
N Lake Dr
N Hickory Ln
Peninsula Dr
N Winding Ln
Emcrest Dr
N Wells Dr
Parkview Dr
Brown St
Farmhill Cir
Indian Ridge Trl
Daniel St
Osage St
Lotus St
Hill St
Woodland Ave
Brett Ct
Kimball Ave
Thomas Ct
Mack Dr
Legion Ct
Oak Dr
Greenview Dr
York Dr
Hillside Ave
Hermosa Ave
N Schwerman Rd
Deerpath Middle College Preparatory School
2.0
1.5
1.0
0.5
0.0
2.0
2.5
3.0
3.5
1.5
1.0
0.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 13 (Sheet 1 of 2)

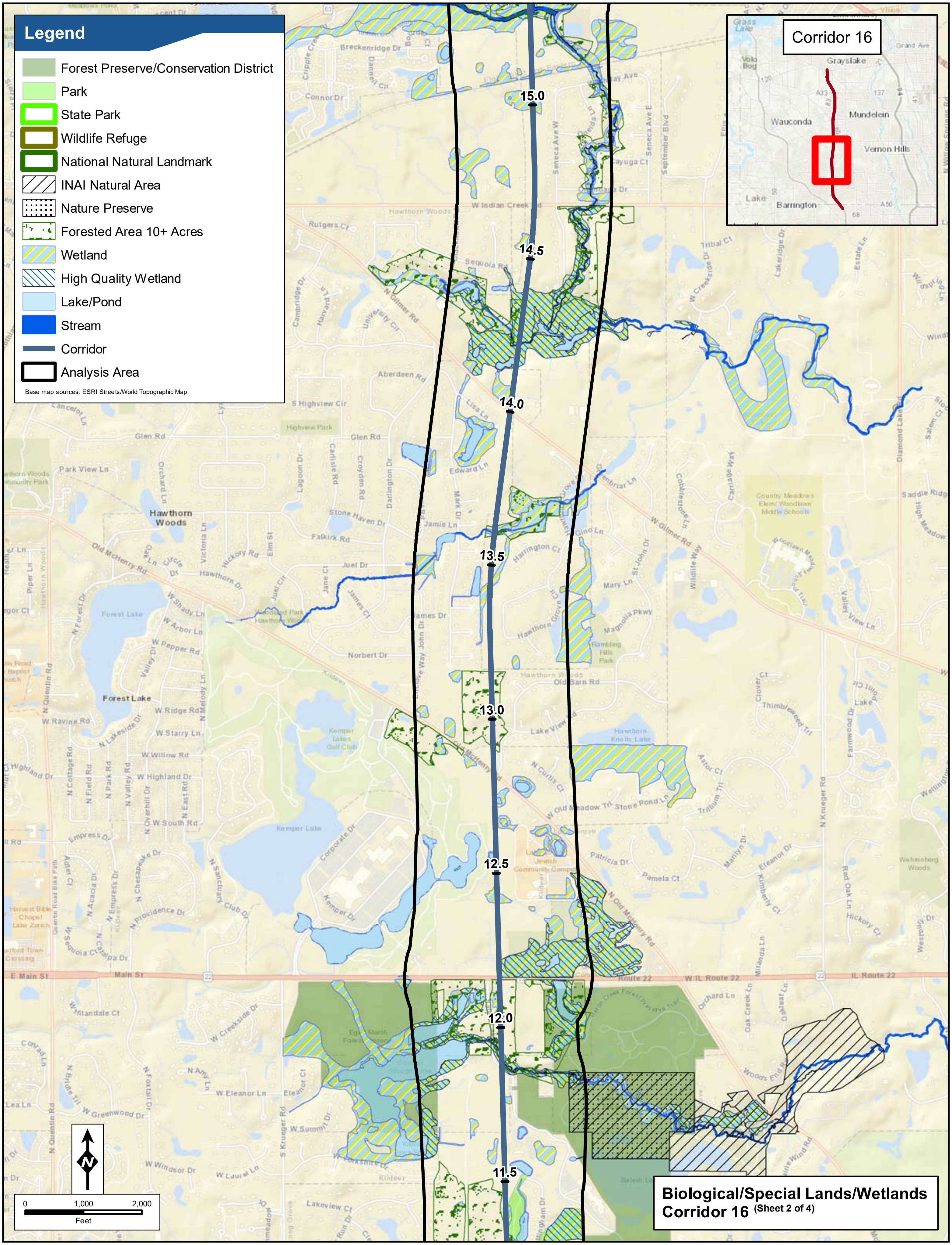

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 13
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 13 (Sheet 2 of 2)

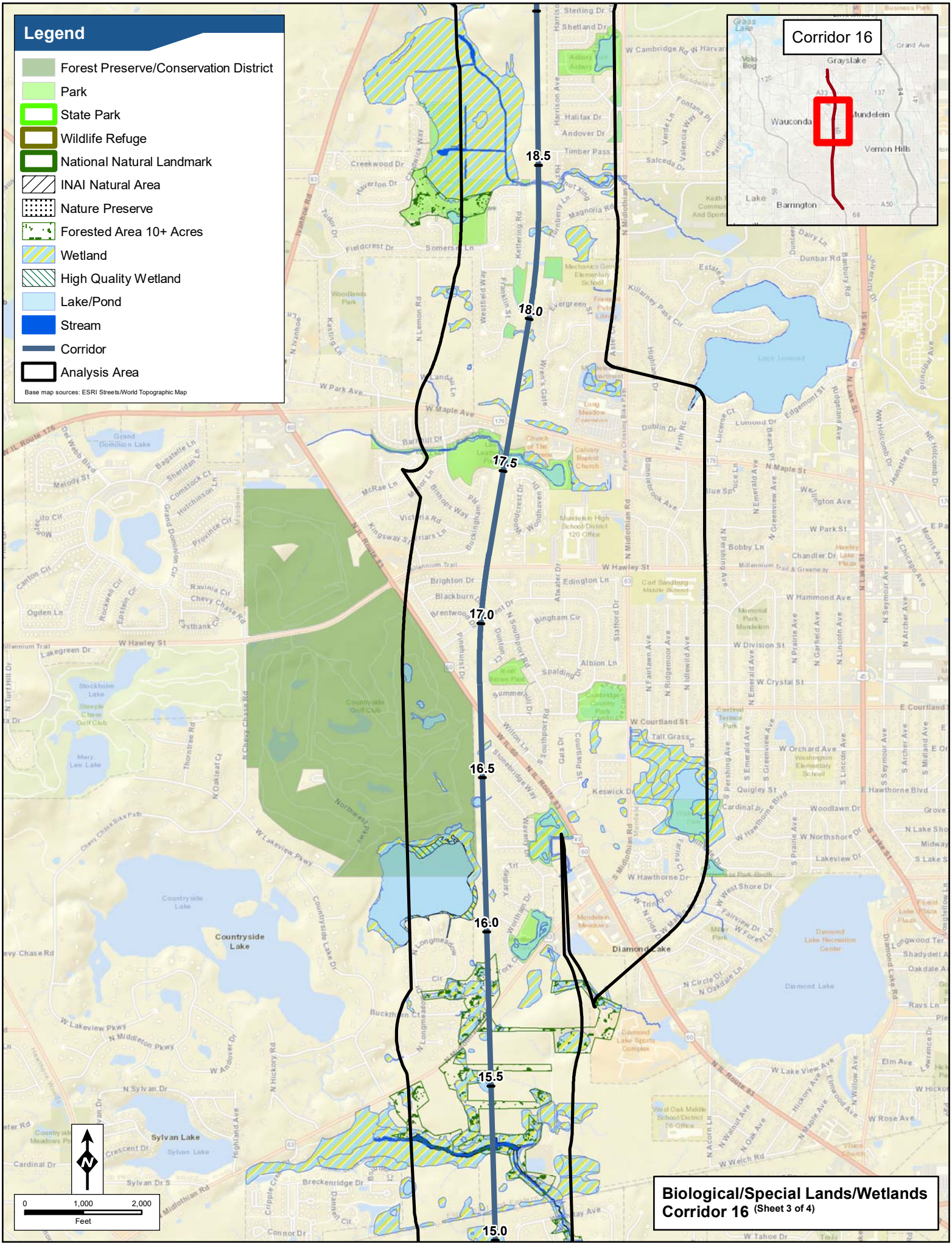

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 14
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 14 (Sheet 1 of 2)

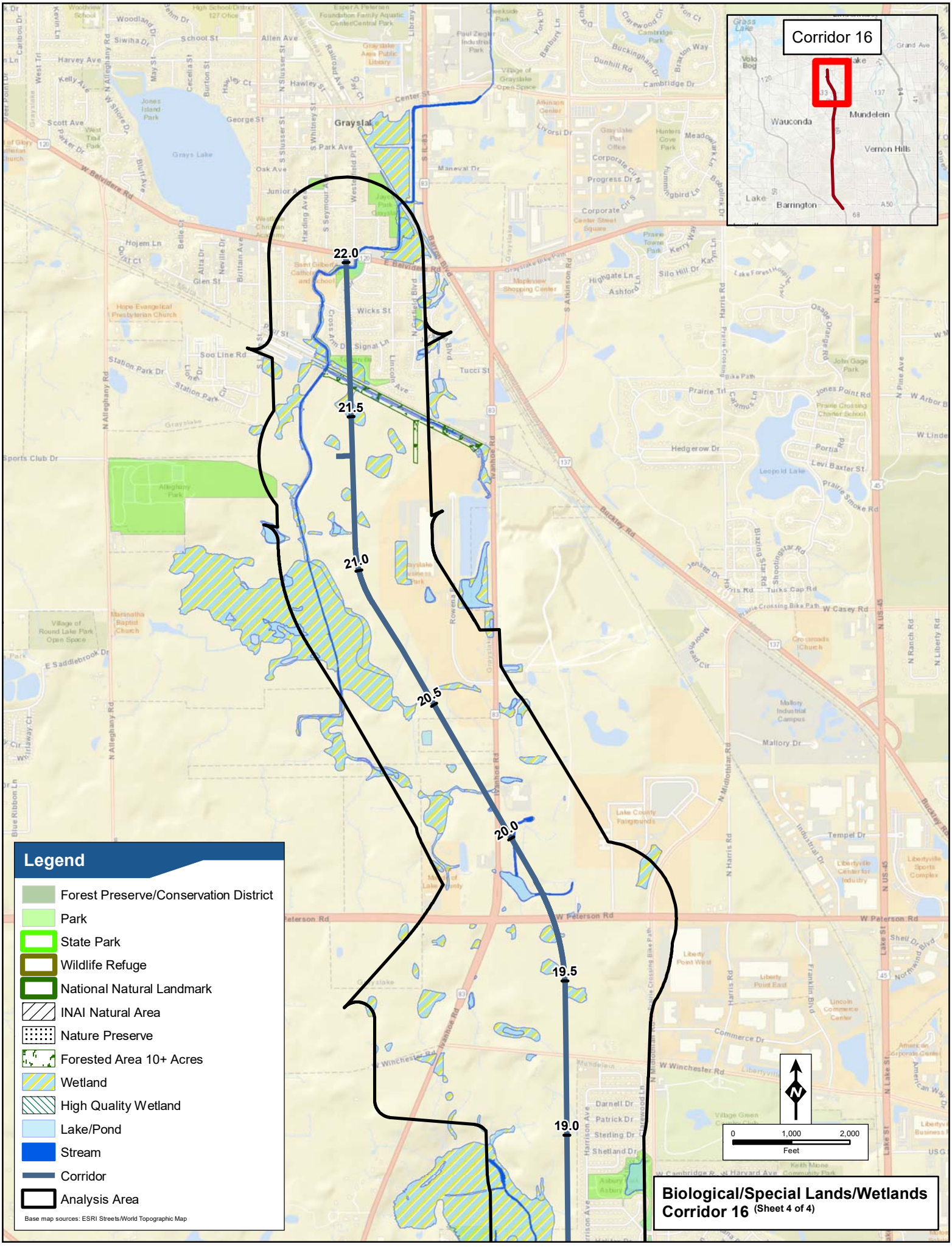

Corridor 14
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
3.5
4.0
4.5
5.0
5.5
6.0
Round Lake Beach
Round Lake
Round Lake Park
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 14 (Sheet 2 of 2)

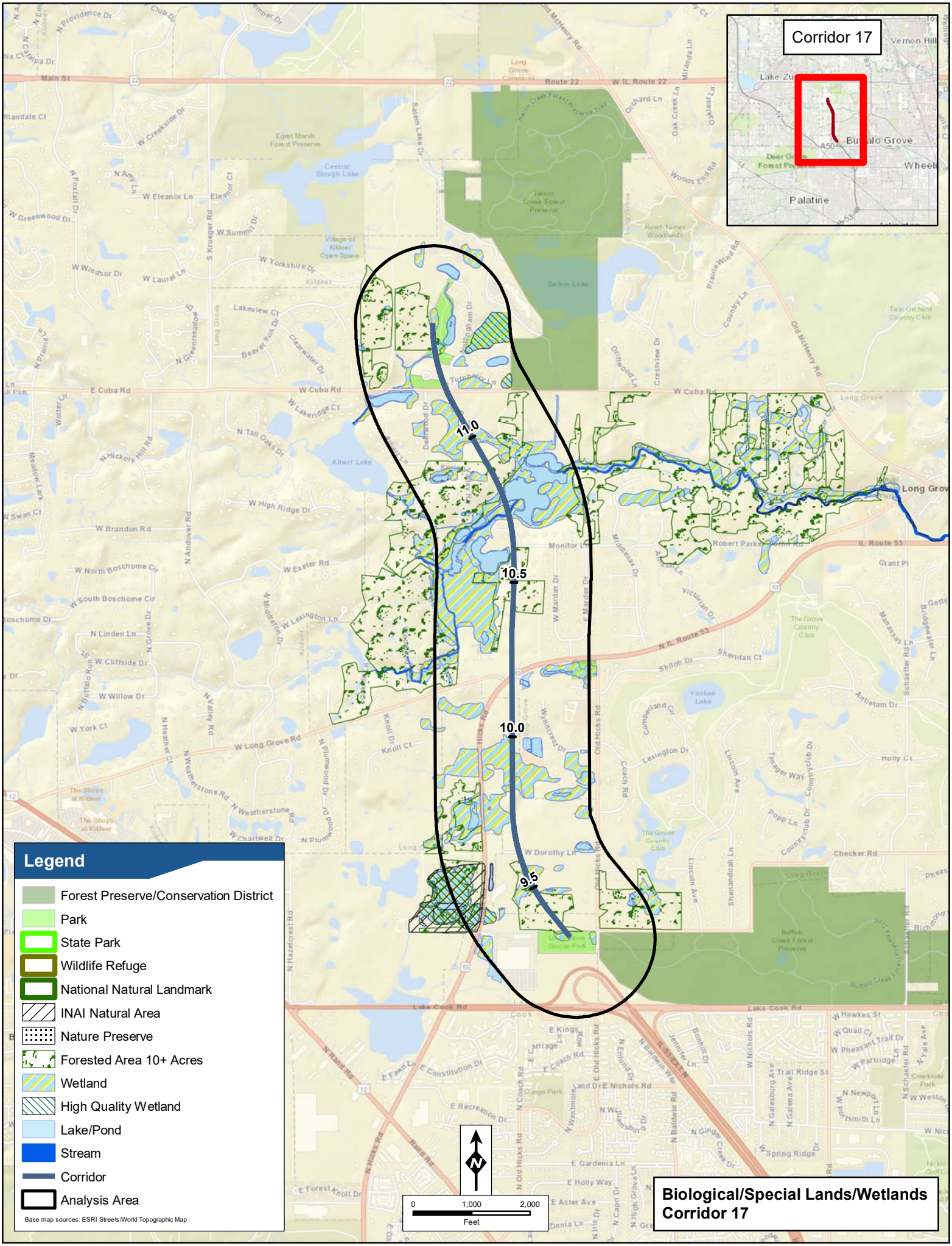

Corridor 15
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Mundelein
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 15

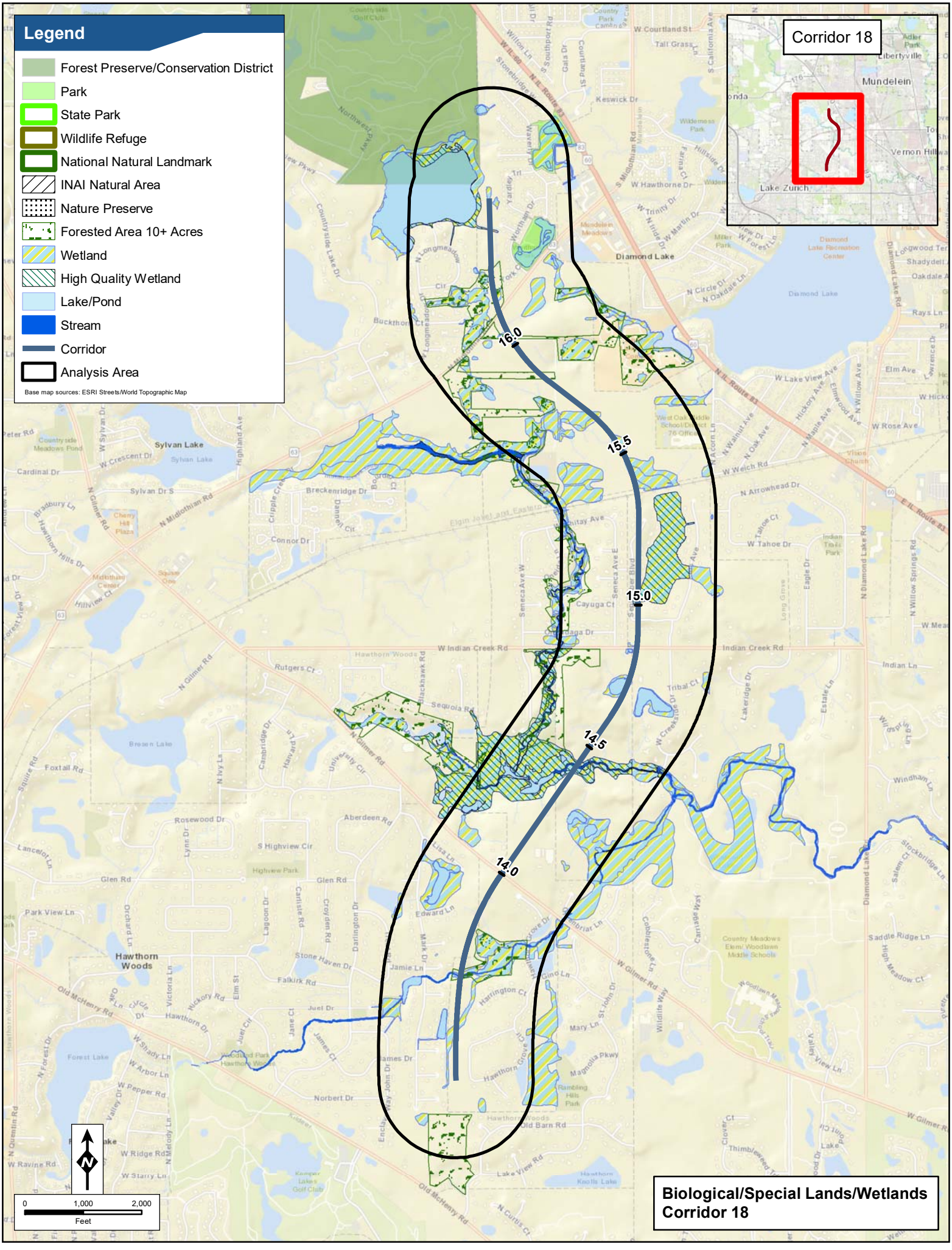

11.5
11.0
10.5
10.0
9.5
9.0
Corridor 16
Grayslake
Wauconda
Mundelein
Vernon Hills
Lake Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Capri Village
Staples Corner
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 1 of 4)

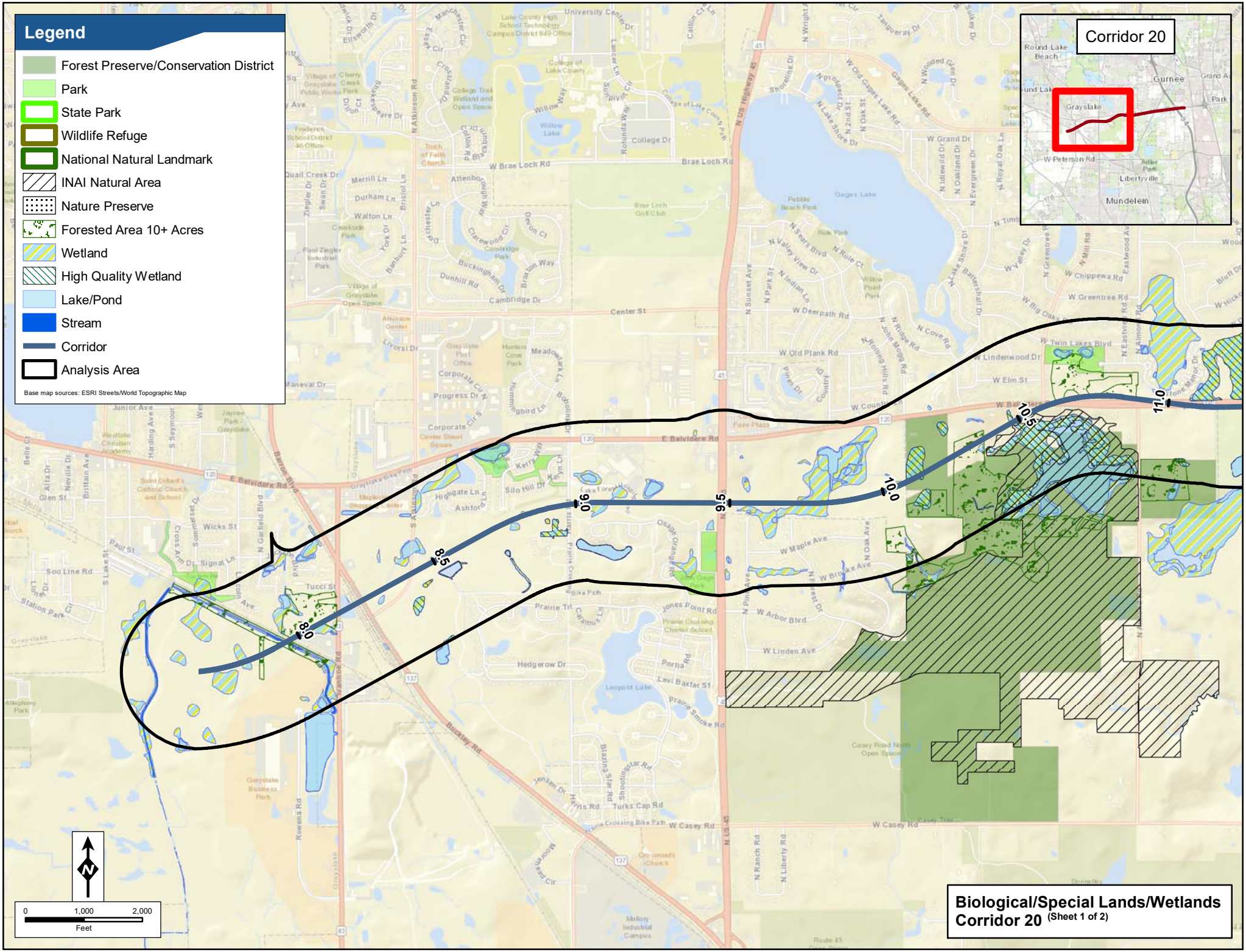

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 16
Grayslake
Volo Bog
Wauconda
Mundelein
Vernon Hills
Lake Barrington
15.0
14.5
14.0
13.5
13.0
12.5
12.0
11.5
Hawthorn Woods
Forest Lake
Kemper Lake
Main St
Route 22
W IL Route 22
IL Route 22
Country Meadows Elem/ Woodlawn Middle Schools
Hawthorn Knolls Lake
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 2 of 4)

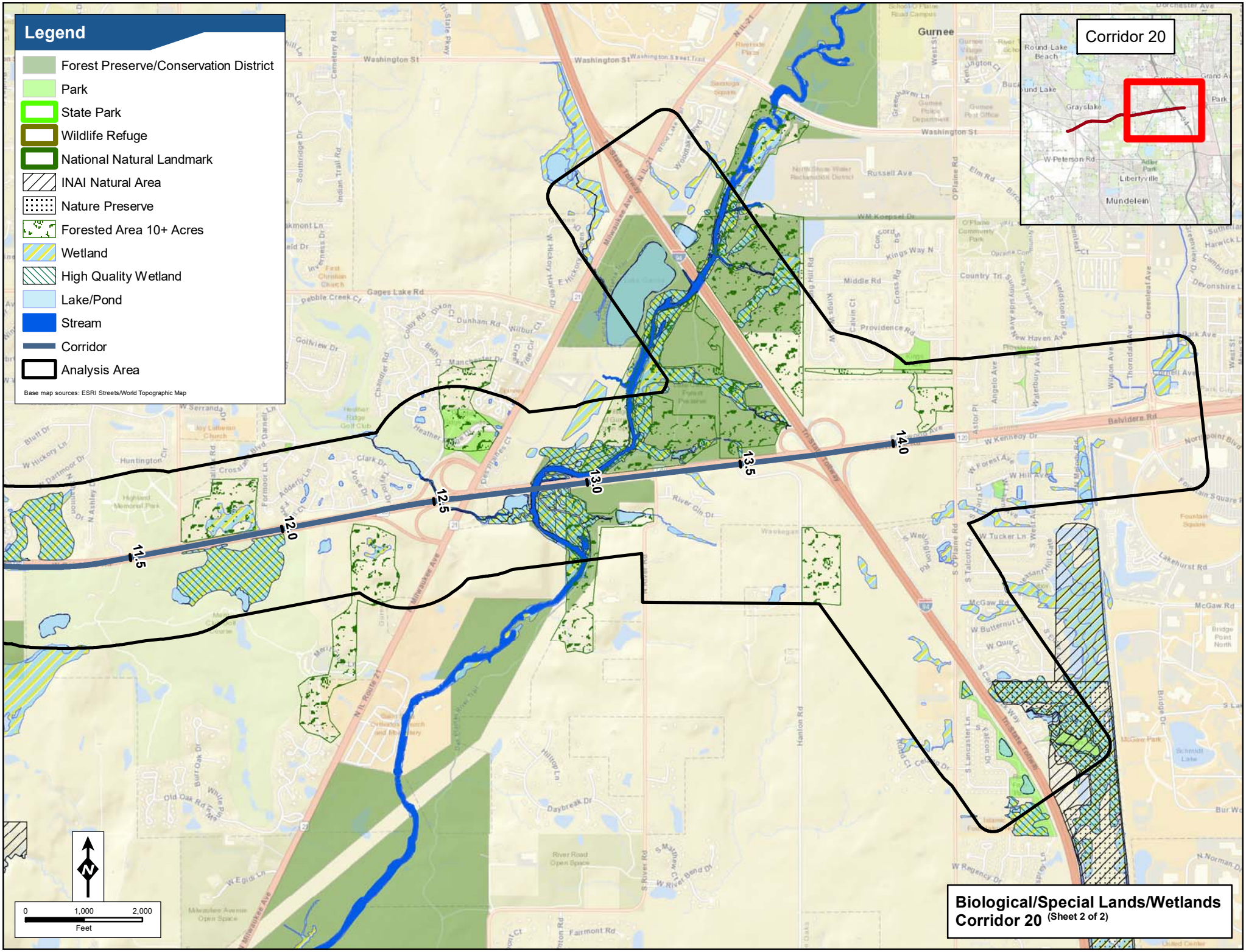

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 16
Grayslake
Wauconda
Mundelein
Vernon Hills
Barrington
18.5
18.0
17.5
17.0
16.5
16.0
15.5
15.0
Countryside Lake
Diamond Lake
Sylvan Lake
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 3 of 4)

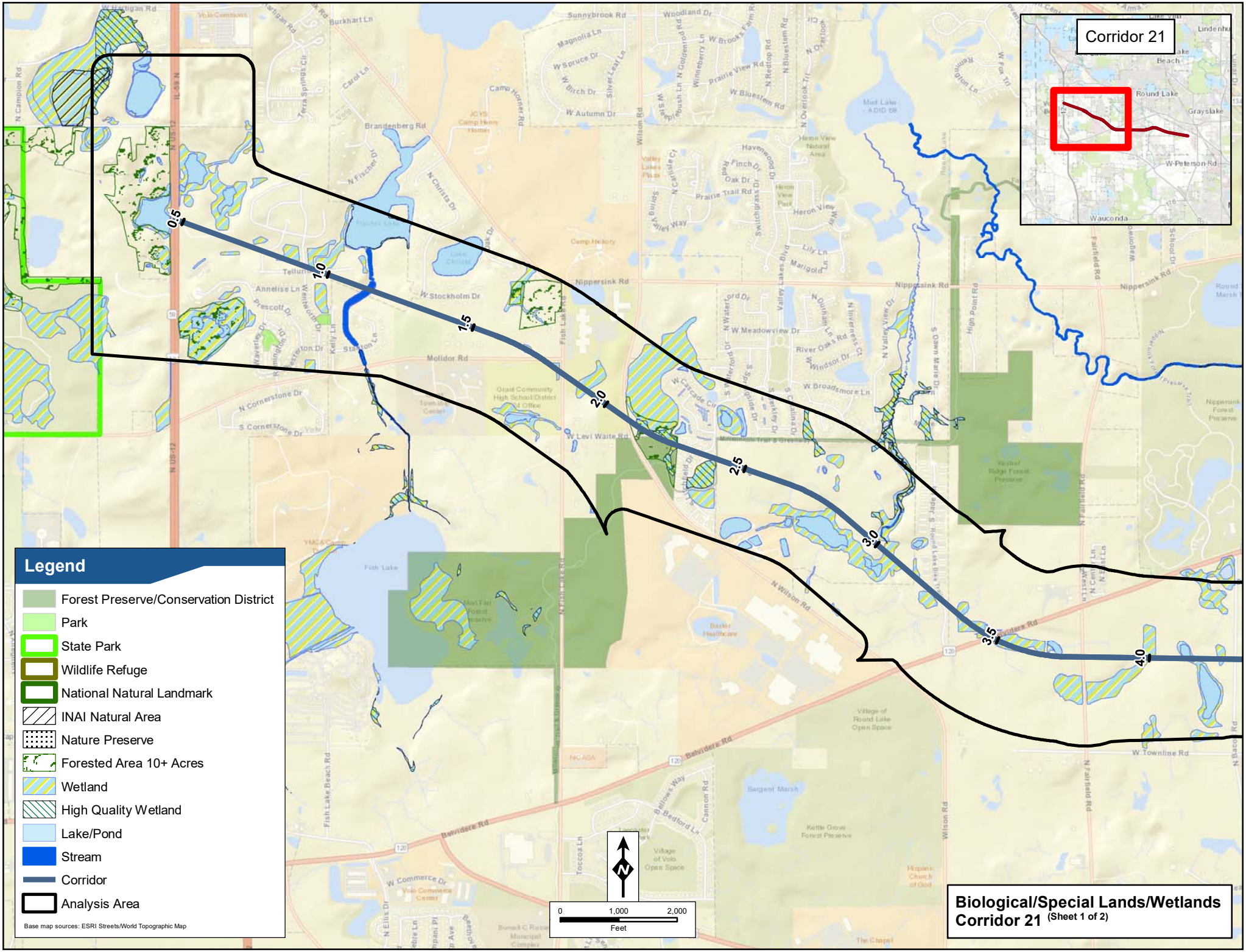

Corridor 16
Wauconda
Mundelein
Vernon Hills
Lake
Barrington
22.0
21.5
21.0
20.5
20.0
19.5
19.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 4 of 4)

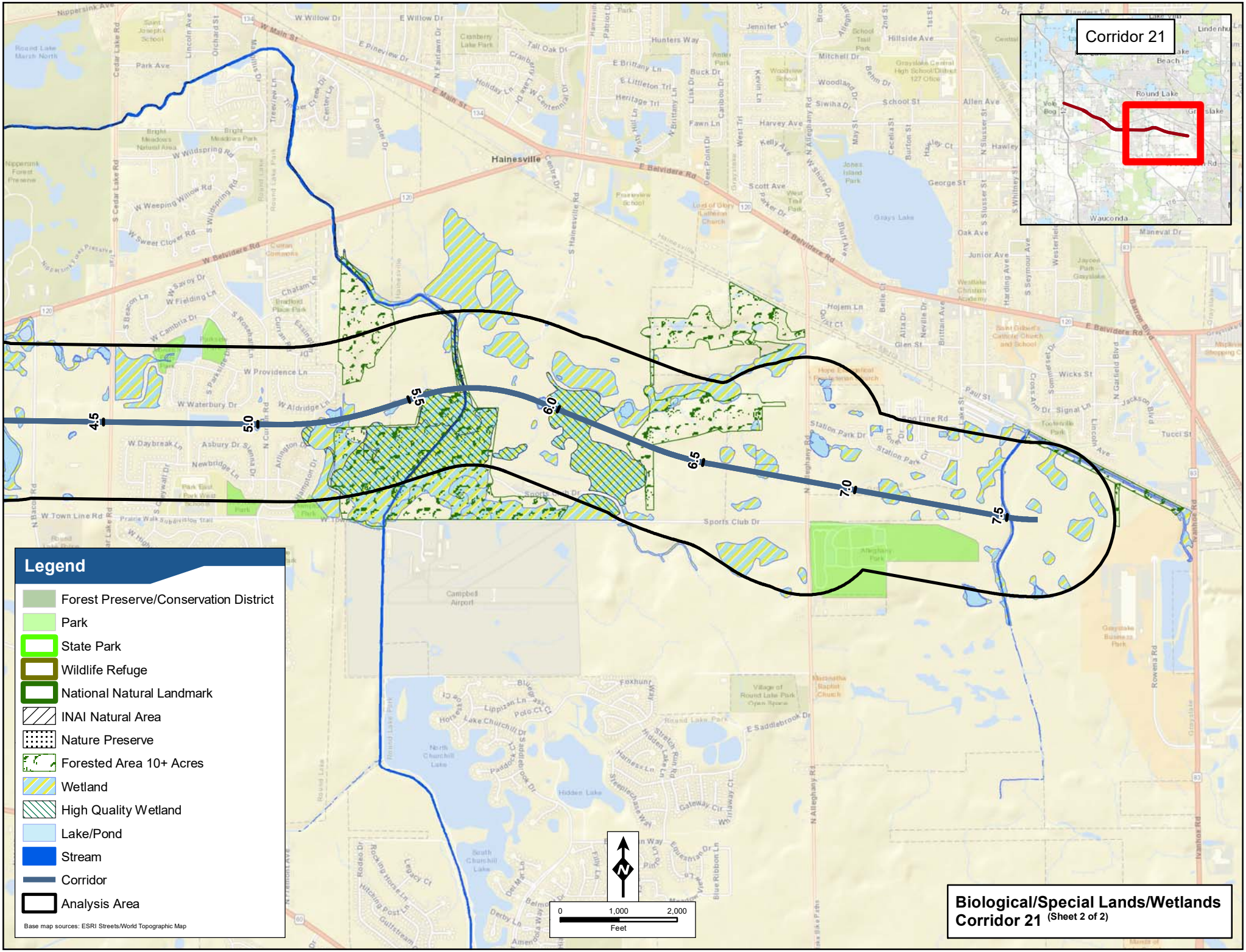

Corridor 17
Buffalo Grove
Palatine
11.0
10.5
10.0
9.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 17

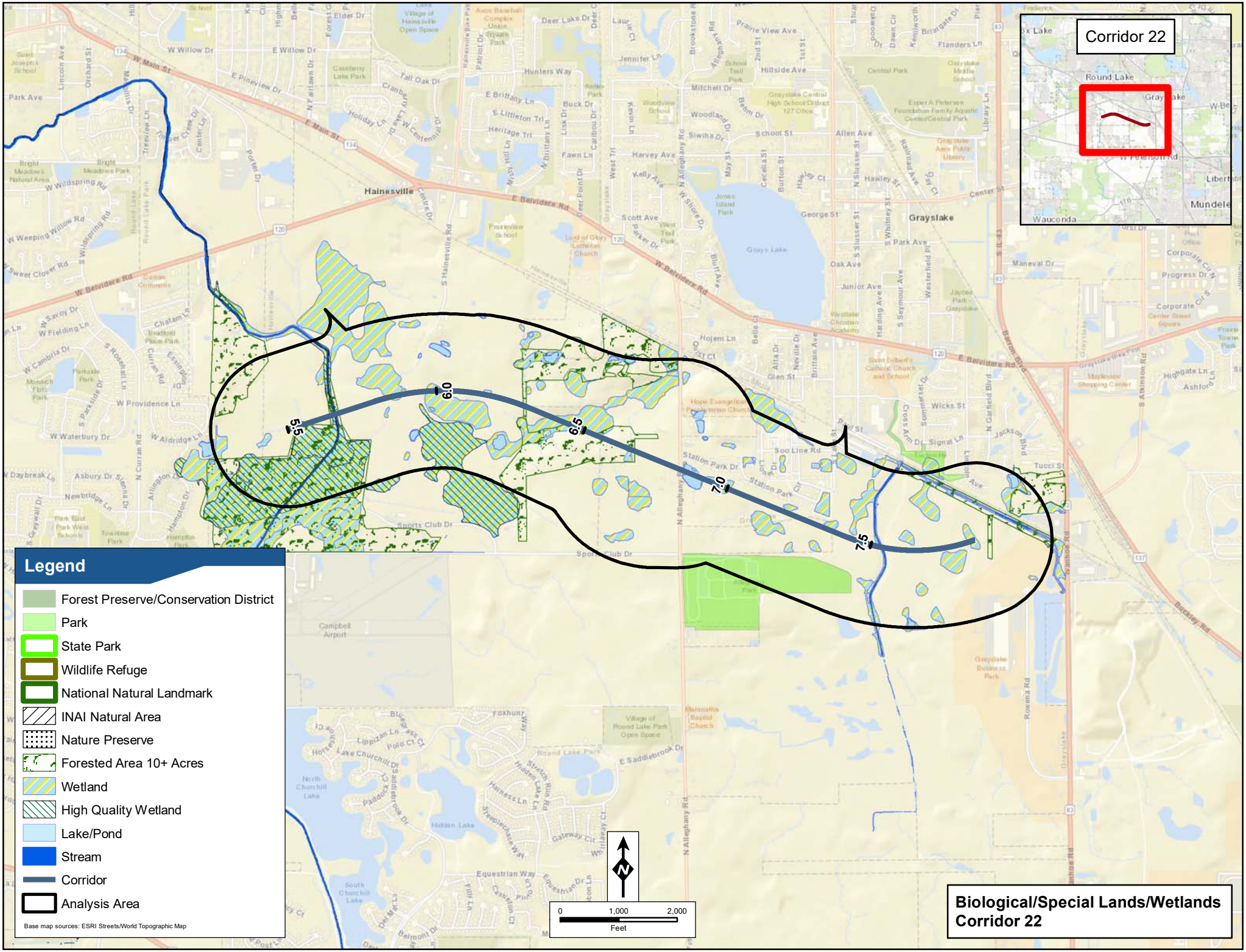

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 18
16.0
15.5
15.0
14.5
14.0
Diamond Lake
Sylvan Lake
Hawthorn Woods
Mundelein
Lake Zurich
Vernon Hills
Libertyville
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 18

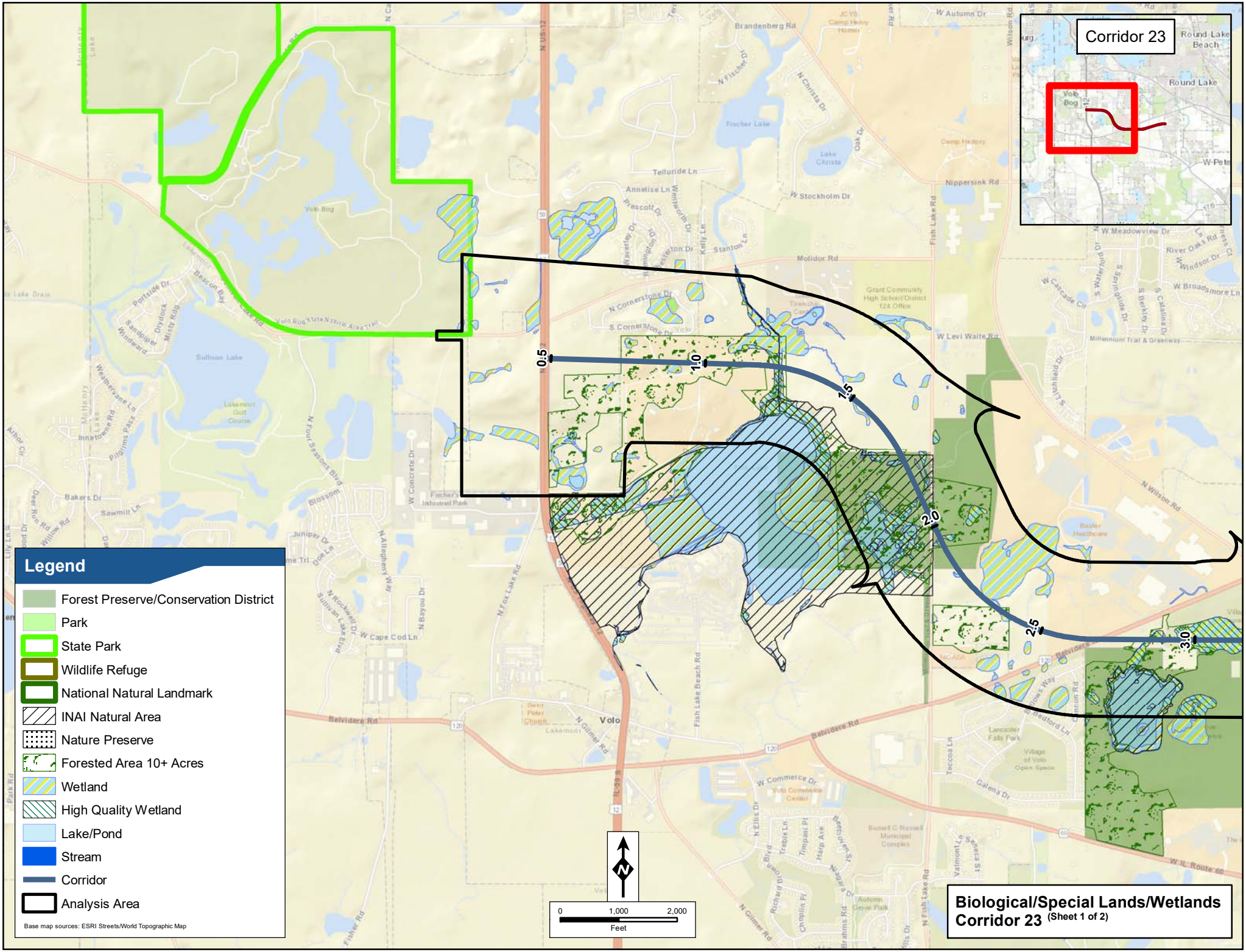

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 20
8.0
8.5
9.0
9.5
10.0
10.5
11.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 20 (Sheet 1 of 2)

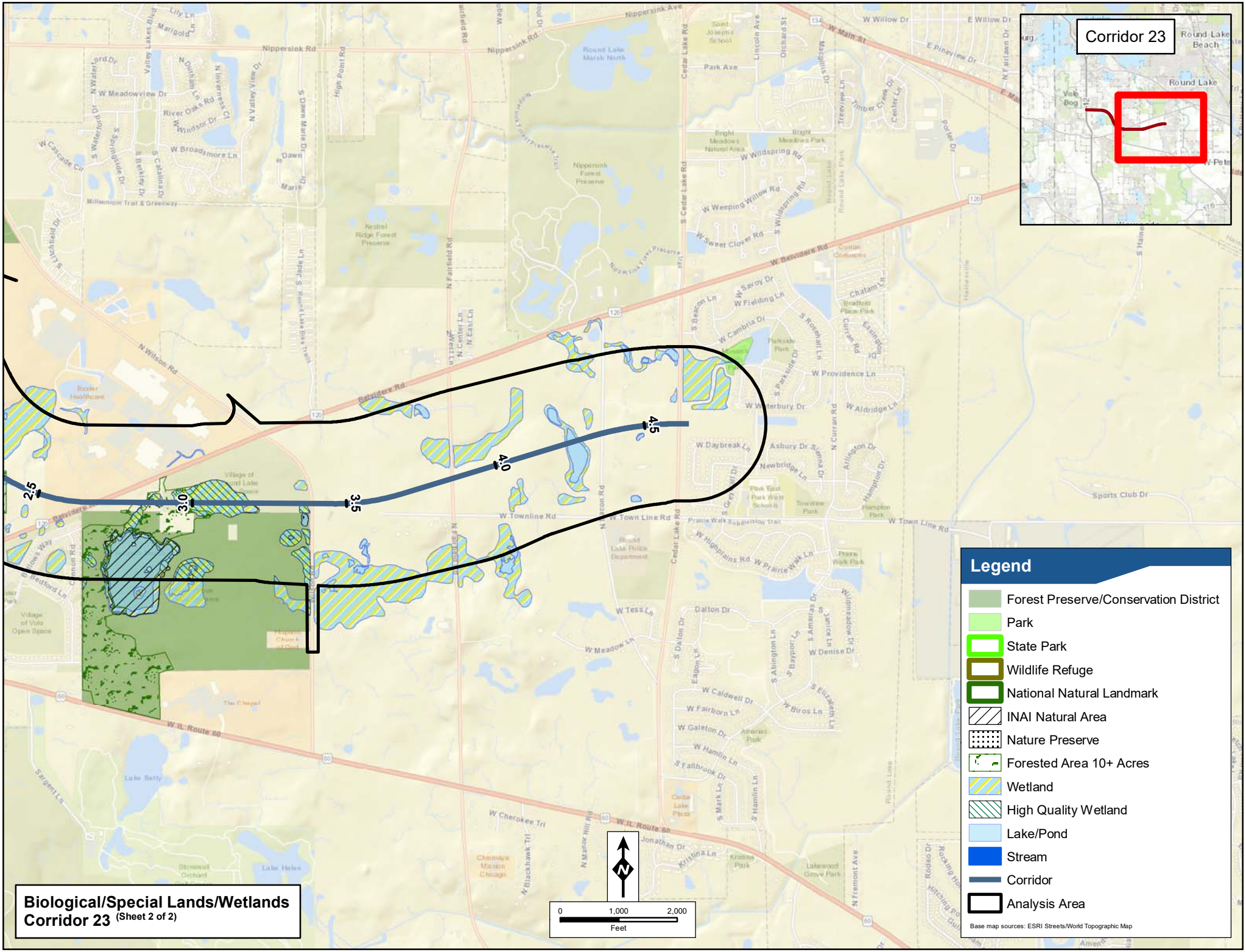

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 20
11.5
12.0
12.5
13.0
13.5
14.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 20 (Sheet 2 of 2)

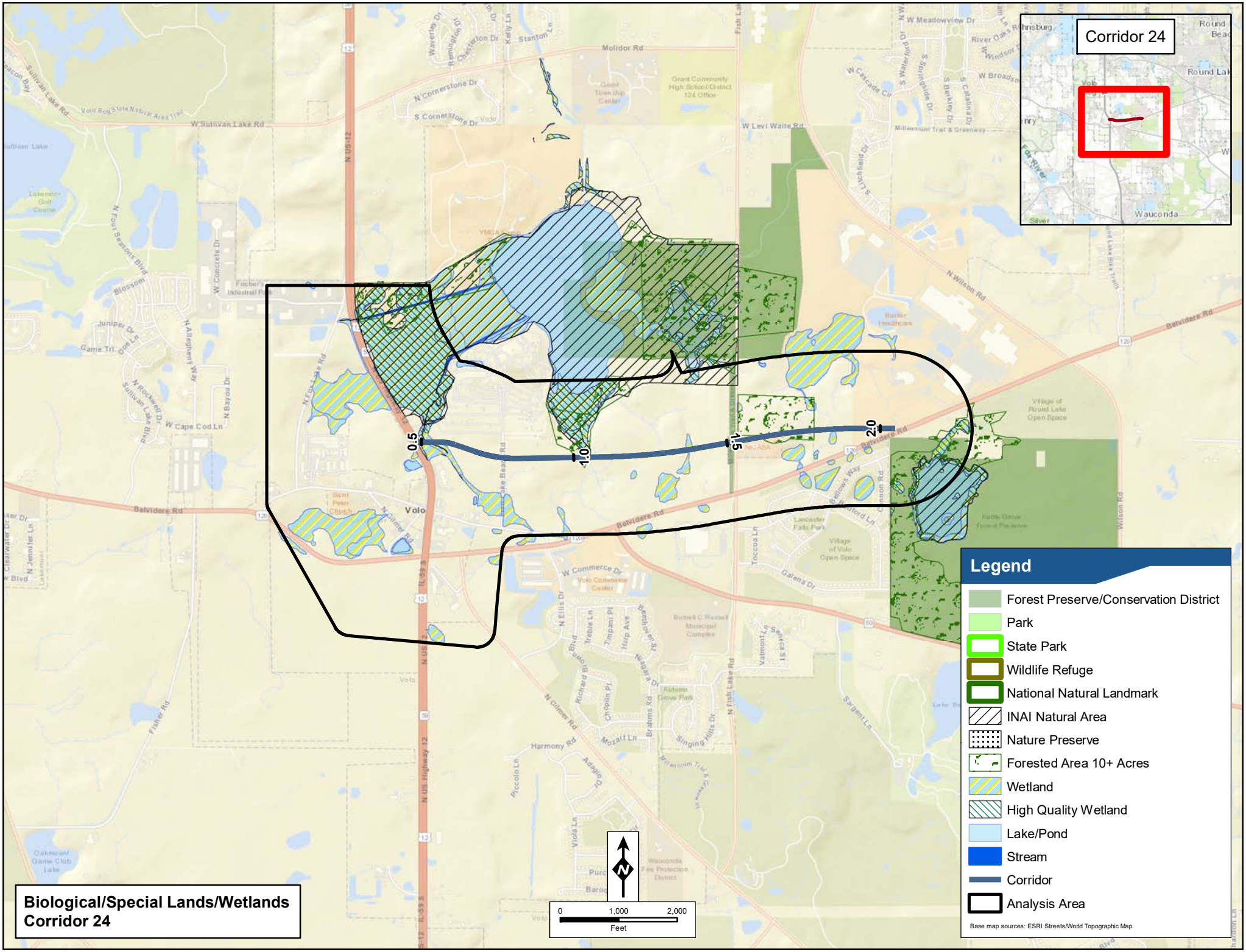

Corridor 21
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 21 (Sheet 1 of 2)

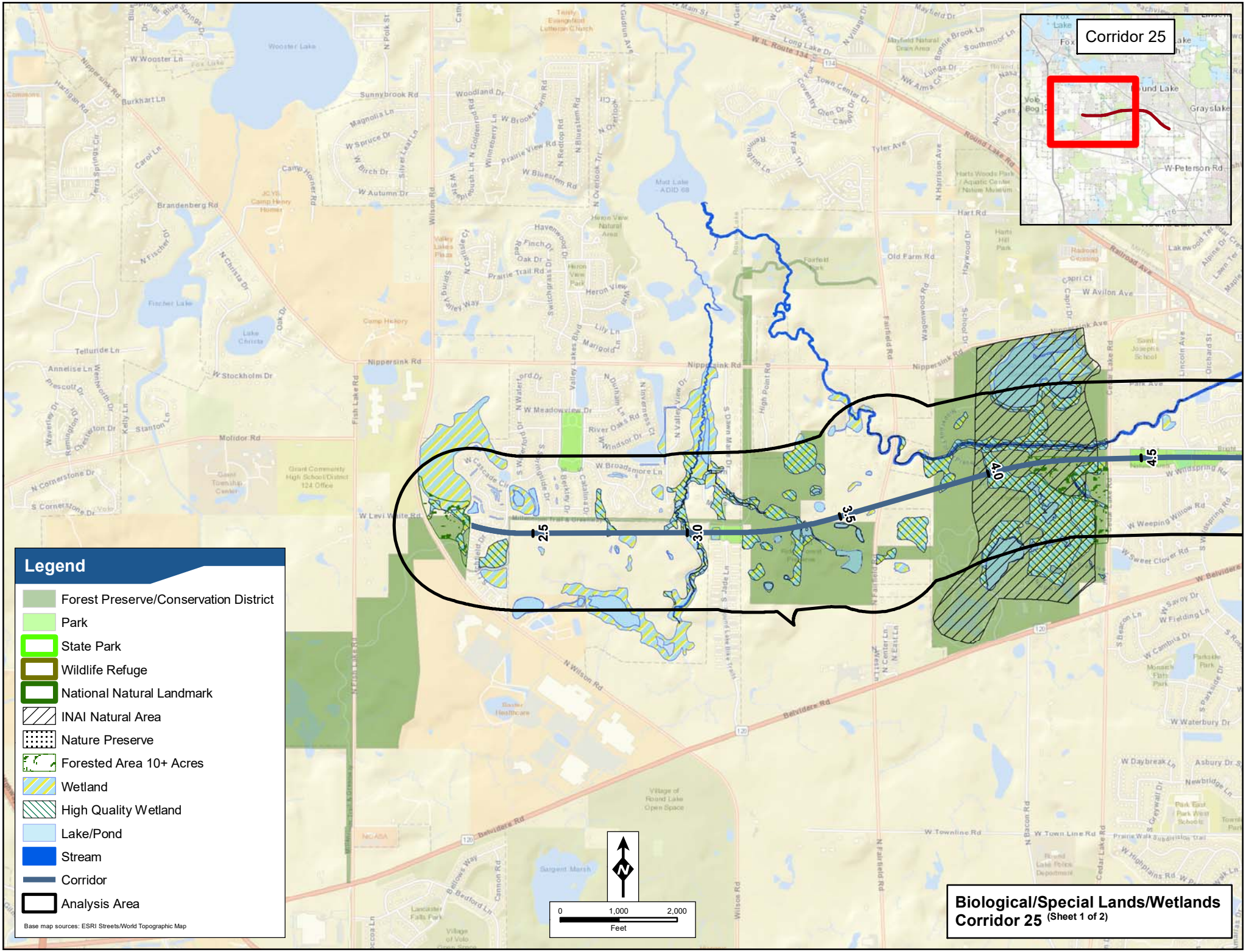

Corridor 21
Hainesville
4.5
5.0
5.5
6.0
6.5
7.0
7.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 21 (Sheet 2 of 2)

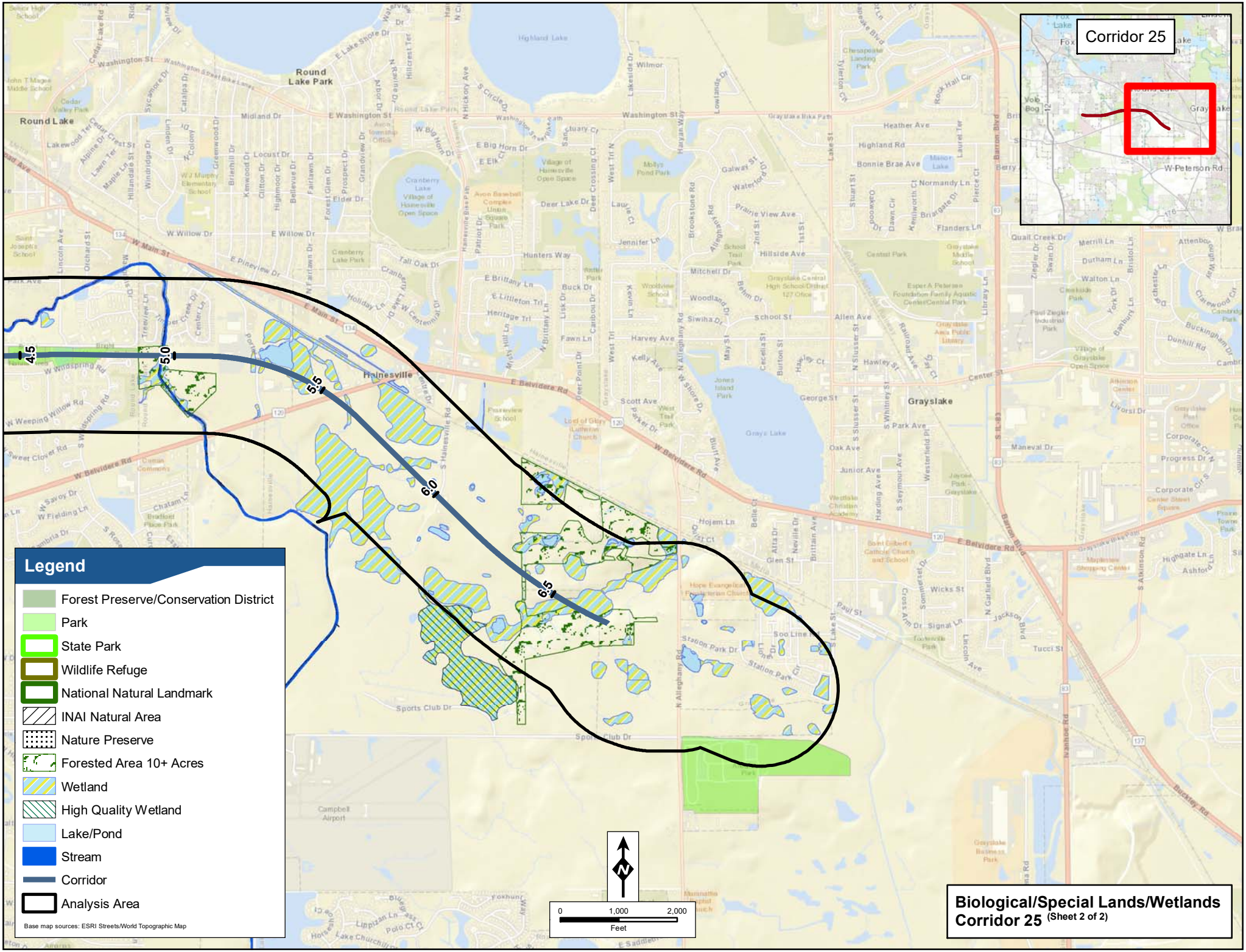

Corridor 22
Round Lake
Grayslake
Wauconda
Mundelein
Hainesville
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
5.5
6.0
6.5
7.0
7.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 22


Corridor 23
Round Lake Beach
Round Lake
Volo Bog
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.5
1.0
1.5
2.0
2.5
3.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 23 (Sheet 1 of 2)


Corridor 23
Round Lake Beach
Round Lake
Volo Bog
2.5
3.0
3.5
4.0
4.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 23 (Sheet 2 of 2)


Corridor 24
0.5
1.0
1.5
2.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 24


Corridor 25
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
2.5
3.0
3.5
4.0
4.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 25 (Sheet 1 of 2)


Corridor 25
W Peterson Rd
Round Lake Park
Round Lake
Highland Lake
Hainesville
Grayslake
Gray's Lake
Campbell Airport
4.5
5.0
5.5
6.0
6.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 25 (Sheet 2 of 2)

Attachment B: References

References

Community and Park District Websites Reviewed

- Arlington Heights Park District. https://www.ahpd.org/
- Barrington Park District. https://www.barringtonparkdistrict.org/.
- Buffalo Grove Park District. http://bgparks.org/
- Fremont Township. http://fremonttownship.com/
- Grant Township. http://granttownshipcenter.org/
- Grayslake Park District. https://www.glpd.com/
- Gurnee Park District. https://www.gurneeparkdistrict.com/
- Village of Libertyville. https://libertyvillesportscomplex.com/
- Long Grove Park District. http://lgparks.org/.
- Long Grove/Ela Soccer Club. www.elasoccer.com
- Mundelein Park & Recreation District. https://mundeleinparks.org/
- Palatine Park District. https://www.palatineparks.org/rccms/
- Rolling Meadows Park District. http://rmparks.org/
- Round Lake Area Park District. https://www.rlapd.org/
- Salt Creek Rural Park District. https://saltcreek.multisportsystems.com/
- Tower Lakes Improvement Association. http://tlia.org/
- Vernon Hills Park District. https://www.vhparkdistrict.org/.
- Village of Deer Park. https://www.villageofdeerpark.com/
- Village of Fox Lake. https://www.foxlake.org
- Village of Gurnee. https://gurnee.il.us/
- Village of Hawthorn Woods. http://www.vhw.org/
- Village of Lake Barrington. https://www.lakebarrington.org/
- Village of Lake Zurich. http://www.lakezurich.org/
- Village of North Barrington. https://northbarrington.org/
- Village of Volo. http://www.villageofvolo.com/
- Wauconda Park District. http://www.waucondaparks.com/
- Waukegan Park District. https://www.waukeganparks.org/
- Wildwood Park District. http://wildwoodparkdistrict.com/

Conservation Entity Websites reviewed

- Barrington Area Conservation Trust http://www.bactrust.org/land-preservation/our-preserves/
- Conserve Lake County (now part of Openlands) http://www.conservelakecounty.org/
- Citizens for Conservation https://citizensforconservation.org/conservation/our-preserves/
- The Conservation Foundation (covering DuPage Co) http://www.theconservationfoundation.org/
- Land Conservancy of Lake County https://www.landconservancyoflakecounty.org/
- Land Conservancy of McHenry County http://www.conservemc.org/
- Liberty Prairie Foundation http://libertyprairie.org/
- Libertyville Township Open Space District http://www.libertyvilletownship.us/open-space-district
- Openlands https://openlands.org/

Plans and Documents Reviewed

Forest Preserve District of Cook County (FPDCC). 2014. Trail Master Plan and Policy. March 2014. Accessed May 21, 2018. http://fpdcc.com/preserves-and-tr014ails/plans-and-projects/trail-master-plan/ ; http://fpdcc.com/wp-content/uploads/2014/03/Trail-Master-Plan-FINAL.pdf

Illinois Department of Natural Resources (IDNR). 2018. *Illinois Natural Areas Inventory (INAI) Sites by County*. https://www.dnr.illinois.gov/conservation/NaturalHeritage/Documents/Database/INAICountyList.pdf.

Illinois Department of Natural Resources (IDNR). Undated. *Nature Preserve Area 2*. https://www.dnr.illinois.gov/INPC/Pages/NaturePreserveArea2.aspx.

Illinois Department of Natural Resources (IDNR). Undated. State Comprehensive Outdoor Recreation Plan (SCORP), 2015-2019. Accessed May 21, 2018. https://www.dnr.illinois.gov/publications/Documents/00000823.pdf

Lake County. 2004. Regional Framework Plan, updated October 2004. Accessed May 21, 2018. https://www.lakecountyil.gov/1974/Framework-Plan

Lake County Forest Preserve District (LCFPD). Undated. Lake County Forest Preserves. 100-Year Vision for Lake County and Strategic Plan Objectives. Accessed May 21, 2018. https://www.lcfpd.org/Vision/

Lake County Health Department, Environmental Health Services Lake Management Unit. 2002. 2001 Summary Report of Duck Lake. April.

Land and Water Conservation Fund Grants: Illinois. Undated. http://projects.invw.org/data/lwcf/grants-il.html

McHenry County Conservation District (MCCD). 2008. Comprehensive Site Development and Public Access Plan. April 17. Accessed May 21, 2018. http://www.mccdistrict.org/rccms/wp-content/uploads/2014/08/Intro-Comprehensive-Site-Development-Public-Access-Plan-2.pdf

McHenry County Conservation District (MCCD). 2008. Conceptual Framework Lang Range Planning 2010 – 2030. Accessed May 21, 2018. http://www.mccdistrict.org/rccms/wp-content/uploads/2014/08/MCCD-Conceptual-Framework-Long-Range-Plan.pdf

Openlands. 2013. Liberty Prairie Reserve Master Plan. June. Accessed May 21, 2018. https://openlands.org/planning/lakecounty/liberty-prairie-reserve/liberty-prairie-reserve-master-plan/; https://openlandsdotorg.files.wordpress.com/2017/12/lpr-master-plan-final.pdf

U.S. Fish and Wildlife Service (USFWS). 2012. Proposed Hackmatack National Wildlife Refuge Environmental Assessment, Land Protection Plan, and Conceptual Management Plan. July. Accessed May 21, 2018. https://www.fws.gov/midwest/planning/Hackmatack/; https://www.fws.gov/midwest/planning/hackmatack/EA/HAC%20Exec%20Sum-17July2012.pdf; https://www.fws.gov/midwest/planning/hackmatack/EA/EAHackmatack-FINAL-10May2012Edited120531.pdf

Village of Long Grove. 2014. Ordinance Approving a Lease Agreement with Ela Soccer Club for the Long Grove Soccer Club. May 14.

TECHNICAL MEMORANDUM #7

Special Waste

Special Waste

This memorandum details the affected environment for special waste sites.

1.0 Resource Introduction

Special waste sites are locations where the potential exists for contamination from current or past historical uses to be present on those properties that could present a hazard to construction workers and the public, or be a liability to Tollway or the Illinois Department of Transportation (IDOT). These sites may exist within the proposed construction corridor or could be located outside of the construction corridor along its perimeter but contain migrating contamination (typically via groundwater) that could enter the proposed construction zone. Even parcels where no excavation will occur but may be purchased to build the project could contain soil, groundwater, or subsurface air vapor contamination that is a liability to the purchaser and potentially affects the surrounding environment and human population.

2.0 Methodology

As indicated in the Special Waste Methodology memorandum (Jacobs 2018), "priority high-risk" sites, where petroleum constituents or other hazardous substances are documented to have been released into the environment (generally in soil or groundwater), or where petroleum constituents or other hazardous substances are likely present in soil or groundwater or as a result of a regulatory listing or other condition (for example, a landfill or spill), were identified and located using readily available information from secondary sources (see Section 5.0, References). The "priority high-risk" sites have a greater potential to require mitigation activities (excavation and disposal of contaminated soil, construction worker protections for exposure to chemicals) during roadway construction.

A desktop survey of available geographic information system (GIS) information was conducted in July and August 2018 for corridors 1 through 15 and in January 2019 for corridors 16 through 25. Field verifications were completed September 26, 2018, through October 5, 2018, for corridors 1 through 15 and on January 24, 2019, for corridors 16 through 25. Based on the field verifications, modifications to the GIS layer were made. Priority high-risk sites were identified within an approximate 0.5 mile from the approximate centerline (1-mile total width) for all corridors.

3.0 Tri-County Access Study Area

The Tri-County Access (TCA) study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA study area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

As indicated on the figures at the end of this memorandum, priority high-risk sites are located across the TCA study area with highest concentration in the northeastern quadrant.

4.0 System Alternative Corridors

4.1 Corridor 1

Five "priority high-risk" sites were identified along Corridor 1. The priority high-risk sites are described in Table 4-1. Three sites are currently operating gas stations, one is a closed oil change business, and one is a shopping area that was previously occupied by a gas station.

Table 4-1. Corridor 1 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Databases	Regulatory Database Site Information
Volo Village Center (currently vacant/ commercial land)	31700-31748 US12/Rand Road, Volo, Lake County	16.8	Primary SRP: 0978995129 Secondary USEPA: IL0001018753	SRP: Both soil and groundwater contamination (BTEX) from underground storage tanks/former gas station. Construction worker exceedances immediately adjacent to US 12 ROW. Lead impacts modeled to migrate past property boundary. No HAA for this site. BTEX impacts likely to be encountered in corridor adjacent to this site.
Graham C-Stores Company (currently BP Gas Station)	1 North US12/ Rand Road, Lake Zurich, Lake County	26.8	Primary HAA: 496 Secondary IEPA: 0970855081	HAA: BTEX soil impacts documented to exist within IDOT ROW corridor
Dennis Dilo (currently closed Havoline Express Lube)	16 N US12/Rand Road, Fox Lake, Lake County	11.4	Primary HAA: 1459 Secondary IEPA: 0974205059 LUST: 20040657	HAA: BTEX, and MTBE soil and groundwater impacts documented to exist within IDOT ROW corridor.
Speedway SuperAmerica/ Rockbuild Enterprise (currently Marathon gas station	20235 US12/ North Rand Road, Palatine, Lake County	31.5	Primary HAA: 507/1650 Secondary IEPA: 0978995134 LUST: 931161, 20041020	HAA: BTEX and MTBE soil and groundwater impacts documented to exist within IDOT ROW corridor.
Buchanan Energy LLC (currently Bucky's Mobil Station)	650 South US12/ Rand Road, Lake Zurich, Lake County	27.7	Primary HAA: 1215 Secondary IEPA: 0970855020 LUST: 871432, 901067, 942000	HAA: BTEX groundwater impacts and BTEX, and MTBE soil impacts documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
LUST = leaking underground storage tank
MTBE = methyl tertiary-butyl ether
ROW = right-of-way
SRP = State Remediation Program
USEPA = U.S. Environmental Protection Agency

4.2 Corridor 2

One "priority high-risk" site was identified along Corridor 2, and is described in Table 4-2. The facility is a nursery with a solid waste permit history.

Table 4-2. Corridor 2 Priority High-Risk Site

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Schroeder's Nursery Inc (currently Turks Nursery)	23379 West Route 60 Grayslake, Lake County	3.4 to 3.7	Primary IEPA: Solid Waste Database 0970250014	Solid Waste: Last permit activity 1994. Visual observation indicates vacant land on south side of road. Google Earth shows former nursery that has been removed. Proposed ROW has potential to encroach on border of former facility.

Notes:
IEPA = Illinois Environmental Protection Agency
ROW = right-of-way

4.3 Corridor 3

Five "priority high-risk" sites were identified along Corridor 3 and are described in Table 4-3. Three sites are currently operating gas stations and two sites were previously occupied by gas stations.

Table 4-3. Corridor 3 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Databases	Regulatory Database Site Information
Blue Line Limo, Anthony Dradi & Michael Velickovish, (currently Toncar Auto Parts)	611 South Lake, Mundelein, Lake County	13.8	Primary HAA: 71 Secondary IEPA: 0971155101	HAA: BTEX soil impacts documented to exist within IDOT ROW corridor.
Amoco Oil Company (currently Exxon Mobil)	4 IL63/IL176/East Hawley Street, Mundelein, Lake County	12.7	Primary HAA: 320 Secondary IEPA: 0971155085	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.
Equilon Enterprises LLC, Shell Oil Products US (currently Shell Station)	2250 West IL83, 18537 W US45, Mundelein, Lake County	15.2	Primary HAA: 12/1298 Secondary IEPA: 0971155057, 0971150021 LUST: 911125, 0930920	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.
Amoco Oil Company (currently BP gas station)	25737 US45/IL83, Mundelein, Lake County	15.2	Primary HAA: 238 Secondary IEPA: 0971155077	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.

Table 4-3. Corridor 3 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Databases	Regulatory Database Site Information
Journey's End Inc. (currently CVS drugstore)	2075 US45/South Lake Street, Mundelein, Lake County	15.2	Primary HAA: 868 Secondary SRP: 0971155078 LUST: 20041380	HAA: BTEX groundwater impacts and BTEX and acetone impacts documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
LUST = leaking underground storage tank
ROW = right-of-way
SRP = State Remediation Program

4.4 Corridor 4

One "priority high-risk" site was identified along Corridor 4 and is described in Table 4-4. The site is a currently operating gas station.

Table 4-4. Corridor 4 Priority High-Risk Site

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
True North Energy LLC (currently Shell Gas Station	25809 North Midlothian Road, Mundelein, Lake County	1.5	Primary HAA: 1370 Secondary IEPA: 0970455002	HAA: BTEX and MTBE soil and groundwater impacts documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
MTBE = methyl tertiary-butyl ether
ROW = right-of-way

4.5 Corridor 6

Four "priority high-risk" sites were identified along Corridor 6 and are described in Table 4-5. Two sites are currently operating gas stations and two are industrial facilities with chlorinated volatile organic compounds (VOCs) present in soil and/or groundwater.

Table 4-5. Corridor 6 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Molon Motor & Coil Corporation	3737 Industrial Ave., Rolling Meadows, Cook County	4.1	Primary SRP: 0312735006 Secondary USEPA: ILD005101464	SRP: Primary impacts appear to be chlorinated solvents in soil but not groundwater. Exceed construction worker values at property border. However modeled impacts extend under IL 53 to east. They propose a groundwater use restriction under Il 53. Potential impacts under Corridor 6.
Amoco Oil Company	2059 Hicks Road Rolling Meadows, Cook County	3.6	Primary HAA: 255 Secondary IEPA: 0312735006	HAA: BTEX soil and groundwater impacts documented to exist immediately adjacent to the west from the IDOT ROW corridor IL 53/Euclid Avenue cloverleaf interchange.
Exxon Mobil Corporation	2101 Hicks Road Rolling Meadows, Cook County	3.6	Primary HAA: 723 Secondary IEPA: 881390, 900453	HAA: BTEX soil and groundwater impacts documented to exist immediately adjacent to the west from the IDOT ROW corridor IL 53/Euclid Avenue cloverleaf interchange.
Martin Tool Works	3320 Tollview Dr, Rolling Meadows, Cook County	0.3 mile east of milepost 1.5 on I-90	Primary SRP: 0312735057 Secondary USEPA: ILD005101464	SRP: Chlorinated and nonchlorinated VOCs present in soil and groundwater adjacent to I-90 ROW.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
ROW = right-of-way
SRP = State Remediation Program
USEPA = U.S. Environmental Protection Agency

4.6 Corridor 7

Six “priority high-risk” sites were identified along Corridor 7 and are described in Table 4-6. Three of the sites are solid waste facilities (one yard waste recycler, one municipal landfill, and a yard waste conversion facility), two sites are currently operating gas stations, and one is a site that was previously occupied by a gas station.

Table 4-6. Corridor 7 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Meadowview Yard Waste Conv Facility	North Route 83, Grayslake, Lake County	19.8	Primary IEPA Landfill Permits: 0970250008	Solid Waste: IEPA solid waste facility with last permit activity in 1998. Observed large mounds of soil that look like landfill type disposal. Until it can be determined whether this is a landfill, or an impacted area, and its extent, it appears to present priority high risk to Corridor 7.
Equilon Enterprises LLC, Shell Oil Products	2250 West IL83, 18537 W US45,	8.7	Primary HAA: 12/1298 Secondary	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.

US (currently Shell Station)	Mundelein, Lake County		IEPA: 0971155057, 0971150021 LUST: 911125, 0930920	
Countryside Landfill Inc	31725 North Illinois 83, Grayslake, Lake County	14.7-15.8	Primary IEPA Landfill Permits: 0970250003	Solid Waste: Active solid waste landfill facility.
ARF Compost, Countryside Landscape Waste	Rte 83 .75 Mi S Of Rt 120, Grayslake, Lake County	15.8-16.0	Primary IEPA Landfill Permits: 0970250006	Solid Waste: Part of Countryside Landfill facility.
Amoco Oil Company (currently BP gas station)	25737 US45/IL83, Mundelein, Lake County	8.7	Primary HAA: 238 Secondary IEPA: 0971155077	HAA: BTEX soil and groundwater impact documented to exist within IDOT ROW corridor.
Journey's End Inc. (currently CVS drugstore)	2075 US45/South Lake Street, Mundelein, Lake County	15.2	Primary HAA: 868 Secondary SRP: 0971155078 LUST: 20041380	HAA: BTEX groundwater impacts and BTEX and acetone impacts documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
LUST = leaking underground storage tank
ROW = right-of-way
SRP = State Remediation Program

4.7 Corridor 8

Two “priority high-risk” sites were identified along Corridor 8 and are described in Table 4-7. The two sites are currently operating gas stations.

Table 4-7. Corridor 8 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Shell Oil Products	106 US14/ Northwest Highway, Barrington, Cook County	0.4	Primary HAA: 637/637A Secondary IEPA: 0974085044 LUST: 981379	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.
ExxonMobil Oil Corporation	504 East Main Street, Barrington, Cook County	0.4	Primary HAA: 1205 Secondary IEPA: 0974085040 LUST: 990142	HAA: BTEX, MTBE and PAH soil and groundwater impact documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
MTBE = methyl tertiary-butyl ether

Table 4-7. Corridor 8 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information

HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
LUST = leaking underground storage tank
PAH = polycyclic aromatic hydrocarbons
ROW = right-of-way

4.8 Corridor 9

Two "priority high-risk" sites were identified along Corridor 9 and are described in Table 4-8. One site has petroleum impacts from an adjacent gas station facility and one site is a currently operating gas station.

Table 4-8. Corridor 9 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
BMO Harris Bank	325 North Hough Street, Barrington, Cook County	6.3	Primary SRP: 0314085096 Secondary USEPA: ILD077007300	SRP: The BMO Harris property appears to have impacts coming from gas station to south. Groundwater flow is to west/ southwest toward IL 59. There is a groundwater ordinance area established under IL 59. There is very strong potential for soil and groundwater BTEX impacts to extend under IL 59 at Corridor 9, adjacent to gas station on south side.
Equilon Enterprises LLC, Shell Oil Products US	100 US14/ Northwest Highway, Barrington, Lake County	6.7	Primary HAA: 176/1328 Secondary IEPA: 0974085059	HAA: BTEX and MTBE soil and groundwater impacts documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
MTBE = methyl tertiary-butyl ether
ROW = right-of-way
USEPA = U.S. Environmental Protection Agency

4.9 Corridor 11

Three "priority high-risk" sites were identified along Corridor 11 and are described in Table 4-9. One site is a dry cleaner with a solvent release adjacent to the corridor, one site is a construction waste landfill, and one is a concrete recycling and landscaping waste composter.

Table 4-9. Corridor 11 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
A-1 Cleaners	322 East Belvidere Road, Grayslake, Lake County	7.2	Primary SRP: 0970255075 Secondary USEPA: ILR000026690	SRP: PCE was detected in a monitoring well MW-6 at 0.007 milligram per liter on 7/2/2005, adjacent to the corridor. Depth to water is approx. 10 feet. NFR in 2007 with well restriction.

Table 4-9. Corridor 11 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Lake County Grading Co LLC	32901 North Milwaukee Ave, Libertyville, Lake County	12.0	Primary IEPA Solid Waste Database: 0970900001 Secondary USEPA: ILD005935648 Not on the NPL, NFRAP-Site does not qualify for the NPL based on existing information	Solid Waste: This site is active nonhazardous construction waste type solid waste landfill. Previously evaluated and deemed a CERCLA NFRAP facility. Proposed ROW has potential to encroach on border of facility.
CDHS LLC	25199 Route 120 and Wilson Road (SW corner), Round Lake, Lake County	2.6	Primary IEPA Solid Waste: 09715050672	Solid Waste: CDHS, LLC operating new landscape waste composting and concrete recycling facility on Round Lake-owned property. The north half of the property will be filled with clean fill to provide a level site for future commercial development. The south half of the site will preserve the existing wetlands on site and add a stormwater retention pond. Proposed ROW has potential to encroach on border of facility.

Notes:
IEPA = Illinois Environmental Protection Agency
ROW = right-of-way
USEPA = U.S. Environmental Protection Agency
CERCLA = Comprehensive Environmental Response Compensation and Liability Information System
NFR = no further remediation
NFRAP = no further remedial action plan
PCE = tetrachloroethene

4.10 Corridor 13

One “priority high-risk” site was identified along Corridor 13 and is described in Table 4-10. The site was previously occupied by a gas station.

Table 4-10. Corridor 13 Priority High-Risk Site

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
BP Products North America, Inc. (currently Dairy Queen)	306 Main Street, Wauconda, Lake County	1.2	Primary HAA: 445 Secondary IEPA: 0971855019, LUST: 881752	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
ROW = right-of-way

Table 4-10. Corridor 13 Priority High-Risk Site

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information

IEPA = Illinois Environmental Protection Agency
LUST = leaking underground storage tank

4.11 Corridor 14

No "priority high-risk" sites were identified within the Corridor 14 study area, as described above.

4.12 Corridor 15

Three "priority high-risk" sites were identified along Corridor 15 and are described in Table 4-11. The three sites are currently operating gas stations.

Table 4-11. Corridor 15 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Exxon Mobil Corporation	1790 Milwaukee Avenue, Libertyville, Lake County	4.8	Primary HAA: 671 Secondary IEPA: 0970900013 LUST: 871306, 902638	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.
Equillon Enterprises (currently Shell Gas Station)	1207 West Park Avenue, Libertyville, Lake County	1.7	Primary HAA: 808 Secondary IEPA: 0970905120 LUST: 20020726, 20021,	HAA: BTEX, PAH and MTBE soil and groundwater impacts documented to exist within IDOT ROW corridor.
Buchanan Energy LLC (Mobil Gas Station)	1185 West Park Avenue, Libertyville, Lake County	1.7	Primary HAA: 1060 Secondary IEPA: 0970905102 LUST: 881189; 20020606	HAA: BTEX soil and groundwater impacts documented to exist within IDOT ROW corridor.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
LUST = leaking underground storage tank
MTBE = methyl tertiary-butyl ether
PAH = Polycyclic Aromatic Hydrocarbons
ROW = right-of-way

4.13 Corridor 16

Seven "priority high-risk" sites were identified along Corridor 16 and are described in Table 4-12. Three of the sites are solid waste facilities (a landfill methane recovery facility, a municipal landfill, and a yard waste conversion facility), two sites are currently operating gas stations, and two sites are dry cleaners with solvent releases.

Table 4-12. Corridor 16 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Meadowview Yard Waste Conv Facility	North Route 83, Grayslake, Lake County	19.8	Primary: IEPA Solid Waste Landfill: 0970250008	Solid Waste: IEPA solid waste facility with last permit activity in 1998. Observed large mounds of soil that look like landfill type disposal. Until it can be determined whether this is a landfill, or an impacted area, and its extent, it appears to present priority high risk to Corridor 16.
Amoco Oil Company	19779 West Maple Avenue, Mundelein, Lake County	17.6 (arterial east of corridor)	Primary HAA: 657 Secondary IEPA: 097115516 LUST: 20001156	HAA: BTEX and PAH soil and BTEX groundwater impacts documented to exist within IDOT ROW corridor.
Premcor Refining Group	1080 W. Maple Avenue, Mundelein, Lake County	17.6 (arterial east of corridor)	Primary HAA: 1559 Secondary IEPA: 0971155239 LUST: 20101282	HAA: BTEX and MTBE soil and groundwater impacts documented to exist within IDOT ROW corridor.
Miller's Cleaners	619 North Midlothian Road Mundelein, Lake County	17.6 (arterial east of corridor)	Primary: SRP: 0971155036 Secondary: USEPA: IL0001018753	SRP: Chlorinated VOCs in soil and groundwater present at the site.
Grayslake Energy Center	31670 N Rte 83, Grayslake, Lake County	20.9	Primary: IEPA Landfill Permits: 0970250021	IEPA Landfill Permits: Methane recovery plant for nearby Countryside Landfill.
Countryside Landfill Inc	31725 North Illinois 83, Grayslake, Lake County	20.0-20.7	Primary: IEPA Landfill Permits: 0970250003	Solid Waste: Active solid waste landfill facility.
A-1 Cleaners	322 East Belvidere Road, Grayslake, Lake County	22.0	Primary SRP: 0970255075 Secondary USEPA: ILR000026690	SRP: PCE was detected in a monitoring well MW-6 at 0.007 milligram per liter on 7/2/2005, adjacent to the corridor. Depth to water is approx. 10 feet. NFR in 2007 with well restriction.

Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
IEPA = Illinois Environmental Protection Agency
LUST = leaking underground storage tank
MTBE = methyl tertiary-butyl ether
NFR = No Further Remediation
PAH = Polycyclic Aromatic Hydrocarbons
ROW = right-of-way
SRP = State Remediation Program
USEPA = U.S. Environmental Protection Agency
VOCs = Volatile Organic Compounds

4.14 Corridor 17

No “priority high-risk” sites were identified within the Corridor 17 study area, as described above.

4.15 Corridor 18

No “priority high-risk” sites were identified within the Corridor 18 study area, as described above.

4.16 Corridor 20

One "priority high-risk" site was identified along Corridor 20 and is described in Table 4-13. The site is a construction waste landfill.

Table 4-13. Corridor 20 Priority High-Risk Sites

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Lake County Grading Co LLC	32901 North Milwaukee Ave, Libertyville, Lake County	20.6	Primary IEPA Solid Waste Database: 0970900001 Secondary USEPA: ILD005935648 Not on the NPL, NFRAP-Site does not qualify for the NPL based on existing information	Solid Waste: This site is active nonhazardous construction waste type solid waste landfill. Previously evaluated and deemed a CERCLA NFRAP, facility. Proposed ROW has potential to encroach on border of facility.

Notes:
CERCLA = Comprehensive Environmental Response Compensation and Liability Information System
IEPA = Illinois Environmental Protection Agency
NFRAP = no further remedial action plan
ROW = right-of-way
SRP = State Remediation Program
USEPA = U.S. Environmental Protection Agency
VOCs = Volatile Organic Compounds

4.17 Corridor 21

One "priority high-risk" site was identified along Corridor 21 and is described in Table 4-14. The site is a former asphalt plant with impacts below Lake Street and the corridor that were remediated with in-situ chemical injections.

Table 4-14. Corridor 21 Priority High-Risk Site

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Curran Eastern 11 Acres	768 Lake Street Grayslake, Lake County	7.3 (arterial north of corridor)	Primary IEPA SRP: 0970250005	SRP: Former asphalt plant SRP site with benzene and chlorinated VOC soil and groundwater impacts in Lake Street/Corridor 21 ROW. Impacts treated with chemical injections along sewer line and spot excavations. Confirmation sampling indicated results below screening levels but potential for isolated areas of impacts to soil and groundwater present along with injection chemical residuals and biogas.

Notes:
IEPA = Illinois Environmental Protection Agency
ROW = right-of-way
SRP = State Remediation Program
VOC = Volatile Organic Compound

4.18 Corridor 22

One "priority high-risk" site was identified along Corridor 22, as described in Table 4-15. The site is a former asphalt plant with impacts below Lake Street and the corridor that were remediated with in-situ chemical injections.

Table 4-15. Corridor 22 Priority High-Risk Site

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Curran Eastern 11 Acres	768 Lake Street Grayslake, Lake County	7.3	Primary IEPA SRP: 0970250005	SRP: Former asphalt plant SRP site with benzene and chlorinated VOC soil and groundwater impacts in Lake Street/ Corridor 21 ROW. Impacts treated with chemical injections along sewer line and spot excavations. Confirmation sampling indicated results below screening levels but potential for isolated areas of impacts to soil and groundwater present along with injection chemical residuals and biogas.

Notes:
IEPA = Illinois Environmental Protection Agency
ROW = right-of-way
SRP = State Remediation Program
VOC = Volatile Organic Compound

4.19 Corridor 23

One "priority high-risk" site was identified along Corridor 23, as described in Table 4-16. The site is a landscape waste composting and concrete recycling facility.

Table 4-16. Corridor 23 Priority High-Risk Site

Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
CDHS LLC	25199 Route 120 and Wilson Road (SW corner), Round Lake, Lake County	3.3	Primary IEPA Solid Waste: 0971505067, 2018-507	Solid Waste: CDHS, LLC operating new landscape waste composting and concrete recycling facility on Round Lake-owned property. The north half of the property will be filled with clean fill to provide a level site for future commercial development. The south half of the site will preserve the existing wetlands on site and add a stormwater retention pond.

Notes:
IEPA = Illinois Environmental Protection Agency
ROW = right-of-way

4.20 Corridor 24

One "priority high-risk" site was identified along Corridor 24, as described in Table 4-17. The site is a shopping area with releases from a former gas station located on the site.

Table 4-17. Corridor 24 Priority High-Risk Site

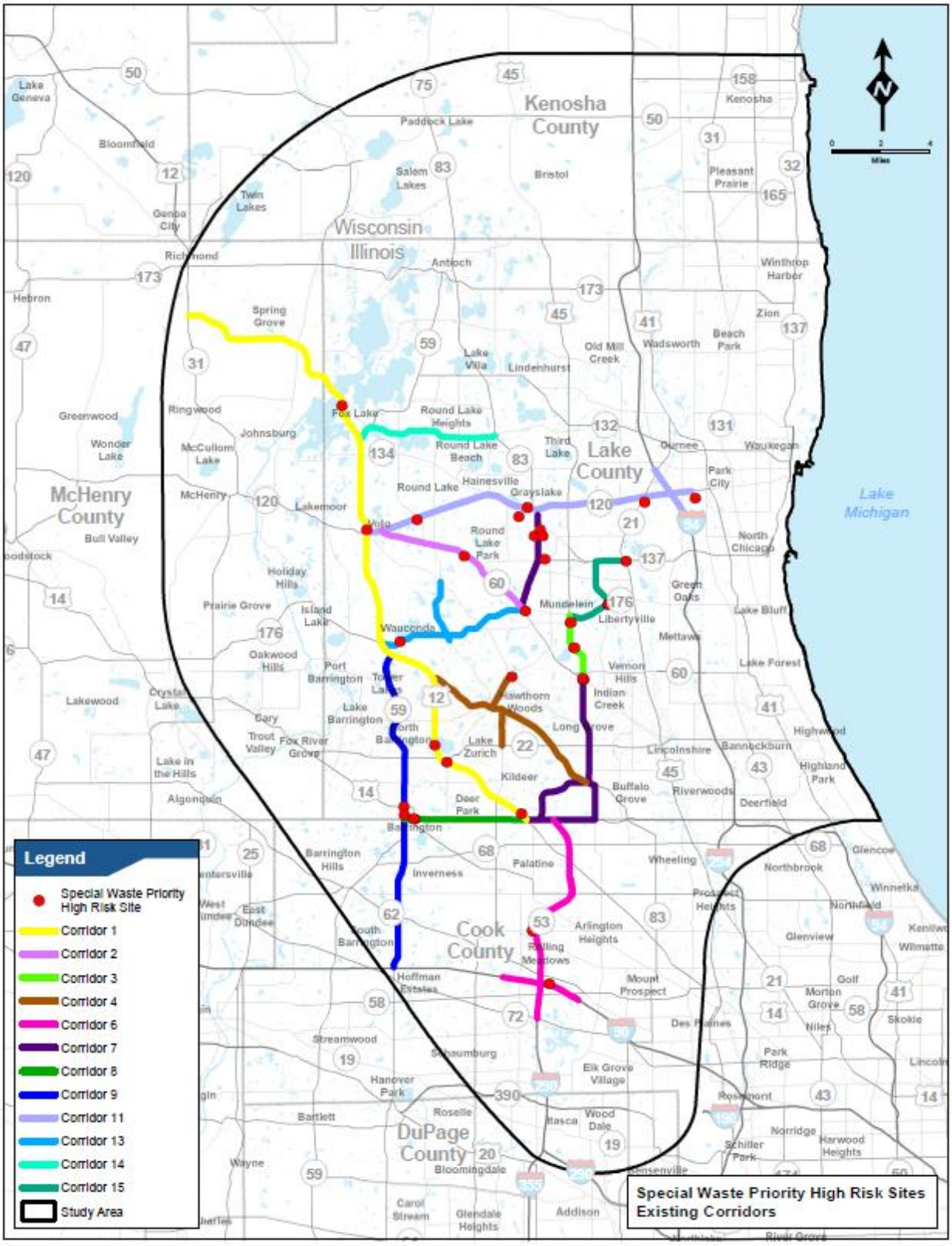
Site Name	Address	Corridor Milepost	Regulatory Database	Regulatory Database Site Information
Volo Village Center (currently vacant/ commercial land)	31700-31748 US 12/Rand Road, Volo, Lake County	0.5	Primary SRP: 0978995129 Secondary USEPA: IL0001018753	SRP: Both soil and groundwater contamination (BTEX) from underground storage tanks/former gas station. Construction worker exceedances immediately adjacent to US 12 ROW. Lead impacts modeled to migrate past property boundary. No HAA for this site. BTEX impacts likely to be encountered in corridor adjacent to this site.

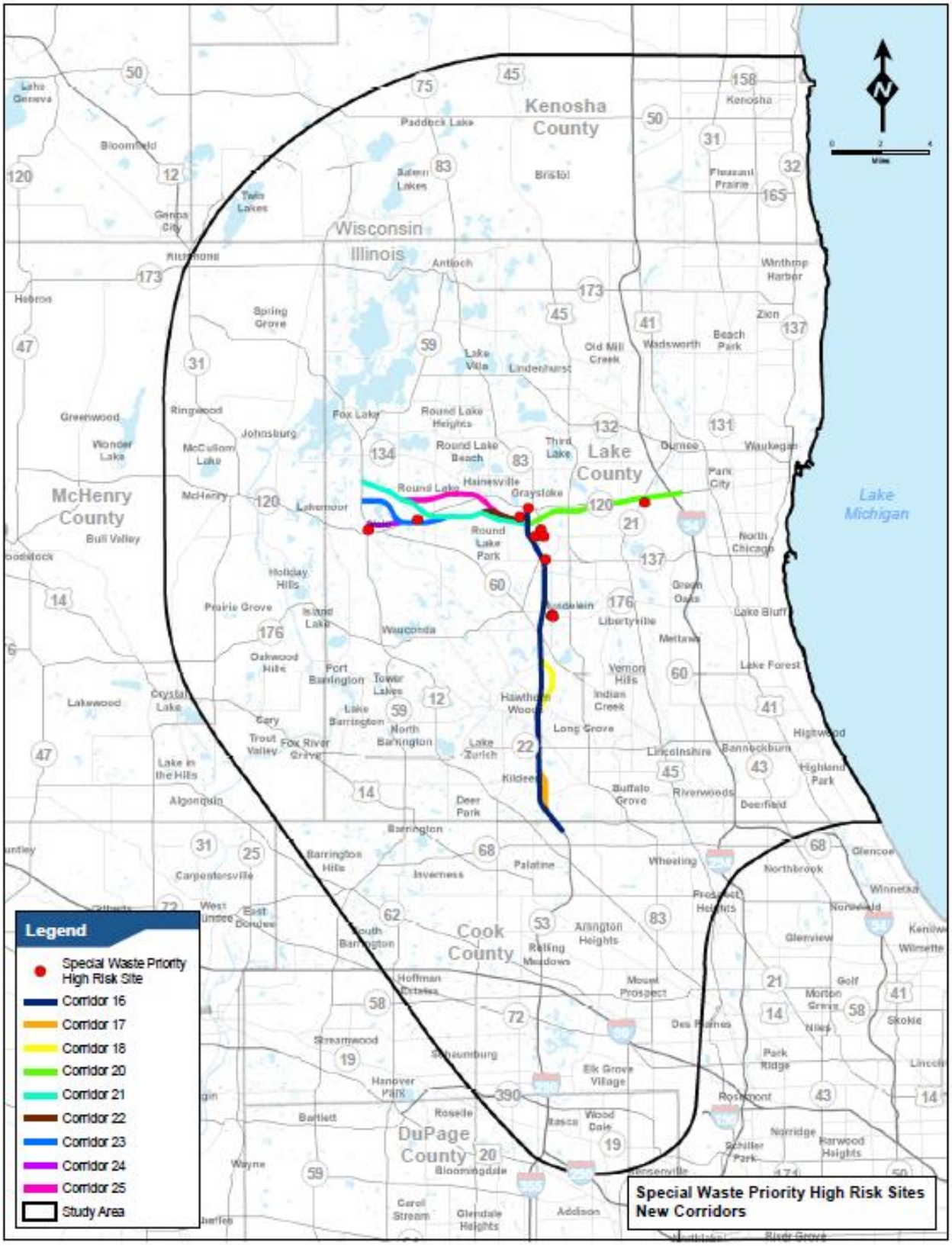
Notes:
BTEX = benzene, toluene, ethylbenzene, and xylene
HAA = Highway Authority Agreement
SRP = State Remediation Program
ROW = right-of-way
USEPA = U.S. Environmental Protection Agency

4.21 Corridor 25

No “priority high-risk” sites were identified within the Corridor 25 study area.

4.22 Special Waste Figures




Legend
Special Waste Priority High Risk Site
Corridor 16
Corridor 17
Corridor 18
Corridor 20
Corridor 21
Corridor 22
Corridor 23
Corridor 24
Corridor 25
Study Area
Special Waste Priority High Risk Sites
New Corridors
Kenosha County
Wisconsin
Illinois
Lake County
McHenry County
Cook County
DuPage County
Lake Michigan

5.0 References

Databases

Illinois Department of Transportation (IDOT) Highway Authority Agreements (HAAs) sites identified from the IDOT Extranet. Accessed August 15, 2018.

Illinois Environmental Protection Agency (IEPA). 2019. Agency file information via established electronic document request procedure, as appropriate. https://external.epa.illinois.gov/DocumentExplorer.

Illinois Environmental Protection Agency (IEPA). 2014. Landfill Permits. Accessed August 9, 2018. http://epadata.epa.state.il.us/land/solidwaste/index.asp.

Illinois Environmental Protection Agency (IEPA). 2018. Site Remediation Program (SRP) database. Accessed July 13 and November 6, 2018. https://www2.illinois.gov/epa/topics/cleanup-programs/bol-database/Pages/srp.aspx.

Illinois Environmental Protection Agency (IEPA). 2018. Locations of Landfills in Illinois GIS portal. Accessed August 9 and November 6, 2018. https://www2.illinois.gov/epa/topics/waste-management/landfills/Pages/landfill-locations.aspx.

Illinois Environmental Protection Agency (IEPA). 2018. Abandoned Landfills. Accessed August 9, 2018. http://www.epa.state.il.us/land/cleanup-programs/33-abandoned-landfills-book/abandoned-landfills.html.

Illinois Environmental Protection Agency (IEPA). Office of Brownfields Assistance (OBA) database. Accessed August 16, 2018. http://www.epa.illinois.gov/topics/cleanup-programs/brownfields/database/index. Following a IEPA website restructuring, the database could not be found.

Illinois Environmental Protection Agency (IEPA). State Response Action Program database. Accessed August 16, 2018.

U.S. Environmental Protection Agency (USEPA). 2018. Superfund Enterprise Management System (SEMS) database, formerly the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). Accessed July 23, 2018. https://www.epa.gov/enviro/sems-search.

U.S. Environmental Protection Agency (USEPA). 2018. National Priorities List (NPL) database. Accessed July 23, 2018. https://www.epa.gov/enviro/sems-search.

U.S. Environmental Protection Agency (USEPA). 2018. Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS), and Treatment, Storage, Disposal Facilities (TSD) sites. Accessed July 26, 2018. https://www3.epa.gov/enviro/facts/rcrainfo/search.html.

U.S. Environmental Protection Agency (USEPA). 2018. Brownfields. Accessed August 16, 2018. https://www.epa.gov/cleanups/cleanups-my-community.

The above databases were checked again on October 25-26, 2018, and no new sites were identified in the study area. HAA database was checked on January 16, 2019, to determine if additional sites were present adjacent to Corridors 16 through 25.

Methodology Memorandum

CH2M/Jacobs Engineering Group Inc. 2018. *Technical Memorandum No. 7, Special Waste Methodology, Tri-County Access*. August 18.

TECHNICAL MEMORANDUM #8

Traffic Noise

Traffic Noise

This memo details the affected environment for traffic noise.

1.0 Resource Introduction

Federal regulations for highway traffic noise analysis are contained in 23 *Code of Federal Regulations* (CFR) Part 772. The federal regulations state that traffic noise analyses are required for all projects considered a Type I project, as defined in the CFR.[1] The proposed TCA improvements are considered Type I noise projects because they will include either the addition of through traffic lanes or the construction of a highway on new location.

The federal regulations in 23 CFR 772 also establish noise abatement criteria (NAC), which are hourly equivalent noise levels (L_{eq}) where noise abatement should be evaluated. Sound is caused by the vibration of air molecules and its loudness is measured on a logarithmic scale using units of decibels (dB). Traffic noise for Federal Highway Administration (FHWA) projects is measured using a weighted frequency scale developed to correspond to the human ear's sensitivity (A-weighted sound level; dB[A]). When required, traffic noise is assessed for highway projects by predicting a steady-state, dB(A) (L_{eq}) hourly equivalent to the acoustic energy in the second-by-second dB(A) sound level. L_{eq} is based on the energy average, not a noise level average.

Five separate NAC (L_{eq}), classified by land use, are used by the FHWA to assess potential noise impacts. A traffic noise impact occurs when noise levels approach, meet, or exceed the NAC for noise sensitive land uses listed in Table 1.[2] "Approach" is defined by Illinois Tollway and Illinois Department of Transportation (IDOT) policy as one decibel less than the listed NAC. In determining the applicable noise activity category for the study area, existing land uses were reviewed.

Table 1. Noise Abatement Criteria - Hourly Weighted Sound Levels

Activity Category[a]	L_{eq}(h)	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67	Exterior	Residential.
C[1]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[1]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.

[1] 23 CFR Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (adopted 2010).

[2] Based on 23 CFR Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (adopted 2010).

Table 1. Noise Abatement Criteria - Hourly Weighted Sound Levels

Activity Category[a]	$L_{eq}(h)$	Evaluation Location	Activity Description
F	---	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	---	---	Undeveloped lands that are not permitted.

[a] Includes undeveloped lands permitted for this activity category.

A traffic noise receptor is an outdoor area of frequent human use that is associated with a noise-sensitive land use with NAC (Table 1). Receptors in the same geographic area, having similar noise characteristics and classified by the same NAC, are grouped into Common Noise Environments (CNE) to organize the noise analysis. Examples of CNEs could be a residential neighborhood, or a park and recreation complex, or a school with outdoor uses.

The affected environment analysis for traffic noise characterizes Tri-County Access (TCA) noise receptors' characteristics for each of the project corridors. As project development continues and roadway designs are studied in detail for noise impacts, the represented receptors will be grouped into CNEs, and noise impacts will be assessed at representative receptors. A representative receptor is the worst-case noise location within a CNE and is typically used as a noise impact screening location. The remaining receptors within a CNE that are not the representative receptor are represented receptors. The applicable NAC for all residential noise receptors evaluated is 67 dB(A).

The Illinois Tollway and IDOT traffic noise policies use similar procedures to define the traffic noise study area and noise receptors, as listed below. The traffic noise study area and the traffic noise receptors identified in this memorandum follow both policy documents.

Table 2. Illinois Tollway and IDOT Traffic Noise Policy Comparison: Study Area and Receptors

	Illinois Tollway Traffic Noise Policy (2012)[a]	IDOT Traffic Noise Policy and Manual (2017)[b]
Project Type	A traffic noise study is warranted when ALL of the following conditions are met: When Illinois Tollway undertakes engineering studies or projects that meet the definition of a Type I[c] project **OR** Project locations that meet two criteria: 1. the initial roadway construction did not consider the effect of traffic noise **and** 2. the traffic volumes have or are projected to at least double from the initial construction.	IDOT noise procedure regulations apply to all Type I projects only, federally or state-only funded. If any part of a project meets the definition of a Type I project, then the entire project area as defined in the NEPA document needs to be evaluated for traffic noise.
Land Use	When the adjacent land use consists of identified outdoor human activities that are identified within FHWA Activity Categories A, B, C, D, or E. Primary consideration should be given to exterior areas of frequent human use. Locations where undeveloped adjacent properties have secured permits for construction of the above noted activity categories by the jurisdiction having permit/zoning authority, prior to the Date of Public Knowledge.	Primary consideration should be given to exterior areas where frequent human use occurs for FHWA Activity Categories A, B, C, and E. Considerations should be given to Activity Category D land uses only if no exterior use areas are identified. Receptors shall include presently undeveloped lands for which development of a noise sensitive land use is permitted, as evidenced by a valid building permit issued by the local agency with jurisdiction prior to the date of public knowledge.

Table 2. Illinois Tollway and IDOT Traffic Noise Policy Comparison: Study Area and Receptors

	Illinois Tollway Traffic Noise Policy (2012)[a]	IDOT Traffic Noise Policy and Manual (2017)[b]
Noise Study Area	When the location of noise sensitive receptors is within 500 feet from the proposed or existing edge of shoulder, as highway traffic noise impacts are not typical for receptors more than 500 feet from heavily traveled roadways.	For initial screening, land use within 500 feet of proposed improvements shall be reviewed. If there are sensitive receptors further than 500 feet from the roads, these also should be considered and may be included on a case-by-case basis in the traffic noise analysis, dependent upon the sensitivity of the receptor.

[a] Illinois State Toll Highway Authority. 2012. Traffic Noise Study and Abatement Policy.

[b] Illinois Department of Transportation. 2017. *Bureau of Design and Environment Manual*. Chapter 26-6, Noise Analyses. December.

[c] As defined in Section 1.

In summary, traffic noise is a localized concern. Most traffic noise impacts occur within 500 feet of a roadway's edge. The System Alternatives are each in different geographic locations, each with their own unique sound environment. Some of the System Alternatives are improvements of existing corridors, and others are new alignment corridors. For these reasons, each system alternative's noise evaluation will have a traffic noise analysis area based on its unique route and improvement type. Initial traffic noise screening typically occurs for lands within 500 feet of the edge of a roadway's proposed pavement. This is because roadway traffic noise typically does not cause impacts at distances greater than 500 feet from heavily traveled roadways.[3]

This memorandum will address traffic noise at the system alternative level by tabulating the number of noise receptors within 500' of the estimated edge of proposed pavement (the noise analysis area).

2.0 Methodology

As indicated in the Traffic Noise Methodology memorandum, sensitive noise receptors were identified using readily available information from secondary sources (see Section 5.0 References). A desktop review of available geographic information system (GIS) information was conducted in 2018. Field verifications were completed in Fall 2018. For existing corridors, the proposed edge of pavement was assumed to be 45 feet from the approximate existing centerline. Therefore, sensitive traffic noise receptors were identified within a defined noise analysis area of 545 feet from the approximate existing centerline (1,090 total feet in width) for existing corridors, and within a defined noise analysis area of 500 feet from edge of proposed roadway for new alignment corridors.

3.0 TCA Study Area

The TCA study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA Study Area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA Study Area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

Table 1 in Section 1.0 summarizes land uses that FHWA determines are sensitive to traffic noise and should be studied for traffic noise impacts. The exhibits in the Land Use Affected Environment memorandum shows land uses in the TCA Area, and the exhibits in the Special Lands Affected Environment memorandum show parks and recreational uses. These two memoranda summarize the existing TCA Area land uses. Residential lands are the majority TCA Area land use, which are noise sensitive and require noise study. Open land and agricultural lands are the second and third most

[3] U.S. Department of Transportation. 2011. "Highway Traffic Noise: Analysis and Abatement Guidance." Federal Highway Administration, FHWA-HRP-10-025. December.

prevalent land uses in the TCA Area respectively, but these are not considered noise sensitive and do not require noise study. Noise sensitive uses within the TCA study area include office, parks, schools, and places of worship uses. Non-noise sensitive uses include retail, industrial, warehousing, and manufacturing.

4.0 System Alternative Corridors

The noise receptors within each alternative's noise study area are tabulated in this section to characterize the noise study area. Figures showing the noise analysis area and noise receptors are included in Attachment A.

4.1 Corridor 1

Traffic Noise Analysis Areas

Location and Description

Corridor 1 (US 12) is the longest corridor studied at approximately 28 miles. Corridor 1 extends through 11 communities. The lands adjacent to Corridor 1 are generally flat with some gradual hills. There are areas of steep hills and changes in topography near Fox Lake and north of Volo. There are no existing noise walls adjacent to Corridor 1.

Existing Land Use and Development

Land development along Corridor 1 is a mix of urban, suburban, and rural uses with varied development densities and is primarily comprised of mixed residential land uses of varying development densities. Corridor 1's land development is most dense through the Villages of Fox Lake, Wauconda, and Lake Zurich. Recreation or natural areas also flank the corridor, and these uses are noise sensitive (such as Paulus Park, Manor Park, Wynstone Golf Club, Lakewood Forest Preserve, Singing Hills Forest Preserve, Fish Lake Campground, and Nippersink Canoe Base). Scattered commercial uses are found throughout the corridor and some of these are noise sensitive. Scattered tracts of open space or agricultural land are found across the northern half of the corridor. Industrial development is in dispersed locations through the corridor but is largely not noise sensitive. Corridor 1 contains four schools (Robert Crown Elementary and three preschool/day care centers), two places of worship, and no cemeteries.

Examples of noise sensitive developments in Corridor 1 include:

- **Nippersink Canoe Base**

  Nippersink Canoe Base is a 377-acre conservation site owned and maintained by the McHenry County Conservation District. The property includes natural areas, canoe launches, nature trails, and picnic areas.

Photo 1. Nippersink Canoe Base
Photo Source: McHenry County Conservation District
http://www.mccdistrict.org/rccms/nippersink-canoe-base/

- **Fish Lake Beach Camping Resort**

  Fish Lake Beach Camping Resort is located outside Volo. In addition to its 627-pad campground (for RV camping tent campers, motor homes, 5th wheels, travel trailers), the resort has a beach, a dog park, mini-golf, pools and hot tubs, boating, picnic areas, a car racing track, playgrounds, a recreation center, basketball courts, softball fields, and sand volleyball courts. Approximately 50 of the resort's camping pads are located within the noise study area for Corridor 1, and each of these locations were identified as a noise receptor. There is a recreation center on the resort property that is also within the Corridor 1 noise study area. The approximately

575 camping pads located outside the noise study area were assigned noise receptors at the recreation center because the center is a common use area for the entire resort.

Photo 2. Fish Lake Beach Camping Resort

Photo 3. Fish Lake Beach Camping Resort
Photo Source: Huff & Huff, a subsidiary of GZA

- **Lakewood Forest Preserve**

Lakewood Forest Preserve is a Lake County Forest Preserve site located near Wauconda. Lakewood has many activities and amenities. Adjacent to Corridor 1, Lakewood Forest Preserve has a trail access point and trail, restrooms, a pay kiosk, and an information board.

Photo 4. Lakewood Forest Preserve

Photo 5. Lakewood Forest Preserve
Source: Huff & Huff, a subsidiary of GZA

- **Mt. Saint Joseph Intermediate Care Facility for Handicap Women**

  Mt. Saint Joseph is a residential care facility for women with a range of disabilities. The facility provides residential care to approximately 125 women. Additionally, Mt. Saint Joseph also has a developmental training center that provides services to the local community in addition to its residents.

Photo 6. Mt. Saint Joseph Intermediate Care Facility

Photo 7. Mt. Saint Joseph Intermediate Care Facility
Photo Source: Huff & Huff, a subsidiary of GZA

Traffic Noise Receptors

Corridor 1: Noise Study Area's Affected Environment and Noise Receptors

Table 3 describes the affected environment for Corridor 1's noise study area and summarizes the number of noise receptors within Corridor 1's noise study area.

Table 3. Corridor 1: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
US 12	Flat to gradual hills; steep hills near Fox Lake and Volo	No	28.60	2,510

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 3, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 1's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 2,510 noise receptors were identified in Corridor 1's noise study area.

The receptor observed to have the highest number of units among Corridor 1 noise receptors was the apartment complex of Highlands of Kensington Manor near Richmond.

4.2 Corridor 2

Traffic Noise Analysis Areas

Location and Description

Corridor 2 (IL 60) is approximately 7 miles long and extends through four communities. The lands adjacent to Corridor 2 are generally flat with some gradual hills. There are no existing noise walls adjacent to Corridor 2.

Existing Land Use and Development

The prevalent land uses in Corridor 2 are residential subdivisions and agricultural lands. The noise sensitive land uses adjacent to Corridor 2 are primarily residential subdivisions. Small tracts of recreational or natural areas also flank the corridor and these uses are noise sensitive (such as Kettle Grove Forest Preserve, Lakewood Grove Park, and Ivanhoe Golf Club). Land uses in the corridor that are not noise sensitive include a pocket of industrial development at IL Route 120, as well as scattered agricultural land throughout Corridor 2. Corridor 2 contains two schools (St. Mary of the Annunciation's Frassati Academy and a day care/preschool), one place of worship, and one cemetery.

Examples of noise sensitive developments in Corridor 2 include:

- **St. Mary of the Annunciation Church, Cemetery, and Frassati Catholic Academy**

  St. Mary of the Annunciation is a Roman Catholic church located on Erhart Road, adjacent to Corridor 2. Frassati Catholic Academy is the regional Catholic elementary and middle school (preschool through eighth grade). The school has two campuses. One campus is located in Wauconda (located within the noise study area for Corridor 13). The second school campus is located on the St. Mary of the Annunciation property along Corridor 2.

Photo 8. St. Mary of the Annunciation Church, Cemetery, and Frassati Catholic Academy

Photo 9. St. Mary of the Annunciation Church, Cemetery, and Frassati Catholic Academy
Photo Source: Huff & Huff, a subsidiary of GZA

- **Lakewood Grove Park**

  Lakewood Grove Park is on IL 60 in Round Lake and is under the jurisdiction of the Round Lake Area Park District. The playground has bike racks, a natural area, a picnic shelter, a playground, soccer fields, and the Prairie Walk Subdivision Trail.

Photo 10. Lakewood Grove Park
Source: Huff & Huff, a subsidiary of GZA

Corridor 2: Noise Study Area's Affected Environment and Noise Receptors

Table 4 describes the affected environment for Corridor 2's noise study area and summarizes the number of noise receptors within Corridor 2's noise study area.

Table 4. Corridor 2: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
IL 60	Flat to gradual hills	No	6.72	333

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 4, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 2's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 333 noise receptors were identified in Corridor 2's noise study area.

The receptor observed to have the highest number of units among Corridor 2 noise receptors was the Frassati Catholic Academy at St. Mary of the Annunciation Church on Erhart Road in Mundelein.

4.3 Corridor 3

Traffic Noise Analysis Areas

Location and Description

Corridor 3 (US 45) is approximately 3 miles long. The lands adjacent to Corridor 3 are generally flat. There are no existing noise walls adjacent to Corridor 3.

Existing Land Use and Development

Corridor 3 is within the Village of Mundelein and is composed of developed urban land. The prevalent land uses in Corridor 3 are residential subdivisions (which are noise sensitive) and mixed urban commercial lands (some of which are noise sensitive). Portions of the urban commercial lands are uses such as restaurants and offices, which are generally considered noise sensitive. Land uses in the corridor that are not noise sensitive are primarily scattered retail commercial uses and a pocket of industrial development near Welch Road. Corridor 3 contains two schools (Santa Maria del Popolo School and Children's House Montessori School), three places of worship, and no cemeteries.

Examples of noise sensitive developments in Corridor 3 include:

- **Santa Maria del Popolo Church and School**

Santa Maria del Popolo is a bilingual Catholic Church on both sides of Lake Street in Mundelein. The west side of Lake Street location includes the church's chapel, parish center, rectory offices, and other facilities, with the main church located on the east side of Lake Street.

Photo 11. Santa Maria del Popolo Church and School

Photo 12. Santa Maria del Popolo Church and School
Photo Source: Huff & Huff, a subsidiary of GZA

- **Kracklauer Park**

Kracklauer Park is located across from Santa Maria del Popolo church on Seymour Avenue in Mundelein. The park has a gazebo for rent, along with a picnic area, a playground, tennis courts, and natural areas with a walking path.

Photo 13. Kracklauer Park

Photo 14. Kracklauer Park
Photo Source: Huff & Huff, a subsidiary of GZA

- **St. Andrew Lutheran Church**

  St. Andrew Lutheran Church is located on Lake Street in Mundelein.

Photo 15. St. Andrew Lutheran Church

Photo 16. St. Andrew Lutheran Church
Photo Source: Huff & Huff, a subsidiary of GZA

Corridor 3: Noise Study Area's Affected Environment and Noise Receptors

Table 5 describes the affected environment for Corridor 3's noise study area and summarizes the number of noise receptors within Corridor 3's noise study area.

Table 5. Corridor 3: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
US 45	Generally flat	No	2.79	1,100

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 5, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 3's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 1,100 noise receptors were identified in Corridor 3's noise study area.

The receptor observed to have the highest number of units among Corridor 3 noise receptors was the Super 8 Motel on Lake Street/US Highway 45 north of IL Route 83.

4.4 Corridor 4

Traffic Noise Analysis Areas

Location and Description

Corridor 4 (Old McHenry, Midlothian, and Quentin Roads) is approximately 11 miles long and extends through six communities. The lands adjacent to Corridor 4 are generally flat with some gradual hills. There are no existing noise walls adjacent to Corridor 4.

Existing Land Use and Development

The prevalent land use in Corridor 4 is residential subdivisions, which area noise sensitive land use. Small portions of commercial lands are scattered through Corridor 4 and some of these commercial lands are

noise sensitive uses such as offices. Small tracts of recreational or natural areas also flank the corridor, and these uses are noise sensitive (such as Kemper Lakes Golf Club, JCC Day Camp, Heron Creek Forest Preserve, Twin Orchard Country Club, Reed-Turner Woodlands, Woodland Park, Hawthorn Woods Community Park). Corridor 4 contains six schools (Lake Zurich North Middle School, Quentin Road Christian Preschool, St. Matthew School, Goddard School, Kildeer Countryside School, and Primrose School of Long Grove), three places of worship, and two cemeteries.

Examples of noise sensitive developments in Corridor 4 include:

- **St. Matthew Lutheran Church and School**

  St. Matthew Lutheran Church and St. Matthew Early Childhood Center are located adjacent to Corridor 4, near Quentin Road in Hawthorn Woods. The early childhood center is a preschool for three- and four-year-old children and includes an outdoor play area. A cemetery is also located on the property.

Photo 17. St. Matthew Lutheran Church and School

Photo 18. St. Matthew Lutheran Church and School
Photo Source: Huff & Huff, a subsidiary of GZA

- **Community Park**

  Community Park is located along Corridor 4 at Quentin Road, in Hawthorn Woods. Amenities at the park include baseball and softball fields, a lacrosse field, a multipurpose field, a basketball court, tennis courts, a playground, a hockey rink, a sledding hill, a gazebo, picnic areas, trails, and natural areas. The park has rental space for special events and hosts baseball tournaments and summer concerts as well.

Photo 19. Community Park

Photo 20. Community Park
Photo Source: Huff & Huff, a subsidiary of GZA

- **Heron Creek Forest Preserve**

  Heron Creek Forest Preserve is located south of Lake Zurich Road on Old McHenry Road in Lake Zurich. Within Corridor 4's noise study area, Heron Creek Forest Preserve has trails, picnic areas, playgrounds, restrooms, and natural areas.

Photo 21. Heron Creek Forest Preserve

Photo 22. Heron Creek Forest Preserve
Photo Source: Huff & Huff, a subsidiary of GZA

Corridor 4: Noise Study Area's Affected Environment and Noise Receptors

Table 6 describes the affected environment for Corridor 4's noise study area and summarizes the number of noise receptors within Corridor 4's noise study area.

Table 6. Corridor 4: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
Old McHenry, Midlothian, and Quentin Roads	Flat to gradual hills	No	10.94	803

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 6, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 4's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 803 noise receptors were identified in Corridor 4's noise study area.

The receptor observed to have the highest number of units among Corridor 4 noise receptors was Lake Zurich Middle School at Old McHenry Road and Hubbard Lane.

4.5 Corridor 6

Traffic Noise Analysis Areas

Location and Description

Corridor 6 (IL 53) is approximately nine miles long and extends through four communities. The lands adjacent to Corridor 6 are generally flat. Within the corridor there are sections of adjacent existing noise walls, as summarized below.

- The Illinois Tollway has a noise barrier in the northwest quadrant of the IL 53/I-90 interchange in Rolling Meadows.
- Wooden noise walls or sight-screen walls exist on the east and west sides of IL 53 from IL 68/Dundee Road to Lake Cook Road.
- There are existing noise walls along the north side of I-90 in the vicinity of the IL 53/I-290/I-90 interchange.

Existing Land Use and Development

The prevalent land uses in Corridor 6 are densely developed residential and urban commercial uses. The residential developments and some of the commercial uses (such as offices, hotels, and restaurants) are noise sensitive. Corridor 6 is adjacent to scattered industrial developments and large retail developments such as Woodfield Mall, which are not noise sensitive. Small tracts of recreational or natural areas also flank the corridor and these uses are noise sensitive (such as Busse Woods Forest Preserve, North Salk Park, Twin Lakes Golf Course, Doug Lindberg Park, Greenbriar Connector Parkway, and Buffalo Creek Forest Preserve). Corridor 6 contains one school (Central Road Elementary School), three places of worship, and one cemetery.

Examples of noise sensitive developments in Corridor 6 include:

- **Ned Brown (Busse Woods) Forest Preserve**

  Busse Woods Forest Preserve (Forest Preserve of Cook County (FPCC) is located in the southeast quadrant of the I-90 and I-290 interchange and is bisected by Higgins Road. Busse Woods is over 3,000 acres in size and has a wealth of activities and natural areas. Within the Corridor 6 noise study area, Busse Woods has trails, picnic areas, FPCC offices, and a model airplane flying field.

Photo 23. Ned Brown (Busse Woods) Forest Preserve
Photo Source: Cook County Forest Preserve http://fpdcc.com/busse-woods/

Photo 24. Central Road Elementary School
Photo Source: Huff & Huff, a subsidiary of GZA

- **Central Road Elementary School**

  Central Road Elementary School is located within the Corridor 6 noise study area at Central Road in Rolling Meadows, IL. Approximately 600 kindergarten through 6th grade students are enrolled here. The exterior areas of frequent use at the school include a playground and sports fields.

- **St. Mary's Coptic Orthodox Church**

  St. Mary's Coptic Orthodox Church is located within Corridor 6's noise study area, south of Briarwood Lane in Palatine. This church is located adjacent to another church, Bethel Lutheran Church. These churches are adjacent to the frontage road west of IL 53 and currently have line-of-sight to IL 53 through a single row of trees.

Photo 25. St. Mary's Coptic Orthodox Church

Photo 26. St. Mary's Coptic Orthodox Church
Photo Source: Huff & Huff, a subsidiary of GZA

- **Mission San Juan Diego Catholic Church**

  Mission San Juan Diego Catholic Church is located within Corridor 6's noise study area, north of Plymouth Drive in Arlington Heights. The church is adjacent to Wilke Road, the frontage road on the east side of IL 53 and has line-of-sight to IL 53.

Photo 27. Mission San Juan Diego Catholic Church

Photo 28. Mission San Juan Diego Catholic Church
Photo Source: Huff & Huff, a subsidiary of GZA

Corridor 6: Noise Study Area's Affected Environment and Noise Receptors

Table 7 describes the affected environment for Corridor 6's noise study area and summarizes the number of noise receptors within Corridor 6's noise study area.

Table 7. Corridor 6: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
IL 53	Generally flat	Yes	8.96	4,825

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 7, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 6's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 4,825 noise receptors were identified in Corridor 6's noise study area.

The receptor observed to have the highest number of units among Corridor 6 noise receptors was the apartment complex of The Preserve at Woodfield at IL 53 and I-90.

4.6 Corridor 7

Traffic Noise Analysis Areas

Location and Description

Corridor 7 consists of four roadways (Lake Cook Road, IL 83, IL 53, and Arlington Heights Road) and is approximately 16 miles long. It extends through eight communities. The lands adjacent to Corridor 7 are generally flat with some gradual hills in the Long Grove area. Corridor 7 has a section of adjacent existing noise walls on Lake Cook Road at IL 53. The noise walls are located on the east and west sides of IL 53 along the south side of Lake Cook Road.

Existing Land Use and Development

Corridor 7's land development reflects suburban development patterns, which is less densely developed than a city center or inner ring suburb but more densely developed than rural areas. Corridor land uses range from open lands to residential subdivisions. Recreational or natural areas also flank the corridor, and these uses are noise sensitive (such as Buffalo Creek Forest Preserve, The Grove Country Club, Children's Park, Twin Orchard Country Club, Stonehaven Park, Longview Meadows Park, Royal Melbourne Golf Course, Lemmon-Hill Park, and Royal Oak Park). Small, scattered tracts of open space or agricultural land are found across the corridor. Corridor 7 contains one school (The Grove Montessori School), five places of worship, and one cemetery.

Examples of noise sensitive developments in Corridor 7 include:

- **Rock of Israel Messianic Congregation**

  The Rock of Israel Messianic Congregation is a faith community located half a mile south of IL 83 in Long Grove. The building is slightly shielded from Arlington Heights Road by a berm.

Photo 29. Rock of Israel Messianic Congregation

Photo 30. Rock of Israel Messianic Congregation
Photo Source: Huff & Huff, a subsidiary of GZA

- **Buffalo Creek Forest Preserve**

  Buffalo Creek Forest Preserve is a Lake County Forest Preserve that is located south of Checker Road on Arlington Heights Road in Long Grove. The forest preserve offers trail use and restrooms, along with open space. In the Corridor 7 noise study area Buffalo Creek Forest Preserve has open space, a small monument, and other spaces that are currently in development due to an ongoing reservoir expansion project at the site.

Photo 31. Buffalo Creek Forest Preserve

Photo 32. Buffalo Creek Forest Preserve
Photo Source: Huff & Huff, a subsidiary of GZA

- **Avantara Long Grove**

  Avantara Long Grove is a transitional rehabilitation/post-hospital care facility located at Checker Road and Arlington Heights Road in Long Grove. The primary area of frequent use at this facility is a rear patio.

Photo 33. Avantara Long Grove

Photo 34. Avantara Long Grove
Photo Source: Huff & Huff, a subsidiary of GZA

Corridor 7: Noise Study Area's Affected Environment and Noise Receptors

Table 8 describes the affected environment for Corridor 7's noise study area and summarizes the number of noise receptors within Corridor 7's noise study area.

Table 8. Corridor 7: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
Lake Cook Road, IL 83, Hicks Road, Arlington Heights Road, and Ivanhoe Road/IL 83	Flat to gradual hills	Yes	15.58	2,499

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 8, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 7's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 2,499 noise receptors were identified in Corridor 7's noise study area.

The receptors observed to have the highest number of units among Corridor 7 noise receptors are the assisted living/elder care facilities of Arboria of Long Grove (IL 53 and Long Grove Road in Long Grove) and the Harbor Chase Assisted Living facility (IL 53 and IL 83 in Long Grove).

4.7 Corridor 8

Traffic Noise Analysis Areas

Location and Description

Corridor 8 (Lake Cook Road) is five miles long and extends through three communities. The lands adjacent to Corridor 8 are generally flat with some gradual hills. There are no existing noise walls adjacent to Corridor 8.

Existing Land Use and Development

Lands adjacent to Corridor 8 are primarily comprised of suburban residential subdivisions. Another large noise sensitive land use, Deer Grove Forest Preserve, flanks a portion of the corridor. Corridor 8's western terminus is developed with commercial uses, several of which are noise sensitive (such as a hotel and an office). Corridor 8 contains two schools (St. Anne School and Lutheran Church of Atonement Day School), eight places of worship, and one cemetery.

Examples of noise sensitive developments in Corridor 8 include:

- **Park in downtown Barrington**

  A pocket park/small civic space is adjacent to Corridor 8 at County Line Road in downtown Barrington. The civic space features a large gazebo and planting areas.

Photo 35. Park in downtown Barrington

Photo 36. Park in downtown Barrington
Photo Source: Huff & Huff, a subsidiary of GZA

- **Lutheran Church of Atonement and Day School, with Lines Elementary soccer fields**

  The Lutheran Church of Atonement and its Day School (a preschool for children aged seven weeks to seven years, comprised of four classes) are adjacent to sports fields used by Lines Elementary, a Barrington elementary school located behind the church. The Lines school building is outside of the Corridor 8 noise study area, but its sports fields are within the noise study area. Lines Elementary has approximately 450 students, Exterior use areas at the church include a community garden area and play area on the church property.

Photo 37. Lutheran Church of Atonement and Day School

Photo 38. Lutheran Church of Atonement and Day School
Photo Source: Lutheran Church of Atonement https://churchofatonement.org/

Corridor 8: Noise Study Area's Affected Environment and Noise Receptors

Table 9 describes the affected environment for Corridor 8's noise study area and summarizes the number of noise receptors within Corridor 8's noise study area.

Table 9. Corridor 8: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
Lake Cook Road	Flat to gradual hills	No	5.00	1,137

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 9, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 8's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 1,137 noise receptors were identified in Corridor 8's noise study area.

The receptor observed to have the highest number of units among Corridor 8 noise receptors was Solana Deer Park Assisted Living on Lake Cook Road at Quentin Road in Deer Park.

4.8 Corridor 9

Traffic Noise Analysis Areas

Location and Description

Corridor 9 (Barrington Road/IL 59) is approximately fourteen miles long and extends through nine communities. The lands adjacent to Corridor 9 are generally flat with some gradual hills, leading to rolling hills in the north end of the corridor. There are no existing noise walls adjacent to Corridor 9.

Existing Land Use and Development

Land development along Corridor 9 is a mix of urban and suburban uses with varied development densities and is primarily comprised of suburban residential subdivisions. Corridor 9 land development is most dense in the Village of Barrington's central business district. Recreation or natural areas also flank the corridor, and these uses are noise sensitive (such as Crabtree Forest Preserve, Langendorf Park, Biltmore Country Club, and Grassy Lake Forest Preserve). Scattered tracts of open space or agricultural land are found across the corridor. Corridor 9 contains five schools (North Barrington Elementary School, Creative Learning Montessori School, Grove Avenue Elementary School, Salem Methodist Preschool, and Hough Street Elementary School), four places of worship, and no cemeteries.

Examples of noise sensitive developments in Corridor 9 include:

- **Hough Street Elementary School, Barrington**

  Hough Street Elementary School is in downtown Barrington, IL. The school serves kindergarten through fifth grades. The school serves approximately 300 students.

- **Park in downtown Barrington**

  The pocket park/small civic space adjacent to Corridor 8 at County Line Road in downtown Barrington is also adjacent to Corridor 9 (see Corridor 8 description above).

Photo 39. Hough Street Elementary School
Photo Source: Google Earth

Corridor 9: Noise Study Area's Affected Environment and Noise Receptors

Table 10 describes the affected environment for Corridor 9's noise study area and summarizes the number of noise receptors within Corridor 9's noise study area.

Table 10. Corridor 9: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
Barrington Road/IL 59	Flat to gradual hills; rolling hills at north end	No	13.16	2,650

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 10, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 9's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 2,650 noise receptors were identified in Corridor 9's noise study area.

The receptor observed to have the highest number of units among Corridor 9 noise receptors was the Lake Barrington Shores condominium community at IL 59 and Miller Road in Barrington.

4.9 Corridor 11

Traffic Noise Analysis Areas

Location and Description

Corridor 11 (IL 120) is approximately 14 miles long and extends through 8 communities. The lands adjacent to Corridor 11 are generally flat with some gradual hills. There are no existing noise walls adjacent to Corridor 11.

Existing Land Use and Development

Land development along Corridor 11 is a mix of urban, suburban, and rural uses with varied development densities and is primarily comprised of residential subdivisions. Corridor 11's land development is most dense through the Village of Grayslake. Recreation or natural areas also flank the corridor and these uses are noise sensitive (such as Kettle Grove Forest Preserve, Nippersink Forest Preserve, Tooterville Park, Jaycee Park, Prairie Towne Park, Almond Marsh Forest Preserve, Twin Lakes Park, Merit Golf Club, Heather Ridge Golf Club, and Lake Carina Forest Preserve). Scattered commercial uses are found across the corridor and some of these are noise sensitive. Scattered tracts of open space or agricultural land are found across the corridor. A large industrial development is adjacent to the corridor in Volo, near the western corridor terminus, which is largely not noise sensitive (some office land uses, which are noise sensitive, are found within industrial developments along Corridor 11). Corridor 11 contains four schools (Westlake Christian Academy, St. Gilbert's School, Prairieview School, and Gloryland Preschool), five places of worship, and three cemeteries.

Examples of noise sensitive developments in Corridor 11 include:

- **Nippersink Forest Preserve**

  Nippersink Forest Preserve is located at IL 120/Belvidere Road and Bacon Road in Round Lake. Within Corridor 11's noise study area, Nippersink Forest Preserve has picnic areas, restrooms, trails, Nippersink Lake, and birding areas.

Photo 40. Nippersink Forest Preserve
Photo Source: Lake County Forest Preserve

- **Hope Orthodox Presbyterian Church**

  Hope Orthodox Presbyterian Church is located east of US 45 adjacent to Corridor 11 in Lake Forest.

Photo 41. Hope Orthodox Presbyterian Church
Photo Source: Google Earth

- **Northwestern Medicine: Grayslake Outpatient Center**

  Northwestern Medicine Grayslake Outpatient Center is located adjacent to Corridor 11 at US 45 in Grayslake. The facility is comprised of outpatient medical offices and specialists, along with an emergency center. If patients require inpatient care, they are transferred to another Northwestern hospital.

Photo 42. Grayslake Outpatient Center
Photo Source: Northwestern Medicine https://www.nm.org/locations/grayslake-outpatient-center

Corridor 11: Noise Study Area's Affected Environment and Noise Receptors

Table 12 describes the affected environment for Corridor 11's noise study area and summarizes the number of noise receptors within Corridor 11's noise study area.

Table 11. Corridor 11: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
IL 120	Flat to gradual hills	No	13.52	2,362

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points

Table 11. Corridor 11: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]

As referenced in Table 12, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 11's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 2,361 noise receptors were identified in Corridor 11's noise study area.

The receptors observed to have the highest number of units among Corridor 11 noise receptors are the Travanse Assisted Living facility and the Lake Forest Hospital, both near IL 120 and US 45 in Grayslake.

4.10 Corridor 13

Traffic Noise Analysis Areas

Location and Description

Corridor 13 is comprised of two roadways (IL 176 and Fairfield Road). Corridor 13 extends through three communities. The lands adjacent to Corridor 13 are generally flat with some gradual hills, with more pronounced hills near Fairfield Road. There are no existing noise walls adjacent to Corridor 13.

Existing Land Use and Development

Land development along Corridor 13 is a mix of urban, suburban, and rural uses with varied development densities and is primarily comprised of residential subdivisions. Corridor 13's land development is most dense through the Village of Wauconda. Recreation or natural areas also flank the corridor and these uses are noise sensitive (such as Lakewood Forest Preserve and the Ivanhoe Club). Scattered tracts of open space or agricultural land are found across the corridor. Corridor 13 contains one school (Transfiguration Catholic Elementary School), four places of worship, and two cemeteries.

Examples of noise sensitive developments in Corridor 13 include:

- **Transfiguration Church and Frassati Catholic Academy**

  Transfiguration Catholic Church and Frassati Catholic Academy are adjacent to Corridor 13 at Church Street in Wauconda. Frassati Catholic Academy is next to the church and has programs for preschool through eighth grade. The second campus for Frassati Catholic Academy is located at St. Mary of the Annunciation Church in Mundelein, within the noise study area for Corridor 2. The Transfiguration property includes the church, a school, exterior play areas, and a chapel.

Photo 43. Transfiguration Church and Frassati Catholic Academy

Photo 44. Transfiguration Church and Frassati Catholic Academy
Photo Source: Google Earth

- **Memorial Park, Wauconda**

  Memorial Park is in downtown Wauconda at Main and Liberty Streets and includes a memorial and benches.

Photo 45. Memorial Park, Wauconda
Photo Source: Huff & Huff, a subsidiary of GZA

- **Lakewood Forest Preserve**

  Lakewood Forest Preserve is a Lake County Forest Preserves property located on both sides of Corridor 13 near Fairfield Road. The forest preserve has a dog park, fishing opportunities, hiking, horseback riding, picnic areas, restrooms, playgrounds, and trails.

Photo 46. Lakewood Forest Preserve
Photo Source: Lake County Forest Preserves
https://www.lcfpd.org/photos/lakewood/

Corridor 13: Noise Study Area's Affected Environment and Noise Receptors

Table 13 describes the affected environment for Corridor 13's noise study area and summarizes the number of noise receptors within Corridor 13's noise study area.

Table 12. Corridor 13: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
IL 176, Fairfield Road	Flat to gradual hills, with hills near Fairfield Road	No	8.68	946

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 13, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 13's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 946 noise receptors were identified in Corridor 13's noise study area.

The receptor observed to have the highest number of units among Corridor 13 noise receptors is the two buildings of the Park Trails Apartments, by Bangs Lake in Wauconda.

4.11 Corridor 14

Traffic Noise Analysis Areas

Location and Description

Corridor 14 consists of two roadway segments (IL 59 and Rollins Road) and passes through three communities. The lands adjacent to Corridor 14 are generally flat with some gradual hills. There are no existing noise walls adjacent to Corridor 14.

Existing Land Use and Development

Land development along Corridor 14 is a mix of suburban development types and is primarily comprised of residential subdivisions and commercial uses. Recreation or natural areas also flank the corridor and these uses are noise sensitive (such as Grant Woods Forest Preserve). Commercial lands occur most frequently in the eastern half of Corridor 14, some of which is noise sensitive (such as restaurants and offices). Corridor 14 contains two schools/daycares, one place of worship, and no cemeteries.

Examples of noise sensitive developments in Corridor 14 include:

- **Hillcrest Nursing Center**

  Hillcrest Nursing Center is located north of Corridor 14 on Circuit Drive in Round Lake Beach. This receptor has the highest number of units in Corridor 14 and has an exterior seating/patio area.

Photo 47. Hillcrest Nursing Center
Photo Source: Google Earth

- **Gateway Park**

  Gateway Park is located along Corridor 14 at Clarendon Drive in Round Lake Beach. The park has a lake, open space, trails, and picnic areas.

Photo 48. Gateway Park
Photo Source: Round Lake Area Parks District
https://www.rlapd.org/location/gateway-park

Corridor 14: Noise Study Area's Affected Environment and Noise Receptors

Table 14 describes the affected environment for Corridor 14's noise study area and summarizes the number of noise receptors within Corridor 14's noise study area.

Table 13. Corridor 14: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
IL 59, Rollins Road	Flat to gradual hills	No	5.24	1,391

Table 13. Corridor 14: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points

As referenced in Table 14, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 14's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 1,391 noise receptors were identified in Corridor 14's noise study area.

The receptor observed to have the highest number of units among Corridor 14 noise receptors was the Hillside Nursing Center north of Rollins Road on Circuit Drive in Round Lake Heights.

4.12 Corridor 15

Traffic Noise Analysis Areas

Location and Description

Corridor 15 is made up of three roadway segments (IL 176, Butterfield Road, and IL 137) and passes through two communities. The lands adjacent to Corridor 15 are generally flat with some gradual hills. There are no existing noise walls adjacent to Corridor 15.

Existing Land Use and Development

Land development along Corridor 15 is a mix of suburban development types and is primarily comprised of residential subdivisions and institutional (University of St. Mary's on the Lake) uses. Recreation or natural areas also flank the corridor and these uses are noise sensitive (such as the Pine Meadow Golf Club, JoAnn Eckmann Park, and Wills Overholser Park). Commercial lands occur most frequently along the IL Route 137 portion of Corridor 15 and many of these commercial uses are noise sensitive (such as restaurants, offices, and day care centers). Corridor 15's noise study area contains three schools (Carmel Catholic High School, Butterfield School, and STEM Montessori School), several places of worship (one community church, one monastery, a shrine, and a religious retreat), and no cemeteries.

Examples of noise sensitive developments in Corridor 15 include:

- **Carmel Catholic High School**

  Carmel Catholic High School is located on the south side of Corridor 15 at Carmel Parkway in Mundelein. The high school has approximately 1,200 students. Exterior activity areas nearest Corridor 15 on the school property include sports fields, which are separated from Corridor 15 by the North Shore Bike Path and a row of trees.

Photo 49. Carmel Catholic High School
Photo Source: Google Earth

- **Cardinal Stritch Retreat House, Mundelein**

  The Cardinal Stritch Retreat House is located on the north side of Corridor 15, across from Carmel Catholic High School, off University Drive in Mundelein. The house is on the grounds of the University of St. Mary on the Lake and is a retreat for priests, bishops, deacons, and others to reflect, pray, and rest.

Photo 50. Cardinal Stritch Retreat House, Mundelein

Photo 51. Cardinal Stritch Retreat House, Mundelein

Photo Source: Cardinal Stritch Retreat House https://www.cardinalstritchretreat.org/gallery

The Retreat House is located within a forested area with no line of sight to Corridor 15, and has several exterior use areas including a patio, a prayer garden, a shrine, and other small gathering spaces.

- **Marytown: The National Shrine of St. Maximilian Kolbe**

  The National Shrine of St. Maximilian Kolbe at Marytown is located on the north side of Corridor 15, west of Butterfield Road in Libertyville. This facility is east of the Cardinal Stritch Retreat House. The National Shrine of St. Maximilian Kolbe includes a chapel, an educational Holocaust exhibit, religious relics, a retreat and conference center, and a bookstore. The facility also has outdoor gathering areas.

Photo 52. Marytown: The National Shrine of St. Maximilian Kolbe
Photo Source: National Shrine of St. Maximilian Kolbe (https://marytown.com/)

Corridor 15: Noise Study Area's Affected Environment and Noise Receptors

Table 15 describes the affected environment for Corridor 15's noise study area and summarizes the number of noise receptors within Corridor 15's noise study area.

Table 14. Corridor 15: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
IL 176, Butterfield, and Peterson Road/IL 137	Flat to gradual hills	No	4.83	958

Table 14. Corridor 15: Noise Study Area Description and Noise Receptor Data

Existing Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 15, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 15's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 958 noise receptors were identified in Corridor 15's noise study area.

The receptor observed to have the highest number of units among Corridor 15 noise receptors was Libertyville Manor Extended Care at IL Route 137 and Elderberry Drive in Libertyville.

4.13 Corridor 16

Traffic Noise Analysis Areas

Location and Description

Corridor 16 (new corridor alignment), which extends from IL 120 to just south of Lake Cook Road, is within Lake and Cook counties and passes through six communities. The lands adjacent to Corridor 16 are generally flat, with gradual hills. At the south terminus where the alignment ties in to existing IL 53 (south of Lake Cook Road), there are sections of existing sight-screen fencing or wooden noise walls on the east and west sides of IL 53.

Existing Land Use and Development

Land development along Corridor 16 is a mix of suburban and rural uses, including areas of agricultural use near the north end of the corridor. Corridor 16's noise study area contains four schools (Long Grove Country School, Carl Sandburg Middle School, Mundelein High School, and a Kindercare preschool), three places of worship (Calvary Baptist Church, Mundelein Church of the Nazarene, and Hindu Mandir of Lake County), and one cemetery.

Corridor 16: Noise Study Area's Affected Environment and Noise Receptors

Table 16 describes the affected environment for Corridor 16's noise study area and summarizes the number of noise receptors within Corridor 16's noise study area.

Table 15. Corridor 16: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat with gradual hills	No	20.40	2,890

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 16, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 16's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 2,890 noise receptors were identified in Corridor 16's noise study area.

The receptor observed to have the highest number of units among Corridor 16 noise receptors was the Arrowhead Apartments complex near Baldwin Road in Palatine along the existing IL 53 south of Lake Cook Road.

4.14 Corridor 17

Traffic Noise Analysis Areas

Location and Description

Corridor 17 (new alignment) extends from north of Cuba Road to north of Lake Cook Road. It is in Lake County and much of the corridor is within the corporate limits of the Village of Long Grove. The lands adjacent to Corridor 17 are generally flat, with gradual hills. There are no existing noise walls adjacent to Corridor 17.

Existing Land Use and Development

Land development along Corridor 17 is a mix of suburban and rural uses, including areas of agricultural use. Corridor 17's noise study area contains one school (Long Grove Country School), one place of worship (Full Gospel Central Church), and no cemeteries.

Corridor 17: Noise Study Area's Affected Environment and Noise Receptors

Table 17 describes the affected environment for Corridor 17's noise study area, as well as summarizes the number of noise receptors within Corridor 17's noise study area.

Table 16. Corridor 17: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat with gradual hills	No	2.58	215

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 17, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 17's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 215 noise receptors were identified in Corridor 17's noise study area.

The receptor observed to have the highest number of units among Corridor 17 noise receptors is the assisted living/elder care facilities of Arboria of Long Grove (IL Route 53 and Long Grove Road in Long Grove).

4.15 Corridor 18

Traffic Noise Analysis Areas

Location and Description

Corridor 18 (new alignment) extends from north of Midlothian Road to south of Gilmer Road. It is within Lake County and passes through three communities. The lands adjacent to Corridor 18 are generally flat, with gradual hills. There are no existing noise walls adjacent to Corridor 18.

Existing Land Use and Development

Land development along Corridor 18 is primarily single-family residential with areas of agricultural use. Corridor 18's noise study area contains no schools, no places of worship, and no cemeteries.

Corridor 18: Noise Study Area's Affected Environment and Noise Receptors

Table 18 describes the affected environment for Corridor 18's noise study area, as well as summarizes the number of noise receptors within Corridor 18's noise study area.

Table 17. Corridor 18: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat with gradual hills	No	3.26	155

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 18, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 18's noise study area. Each of these receptor points represented one unit. In total, 155 noise receptors were identified in Corridor 18's noise study area.

4.16 Corridor 20

Traffic Noise Analysis Areas

Location and Description

Corridor 20 (combination of existing and new alignment) extends from west of IL 83 to east of I-94. It utilizes existing IL 120 for a portion of the alignment. Corridor 20 extends through three communities. The lands adjacent to Corridor 20 are generally flat, with gradual hills. There are no existing noise walls adjacent to Corridor 20.

Existing Land Use and Development

Land development along Corridor 20 is a mix of suburban and rural uses, including areas of agricultural use. Corridor 20's noise study area contains no schools, two places of worship (Hope Presbyterian Church and St. Demetrios Greek Orthodox Church), and one cemetery.

Corridor 20: Noise Study Area's Affected Environment and Noise Receptors

Table 20 describes the affected environment for Corridor 20's noise study area, as well as summarizes the number of noise receptors within Corridor 20's noise study area.

Table 18. Corridor 20: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment, Existing IL 120	Flat with gradual hills	No	11.94	912

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 20, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 20's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 912 noise receptors were identified in Corridor 20's noise study area.

The receptor observed to have the highest number of units among Corridor 20 noise receptors was the Comfort Inn and Suites at US Highway 45 in Grayslake.

4.17 Corridor 21

Traffic Noise Analysis Areas

Location and Description

Corridor 21 (new alignment) extends from US 12 to west of IL 83 and extends through five communities. The lands adjacent to Corridor 21 are generally flat, with gradual hills. There are no existing noise walls adjacent to Corridor 21.

Existing Land Use and Development

Corridor 21 is a mix of suburban and rural uses, including areas of agricultural use. Corridor 21's noise study area contains no schools, no places of worship, and one cemetery.

Corridor 21: Noise Study Area's Affected Environment and Noise Receptors

Table 21 describes the affected environment for Corridor 21's noise study area, as well as summarizes the number of noise receptors within Corridor 21's noise study area.

Table 20. Corridor 21: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat with gradual hills	No	10.57	592

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points

As referenced in Table 21, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 21's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 592 noise receptors were identified in Corridor 21's noise study area.

The receptors observed to have the highest number of units among Corridor 21 noise receptors were townhomes on South Jade Lane in Round Lake.

4.18 Corridor 22

Traffic Noise Analysis Areas

Location and Description

Corridor 22 (new alignment) represents a north alignment option for a portion of Corridor 21. It extends through two communities. The lands adjacent to Corridor 22 are generally flat with gradual hills. There are no existing noise walls adjacent to Corridor 22.

Existing Land Use and Development

Land development along Corridor 22 is a mix of suburban and rural uses, including areas of agricultural use. Corridor 22's noise study area contains no schools, one place of worship (Hope Evangelical Presbyterian Church), and no cemeteries.

Corridor 22: Noise Study Area's Affected Environment and Noise Receptors

Table 22 describes the affected environment for Corridor 22's noise study area, as well as summarizes the number of noise receptors within Corridor 22's noise study area.

Table 21. Corridor 22: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat to gradual hills	No	4.15	226

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points

As referenced in Table 22, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 22's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 226 noise receptors were identified in Corridor 22's noise study area.

The receptors observed to have the highest number of units among Corridor 21 noise receptors were townhomes located near Allegheny Road.

4.19 Corridor 23

Traffic Noise Analysis Areas

Location and Description

Corridor 23 (new alignment) represents a south alignment option for a portion of Corridor 21. It extends from US 12 to Cedar Lake Road through two communities. The lands adjacent to Corridor 23 are generally flat with gradual hills. There are no existing noise walls adjacent to Corridor 23.

Existing Land Use and Development

Land development along Corridor 23 is a mix of suburban and rural uses, including areas of agricultural use. Corridor 23's noise study area contains no schools, no places of worship, and one cemetery.

Corridor 23: Noise Study Area's Affected Environment and Noise Receptors

Table 23 describes the affected environment for Corridor 23's noise study area, as well as summarizes the number of noise receptors within Corridor 23's noise study area.

Table 22. Corridor 23: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat with gradual hills	No	7.50	179

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 23, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 23's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 179 noise receptors were identified in Corridor 23's noise study area.

The receptor observed to have the highest number of units among Corridor 23 noise receptors was YMCA Camp Duncan in Ingleside.

4.20 Corridor 24

Traffic Noise Analysis Areas

Location and Description

Corridor 24 (new alignment) represents a south alignment option for a portion of Corridor 23. It extends from US 12 to IL 120 and extends through one community. The lands adjacent to Corridor 24 are generally flat with gradual hills. There are no existing noise walls adjacent to Corridor 24.

Existing Land Use and Development

Land development along Corridor 24 is a mix of suburban and rural uses, including areas of agricultural use. Corridor 24's noise study area contains no schools, no places of worship, and no cemeteries.

Corridor 24: Noise Study Area's Affected Environment and Noise Receptors

Table 24 describes the affected environment for Corridor 24's noise study area, as well as summarizes the number of noise receptors within Corridor 24's noise study area.

Table 23. Corridor 24: Noise Study Area Description and Noise Receptor Data

Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat with gradual hills	No	3.37	615

[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points.

As referenced in Table 24, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 24's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 615 noise receptors were identified in Corridor 24's noise study area.

The receptor observed to have the highest number of units among Corridor 24 noise receptors was Fish Lake Campground in Volo.

4.21 Corridor 25

Traffic Noise Analysis Areas

Location and Description

Corridor 25 (new alignment) represents a farther north alignment option for a portion of corridors 21 and 22. It extends from east of Wilson Road to west of Alleghany Road through two communities. The lands adjacent to Corridor 25 are generally flat with gradual hills. There are no existing noise walls adjacent to Corridor 25.

Existing Land Use and Development

Land development along Corridor 25 is a mix of suburban and rural uses, including areas of agricultural use. Corridor 25's noise study area contains no schools, no places of worship, and no cemeteries.

Corridor 25: Noise Study Area's Affected Environment and Noise Receptors

Table 25 describes the affected environment for Corridor 25's noise study area, as well as summarizes the number of noise receptors within Corridor 25's noise study area.

Table 24. Corridor 25: Noise Study Area Description and Noise Receptor Data

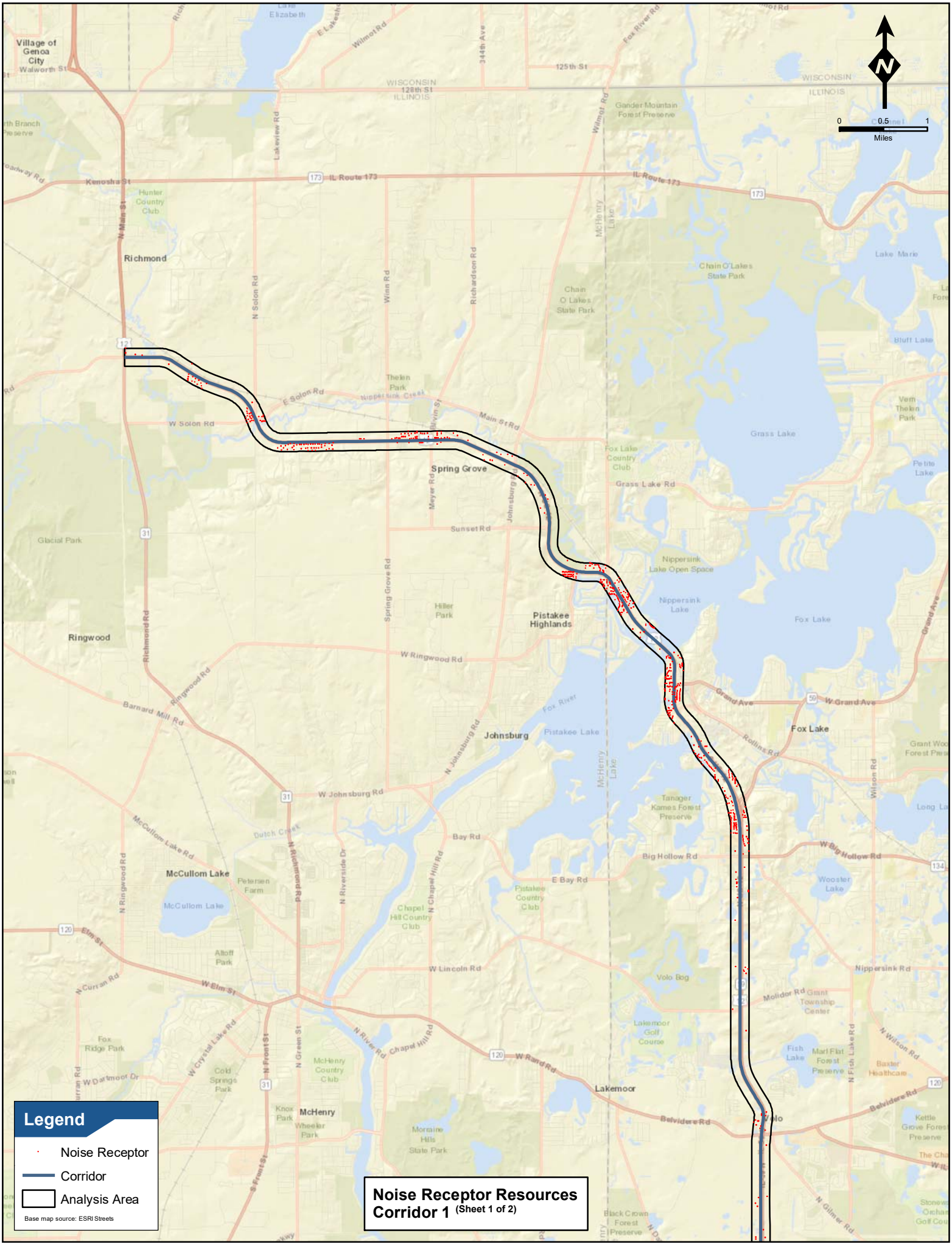
Proposed Alignment	Topography Summary	Is Existing Noise Abatement Present?	Corridor Length (miles)	Noise Study Area Receptors[a]
New Alignment	Flat to gradual hills	No	6.34	931

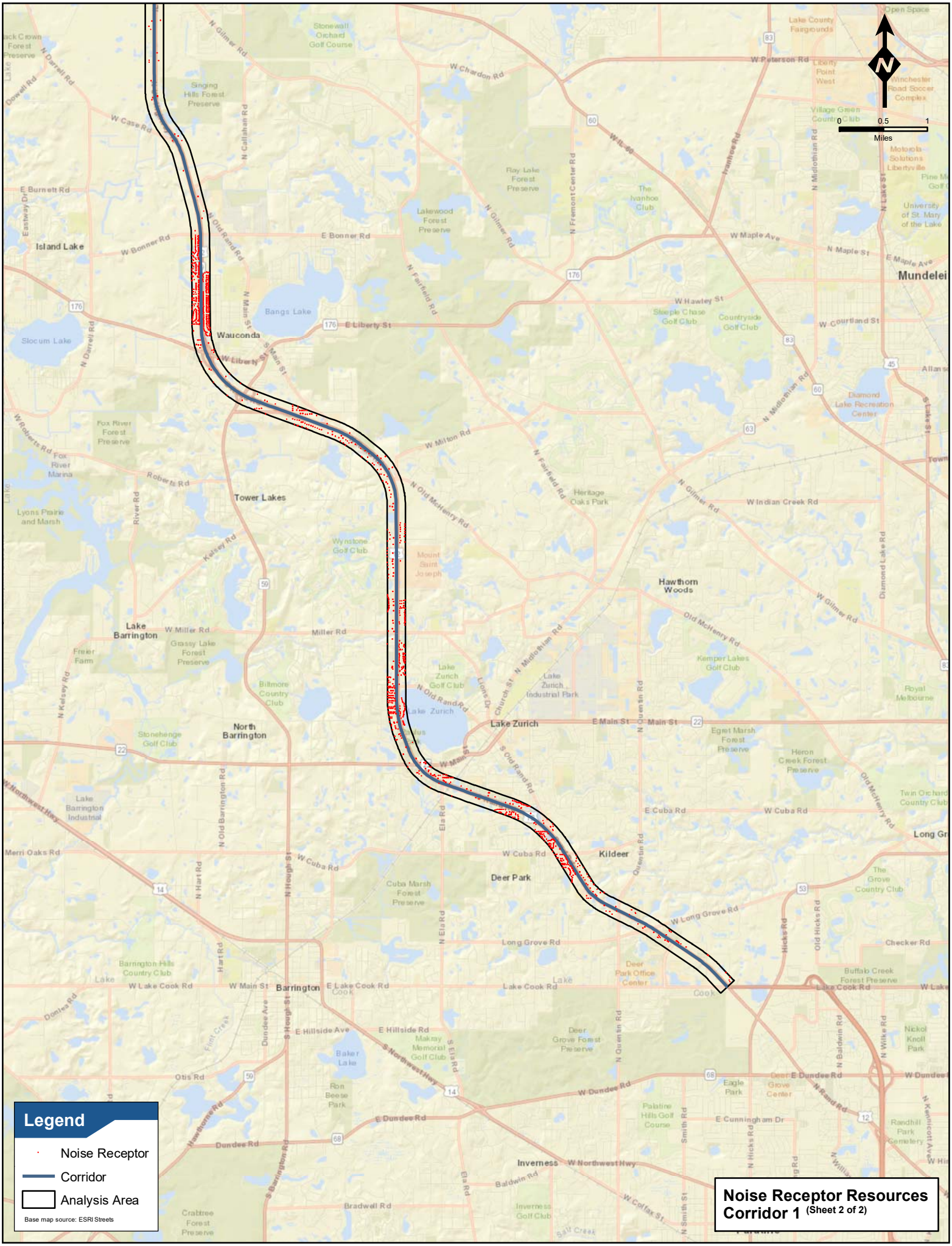
[a] The noise study areas are all areas within 500 feet from the predicted edge of proposed pavement (under the Build condition); total number of units represented by the discrete noise receptor points

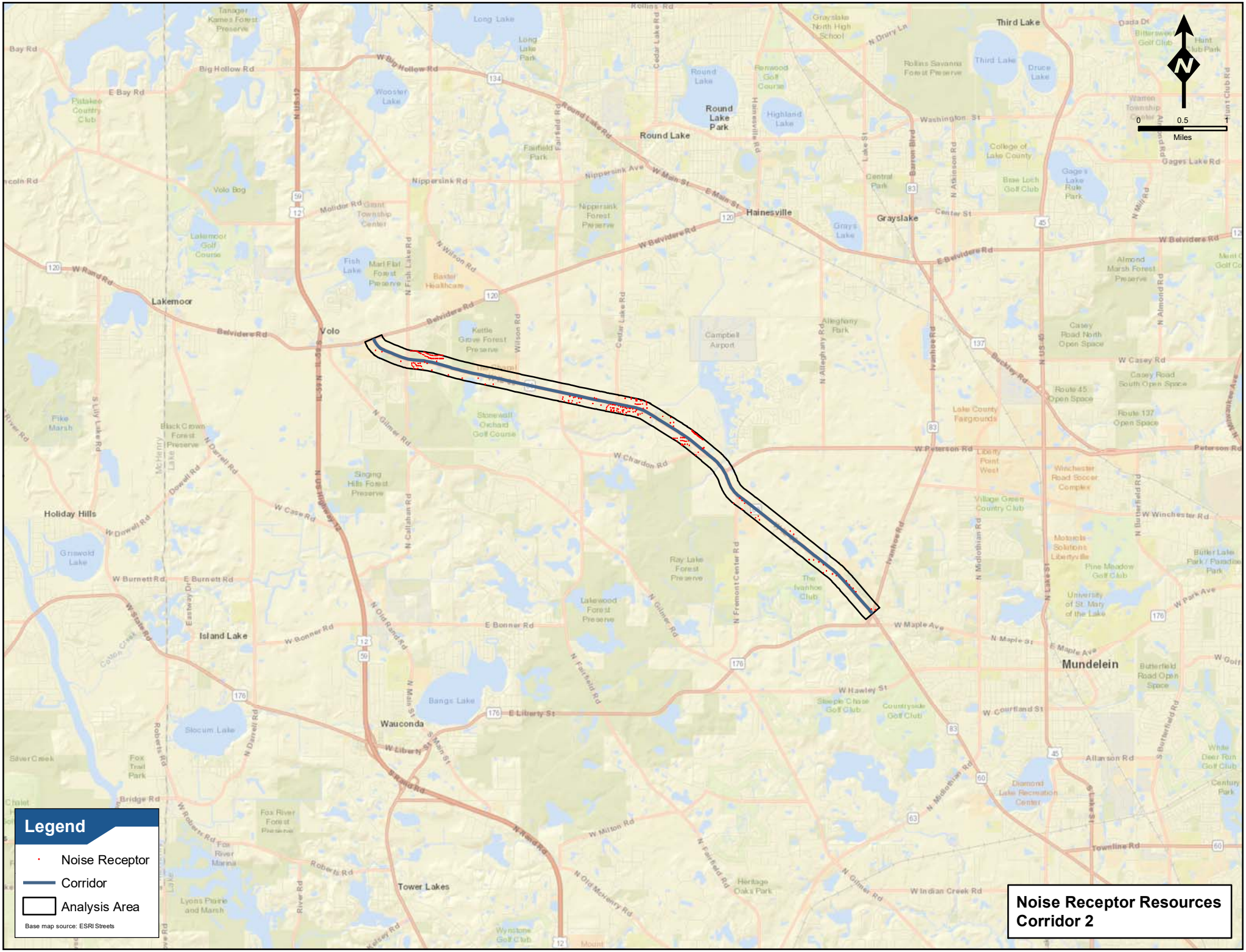
As referenced in Table 25, discrete noise receptor points (exterior locations of frequent human use at noise sensitive land uses) were identified within Corridor 25's noise study area. Some of these receptor points represented more than one unit (if a building contained multiple residential units, school classrooms, etc.), and the noise study area was assessed to determine how many noise sensitive units were present. In total, 931 noise receptors were identified in Corridor 25's noise study area.

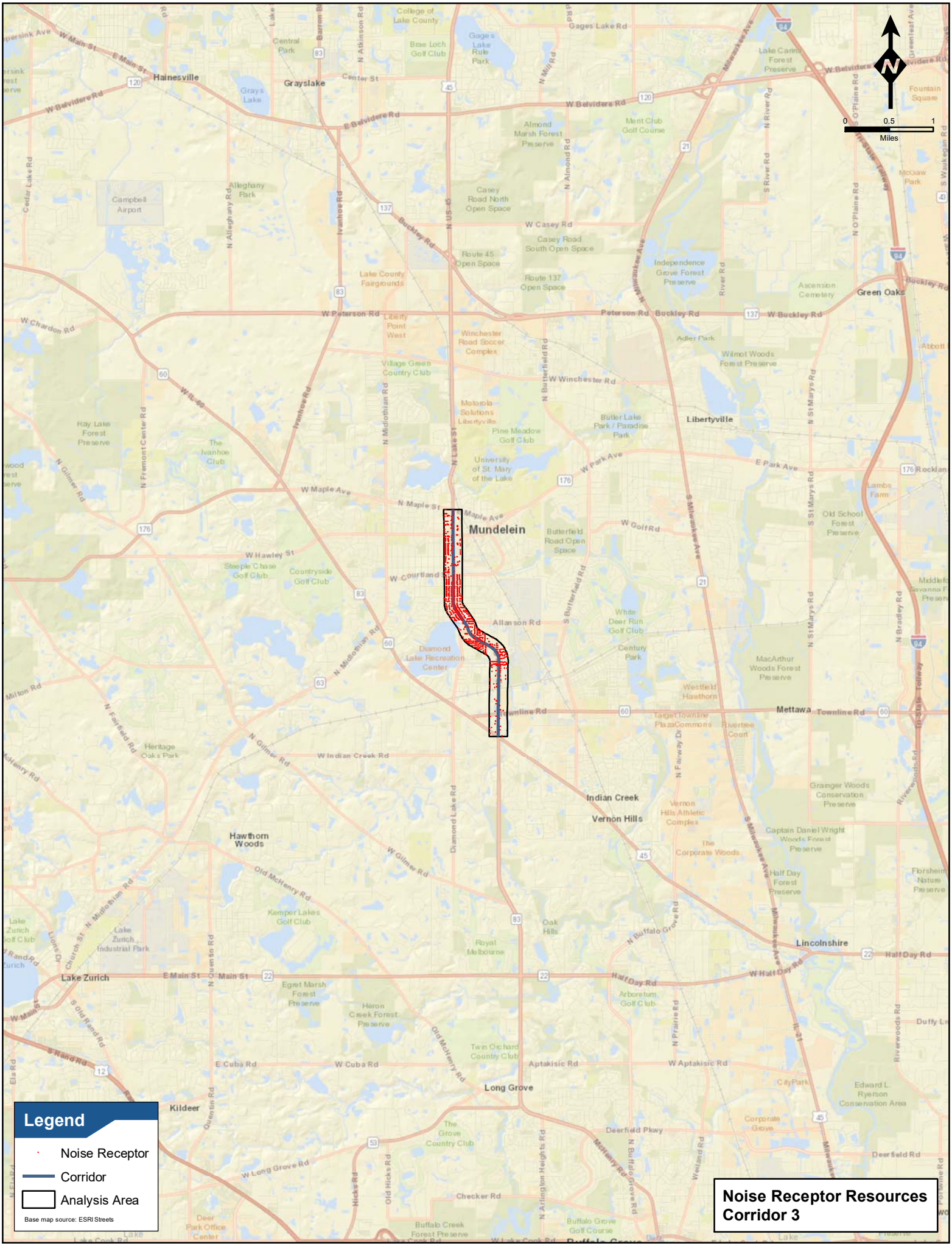
The receptors observed to have the highest number of units among Corridor 25 noise receptors were apartment complexes.

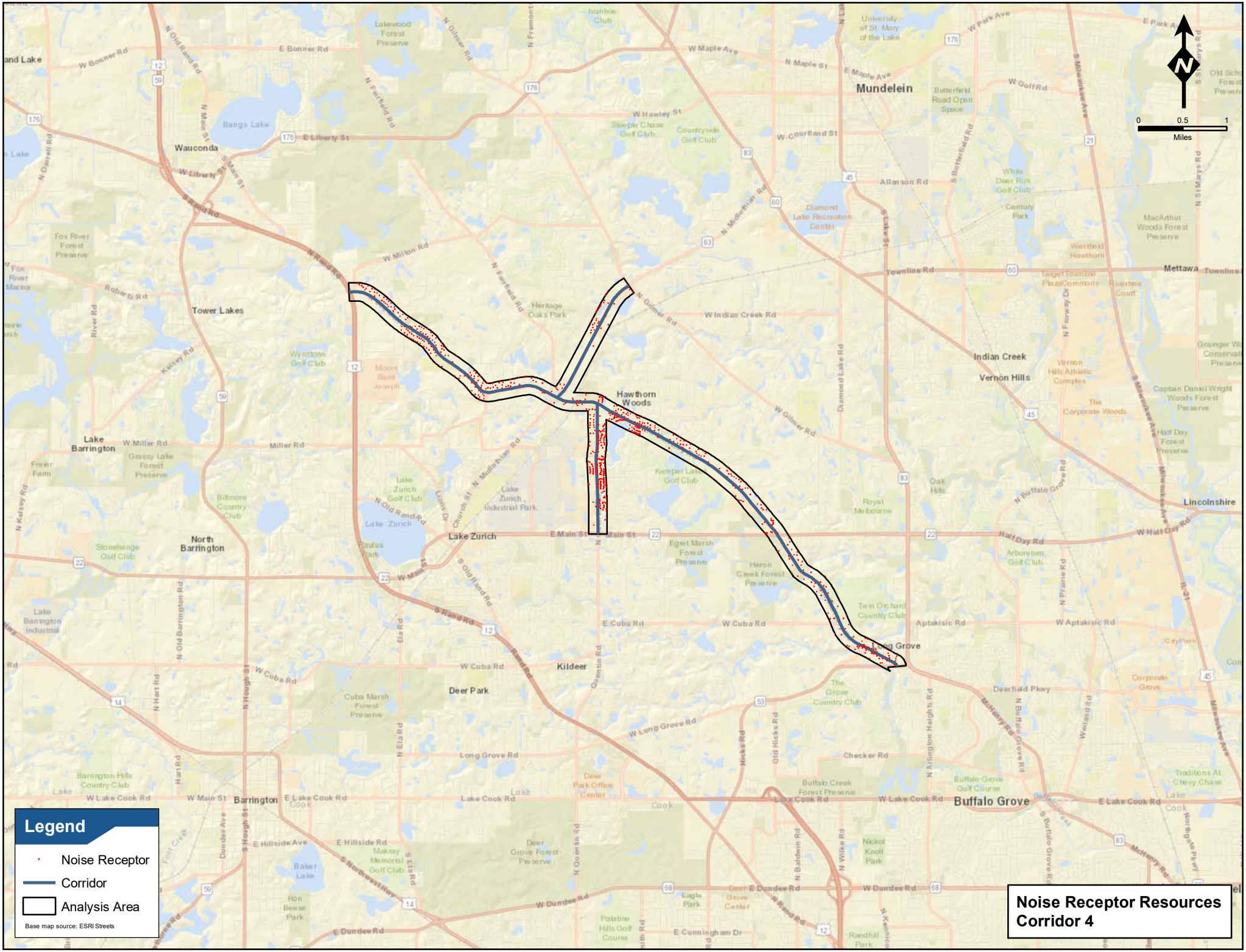
Attachment A: Traffic Noise Figures

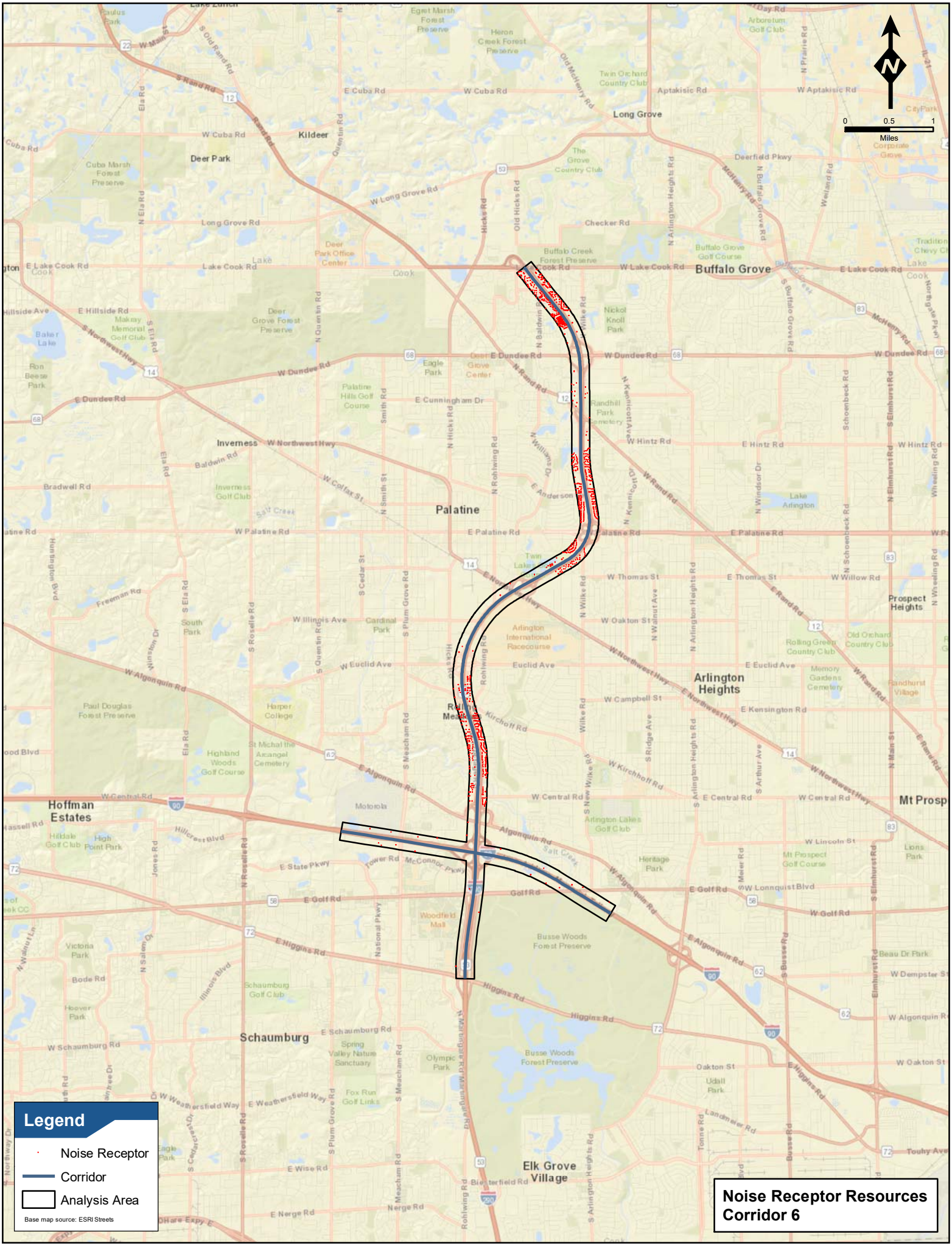

Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 1 (Sheet 1 of 2)
N
0
0.5
1
Miles
Village of Genoa City
Richmond
Spring Grove
Pistakee Highlands
Johnsburg
Fox Lake
Ringwood
McCullom Lake
Lakemoor
McHenry
Volo
IL Route 173
WISCONSIN
ILLINOIS
Chain O'Lakes State Park
Nippersink Lake Open Space
Morraine Hills State Park

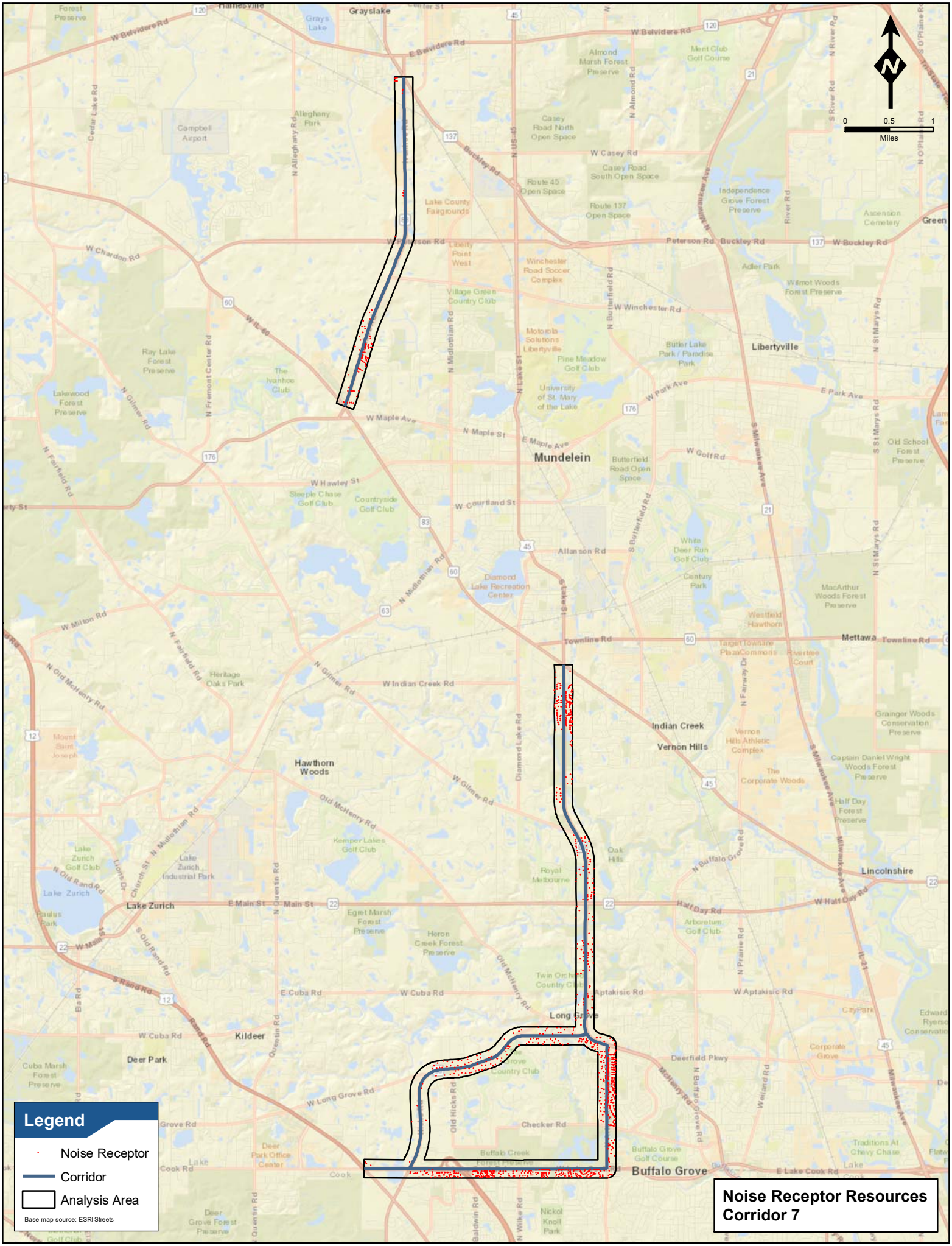

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 1 (Sheet 2 of 2)
Island Lake
Wauconda
Tower Lakes
Lake Barrington
North Barrington
Lake Zurich
Hawthorn Woods
Kildeer
Deer Park
Barrington
Inverness
Mundelein
Bangs Lake
Slocum Lake
Fox River Forest Preserve
Lyons Prairie and Marsh
Grassy Lake Forest Preserve
Cuba Marsh Forest Preserve
Deer Grove Forest Preserve
Lakewood Forest Preserve
Ray Lake Forest Preserve
Singing Hills Forest Preserve
Heritage Oaks Park
Diamond Lake Recreation Center
Kemper Lakes Golf Club
Countryside Golf Club
Sleepe Chase Golf Club
Wynstone Golf Club
Lake Zurich Golf Club
Stonehenge Golf Club
Biltmore Country Club
Barrington Hills Country Club
Makray Memorial Golf Club
Palatine Hills Golf Course
Inverness Golf Club
Deer Park Office Center
Deer Grove Center
Eagle Park
Ron Beese Park
Baker Lake
Crabtree Forest Preserve
Buffalo Creek Forest Preserve
Heron Creek Forest Preserve
Egret Marsh Forest Preserve
Lake Zurich Industrial Park
Lake Barrington Industrial
Ivanhoe Club
The Grove Country Club
Village Green Country Club
Lake County Fairgrounds
Motorola Solutions Libertyville
Winchester Road Soccer Complex
University of St. Mary of the Lake
Mount Saint Joseph
Royal Melbourne
Randhill Park Cemetery
Nickol Knoll Park
Open Space
N Gilmer Rd
W Chardon Rd
W Peterson Rd
E Burnett Rd
W Case Rd
N Old Rand Rd
E Bonner Rd
W Bonner Rd
N Callahan Rd
N Main St
W Liberty St
E Liberty St
W Maple Ave
E Maple Ave
N Maple St
W Hawley St
W Courtland St
N Midlothian Rd
N Fremont Center Rd
N Fairfield Rd
W Milton Rd
N Old McHenry Rd
W Indian Creek Rd
Roberts Rd
W Miller Rd
Miller Rd
Kelsey Rd
E Main St
W Main St
S Old Rand Rd
N Old Barrington Rd
N Hough St
W Cuba Rd
E Cuba Rd
Ela Rd
N Quentin Rd
W Long Grove Rd
Long Grove Rd
Hicks Rd
Old Hicks Rd
W Lake Cook Rd
E Lake Cook Rd
Lake Cook Rd
E Hillside Ave
E Hillside Rd
Dundee Rd
W Dundee Rd
E Dundee Rd
E Cunningham Dr
W Northwest Hwy
Baldwin Rd
W Colfax St
Bradwell Rd
Otis Rd
Hawthorne Rd
S Barrington Rd
Checker Rd
Long Gr
Twin Orchard Country Club
Allan
Town
Lake
Cook

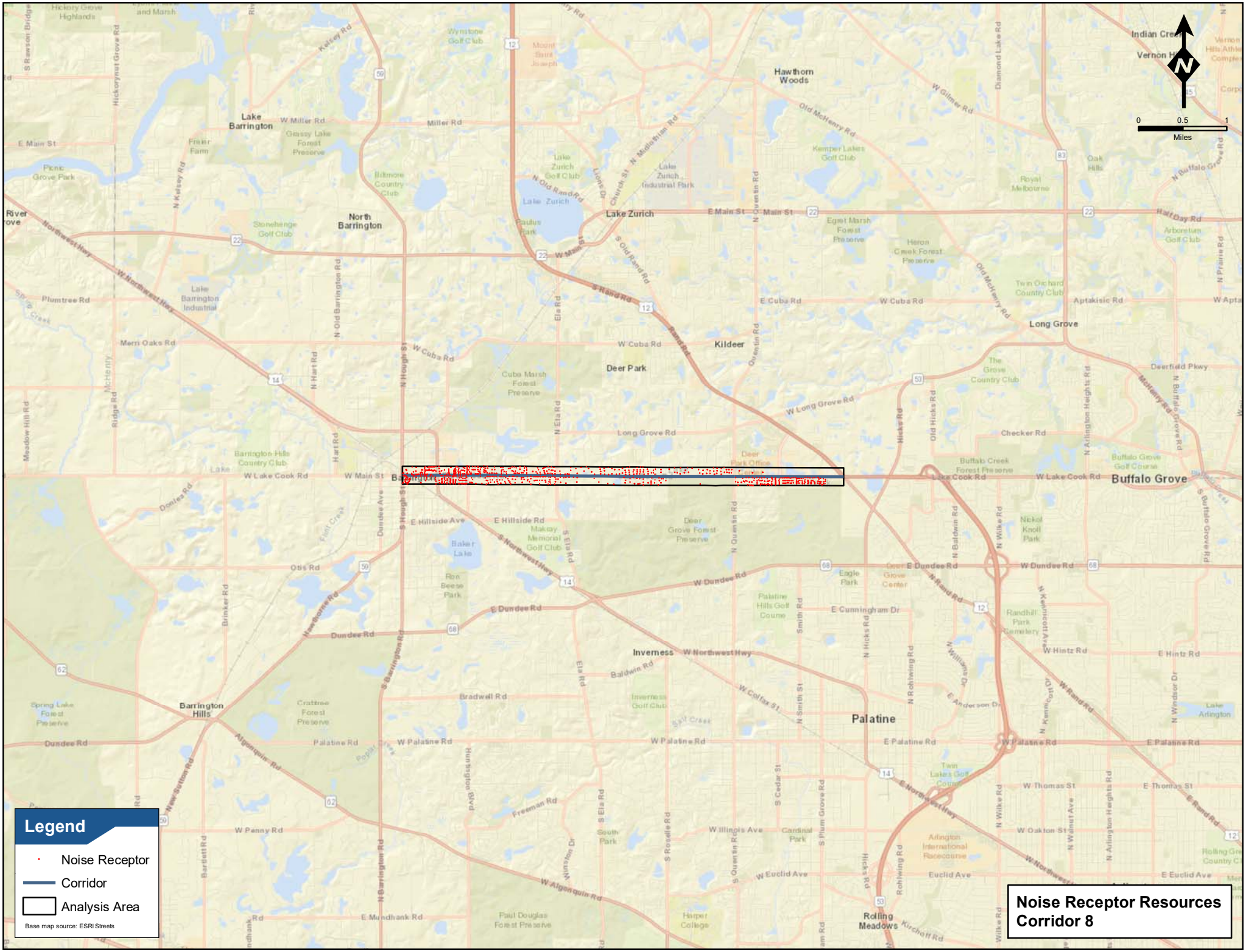

Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 2
N
0
0.5
1
Miles
Third Lake
Round Lake
Round Lake Park
Hainesville
Grayslake
Lakemoor
Volo
Holiday Hills
Island Lake
Wauconda
Mundelein
Tower Lakes

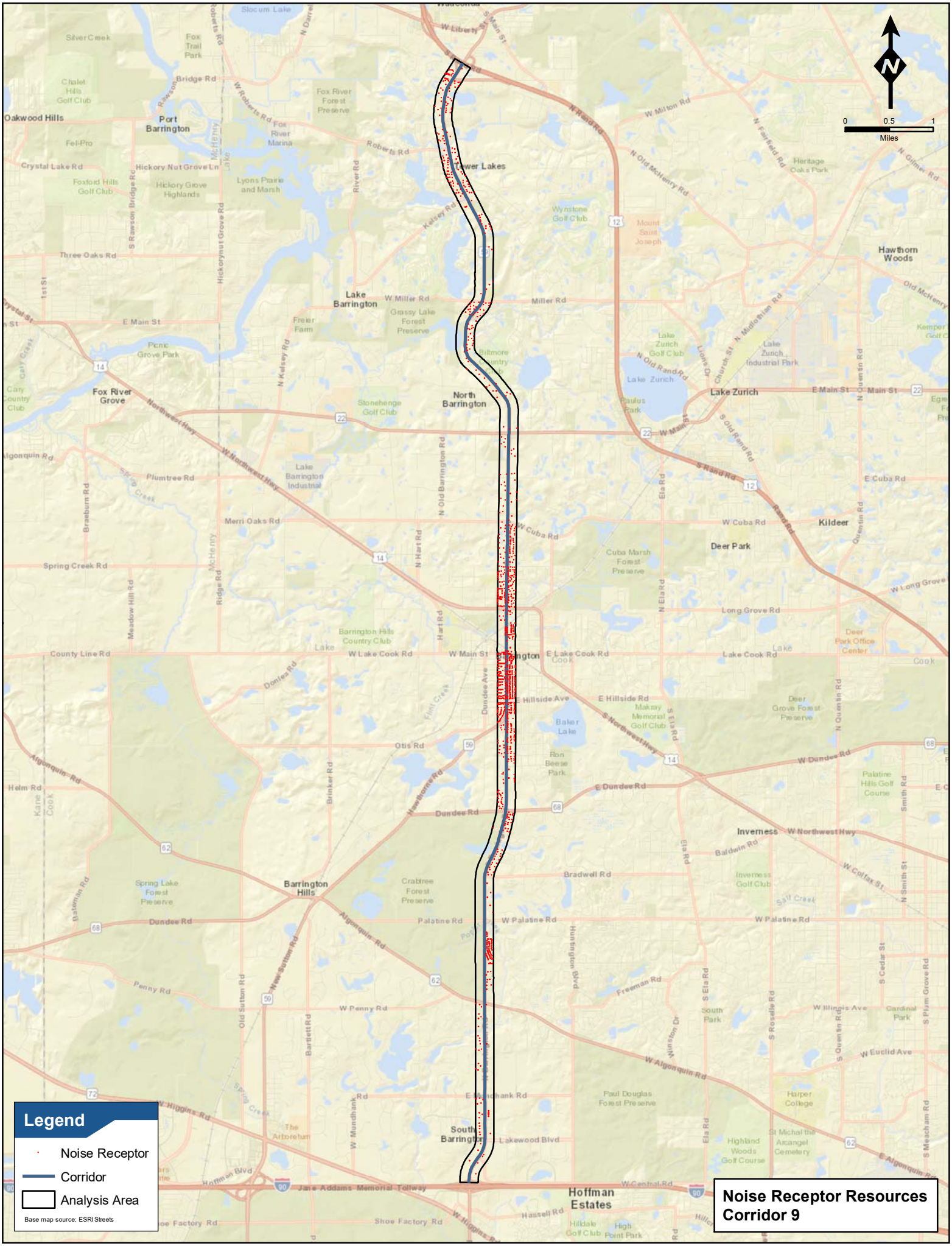

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 3
Mundelein
Libertyville
Green Oaks
Mettawa
Indian Creek
Vernon Hills
Lincolnshire
Long Grove
Lake Zurich
Hainesville
Grayslake
Hawthorn Woods
Kildeer

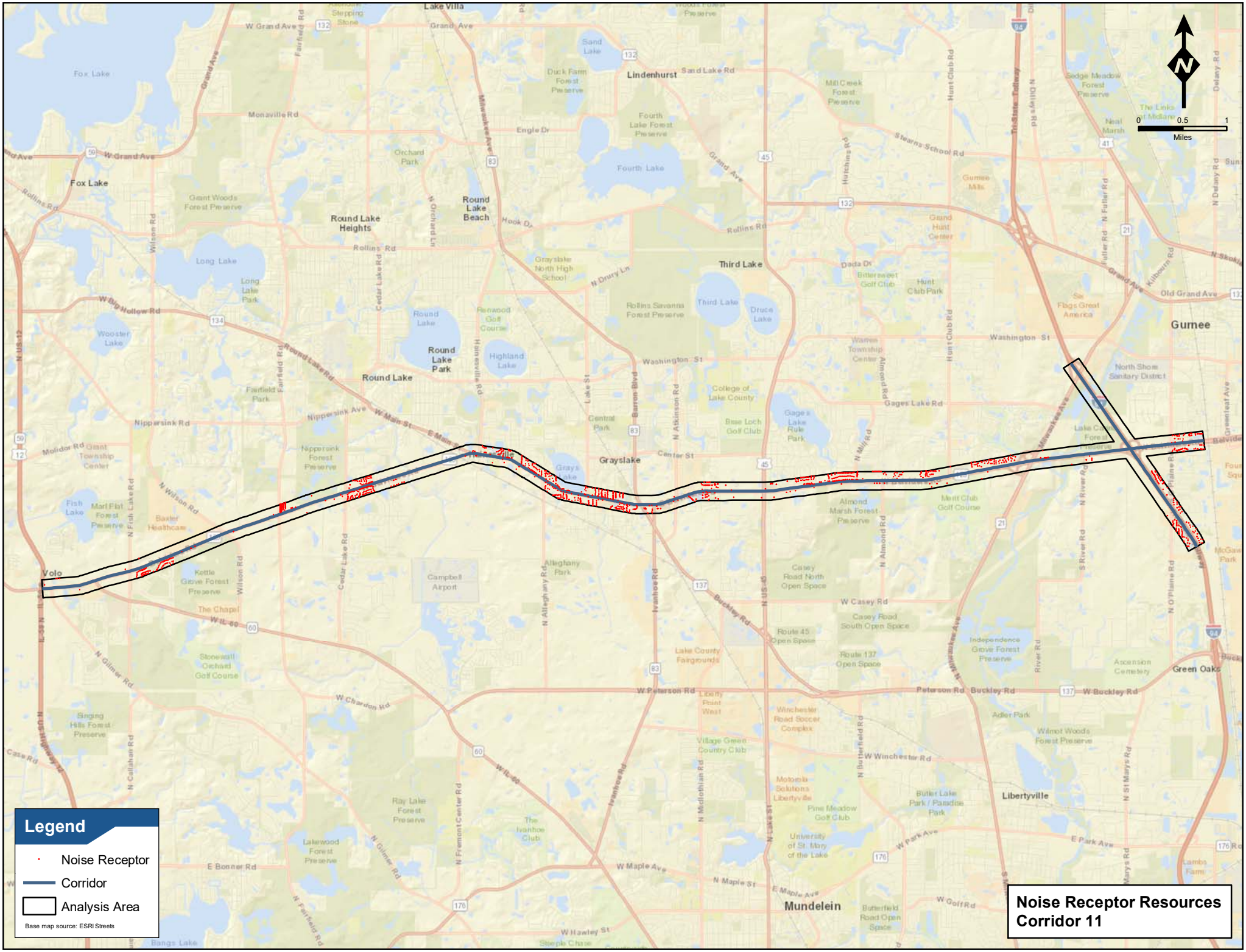

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 4
Mundelein
Wauconda
Tower Lakes
Hawthorn Woods
Lake Barrington
North Barrington
Lake Zurich
Kildeer
Deer Park
Barrington
Buffalo Grove
Indian Creek
Vernon Hills
Mettawa
Lincolnshire
Long Grove

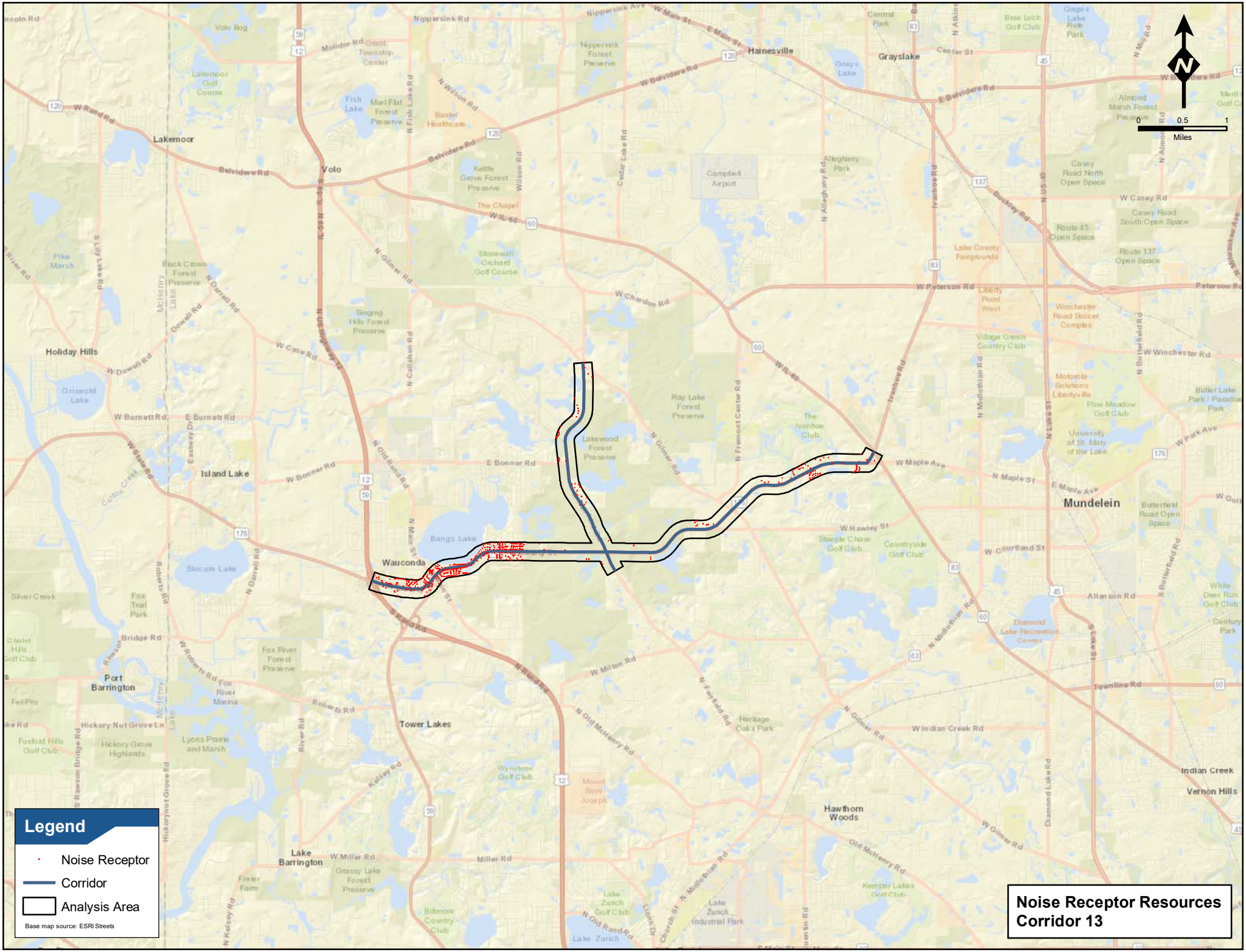

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 6
Buffalo Grove
Palatine
Arlington Heights
Schaumburg
Hoffman Estates
Elk Grove Village
Long Grove
Deer Park
Kildeer
Inverness
Prospect Heights
Mt Prosp

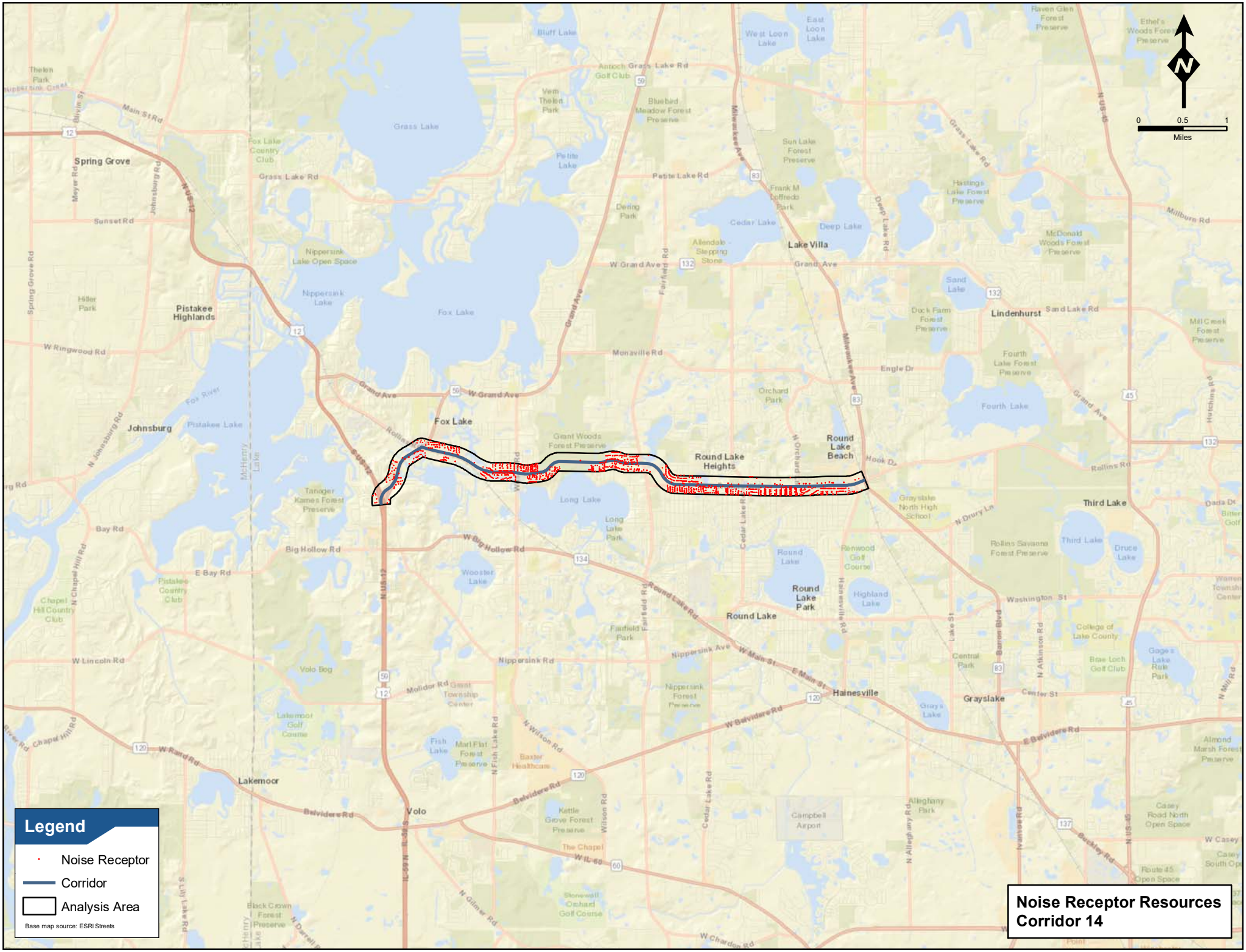

Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
0
0.5
1
Miles
Noise Receptor Resources
Corridor 7
Grayslake
Libertyville
Mundelein
Mettawa
Indian Creek
Vernon Hills
Hawthorn Woods
Lake Zurich
Lincolnshire
Long Grove
Buffalo Grove
Kildeer
Deer Park

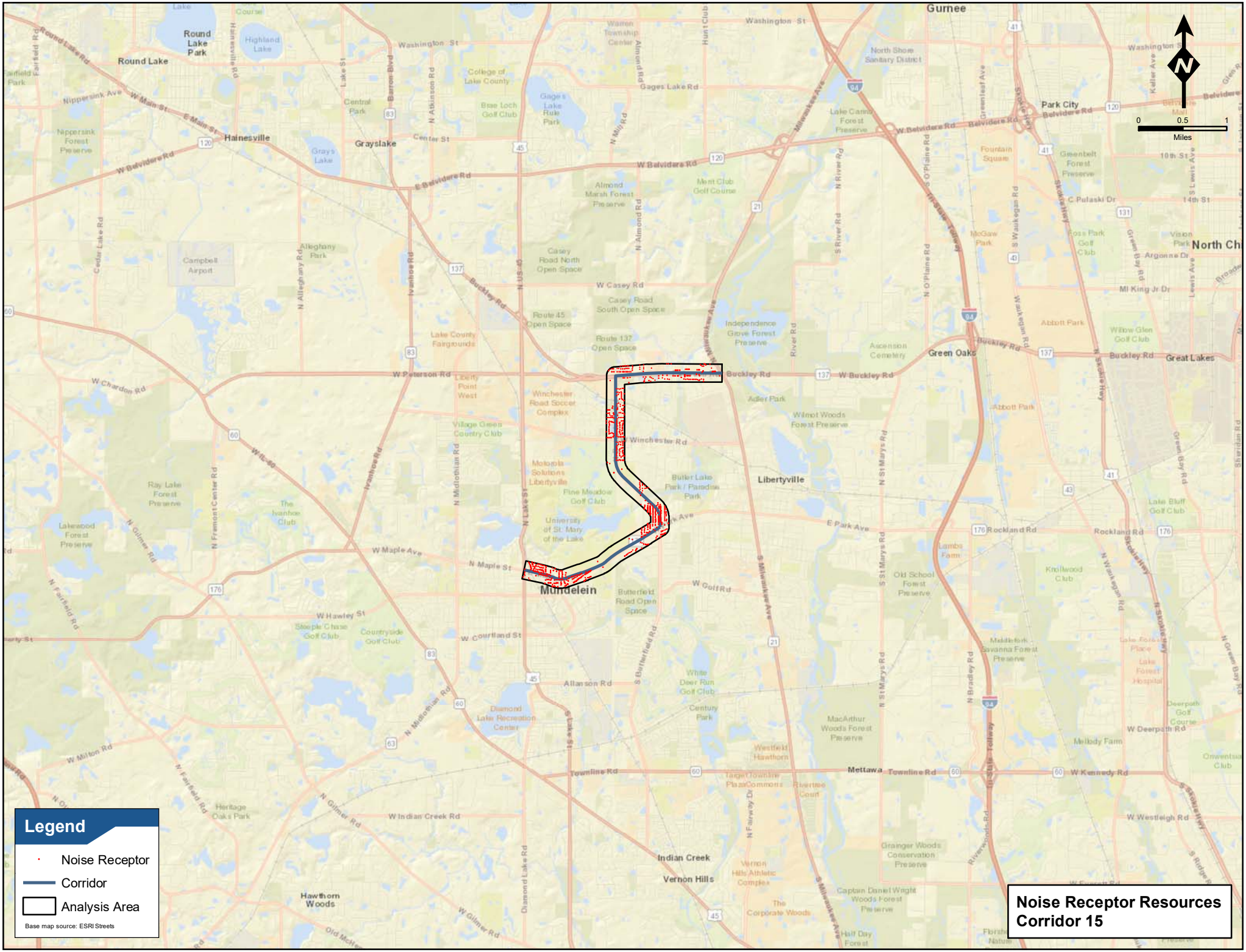

Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 8
N
0
0.5
1
Miles
Lake Barrington
North Barrington
Lake Zurich
Hawthorn Woods
Kildeer
Deer Park
Long Grove
Buffalo Grove
Inverness
Palatine
Barrington Hills
Rolling Meadows

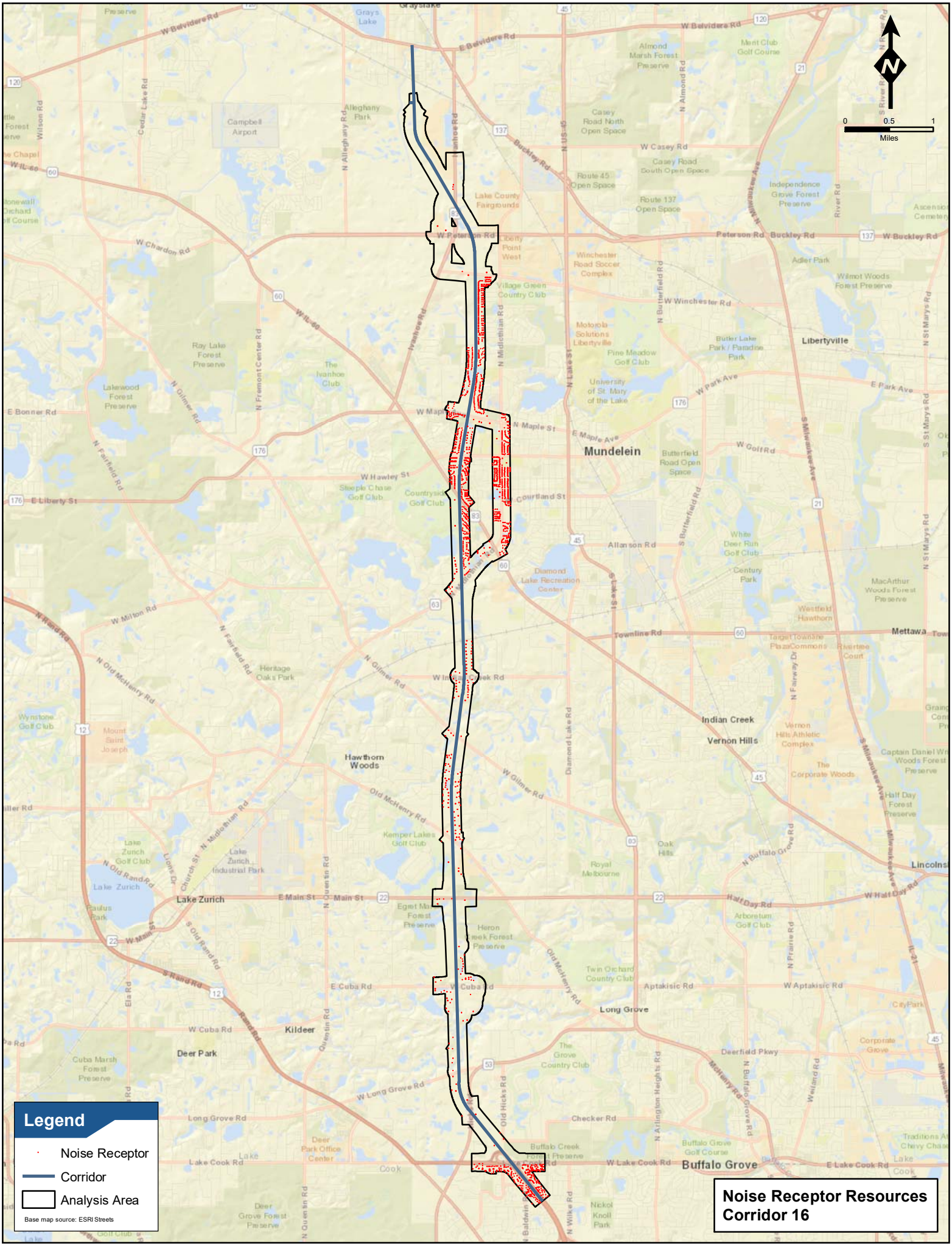

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 9
Tower Lakes
Lake Barrington
North Barrington
Lake Zurich
Hawthorn Woods
Fox River Grove
Port Barrington
Oakwood Hills
Barrington Hills
South Barrington
Hoffman Estates
Inverness
Kildeer
Deer Park
Long Grove Rd
Dundee Rd
Palatine Rd
Algonquin Rd
Northwest Hwy
Jane Addams Memorial Tollway
Lake Cook Rd
Main St
Rand Rd
Roberts Rd
Miller Rd
Cuba Rd
Penny Rd
Lakewood Blvd
Bradwell Rd
Freeman Rd
Hoffman Blvd
Shoe Factory Rd
Higgins Rd
Plum Grove Rd
Meacham Rd
Euclid Ave
Illinois Ave
Colfax St
Baldwin Rd
Central Rd
Hassell Rd
Spring Creek Rd
County Line Rd
Three Oaks Rd
Crystal Lake Rd
Hickory Nut Grove Ln
Bridge Rd
Plumtree Rd
Merri Oaks Rd
Otis Rd
Helm Rd
Spring Lake Forest Preserve
Crabtree Forest Preserve
Paul Douglas Forest Preserve
Deer Grove Forest Preserve
Cuba Marsh Forest Preserve
Grassy Lake Forest Preserve
Fox River Forest Preserve
Lyons Prairie and Marsh
Hickory Grove Highlands
Foxford Hills Golf Club
Chalet Hills Golf Club
Fel-Pro
Silver Creek
Fox Trail Park
Fox River Marina
Picnic Grove Park
Freer Farm
Stonehenge Golf Club
Wynstone Golf Club
Lake Zurich Golf Club
Hiltmore Country Club
Barrington Hills Country Club
Inverness Golf Club
Palatine Hills Golf Course
Makray Memorial Golf Club
Highland Woods Golf Course
Harper College
Cardinal Park
South Park
Ron Beese Park
Paulus Park
Deer Park Office Center
Lake Barrington Industrial
Lake Zurich Industrial Park
Mount Saint Joseph
St Michael the Archangel Cemetery
The Arboretum
Heritage Oaks Park
Slocum Lake
Baker Lake
Flint Creek
Spring Creek
Indian Creek
Poplar Creek
Salt Creek
Cook
Lake
Rawson Bridge Rd
S Rawson Bridge Rd
Hickorynut Grove Rd
McHenry
River Rd
Ridge Rd
Braeburn Rd
Meadow Hill Rd
Donlea Rd
Brinker Rd
Batesman Rd
Old Sutton Rd
New Sutton Rd
Bartlett Rd
W Mundhank Rd
E Mundhank Rd
Hart Rd
N Hart Rd
N Old Barrington Rd
N Kelsey Rd
Kelsey Rd
Ela Rd
S Ela Rd
N Ela Rd
Quentin Rd
S Quentin Rd
N Quentin Rd
Smith Rd
N Smith St
S Cedar St
S Roselle Rd
Huntington Blvd
Winston Dr
Dundee Ave
Hawthorne Rd
Algonquin Rd
Golf Creek
Kane Cook
Lions Dr
Church St
N Midlothian Rd
N Old Rand Rd
S Old Rand Rd
N Old McHenry Rd
N Fairfield Rd
N Gilmer Rd
Old McHenry
E Cuba Rd
W Cuba Rd
W Long Grove
E Hillside Ave
E Hillside Rd
W Dundee Rd
E Dundee Rd
W Palatine Rd
W Algonquin Rd
E Algonquin Rd
W Lake Cook Rd
E Lake Cook Rd
W Main St
E Main St
W Miller Rd
W Northwest Hwy
S Northwest Hwy
W Milton Rd
N Rand Rd
S Rand Rd
W Main St
W Higgins Rd
W Penny Rd
W Willow Rd
W Euclid Ave
W Coffax St
W Central Rd
Jane Addams Memorial Tollway
Shoe Factory Rd
Hilldale Golf Club
High Point Park
Lake Zurich
Lake Cook Rd
Lake
Cook
14
22
12
59
62
68
72
90

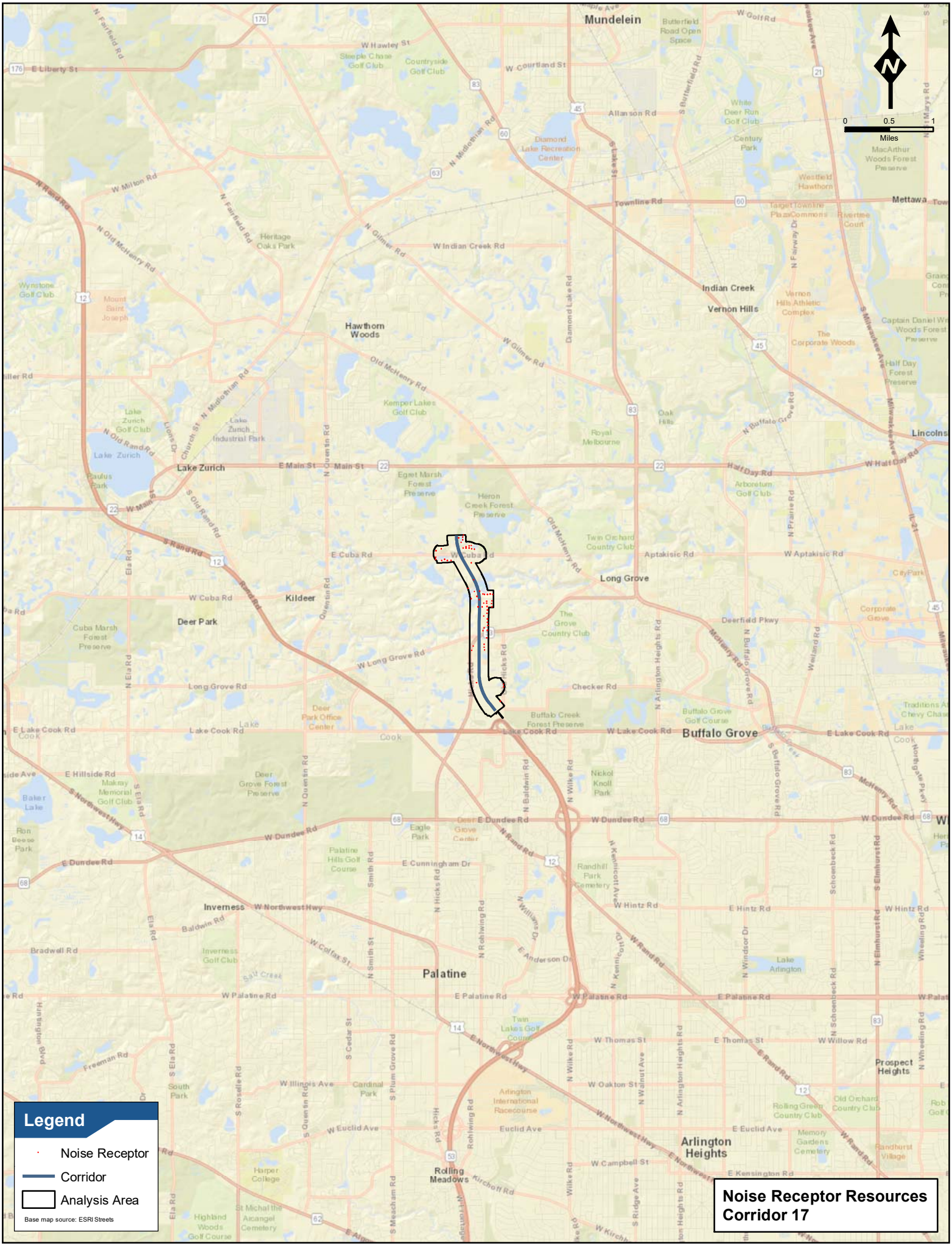

Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 11
N
0
0.5
1
Miles
Lake Villa
Lindenhurst
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Third Lake
Grayslake
Gurnee
Volo
Libertyville
Mundelein
Green Oaks

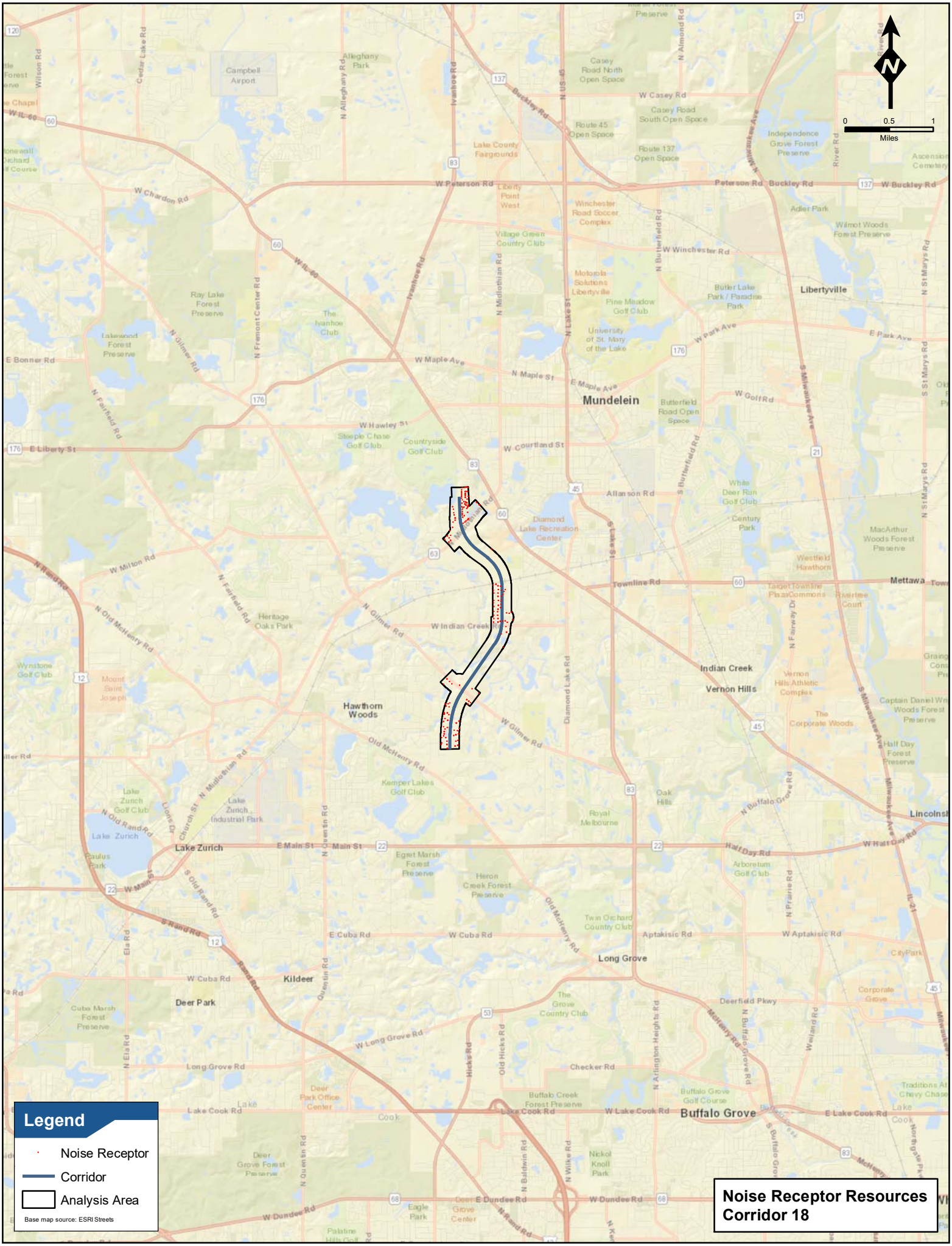

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 13
Wauconda
Island Lake
Lakemoor
Volo
Holiday Hills
Port Barrington
Tower Lakes
Lake Barrington
Hawthorn Woods
Mundelein
Hainesville
Grayslake
Indian Creek
Vernon Hills

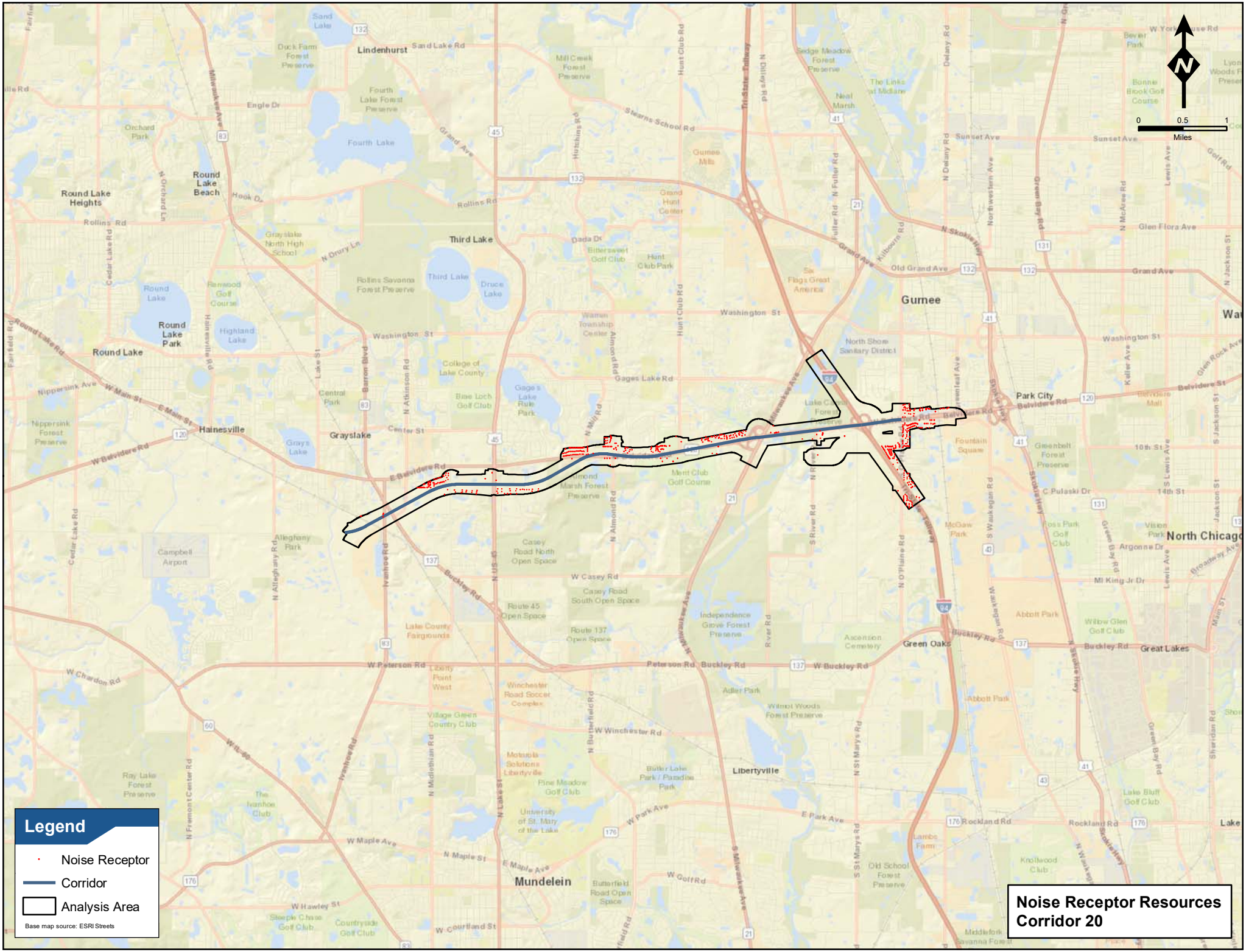

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 14
Spring Grove
Pistakee Highlands
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Lake Villa
Lindenhurst
Third Lake
Round Lake
Round Lake Park
Hainesville
Grayslake
Lakemoor
Volo

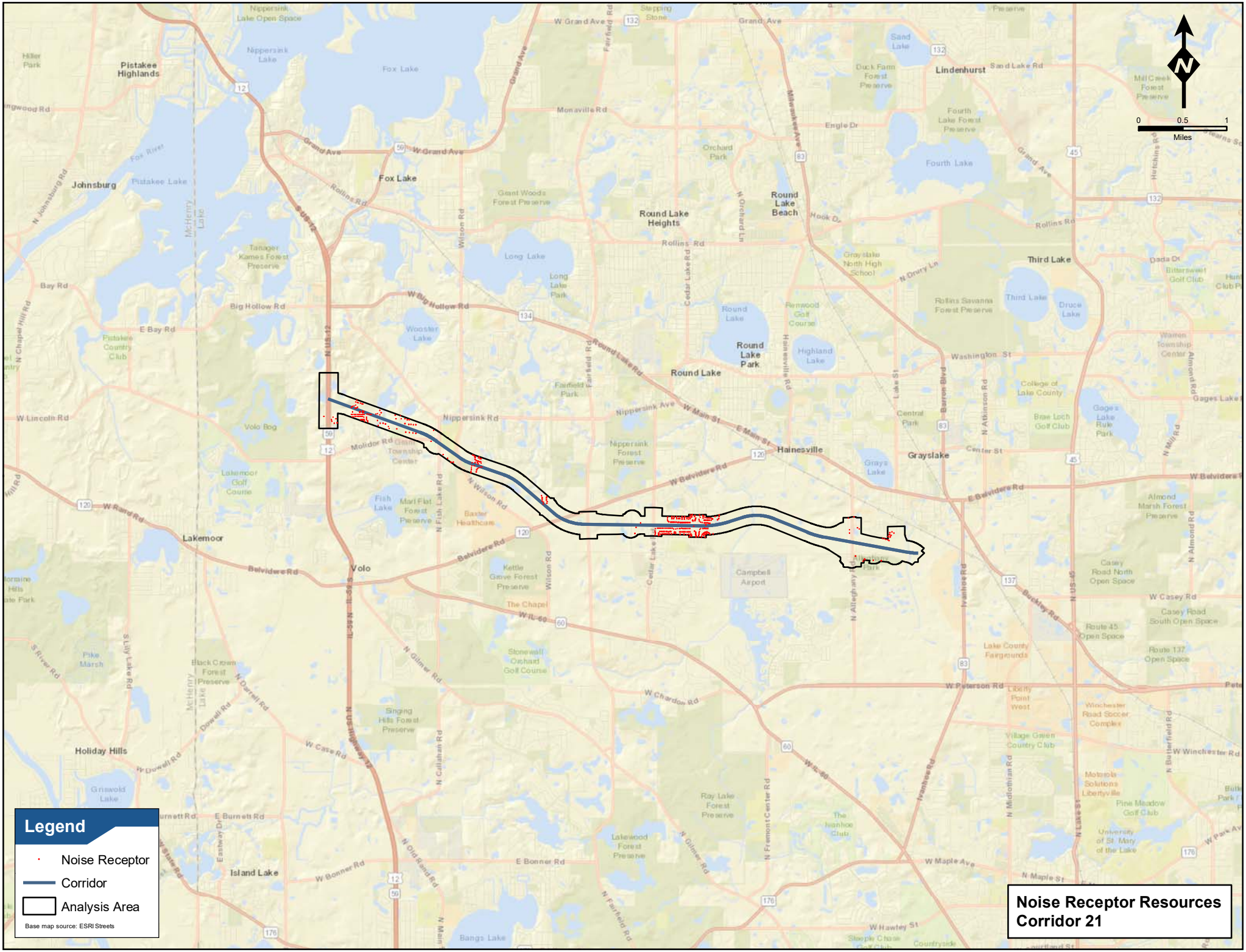

Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 15
N
0
0.5
1
Miles
Gurnee
Round Lake Park
Round Lake
Hainesville
Grayslake
Libertyville
Mundelein
Green Oaks
Park City
North Ch
Great Lakes
Indian Creek
Vernon Hills
Mettawa
Hawthorn Woods

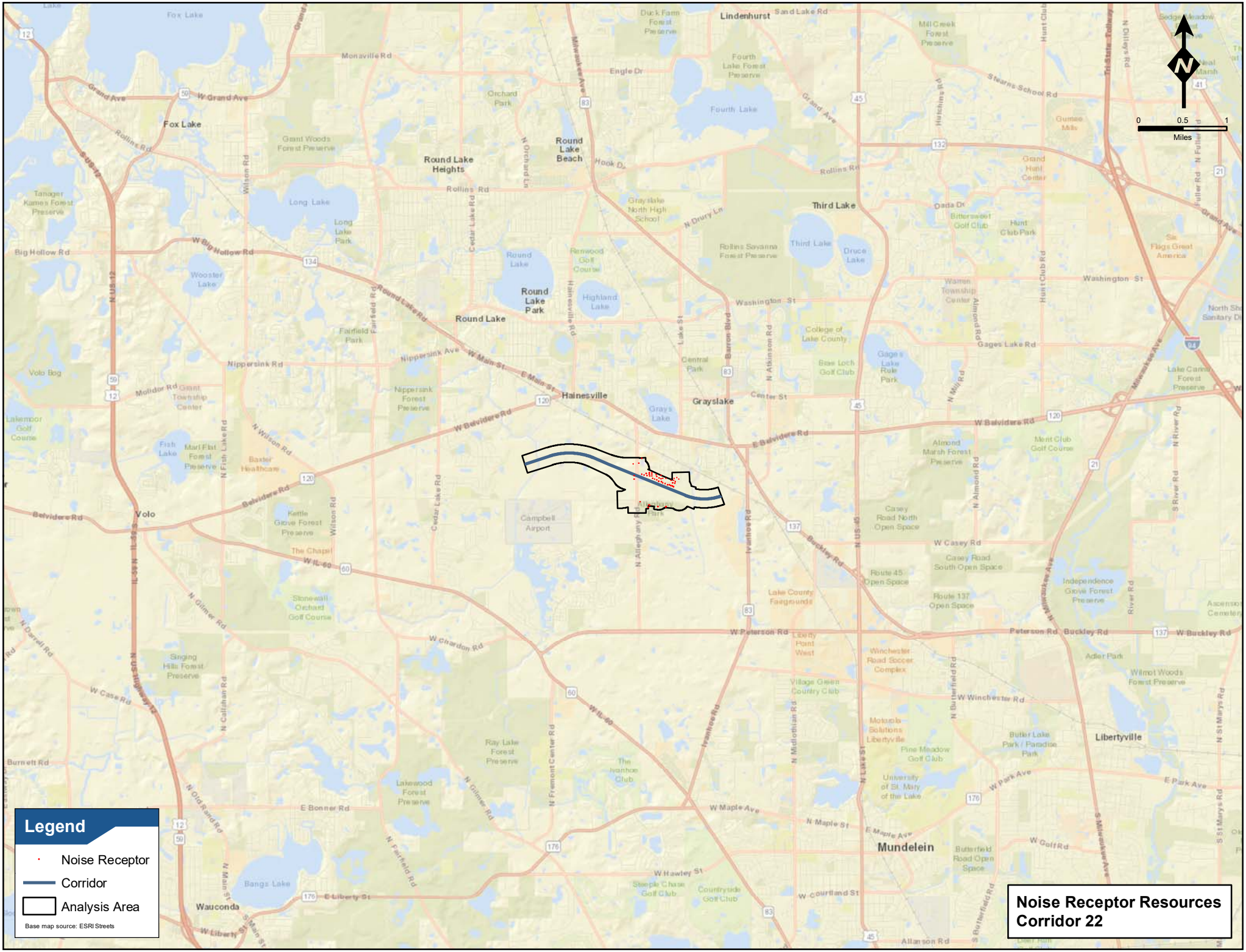

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 16
Mundelein
Libertyville
Vernon Hills
Indian Creek
Hawthorn Woods
Lake Zurich
Kildeer
Deer Park
Long Grove
Buffalo Grove
Mettawa
Lincolnshire
Grayslake
Gray's Lake
Campbell Airport
Lake County Fairgrounds
Allanson Rd
W Peterson Rd
Peterson Rd
Buckley Rd
W Buckley Rd
W Casey Rd
W Winchester Rd
W Park Ave
E Park Ave
W Golf Rd
W Maple St
E Maple Ave
W Hawley St
Courtland St
E Liberty St
E Bonner Rd
W Chardon Rd
W Belvidere Rd
E Belvidere Rd
Townline Rd
W Milton Rd
W Gilmer Rd
Old McHenry Rd
W Main St
E Main St
E Cuba Rd
W Cuba Rd
W Long Grove Rd
Long Grove Rd
Aptakisic Rd
W Aptakisic Rd
Half Day Rd
W Half Day Rd
Deerfield Pkwy
W Lake Cook Rd
E Lake Cook Rd
Checker Rd
Diamond Lake Rd
Lake Shore Dr
Milwaukee Ave
Butterfield Rd
Fairfield Rd
Quentin Rd
Rand Rd
Old Rand Rd
Wilson Rd
Cedar Lake Rd
Alleghany Rd
Ivanhoe Rd
Fremont Center Rd
Gilmer Rd
Lakewood Forest Preserve
Ray Lake Forest Preserve
Heritage Oaks Park
Mount Saint Joseph
Wynstone Golf Club
Lake Zurich Golf Club
Lake Zurich Industrial Park
Paulus Park
Kemper Lakes Golf Club
Egret Marsh Forest Preserve
Heron Creek Forest Preserve
Cuba Marsh Forest Preserve
Deer Park Office Center
Deer Grove Forest Preserve
Buffalo Creek Forest Preserve
Buffalo Grove Golf Course
Arboretum Golf Club
Twin Orchard Country Club
The Grove Country Club
Pine Meadow Golf Club
Steeple Chase Golf Club
Countryside Golf Club
Diamond Lake Recreation Center
Vernon Hills Athletic Complex
The Corporate Woods
Half Day Forest Preserve
Wilmot Woods Forest Preserve
Adler Park
Butler Lake Park / Paradise Park
Butterfield Road Open Space
White Deer Run Golf Club
Century Park
MacArthur Woods Forest Preserve
Independence Grove Forest Preserve
Casey Road North Open Space
Casey Road South Open Space
Route 45 Open Space
Route 137 Open Space
Almond Marsh Forest Preserve
Merit Club Golf Course
Winchester Road Soccer Complex
Village Green Country Club
Motorola Solutions Libertyville
University of St. Mary of the Lake
Westfield Hawthorn
Target Townline Plaza
Commons
Rheintree Court
Oak Hills
Royal Melbourne
Nickol Knoll Park
Corporate Grove
Cityparks
Traditions at Chevy Chase
Lake Cook Rd
Old Hicks Rd
N Arlington Heights Rd
N Buffalo Grove Rd
Wolf Rd
Prairie Rd
Ela Rd
Lions Dr
Church St
N Middleton Rd
S Old Rand Rd
N Old McHenry Rd
N Fairfield Rd
N Gilmer Rd
N Fremont Center Rd
N Milwaukee Ave
S Milwaukee Ave
N Butterfield Rd
S Butterfield Rd
N Lake St
S Lake St
N Fairway Dr
N Almond Rd
N River Rd
S River Rd
N St Marys Rd
S St Marys Rd
N Wilke Rd
N Baldwin Rd
N Quentin Rd
Diamond Lake Rd
Old McHenry Rd
Lake Cook Rd
Half Day Rd
Aptakisic Rd
Deerfield Pkwy
Long Grove Rd
Checker Rd
Lake Cook Rd
Buffalo Grove
Long Grove
Kildeer
Deer Park
Lake Zurich
Hawthorn Woods
Indian Creek
Vernon Hills
Mundelein
Libertyville
Mettawa
Lincolnshire

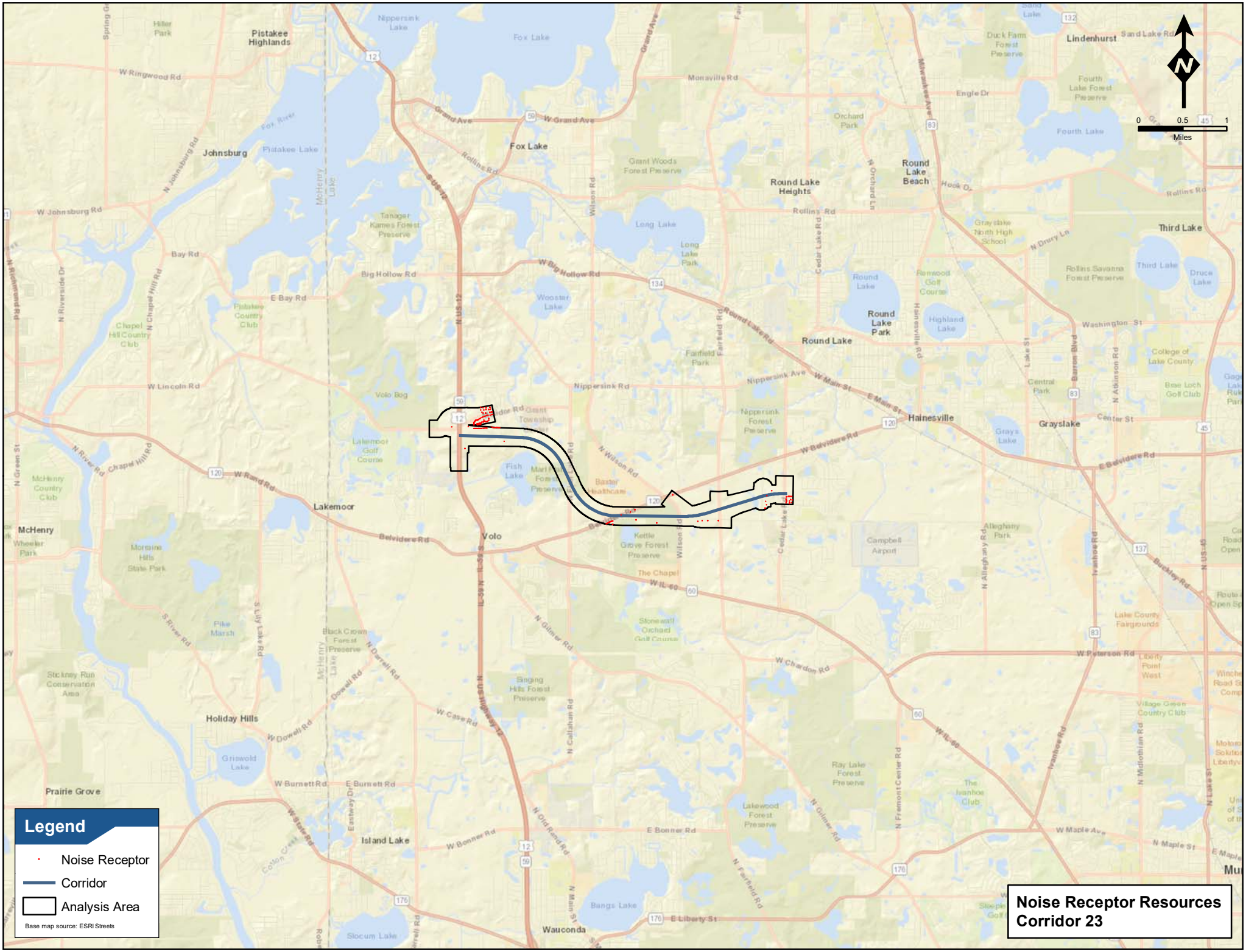

Mundelein
Hawthorn Woods
Indian Creek
Vernon Hills
Mettawa
Lincolnshire
Lake Zurich
Kildeer
Deer Park
Long Grove
Buffalo Grove
Palatine
Inverness
Arlington Heights
Prospect Heights
Rolling Meadows
N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 17

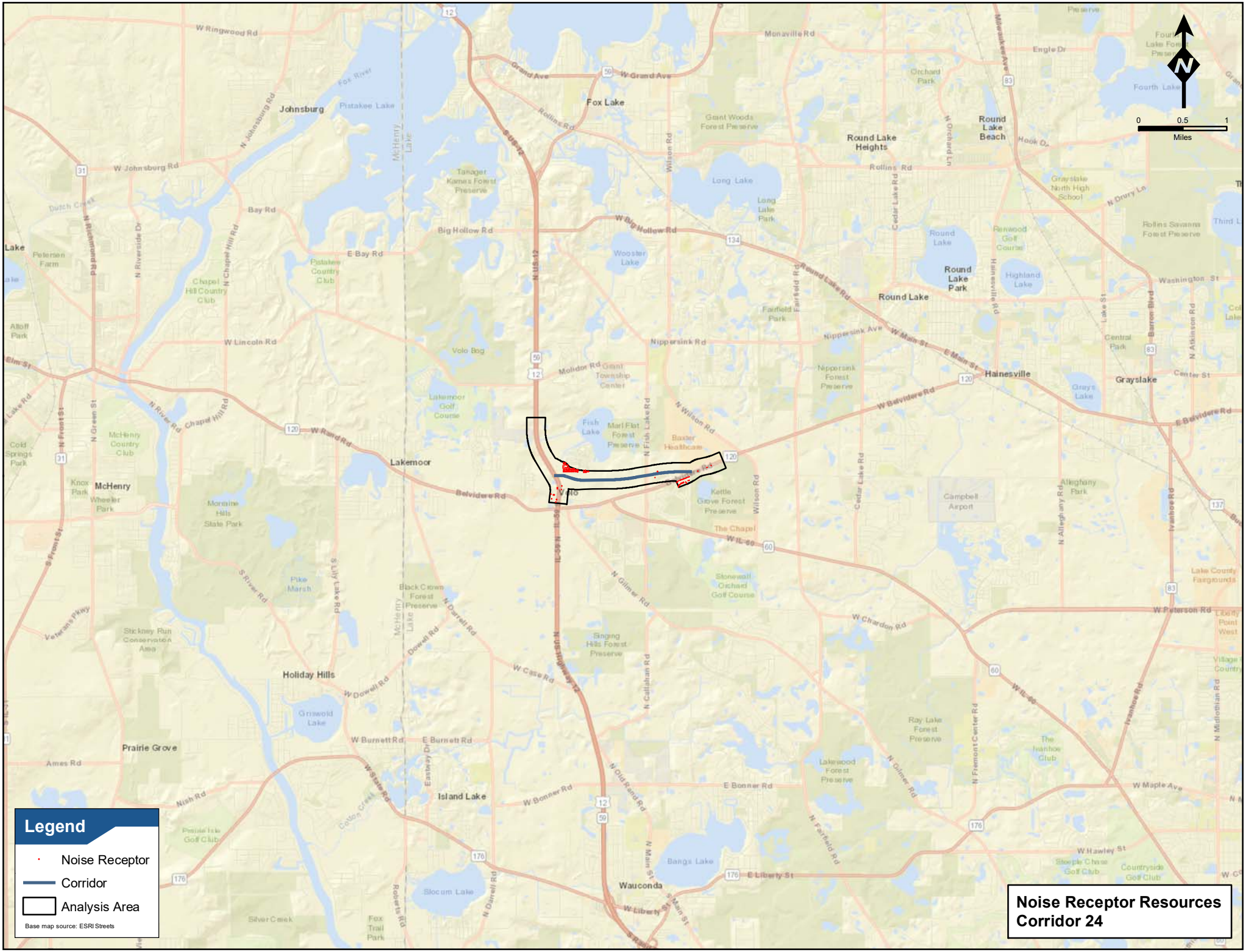

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 18
Mundelein
Libertyville
Lake Zurich
Hawthorn Woods
Indian Creek
Vernon Hills
Buffalo Grove
Long Grove
Kildeer
Deer Park
Mettawa
Lincolnshire
W Peterson Rd
Buckley Rd
W Chardon Rd
W Winchester Rd
W Maple Ave
E Maple Ave
W Golf Rd
W Courtland St
W Hawley St
E Liberty St
E Bonner Rd
Allanson Rd
Townline Rd
W Milton Rd
W Indian Creek
W Gilmer Rd
Old McHenry Rd
E Main St
W Main St
W Cuba Rd
E Cuba Rd
W Aptakisic Rd
Deerfield Pkwy
W Long Grove Rd
Checker Rd
W Lake Cook Rd
E Lake Cook Rd
W Dundee Rd
E Dundee Rd
Half Day Rd
N Buffalo Grove Rd
Campbell Airport
Lake County Fairgrounds
Casey Road North Open Space
Casey Road South Open Space
Route 45 Open Space
Route 137 Open Space
Independence Grove Forest Preserve
Adler Park
Wilmot Woods Forest Preserve
Butler Lake Park / Paradise Park
Butterfield Road Open Space
Ray Lake Forest Preserve
Lakewood Forest Preserve
Heritage Oaks Park
Diamond Lake Recreation Center
Century Park
White Deer Run Golf Club
MacArthur Woods Forest Preserve
Half Day Forest Preserve
Captain Daniel Wright Woods Forest Preserve
Egret Marsh Forest Preserve
Heron Creek Forest Preserve
Buffalo Creek Forest Preserve
Deer Grove Forest Preserve
Cuba Marsh Forest Preserve
Lake Zurich Industrial Park
Kemper Lakes Golf Club
Pine Meadow Golf Club
Twin Orchard Country Club
Arboretum Golf Club
Buffalo Grove Golf Course
Royal Melbourne
Oak Hills
Nickol Knoll Park
Eagle Park
Deer Park Office Center
Deer Grove Center
Vernon Hills Athletic Complex
Westfield Hawthorn
Target Townline Plaza
Commons
Riverlee Court
The Corporate Woods
Corporate Grove
The Grove Country Club
Steeple Chase Golf Club
Countryside Golf Club
Wynstone Golf Club
Lake Zurich Golf Club
Mount Saint Joseph
Motorola Solutions Libertyville
University of St. Mary of the Lake
The Ivanhoe Club
Village Green Country Club
Winchester Road Soccer Complex
Liberty Point West
Ascension Cemetery

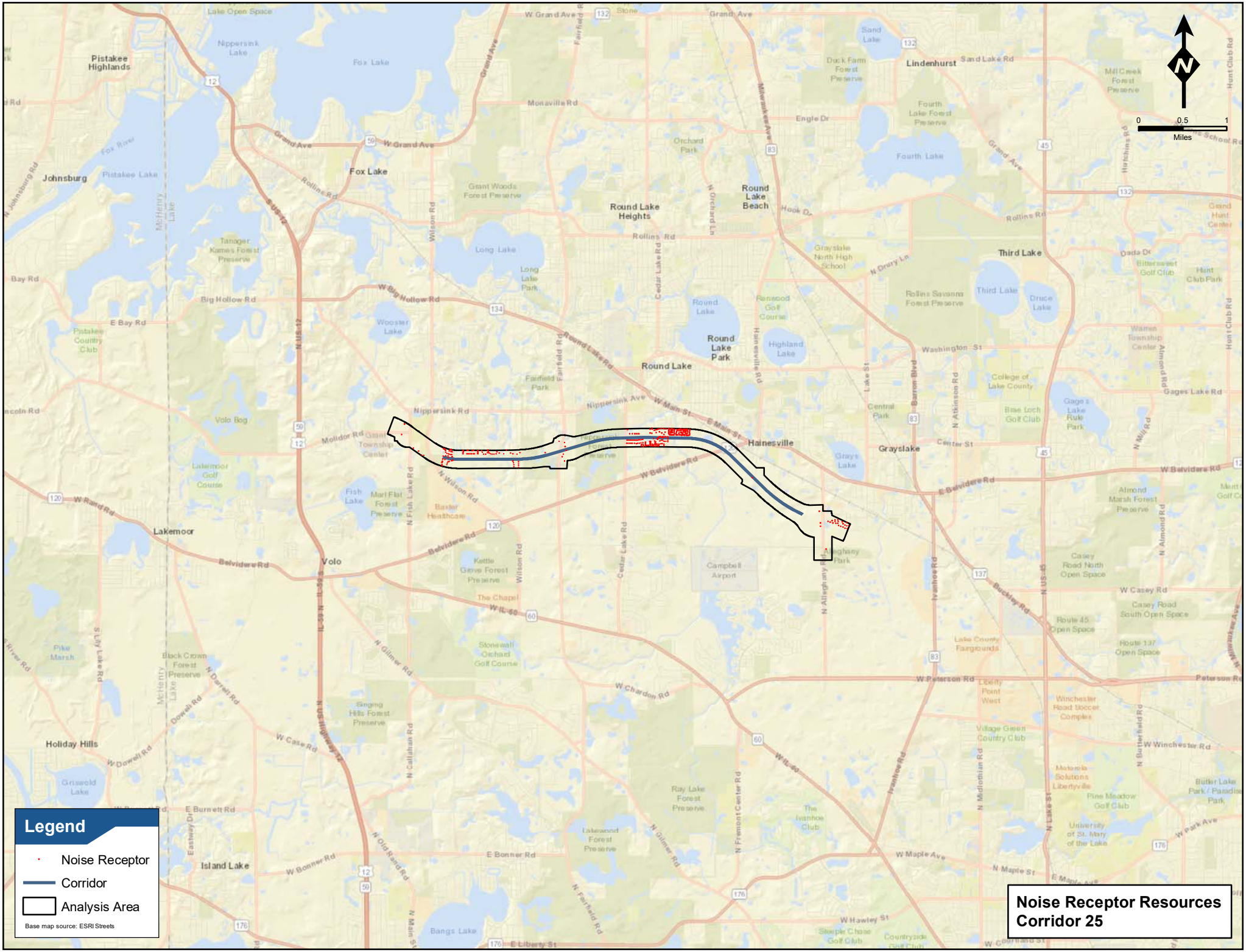

N
0
0.5
1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 20
Lindenhurst
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Third Lake
Grayslake
Hainesville
Gurnee
Park City
North Chicago
Green Oaks
Libertyville
Mundelein


Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 21
N
0
0.5
1
Miles
Pistakee Highlands
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Lindenhurst
Third Lake
Grayslake
Hainesville
Lakemoor
Volo
Holiday Hills
Island Lake


Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 22
0
0.5
1
Miles
N
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Third Lake
Lindenhurst
Hainesville
Grayslake
Volo
Wauconda
Libertyville
Mundelein
Campbell Airport


Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 23
N
0 0.5 1
Miles
Pistakee Highlands
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Third Lake
Lindenhurst
Grayslake
Hainesville
Lakemoor
Volo
McHenry
Holiday Hills
Prairie Grove
Island Lake
Wauconda


N
0 0.5 1
Miles
Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 24
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Hainesville
Grayslake
Lakemoor
McHenry
Holiday Hills
Prairie Grove
Island Lake
Wauconda
Volo
Monaville Rd
W Ringwood Rd
W Johnsburg Rd
W Grand Ave
Rollins Rd
Big Hollow Rd
E Bay Rd
W Lincoln Rd
Nippersink Rd
W Main St
E Main St
W Belvidere Rd
E Belvidere Rd
W Rand Rd
Belvidere Rd
W IL-60
W Peterson Rd
W Chardon Rd
W Dowell Rd
W Case Rd
W Burnett Rd
E Burnett Rd
W Bonner Rd
E Bonner Rd
W Maple Ave
E Liberty St
W Liberty St
N US-12
N Green St
N Front St
S River Rd
N River Rd
Chapel Hill Rd
N Fish Lake Rd
N Wilson Rd
Cedar Lake Rd
N Gilmer Rd
N Old Rand Rd
N Fairfield Rd
N Darrell Rd
N Main St
Fox River
McHenry Lake
Pistakee Lake
Long Lake
Wooster Lake
Volo Bog
Fish Lake
Bangs Lake
Slocum Lake
Silver Creek
Grant Woods Forest Preserve
Tanager Kames Forest Preserve
Nippersink Forest Preserve
Marl Flat Forest Preserve
Kettle Grove Forest Preserve
Singing Hills Forest Preserve
Lakewood Forest Preserve
Ray Lake Forest Preserve
Black Crown Forest Preserve
Stickney Run Conservation Area
Moraine Hills State Park
Pike Marsh
Griswold Lake
Petersen Farm
Pistakee Country Club
Chapel Hill Country Club
McHenry Country Club
Lakemoor Golf Course
Renwood Golf Course
Stonewall Orchard Golf Course
Campbell Airport
Lake County Fairgrounds
Grayslake North High School
Rollins Savanna Forest Preserve
Giant Township Center
Baxter Healthcare
Central Park
Allegheny Park
Fairfield Park
Highland Lake
Gray's Lake
Round Lake
Third Lake
Fourth Lake
Orchard Park
Engle Dr
Hook Dr
N Orchard Ln
Cedar Lake Rd
Fairfield Rd
Hainesville Rd
Lake St
Barron Blvd
N Atkinson Rd
Center St
Washington St
N Drury Ln
Ivanhoe Rd
N Allegheny Rd
N Medinah Rd
Veterans Pkwy
Ames Rd
Nish Rd
Cotton Creek
Eastway Dr
Roberts Rd
Fox Trail Park
Peninsula Golf Club
Stoneybrook Golf Club
Countryside Golf Club
The Ivanhoe Club
Liberty Point West
Village Country
Cold Springs Park
Knox Park
Wheeler Park
Altoff Park
Elm St
W Hawley St
E Libery St


Legend
Noise Receptor
Corridor
Analysis Area
Base map source: ESRI Streets
Noise Receptor Resources
Corridor 25
N
0
0.5
1
Miles
Pistakee Highlands
Johnsburg
Fox Lake
Round Lake Heights
Round Lake Beach
Round Lake
Round Lake Park
Third Lake
Lindenhurst
Hainesville
Grayslake
Lakemoor
Volo
Holiday Hills
Island Lake
Bangs Lake
Fox River
Pistakee Lake
Nippersink Lake
Fox Lake
Long Lake
Wooster Lake
Highland Lake
Druce Lake
Grays Lake
Sand Lake
Volo Bog
Pike Marsh
Griswold Lake
Ray Lake Forest Preserve
Campbell Airport
Grand Ave
W Grand Ave
Monaville Rd
Rollins Rd
Big Hollow Rd
W Big Hollow Rd
E Bay Rd
Round Lake Rd
Nippersink Ave
W Main St
E Main St
Molidor Rd
W Wilson Rd
W Belvidere Rd
E Belvidere Rd
Belvidere Rd
W Rand Rd
Center St
Washington St
Gages Lake Rd
W Casey Rd
W Peterson Rd
W Chardon Rd
W IL-60
W Case Rd
W Dowell Rd
E Burnett Rd
E Bonner Rd
W Bonner Rd
W Maple Ave
N Maple St
W Hawley St
E Liberty St
W Winchester Rd
W Park Ave
Buckley Rd
Peterson Rd
Sand Lake Rd
Engle Dr
Hook Dr
N Drury Ln
Nippersink Rd
N US-12
IL-59
N Fish Lake Rd
N Wilson Rd
N Gilmer Rd
N Callahan Rd
N Old Rand Rd
N Fairfield Rd
N Fremont Center Rd
N Midlothian Rd
N Lake St
N Almond Rd
N Mill Rd
N Atkinson Rd
Barron Blvd
Lake St
Ivanhoe Rd
N Allegheny Rd
Cedar Lake Rd
Wilson Rd
Fairfield Rd
Orchard Ln
Milwaukee Ave
Fairfield Ave
Grant Woods Forest Preserve
Tanager Kames Forest Preserve
Marl Flat Forest Preserve
Kettle Grove Forest Preserve
Stonewall Orchard Golf Course
Singing Hills Forest Preserve
Lakewood Forest Preserve
Rollins Savanna Forest Preserve
Almond Marsh Forest Preserve
Casey Road North Open Space
Casey Road South Open Space
Route 45 Open Space
Route 137 Open Space
Duck Farm Forest Preserve
Mill Creek Forest Preserve
Fourth Lake Forest Preserve
Hunt Club Park
Gages Lake Rule Park
Pistakee Country Club
Lakemoor Golf Course
Renwood Golf Course
Grayslake North High School
College of Lake County
Blue Loch Golf Club
Bittersweet Golf Club
Pine Meadow Golf Club
Village Green Country Club
Steeple Chase Golf Club
Countryside Golf Club
Lake County Fairgrounds
Baxter Healthcare
Motorola Solutions Libertyville
University of St. Mary of the Lake
The Ivanhoe Club
Liberty Point West
Winchester Road Soccer Complex
Butler Lake Park / Paradise Park
Warren Township Center
Grand Hunt Center
Grayslake Township Center

Attachment B: References

References

Illinois Department of Transportation. Bureau of Design and Environment Manual Chapter 26-6, Noise Analyses. December 2017. Accessed August 2018. http://www.idot.illinois.gov/Assets/uploads/files/Doing-Business/Manuals-Guides-&-Handbooks/Highways/Design-and-Environment/Illinois%20BDE%20Manual.pdf.

Illinois Department of Transportation. Highway Traffic Noise Assessment Manual. 2017. Accessed August 2018. http://www.idot.illinois.gov/Assets/uploads/files/Doing-Business/Manuals-Guides-&-Handbooks/Highways/Design-and-Environment/Environment/Highway%20Traffic%20Noise%20Assessment%20Manual%202017.pdf

Illinois State Toll Highway Authority. 2012. Traffic Noise Study and Abatement Policy. April. Accessed August 2018. https://www.illinoistollway.com/documents/20184/86467/TRAFFIC_NOISE_ABATEMENT_POLICY_-_Rev5_pre-final.pdf/6f803de3-ba17-484e-ae2c-aceeff0d95a7.

U.S. Department of Transportation. 2011. "Highway Traffic Noise: Analysis and Abatement Guidance." Federal Highway Administration, FHWA-HRP-10-025. December. Accessed August 2018. https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf.

United States *Code of Federal Regulations*. Section 23 Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise (adopted 2010). Accessed August 2018.

Websites Reviewed

Avantara Long Grove. Accessed August 2018. http://www.avantaralonggrove.com/.

Buffalo Creek Forest Preserve. Lake County Forest Preserves. Accessed August 2018. https://www.lcfpd.org/buffalo-creek/.

Cardinal Stritch Retreat House. Accessed August 2018. https://www.cardinalstritchretreat.org/.

Carmel Catholic High School. Accessed August 2018. https://www.carmelhs.org/s/402/images/gid9/editor_documents/2018-19_school_profile.pdf?gid=9&pgid=61.

Community Park. Village of Hawthorn Woods. Accessed August 2018. http://www.vhw.org/index.aspx?NID=421.

Fish Lake Beach Camping Resort. Accessed November 9, 2018. https://www.fishlakebeach.com/.

Heron Creek Forest Preserve. Accessed August 2018. Lake County Forest Preserves. https://www.lcfpd.org/heron-creek/.

Hough Street Elementary School. Accessed August 2018. https://issuu.com/barrington220/docs/hough_school_profile?e=14732991/65489535.

Gateway Park. Round Lake Area Parks District. Accessed August 2018. https://www.rlapd.org/location/gateway-park.

Kracklauer Park, Village of Mundelein. Accessed August 2018. https://mundeleinparks.org/facilities-parks/kracklauer-park/.

Lakewood Forest Preserve. Lake County Forest Preserves. Accessed August 2018. https://www.lcfpd.org/photos/lakewood/.

Lakewood Grove Park. Accessed August 2018. https://www.rlapd.org/location/lakewood-grove-park.

Lutheran Church of Atonement. Accessed August 2018. https://churchofatonement.org/.

Lutheran Church of Atonement Day School. Accessed August 2018. https://churchofatonement.org/dayschool/our-story/

Marytown and the National Shrine of St. Maximilan Kolbe. Accessed August 2018. https://marytown.com/.

Mount Saint Joseph Intermediate Care Facility. Accessed August 2018. http://www.mtstjoseph.org/.

Ned Brown (Busse Woods) Forest Preserve. Accessed August 2018. Forest Preserves of Cook County http://fpdcc.com/busse-woods/.

Nippersink Canoe Base. McHenry County Conservation District. Accessed August 2018. http://www.mccdistrict.org/rccms/nippersink-canoe-base/.

Nippersink Forest Preserve. Accessed August 2018. https://www.lcfpd.org/nippersink/.

Northwestern Hospital – Grayslake Outpatient Center. Accessed August 2018. https://www.nm.org/locations/grayslake-outpatient-center.

Rock of Israel Messianic Congregation. Accessed August 2018. http://www.rockofisrael.net/.

Santa Maria del Popolo Catholic Church. Accessed August 2018. http://smdpparish.org.

St. Mathew Lutheran Church. Accessed August 2018. https://www.stmatts.net/

St. Andrew Lutheran Church http://standrewmundelein.com/ Accessed August 2018.

St. Mary of the Annunciation. Accessed August 2018. http://stmaryfc.org/.

TECHNICAL MEMORANDUM #9

Visual Resources

Visual Resources

This memorandum describes the visual and aesthetic characteristics of the affected environment.

1.0 Resource Introduction

Visual and aesthetic considerations are important factors when determining roadway improvements. Visual resources include the natural, cultural, and project environments that can be seen and are affected by roadway changes. Natural visual resources are the land, water, vegetation, and animals that compose the natural environment; cultural visual resources are the buildings, structures, and artifacts that compose the community environment; and project visual resources refer to the representative roadway geometrics, bridges, walls, and other necessary fixtures that would be found within the right-of-way of a typical roadway corridor. The visual environment is seen by viewers both by people traveling on the road and by neighbors adjacent to it (views from the roadway are referred to as dynamic, or outward, views; views of the roadway by adjacent to it are referred to as static, or inward, views).

2.0 Methodology

As indicated in the Visual and Aesthetic Methodology Memo, visual and aesthetic resource characteristics in the analysis area were identified and located using readily available information from secondary sources (see Section 5.0 References). A desktop survey of available geographic information system (GIS) information was conducted between September 2018 and February 2019. Field verifications were completed during the weeks of September 24 and October 1, 2018. Visual and aesthetic resources were analyzed within individual viewsheds for corridors 1 through 15. Due to public access limitations, viewsheds for corridors 16 through 25 (which are primarily on new alignment) were evaluated only using available GIS and web-based mapping. In addition, public comments received during the project study relating to visual and aesthetic considerations were reviewed to obtain information about the visual and aesthetic qualities of the corridors.

3.0 Tri-County Access Study Area

The Tri-County Access (TCA) study area includes parts of five counties and covers approximately 1,000 square miles in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA study area – all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

The study area is a mix of landscapes, among them urban and suburban development, farmland, business and industry, and vast areas of open space, and exhibits a variety of visual characteristics.

The study area is bordered on the east by Lake Michigan, which serves as a defining feature of the area east of Interstate 94 (I-94). The northwest portion of the study area contains numerous lakes, wetlands, and rivers and streams. Most notably, the Chain O'Lakes area in the far northwest portion of Lake and McHenry counties play an important role in defining the landscape. Although the natural setting in this area has been altered as the communities have continued to expand, low-density development with natural features combines to form an interesting pattern of countryside visual images. The visual character in the central and southern part of the study area is flat to slightly hilly terrain and is mostly developed. There are small patches to extensive areas of woodlands, wetlands, grasslands, and other natural features throughout the area. Water forms are present throughout the area, but not to the extent as found in the northwestern area and to the east with the Lake Michigan shoreline.

4.0 Corridors

4.1 Corridor 1

Corridor 1 extends from North Richmond Road to Lake Cook Road – see accompanying Photos 1 through 3. The roadway varies from a two-lane rural corridor with agricultural uses and natural areas in the north, to a heavily developed four-lane divided highway, with frontage roads and auto-oriented suburban land uses in the south. The corridor varies in visual character and form along its length.

The northern end of the corridor is predominantly rural with sporadic landscape supply businesses dabbled amongst forested and agricultural areas. The winding nature and rolling topography along the roadway corridor creates outward pastoral views of agricultural fields and sweeping views of open space.

In and around Fox Lake, the corridor crosses the Chain O'Lakes waterway system, which is composed of 15 lakes connected by the Fox River and various constructed channels. This area serves as a regional destination for boating and fishing. The boating and recreational character of this portion of the corridor is evident from the various watercraft retailers, boat repair establishments, and marinas that dominate commercial areas. Outward views of Nippersink, Fox, and Pistakee Lakes can be seen along the corridor. Along with dynamic and expansive outward views of the lakes from the roadway, views the roadway can be seen from various locales, such as Lakefront Park (on Nippersink Lake in the community of Fox Lake).

Near the community of Volo, the rolling topography shortens viewsheds and adds visual interest to outward views along the corridor. Through this area, views of various wetlands within open and forested areas can be seen along the corridor. Set back from the corridor north of IL 120 in Volo is Fish Lake Beach Camping Resort. Outward views (from the road) of the resort are of a densely vegetated area. Views of the roadway from this camping resort are similarly obscured by the vegetation.

In the Wauconda area, the corridor bypasses its downtown and the roadway is elevated, with grade-separated with exits/entrances at IL 59 and IL 176. Views of the roadway from the community (static views) are of embankment, retaining wall, and elevated roadway.

South of Lake Zurich to Lake Cook Road, the corridor is predominately commercial in nature, with some residential uses. There are several community parks along the corridor through Lake Zurich, including Manor Park, Paulus Park, and Sparrow Ridge Park. Paulus Park is located directly on Lake Zurich, with direct access from the corridor. Dynamic (outward) views towards the park from the roadway are predominately of the parking lot and the Lake Zurich water tower; much of the park itself is heavily screened by mature vegetation from the corridor. Adjacent to Paulus Park, brief vegetated views of Lake Zurich can be seen from the corridor, which are more expansive in the winter months. A mix of land use buffers are seen through the corridor. In the more developed areas, landscape berms and wooden board-on-board fences are commonly used for visual screening and often seen along the corridor, along with ornamental metal fence and concrete block retaining walls delineating property boundaries.

Photo 1. U.S. Route 12 (US 12), divided landscape median

Photo 2. Nippersink Creek Canoe Basin on US 12 near Spring Grove

Photo 3. US 12, no median

4.2 Corridor 2

Corridor 2 (IL 60) extends from IL 120 to IL 83 – see accompanying Photos 4 and 5. This two-lane roadway is predominately rural in character. Along much of the corridor, the landscape offers extensive views of rural, agricultural land, with residential areas interspersed throughout. Residential and commercial areas are often screened with either landscape berms with trees and plantings adjacent to the roadway or wood board-on-board fencing.

Kettle Grove Forest Preserve, Stonewall Orchard Golf Course, and nearby Lake Betty border both sides of the corridor east of Fish Lake Road and offer forest, marsh, water, and golf course views. Lake Betty breaks up the uniformity of the corridor and offers dappled marsh, water, and forested views from the corridor. Near Arden Lane, expansive views of Lakewood Grove Park can be seen from the corridor.

Photo 4. Landscape berms

Photo 5. Typical Residential adjacent to corridor

4.3 Corridor 3

Corridor 3 (US 45) extends from IL 120 to IL 83 – see accompanying Photos 6 and 7. This corridor passes through downtown Mundelein. The visual character of the corridor is predominantly urban in nature, with auto-oriented suburban land uses. The main views from the corridor include businesses and residences that front the roadway, along with several community parks. The corridor is visually connected through streetscape elements such as pavers, decorative light fixtures, banners, benches, street trees, and planters. There are expansive outward views of Kracklauer Park south of downtown Mundelein.

Photo 6. US 45 through Mundelein

Photo 7. US 45 through Mundelein

4.4 Corridor 4

Corridor 4 consists of three roadway segments: Old McHenry, Midlothian, and Quentin Roads – see accompanying Photos 8 through 11. All three roads are two-lane roads.

The combined roadways in Corridor 4 are rural and natural in character, often offering a mix of expansive agricultural and natural forested views, with wooded and scrub roadway edges. Along the corridors are a variety of natural areas, wetlands, and prairie areas. Views from the road on Old McHenry Road are of primarily residential and institutional uses; and along Midlothian Road are of primarily agricultural uses. Larger open-space uses along these roadways, including Forest Lake, Kemper Lakes Golf Course, Heron Creek Forest Preserve, and Twin Orchard Golf Course, reinforce the open, natural atmosphere to the corridor. Residential areas along the corridor tend to be larger lot subdivisions that are rural in nature, with wooded, heavily-screened views of the roadway.

Long Grove's downtown is along the corridor, at Old McHenry Road and Robert Coffin Parker Road. The quaint, historic downtown is a shopping, restaurant, and festival destination for both local residents as well as from farther away. This historic downtown contains homes and buildings that date back to the 1800s, and is defined by brick sidewalks, historic building architecture and historic public elements.

Photo 8. Old McHenry Road, near downtown Long Grove

Photo 9. Forest Lake, near Quentin and Old McHenry roads

Photo 10. Heron Creek Forest Preserve near Old McHenry Road and IL 22

Photo 11. At-grade railroad crossing on Old McHenry Road, east of Midlothian Road

4.5 Corridor 6

Corridor 6 is a freeway segment of IL 53 from Higgins Road to Lake Cook Road – see accompanying Photos 12 through 15. It is a major highway corridor with 3 or more lanes of traffic in each direction, separated by a divided barrier median with grade-separated system interchanges. This corridor is a highly developed urban-type corridor.

The corridor contains views of forest preserve or other large parks or lakes, dense commercial, and single-family residential uses along the corridor. Because IL 53 is a freeway, there are frontage roads along one or both sides of the corridor. Some portions of the frontage roads contain visual screening, primarily in the form of board-on-board fencing.

At the south terminus of the corridor, near I-90, are large retail and mid-to high-rise office uses. For the most part, the visual character through here is of mid-rise office and commercial development. An exception is Busse Woods Forest Preserve, on the east side of the corridor at Golf Road. Viewed from the roadway, Busse Woods provides expansive open views of wooded areas, wetlands, and prairie; particularly because the corridor is raised above the adjacent frontage roads. Further north along the corridor, a golf course (Twin Lakes), an unnamed lake (known as Lake Louise), and a cemetery (Randhill Park Cemetery) offer expansive outward open-space views from the corridor. Residential areas are also present and visible beyond the frontage roads throughout this corridor.

Photo 12. Views into Busse Woods from IL 53

Photo 13. Wilke Road serves as frontage road

Photo 14. View of bridge and stormwater management area

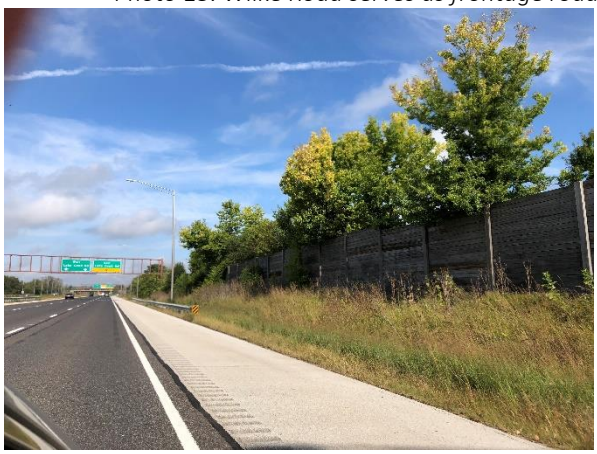


Photo 15. Screening / fencing adjacent to IL 53

4.6 Corridor 7

Corridor 7 consists of several roadways (Lake Cook Road, Arlington Heights Road, IL 53 and IL 83) – see accompanying Photos 16 and 17.

Lake Cook Road from US 12 to Arlington Heights Road contains expansive natural and forested views of Buffalo Creek Forest Preserve along the northern side of the corridor. The south side of this segment of the corridor is primarily residential, and visually screened from the roadway by board-on-board fencing. A lake offers expansive views on both sides of the corridor. This segment of Lake Cook Road has a system interchange with IL 53, which contrasts with the more natural views.

Arlington Heights Road from Lake Cook Road to IL 83/McHenry Road features a grass and vegetated median and varying views of natural areas and screened residential areas. Planted parkway trees through this area create a strong street corridor definition.

The segment of IL 83 from Arlington Heights Road to US 45 features a grass median with views of adjacent commercial, residential, institution, and industrial properties. Views are primarily screened with scrub vegetation and board-on-board fencing. Three local parks, as well as two golf courses, offer expansive open-space views through this portion of the corridor.

The segment of IL 83 from IL 60 to IL 137/Buckley Road is rural in character with wide, expansive views of undeveloped agricultural land, and some screened views of residential areas. There is a landfill along this segment of the corridor, between Peterson Road and IL 137. From the roadway, the landfill appears as a very tall vegetated berm extending for about a half mile along the corridor's length.

IL 53 from Lake Cook Road to IL 83 is rural in character, with expansive views of farm fields and open space, as well as some interspersed commercial and residential development. A golf course (The Grove Country Club) offers tree-lined and forested views on the south side of the roadway near Robert Parker Coffin Road.

Photo 16. Commercial land use with no buffer

Photo 17. Roadway with landscape median and heavily wooded setback areas

4.7 Corridor 8

Corridor 8 (Lake Cook Road) extends from Barrington Road to US 12 – see accompanying Photos 18 through 21. The roadway varies from two-lane roadway with on-street parking serving a community downtown area, to a four-lane roadway with median with suburban type commercial and residential uses.

At the west terminus, Corridor 8 travels through downtown Barrington and is generally a two-lane roadway with on-street parking. The corridor is pedestrian-oriented, and contains sidewalks,

restaurants, and shops that front the road. Street trees, decorative lighting and paving line the corridor in this area. Single-family homes, some historic, near the downtown front the corridor and feature mature street trees and sidewalks. An at-grade railroad crossing and commuter rail station are located in the downtown. Because of this area's walkability and the large number of pedestrians in this area, travel speeds through this area are generally slow.

From US 14 to Crooked Creek Trail (through Palatine and Deer Park), the roadway is a four-lane arterial with a suburban, auto-dominant character. Back yards of residences front the roadway and are typically screened with board-on-board fencing and/or vegetated berms, while commercial areas are set back from the corridor with landscape buffers.

Towards the east terminus (near Quentin Road), Deer Grove Forest Preserve borders much of the south side of the corridor. This large, open-space preserve provides outward views of forested lands along the corridor. On the north side of the corridor near Quentin Road, detention ponds associated with Deer Park Office Center and Motorola Deer Park contain landscape berms which provide expansive outward natural views along the corridor roadway.

Photo 18. Roadway with sidewalk

Photo 19. Landscape berm

Photo 20. Board on board fencing

Photo 21. Downtown Barrington

4.8 Corridor 9

Corridor 9 (Barrington Road and IL 59) extends from I-90 to US 12 – see accompanying Photos 22 through 25. The corridor is a mix of two- and four-lane divided roadway with painted median and turn lanes at intersections. The corridor varies in visual character and form along its length.

From the project's southern terminus (I-90) to IL 59/Hawthorn Road, the corridor is a mix of office/commercial uses that then transition to residential with some agriculture uses. The office/commercial buildings are set back, with parking areas close, or adjacent, to the roadway. Residential subdivisions have extensive vegetative buffers which screen views of the corridor. Between IL 62 and IL 68 on the west side of the roadway offers densely vegetated views of Crabtree Forest Preserve.

North of Hawthorne Road to US 14 is Barrington's downtown. Through this area, the corridor is pedestrian-oriented and contains sidewalks and restaurants and shops adjacent to the roadway. Street trees, decorative street lighting and paving features define the roadway through the downtown area. Single-family homes front the corridor, as well as mature street trees and sidewalks. An at-grade railroad crossing and commuter rail station are in the downtown. Because of this area's walkability and the large number of pedestrians in this area, travel speeds through the area are generally slow.

North of the Barrington's downtown to the corridor's northern terminus at US 12 is mostly residential, with open space interspersed. Some residential areas have fencing that provides screening from the corridor; while other residential areas are further set back from the corridor on larger lots and are densely screened with mature vegetation. In areas throughout the corridor, views open to expansive natural scenes of wetlands and prairie areas with large single-family homes in the distance. Large open-space areas that create natural landscape views include Grassy Lake Forest Preserve, Barrington Bog, and other local recreation sites. Biltmore Country Club Golf Course also helps create the open, natural atmosphere to the corridor.

Photo 22. Typical character and views of the corridor north of Barrington

Photo 23. Single-family homes near downtown Barrington

Photo 24. Typical character and views in downtown Barrington

Photo 25. Areas where development is set back from roadway

4.9 Corridor 11

Corridor 11 (IL 120) extends from US 12 to US 41 – see accompanying Photos 26 through 29. The corridor is a mix of rural and suburban in nature throughout its project length.

The west end of the corridor (in Volo) has some commercial development, and then the corridor transitions to farmland use interspersed with some residential subdivisions, large-scale commercial uses (Baxter Healthcare), and forest preserve lands (Nippersink Forest Preserve). For the most part, residential subdivisions are visually screened from the roadway. Grays Lake (in the town of Grayslake) is a notable visual feature along this corridor, offering expansive lake views from the roadway. East of IL 83 notable views include that of a shopping center, a hospital, and continued views of screened residential subdivisions. Between US 45 and I-94 are open-space and recreation lands, including Almond Marsh Forest Preserve, Merit Club Golf Course, Independence Grove Forest Preserve, and Lake Carina Forest Preserve. Expansive views of both wooded and open natural areas, ponds, and the Des Plaines River are visible from the roadway corridor. East of I-94, the visual character of the corridor is similar, with agricultural uses and screened residential subdivisions.

Photo 26. View of Grays Lake in Grayslake

Photo 27. Vegetated berms provide screening

Photo 28. Some areas of corridor contain advertisement billboards

Photo 29. Typical residential uses along portions of corridor

4.10 Corridor 13

Corridor 13 consists of two segments: IL 176 and Fairfield Road – see accompanying Photos 30 through 33. Both are two-lane roadways with large land areas of dedicated open-space/recreation areas that define the corridors.

The IL 176 segment of the corridor extends through Wauconda and Mundelein. Bangs Lake on the north side of IL 176 is a defining feature which reinforces the character of Wauconda as a boating and recreation community. Several commercial uses along the corridor through this area cater to boating and fishing users. The other predominant defining feature through much of both segments of the corridor is Lakewood Forest Preserve which extends along nearly a third of the IL 176 segment and nearly all of the Fairfield Road segment. These areas along the corridor are characterized by expansive wetland, open space, and forested views of the Preserve. There are also farmland areas that create open-space vistas in the areas around Gilmer Road, and Ivanoe Golf Course that lend to the open-space character of the corridor. There are a few residential areas along Corridor 13 with mostly compatible land use buffers. Most residential areas do not front the corridor and those that do are set back a considerable distance from the roadway.

Photo 30. Views of Lakewood Forest Preserve along IL 176

Photo 31. Residence at Fairfield and Bonner roads

Photo 32. Views of public boat launch and parking at Bangs Lake on IL 176

Photo 33. Landscape berms along IL 176

4.11 Corridor 14

Corridor 14 consists of two roadway segments: IL 59 and Rollins Road - see accompanying Photos 34 through 37. This corridor is within the Fox River Chain O'Lakes boating and recreation area. There are several interconnected lakes along the corridor (Duck and Long) that connect to the greater Chain O'Lakes. The west end of the corridor contains abundant natural views of the lakes and recreation areas, while the east end contains more suburban type commercial development.

The IL 59 segment of the corridor is two-lane, with portions of frontage road near the IL 59 exit off US 12. This segment is rural in nature, with scrub vegetation adjacent to the roadway and residential neighborhoods tucked behind it. Duck Lake and associated wetlands are occasionally visible on the east side of the roadway. Views are primarily of low-density residential, with a few roadside commercial uses fronting the corridor near Rollins Road. As IL 59 bridges over the Canadian Pacific (CP) railroad and Rollins Road, views primarily consist of residential rooftops, roadway chain-link fencing, and vegetation.

The Rollins Road segment of the corridor is primarily is suburban in character, with brief natural wetland and forested views. From IL 59 to Blackhawk Avenue, the corridor parallels the CP rail line and a bike path on the south side of the roadway. Areas adjacent to the roadway range from trees and vegetation, to chain-link fencing (which separates the rail line from bike lane), to a parking lot for Metra train commuters. From west of Wilson Road to Fairfield Road, the Fox River Chain O'Lakes waterway crossing, Grant Woods Forest Preserve, and occasional marsh areas offer expansive natural views, which contrast with the interspersed residential and roadside commercial uses. East of Fairfield Road to IL 83, the corridor is suburban in nature, with residential subdivisions and shopping centers. On the south side of the corridor, between East End Avenue and IL 83, is a power transmission line on metal lattice towers. The view of these towers is a prominent visual feature in this location.

Photo 34. View of Duck Pond from IL 59

Photo 35. Single-family residence near US 12

Photo 36. Views of Grant Woods Forest Preserve along Rollins Road

Photo 37. Ingleside Metra Station and Chain O'Lakes bike trail along Rollins Road

4.12 Corridor 15

Corridor 15 consists of three roadway segments: IL 176, Butterfield Road, and IL 137 (or Peterson Road) - see accompanying Photos 38 through 41. The visual nature of the corridor is generally suburban, with a mix of land development adjacent to the roadway, including residential, business, and rural areas. Some segments of the corridor contain high transmission power lines crossing or paralleling the portions of the roadway.

Much of the IL 176 segment contains the University of St Mary of the Lake campus, which is heavily wooded and set back from the roadway. It provides tranquil wooded views along the corridor. The corridor at western terminus (near US 45) consists of older single-family homes with mature tree canopy coverage and sidewalks whose front yards front the corridor. The eastern terminus is also residential in nature, with homes that back the corridor. On the south side of the road, the Millennium Trail/North Shore Bike Path parallels the east portion of the corridor and creates an overall forested view of the corridor. Other open-space properties, including Martyka Park, Pine Meadows Golf Course, and Butler Lake Marsh, offer natural open views within this segment.

The Butterfield Road segment tends to consist of agricultural land, golf course, and newer residential subdivisions. Much of the development is set back from the corridor and many areas include vegetative screening buffers and fencing adjacent to the corridor. The roadway itself has a raised landscaped

median near the newer residential subdivisions. The north terminus of this segment is commercial and offers a more developed visual character.

The IL 137/Peterson Road segment contains a blend of newer subdivisions with landscaped buffers, along with auto-dominated commercial properties. Many views of the commercial areas include newly landscaped buffers fronting the parking areas.

Photo 38. University of St Mary of the Lake Campus along IL 176

Photo 39. Utility corridor can be seen along all three segments of Corridor 15

Photo 40. Residential areas adjacent to portions of the corridor

Photo 41. Residential areas along Butterfield Road set back from roadway

4.13 Corridor 16

Corridor 16 (IL 53 Extension new alignment) extends from Lake Cook Road to IL 120 – see accompanying Photos 42 and 43. The visual character of lands adjacent to the corridor are more developed at the south end and give way to less developed areas towards the north end of the corridor. The corridor traverses a mix of communities and land uses; from large-lot suburban residential areas near Long Grove and Hawthorn Woods, to more dense residential areas of Mundelein, to undeveloped areas in Grayslake.

Significant features that define the visual character of the corridor include large forest preserve areas at Lake Cook Road (Buffalo Creek Forest Preserve) and between Cuba Road and IL 22 (Heron Creek Forest Preserve and associated natural areas and nature preserves). In addition, there are golf courses along the corridor, including Countryside Golf Club at IL 60/83 owned by Lake County Forest Preserve and

Kemper Golf Course at IL 22. These, and other public and private recreation sites along the corridor offer open expansive views of lakes and ponds, and wooded areas. Between Gilmer Road and Indian Creek Road is another prominent visual and natural resource feature of the corridor: Indian Creek and its associated water features and wooded areas.

Photo 42. Long Grove Soccer Complex entrance near Buffalo Creek Forest Preserve near Corridor 16

Photo 43. Area near Surrey Lane and Corridor 16

4.14 Corridor 17

Corridor 17 (new alignment local option for a portion of the IL 53 Extension Facility) extends from north of Lake Cook Road to north of Cuba Road, approximately 2 miles – see accompanying Photos 44 and 45. The visual character along the corridor is predominantly rural. A prominent feature of the corridor is Buffalo Creek and associated open natural areas containing grasslands, open-water features, and wooded areas. There are also areas in agricultural use along the corridor (the area north of Lake Cook Road, at Hicks Road/IL 53, and north and west of Cuba Road). Finally, the corridor is proximate to large lot, heavily wooded, secluded residential areas.

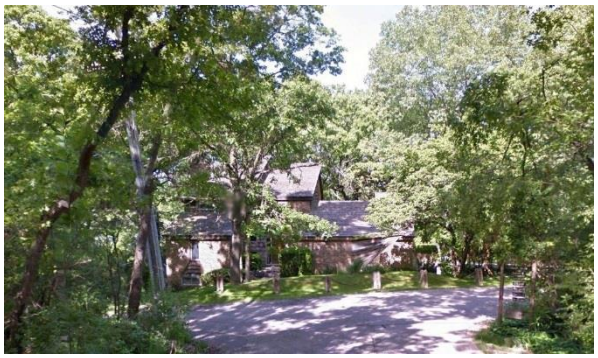


Photo 44. Homes that look out to Mardan Oaks Pond on Hidden Valley Road near Corridor 17

Photo 45. Glenstone Subdivision open space north of Cuba Road near Corridor 17

4.15 Corridor 18

Corridor 18 (new alignment local option for a portion of the IL 53 Extension Facility) extends from north of Old McHenry Road to north of Midlothian Road, approximately 2.7 miles – see accompanying Photo 46. The visual character of the corridor is a mix of residentially developed areas, farmland uses, and water features.

The portion south of Gilmer Road and north of the Canadian National railroad tracks is right-of-way owned by the Illinois Department of Transportation (IDOT). Most of the IDOT-owned corridor properties are leased for agricultural use and, therefore, views of the corridor are open and expansive. Adjacent to the IDOT-owned right-of-way are primarily residential uses that back the corridor. These are typically

backyards that are screened with fences. Between Gilmer Road and Indian Creek Road, a prominent feature of the corridor is Indian Creek and its associated water features and wooded areas. North of Indian Creek Road to the railroad tracks the corridor bisects are residential subdivision.

Photo 46. Indian Creek Road looking south, near Corridor 18

4.16 Corridor 20

Corridor 20 (IL 120 Expressway new and existing alignment) extends from west of IL 83 to I-94 – see accompanying Photos 47 and 48. The corridor consists of new alignment between IL 83 and Mill Road, and then follows existing IL 120 (Corridor 11) from Mill Road to O'Plaine Road. The corridor contains a mix of both rural and suburban in nature but generally exhibits a heavily wooded character throughout.

Several features along the corridor offer views of lakes, forested areas, wetlands, and open space. West of US 45, the alignment abuts residential and institutional uses, including Prairie Crossing and other residential subdivisions, and Lake Forest Hospital. For the most part, these uses incorporate wide landscape buffers and are set back from the proposed corridor. Between US 45 and I-94 are several open-space and recreation lands, including Almond Marsh Forest Preserve, Merit Club Golf Course, Independence Grove Forest Preserve, and Lake Carina Forest Preserve. Expansive views of both wooded and open natural areas, ponds, and the Des Plaines River are visible from the roadway corridor. East of I-94, the visual character of the corridor is similar, with agricultural uses and screened residential subdivisions.

Photo 47. View from IL 120 looking south toward Almond Marsh Forest Preserve

Photo 48. View looking east from Harris Road near Prairie Crossing bike path, Lake Forest Hospital bike path, and Grayslake bike path

4.17 Corridor 21

Corridor 21 (IL 120 Expressway new alignment) extends from US 12 to IL 83 – see accompanying Photos 49 and 50. The corridor is primarily rural in nature, with residential and business development clustered where the corridor crosses existing roadways (such as Cedar Lake Road, IL 120, and Wilson Roads). The corridor exhibits rural rolling countryside with agricultural areas devoted to crop production.

Along the corridor are areas containing views of agricultural fields and sweeping views of open space. There are also expansive views at Grant Park (west of Fish Lake Road) and Alleghany Park within the corridor. At Wilson Road, Marl Flat Forest Preserve offers views of marshes and wetlands with expansive open and forested areas.

Photo 49. Round Lake Bike Trail, which Corridor 21 crosses (near Jade Lane)

Photo 50. Marl Flat Forest Preserve near Corridor 22 and Wilson Road

4.18 Corridor 22

Corridor 22 (new alignment local option for a portion of the IL 120 Expressway Facility) extends from east of Cedar Lake Road to west of IL 83 – see accompanying Photos 51 and 52. The character of the corridor is rural and contains flat to rolling countryside with views of agricultural fields and sweeping open-space vistas.

The area between Cedar Lake Road and Alleghany Road is farmed with no public roadway access; the area between Allegheny Road and IL 83 is also farmed (lands are owned by IDOT) and there is some nearby development – including residential and business areas.

Photo 51. Alleghany Road looking north at Corridor 22

Photo 52. Alleghany Road looking south at Corridor 22

4.19 Corridor 23

Corridor 23 (new alignment local option for a portion of the IL 120 Expressway Facility) extends from US 12 to Cedar Lake Road – see accompanying Photos 53 and 54. The corridor exhibits a rural, natural character.

A substantial portion of the corridor is agricultural with views of open space. Residences and businesses are located at the west and east limits of the corridor as well where the proposed corridor would cross IL 120. Baxter Healthcare has a large facility on IL 120 near this proposed corridor; large portions of the property are open space. Two large forest preserve areas, Marl Flats and Kettle Grove, are proximate to the corridor. These areas contain views of marshes and wetlands, combined with open and forested areas.

Photo 53. Kettle Grove Forest Preserve, near Corridor 23 and Wilson Road

Photo 54. Marl Flat Forest Preserve at Corridor 23 and Fish Lake Road, with wetlands and Millennium Trail and Greenway beyond the roadside vegetation

4.20 Corridor 24

Corridor 24 (new alignment local option for a portion of the IL 120 Expressway Facility) extends from US 12 to IL 120 – see accompanying Photo 55. The corridor exhibits a rural, natural character.

Agricultural areas devoted to crop production predominate through this corridor, with views of agricultural fields and scattered wetlands. Fish Lake Beach Campground (at US 12) and Marl Flat Forest Preserve are just north of where the proposed corridor would cross. The campground is secluded and nestled within wooded areas; the forest preserve contains views of marshes and wetlands, combined with open and forested areas.

Photo 55. View of Corridor 24 near Fish Lake Road and IL 120

4.21 Corridor 25

Corridor 25 (new alignment local option for a portion of the IL 120 Expressway Facility) extends from Wilson Road to Allegheny Road – see accompanying Photo 56. The corridor varies in visual character along its entire length and consists of views of agricultural and open-space lands with some residences and businesses scattered throughout. The topography is a combination of gently rolling hills and flat terrain.

Several natural areas and forest preserves (including Nippersink Forest Preserve, Kestrel Ridge Forest Preserve, and Marl Flats Forest Preserve) are within the corridor. Through these areas, views of various wetlands within expansive open and forested areas can be found.

Photo 56. Nippersink Forest Preserve near Corridor 25 and Cedar Lake Road

5.0 References

Federal Highway Administration (FHWA). 2015. *Visual Impact Assessment of Highway Projects*. Document No. FHWA-HEP-15-029**.** January.

TECHNICAL MEMORANDUM #10

Wetlands and Waterbodies

Wetlands and Waterbodies

This memorandum details the affected environment for wetlands and waterbodies.

1.0 Resource Introduction

Wetlands, as defined by the Clean Water Act, are "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR 230.3)." Waterbodies include open (primarily unvegetated) waters such as rivers, streams, lakes and ponds. This includes ponds associated with residential subdivisions or other developments and small retention/detention basins that are intended primarily for stormwater management.

2.0 Methodology

As indicated in the Wetlands and Waterbodies Methodology Memorandum, wetlands and waterbodies in the analysis area were identified and located using readily available information from secondary sources (see Section 5.0, References). A desktop survey of available geographical information system (GIS) information was conducted in November 2017, September 2018, and November 2018. Field verifications were completed in September 2018 along corridors 1 through 15. Due to public access limitations, corridors 16 through 25 (which are primarily on new alignment) were evaluated only using available GIS and web-based mapping. Wetlands and waterbodies were identified within a defined analysis area[1] of 0.25-mile from the approximate roadway centerline (0.5-mile total width). Field verification consisted of confirming the presence or absence and relative boundaries of wetlands and waterbodies based on what could be observed from public areas. A delineation of these features was not conducted. Based on the field verifications, modifications to the wetland and waterbodies GIS mapping data were made. Due to overlapping of wetland GIS mapping data, a hierarchy was used to remove any overlapping data based on the quality and accuracy of the data set. The data sets are listed in Table 1 in order of highest to lowest quality. The lower-quality data was removed from our GIS mapping when it overlapped with higher-quality data.

Table 1. Wetland GIS Data Sets and Hierarchy Used[a]

Lake County	Cook County	McHenry County
1. Field Verification/Aerial Interpretation	1. Field Verification/Aerial Interpretation	1. Field Verification/Aerial Interpretation
2. LCSMC WRAPP	2. NWI	2. ADID
3. ADID		3. NWI
4. NWI		

[a] GIS data sets used are listed from highest quality to lowest quality. Lower quality data was removed from GIS mapping when it overlapped with higher quality data.

ADID = Advanced Identification Sites
LCSMC WRAPP = Lake County Stormwater Management Commission Wetland Restoration and Preservation Plan
NWI = National Wetland Inventory

The U.S. Army Corps of Engineers (USACE) Regional Permit Program describes high-quality aquatic resources as aquatic areas considered to be regionally critical due to their uniqueness, scarcity, and/or

[1] The width of the analysis area was expanded beyond what was originally proposed in the Wetlands Methodology Memorandum to ensure inclusion of all areas for potential system improvements.

value, and other wetlands considered to perform functions important to the public interest, as defined in 33 *Code of Federal Regulations* Part 320.4(b)(2). The Regional Permit Program lists these specific resources (Illinois Natural History Survey, 2018):

- Advanced Identification (ADID) Sites
- Bog
- Ephemeral Wetland
- Dune and Swale Complex
- Fen
- Forested Wetland, specifically wetlands dominated by at least one of several specified native tree species
- Sedge Meadow
- Seep
- Streams rated A or B for Diversity or Integrity, or mapped as Biologically Significant
- Wet Prairie
- Wetlands Supporting Federal or Illinois Endangered or Threatened Species
- Wetlands with a Native Floristic Quality Index of 20 or greater or a Mean C-Value of 3.5 or greater

Many of these features cannot be assessed without detailed field studies. For this memorandum, a wetland was identified as potentially high quality if it overlapped with at least one of the following GIS layers. However, a wetland delineation would be required to verify that a wetland is high quality.

- Conservation easements (various conservation organizations, provided by the National Conservation Easement Database)
- Forest Preserves/Conservation Districts
- Illinois Natural Area Inventory (INAI) Natural area sites (Illinois Department of Natural Resources [IDNR])
- Dedicated Nature Preserves (properties owned, leased, or managed by IDNR)
- Threatened and endangered species records (boundaries provided by IDNR)

High-quality wetlands are discussed in the corridor discussions in Section 4.0 and are identified in Attachment B.

A Water Quality Methodology Memorandum was developed. However, at this stage, only limited water quality was assessed, including impaired waters and diversity and integrity scores (Attachment C). Sources used for water quality data are listed in Section 5.0, References.

3.0 Tri-County Access Study Area

The TCA study area includes parts of five counties and covers approximately 1,000 square miles (602,795 acres) in Illinois and Wisconsin. Three primary counties in Illinois are part of the TCA study area—all of Lake County, the eastern portion of McHenry County, and the northern portion of Cook County. The TCA study area also includes portions of northeastern DuPage County in Illinois and southern Kenosha County in Wisconsin.

3.1 Wetlands

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data provides mapping of wetlands and has the most uniform coverage of all counties in the TCA study area. Therefore, it was used to generally characterize the type and distribution of wetlands in the TCA study area counties (Table 2).

Table 2. Summary of NWI Wetlands in the TCA Study Area by County

County	Area within Percent of TCA Study Area (acres)	Aquatic Bed (acres)	Emergent (acres)	Forested (acres)	Scrub-Shrub (acres)	Pond (acres)	Total Wetlands/ Waters Area (acres)
Lake	301,315	327	18,712	3,663	1,486	3,009	27,197
Cook	101,123	130	2,780	661	120	1,239	4,930
Kenosha	100,756	6	5,571	3,837	2,749	1,515	13,678
McHenry	86,633	100	5,985	502	455	735	7,777
DuPage	12,968	29	315	77	35	169	625
Total	602,795	592	33,363	8,740	4,845	6,667	54,207
Percent of Total	---	1.1%	61.5%	16.1%	8.9%	12.3%	

Source: USFWS 2017

Generally, throughout the TCA study area, wetlands are associated with lakes, streams, and their associated floodplains, as well as isolated depressions. Within the study area, the relief is generally gently sloping, with poorly defined drainage patterns. Many of the drainageways end in depressions and marshes.

Emergent wetlands are the most abundant wetland feature throughout the TCA study area, accounting for almost two-thirds of the wetland features in the TCA study area. Forested wetlands compose the next largest percentage of wetland features in the TCA study area (16.1 percent). About 20 percent of the total wetland area is composed of scrub-shrub and ponds. Aquatic bed wetlands compose a very small percentage of the total.

Lake County composes the largest part of the TCA study area and has the most total wetland features. While Cook County composes a similar portion of the TCA study area compared to Kenosha County and McHenry County, it has less than half of the total wetlands of these other counties. DuPage County composes a small portion of the total TCA study area and wetland features.

3.2 Waterbodies

The National Hydrography Dataset (NHD) provides mapping of waterbodies (lakes, larger streams, and rivers) and has the most uniform coverage of all counties in the TCA study area. Therefore, it was used to generally characterize the type and distribution of waterbodies in the TCA study area counties (Table 3).

Table 3. Summary of National Hydrography Dataset Features in the TCA Study Area by County

County	Area within TCA Study Area (acres)	NHD Waterbodies in TCA Study Area (Lake/Pond, Swamp/Marsh, and Reservoir Features) (acres/% of County Area within TCA Study Area)	NHD Flowline in TCA Study Area (Stream/River) (miles)
Lake	301,315	32,378 / 11%	603
Cook	101,123	3,714 / 4%	163
Kenosha	100,756	4,119 / 4%	254
McHenry	86,633	6,713 / 8%	191
DuPage	12,968	170 / 1%	19
Total	602,795	47,093	1,230
Percent of Study Area	---	8%	-

Source: U.S. Geological Survey (USGS) 2018

Generally, NHD features are scattered throughout the TCA study area. Streams and rivers run throughout the TCA study area, with larger rivers (Fox River, Des Plaines River, and North Branch Chicago River) running north to south. Lake/pond, swamp/marsh, and reservoir features are scattered throughout the TCA study area, with larger lakes present in the northwest near the Lake/McHenry county line and Illinois/Wisconsin state line. Fewer and smaller lakes are found within Cook County, where there is more development. Approximately 11 percent of Lake County and 8 percent of McHenry County are made up of lake/pond, swamp/marsh, and reservoir features.

Lake County composes the largest part of the TCA study area and has the greatest area of NHD features. While Cook County composes a similar portion of the TCA study area compared to Kenosha County and McHenry County, it has fewer NHD features than these other counties. DuPage County composes a small portion of the total TCA study area and NHD features.

Four major watersheds are located within the TCA study area: Fox River, Des Plaines River, Chicago River, and Frontal Lake Michigan. Named streams within the TCA study area are provided in Table 4. Named lakes within the TCA study area are provided in Table 5.

Table 4. Named Streams in the TCA Study Area

Lake County			
Buffalo Creek	Eagle Creek	Mill Creek	Skokie River
Bull Creek	Flint Creek	Mutton Creek	Squaw Creek
Bull Creek	Fox River	N. Branch Chicago River	Trevor Creek
Cotton Creek	Hastings Creek	North Flint Creek	Waukegan River
Dead River	Indian Creek	Pettibone Creek	W. Fork N. Branch Chicago River
Des Plaines River	Kellogg Creek	Seavey Drainage Ditch	
Dutch Gap Canal	Lily Lake Drain	Sequoit Creek	
Cook County			
Bensenville Ditch	Flint Creek	Salt Creek	W. Branch Du Page River
Buffalo Creek	Higgins Creek	Silver Creek	W. Branch Salt Creek
Des Plaines River	McDonald Creek	Skokie River	W. Fork N. Branch Chicago River
E. Branch Poplar Creek	N. Branch Chicago River	Spring Creek	Wheeling Drainage Ditch
Feehanville Ditch	Poplar Creek	Weller Creek	Willow Creek

Kenosha County			
Barnes Creek	Dutch Gap Canal	Kilbourn Road Ditch	Root River
Bassett Creek	Dutch Gap Canal	Peterson Creek	Salem Branch
Brighton Creek	Fox River	Pike Creek	Trevor Creek
Des Plaines River	Jerome Creek	Pike Creek	
McHenry County			
Boone Creek	Dutch Creek	Lily Lake Drain	N. Branch Nippersink Creek
Cary Creek	Fox River	Nippersink Creek	Spring Creek
Cotton Creek			
DuPage County			
Meacham Creek			
Salt Creek			
Silver Creek			
Spring Brook			
Willow Creek			

Source: USGS 2018

Table 5. Named Lakes in the TCA Study Area

Lake County			
Antioch Lake	Elmwood Farms Lake	Lake Marie	Redwing Slough Lake
Ashley Lake	Fish Lake	Lake Michigan	Round Lake
Bangs Lake	Forest Lake	Lake Naomi	Saint Marys Lake
Benet Lake	Fourth Lake	Lake Potomac	Sand Lake
Big Bear Lake	Gages Lake	Lake Sheree	Sand Pond
Bluff Lake	Grandwood Lake	Lake Zurich	Schreiber Lake
Brandenburg Lake	Grass Lake	Lambs Lake	Shady Lane Resort Lake
Bresen Lake	Grassy Lake	Leo Lake	Silver Lake
Butler Lake	Grays Lake	Liberty Lake	Slocum Lake
Cedar Lake	Harvey Lake	Lily Lake	Slough Lake
Channel Lake	Hastings Lake	Little Bear Lake	Spring Lake
Cotton Creek Marsh	Hendrick Lake	Loch Lomond	Sterling Lake
Countryside Lake	Highland Lake	Long Lake	Sullivan Lake
Cranberry Lake	Honey Lake	Loon Lake	Sun Lake
Crooked Lake	Huntley Lake	Lucky Lake	Sylvan Lake
Cross Lake	Island Lake	Miltmore Lake	Third Lake
Davis Lake	Lake Amy	Minear Lake	Timber Lake
Davlins Pond	Lake Barrington	Mud Lake	Tower Lake
Dead Lake	Lake Catherine	Nippersink Lake	Turner Lake
Deep Lake	Lake Charles	North Tower Lake	Twin Lakes
Deer Lake	Lake Eleanor	North Tower Lake	Valley Lake
Diamond Lake	Lake Fairfield	Petite Lake	Volo Bog
Druce Lake	Lake Fairview	Pistakee Lake	Waterford Lake
Duck Lake	Lake Germaine	Rays Lake	West Lake
Dunns Lake	Lake Linden	Red Pond	White Lake
East Loon Lake	Lake Louise	Redhead Lake	Wooster Lake
Echo Lake			
Cook County			
Baker Lake	Heather Lake	Lake Potawatomi	South Lake of the Coves
Crabtree Lake	Keene Lake	Lake Shermerville	South Pool
Dana Lake	Kingsport Lake	Lake Terramere	Spring Lake
Deer Grove Lake	Lacey Lake	Mirror Lake	Stephanie Lake
Deer Lake	Lake Cosman	Mud Lake	Twin Lakes
Doughnut Lake	Lake Irene	North Pool	Virginia Lake
Goose Lake	Lake Melissa	Peregrine Lake	Volkening Lake
Hawley Lake	Lake of the Coves	Skokie Lagoons	White Pine Ditch Reservoir
Hawthorn Lake			

Kenosha County			
Barber Pond	Elizabeth Lake	League Lake	Paddock Lake
Benet Lake	George Lake	Lilly Lake	Peat Lake
Camp Lake	Hooker Lake	Montgomery Lake	Rock Lake
Center Lake	Lake Catherine	Mud Lake	Silver Lake
Channel Lake	Lake Mary	Paasch Lake	Voltz Lake
Cross Lake	Lake Michigan		
McHenry County			
Cotton Creek Marsh	Lac Louette	Mud Lake	Thunderbird Lake
Defiance Lake	Lake Killarney	Pike Marsh	Tomahawk Lake
Elizabeth Lake	Leatherleaf Bog	Pistakee Lake	Vulcan Lakes
Griswold Lake	Lily Lake	Silver Lake	Warrior Marsh
Island Lake	McCullom Lake	Thunderbird Lake	Wilderness Lake
Kazimier Lake			
DuPage County			
Lake Kadijah			

Source: USGS 2018

4.0 System Alternative Corridors

The following subsections summarize wetlands and waterbodies with area within the analysis area for each corridor. Wetland data is reported for emergent wetlands, scrub-shrub wetlands, and forested wetlands. Waterbody data is reported for streams and open waters (lakes, detention basins, and ponds). Attachment B provides additional information on wetland and open-water features within each analysis area. Stream-crossing data is provided in tables in the following subsections. Figures showing wetlands and waterbodies for each corridor are provided in Attachment A.

Water Quality Data

Limited water quality data was analyzed for waterbodies within the analysis area. Waterways and lakes in the analysis area identified as impaired per the Illinois Environmental Protection Agency or having a diversity or integrity rating per the IDNR are listed in Attachment C. One biologically significant stream, North Branch Nippersink Creek, is present within the analysis area (IDNR 2008).

To identify impaired waterways and lakes, Illinois is responsible for assessing waterways for designated uses. Uses of waters that have been assessed in the analysis area are noted in Attachment C as either F, Fully Supporting or N, Not Supporting. If any of the assessed uses are found to be N, Not Supporting, then Illinois identifies the waterway as impaired. For waterways with impaired uses, the known causes of impairment are listed in Attachment C, as well as the sources of impairment.

IDNR reports diversity and integrity ratings for streams that describe the health and integrity of fish, macroinvertebrates, and mussel species and communities in the streams of the state. The rankings use letter grades from A through E, with the A being the highest. Diversity and integrity scores are listed in Attachment C.

4.1 Corridor 1

Within the analysis area, 1,125.08 acres of wetlands, 16 streams, and 317 (467.81 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 1 analysis area is provided in Table 6. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 1-1, 1-2, and 1-3).

Table 6. Wetlands, Streams and Open Waters – Corridor 1 Analysis Area

Wetlands	
Emergent Wetlands (acres)	640.69 acres

Scrub-shrub Wetlands (acres)	8.20 acres
Forested Wetlands (acres)	476.19 acres
Total Area of Wetlands (acres)	1,125.08 acres
Streams	
Number of Streams within Analysis Area	14
Number of Stream Crossings by Corridor Centerline	10
Open Water	
Number of Detention Basins (acres)	71 (55.77 acres)
Number of Ponds (acres)	235 (133.36 acres)
Number of Lakes (acres)	11 (278.68 acres)
Total Number of Open Waters (acres)	317 (467.81 acres)

Sources:
Cook 2015 - Cook County GIS Department 2015
Lake 2018a - Lake County Department of Information Technology 2018a
Lake 2018b - Lake County Department of Information Technology 2018b
LCSMC 2018 - Lake County Storm Management Commission 2018
USACE 2018 - U.S. Army Corps of Engineers 2018
USFWS 2017 - U.S. Fish and Wildlife Service 2017
USGS 2018 - U.S. Geological Survey 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 1,125.08 acres of wetlands within the analysis area, approximately 60 percent are classified as emergent wetlands and 40 percent are classified as forested wetlands. Two larger wetlands account for approximately 25 percent of the wetland area in the analysis area. Several wetlands are located along Nippersink Creek at the north end of the corridor in McHenry County. Several wetlands are also located in the middle of the corridor, within Singing Hills Forest Preserve and Marl Flat Forest Preserve.

Approximately 400 acres (1/3) of wetlands are potentially high quality due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve or the presence of a threatened and endangered species record.

Waterbodies

Fourteen streams are located within the analysis area and cross the corridor centerline 10 times. North Branch Nippersink Creek considered a biologically signification stream,[2] is present within the far north end of the analysis area and is crossed once by the corridor centerline. In addition, Nippersink Creek is crossed by the corridor centerline three times at the north end of the corridor.

Eleven lakes have area located within the analysis area and account for most of the open-water acreage within the analysis area. The largest open waters are Nippersink and Pistakee Lakes in the northern end of the corridor and Lake Zurich in the southern portion. Other named lakes include Ingleside Lake, Lakewood Marsh, Timber Lake – Barrington, Dog Bone Lake, Lake Farmington, and Lake Marie. The majority of the remaining open waters are relatively small in size (less than an acre) and associated with residential and commercial development.

[2] IDNR 2008

4.2 Corridor 2

Within the analysis area, 236.02 acres of wetlands, 2 streams, and 61 (36.47 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 2 analysis area is provided in Table 7. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 2-1, 2-2, and 2-3).

Table 7. Wetlands, Streams and Open Waters – Corridor 2 Analysis Area

Wetlands	
Emergent Wetlands (acres)	228.77 acres
Scrub-shrub Wetlands (acres)	0.38 acre
Forested Wetlands (acres)	6.87 acres
Total Area of Wetlands (acres)	236.02 acres
Streams	
Number of Streams within Analysis Area	2
Number of Stream Crossings by Corridor Centerline	2
Open Water	
Number of Detention Basins (acres)	3 (0.89 acre)
Number of Ponds (acres)	53 (17.03 acres)
Number of Lakes (acres)	5 (18.55 acres)
Total number of waterbodies excluding streams (acres)	61 (36.47 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Wetlands are generally scattered throughout the analysis area. Of the 236.02 acres of wetlands with area located within the analysis area, almost all (95 percent) are classified as emergent wetlands, except for a small amount (5 percent) of forested wetlands. Several wetlands are located within agricultural fields. A few wetlands are associated with residential subdivisions.

Approximately 30 acres (10 percent) of wetlands are potentially high quality due to their locations within either a conservation easement, forest preserve, INAI site, or the presence of threatened and endangered species record.

Waterbodies

Two streams, Lake Helen Drain and Squaw Creek, are located within the central portion of the corridor and both are crossed once by the roadway.

Five lakes have area located within the analysis area and account for about half of open-water acreage within the analysis area. Lake Betty is the largest open water in the corridor and is present in the western portion near the Stonewall Orchard Golf Course. Other named lakes include South Churchill Lake and Beelow Lake. Additional smaller open waters (lakes, ponds, and detention basins) are also present scattered throughout the analysis area.

4.3 Corridor 3

Within the analysis area, 26.26 acres of wetlands, 5 streams, and 34 (35.63 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 3 analysis area is provided in Table 8. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 3-1, 3-2, and 3-3).

Table 8. Wetlands, Streams and Open Waters – Corridor 3 Analysis Area

Wetlands	
Emergent Wetlands (acres)	9.60 acres
Scrub-shrub Wetlands (acres)	0.39 acre
Forested Wetlands (acres)	16.27 acres
Total Area of Wetlands (acres)	26.26 acres
Streams	
Number of Streams within Analysis Area	5
Number of Stream Crossings by Corridor Centerline	1
Open Water	
Number of Detention Basins (acres)	25 (7.98 acres)
Number of Ponds (acres)	8 (3.04 acres)
Number of Lakes (acres)	1 (24.61 acres)
Total number of waterbodies excluding streams (acres)	34 (35.63 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 26.26 acres of wetlands with area located within the analysis area, approximately 60 percent are classified as forested wetlands, and almost all of the remaining 40 percent are classified as emergent wetlands, with the exception of a few small scrub-shrub wetlands. Most wetlands are located within the southern half of the corridor and associated with Diamond Lake Drain.

Less than one acre of wetland in the analysis area is potentially high quality due to the presence of a threatened and endangered species record.

Waterbodies

Five streams are located within the analysis area. One stream, Diamond Lake Drain, is crossed by the corridor.

Open waters (lakes, ponds, and detention ponds) are also present primarily in the southern half of the corridor, with the largest being Diamond Lake, which accounts for the majority of open-water acreage within the analysis area. The remaining open waters are ponds and detention basins, many of which are associated with commercial development.

4.4 Corridor 4

Within the analysis area, 325.79 acres of wetlands, 5 streams, and 147 (162.42 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 4 analysis area is provided in Table 9. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 4-1, 4-2, and 4-3).

Table 9. Wetlands, Streams and Open Waters – Corridor 4 Analysis Area

Wetlands	
Emergent Wetlands (acres)	280.28 acres
Scrub-shrub Wetlands (acres)	3.75 acres
Forested Wetlands (acres)	41.76 acres
Total Area of Wetlands (acres)	325.79 acres
Streams	
Number of Streams within Analysis Area	5
Number of Stream Crossings by Corridor Centerline	2
Open Water	
Number of Detention Basins (acres)	30 (21.86 acres)
Number of Ponds (acres)	109 (58.97 acres)
Number of Lakes (acres)	8 (81.59 acres)
Total number of waterbodies excluding streams (acres)	147 (162.42 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 325.79 acres of wetlands with within the analysis area, approximately 90 percent are classified as emergent wetlands and 10 percent are classified as forested wetland, with a few small scrub-shrub wetlands. Wetlands are located throughout the analysis area, with most associated with streams, rivers, and lakes. A few large wetland complexes are present associated with the Land Conservancy of Lake County, Foglia YMCA, Villages of Long Grove and Kildeer open space, and Reed-Turner Woodland Nature Preserve.

Approximately 67 acres (20 percent) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

Waterbodies

Five streams are located within the analysis area, primarily in the southern half. Two streams, Lake Forest Drain and Kildeer Creek, are crossed by the roadway.

Open waters (lakes, ponds, and detention ponds) are scattered throughout the analysis area. The largest are Forest Lake and Kemper Lake 1, which are both located in the central portion of the corridor in a residential development and golf course. Other named lakes that have area located within the corridor are Sylvan Lake, Pond-a-Rudy, Lake Leo, Lake Naomi, Kemper Lake 2, and Salem Lake.

4.5 Corridor 6

Within the analysis area, 50.98 acres of wetlands, 8 streams, and 91 (130.54 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, streams, and open-water data for the Corridor 6 analysis area is provided in Table 10. Additional information on wetlands, streams and open waters is provided in Attachment B (Tables 6-1, 6-2, 6-3).

Table 10. Wetlands, Streams and Open Waters – Corridor 6 Analysis Area

Wetlands	
Emergent Wetlands (acres)	50.43 acres
Scrub-shrub Wetlands (acres)	0.17 acre
Forested Wetlands (acres)	0.37 acre
Total Area of Wetlands (acres)	50.98 acres
Streams	
Number of Streams within Analysis Area	8
Number of Stream Crossings by Corridor Centerline	4
Open Water	
Number of Detention Basins (acres)	None
Number of Ponds (acres)	84 (49.82 acres)
Number of Lakes (acres)	7 (80.72 acres)
Total number of waterbodies excluding streams (acres)	91 (130.54 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Few wetlands are present within the analysis area due to development around IL 53 freeway. Large wetlands are located near the south and north ends of the corridor—associated with Busse Woods Forest Preserve at the southern end of the corridor and undeveloped land at the northern end. Of the 50.98 acres of wetlands within the analysis area, almost all are classified as emergent wetlands, except for one scrub-shrub wetland and one forested wetland.

Approximately 28 acres (about half) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, or the presence of a threatened and endangered species record.

One wetland mitigation bank, Buffalo Creek, is present at the north end of the analysis area, where the IL 53 freeway ends (USACE 2019).

Waterbodies

Salt Creek and several tributaries to Salt Creek are located scattered throughout the analysis area. There are four stream crossings, three of which are Salt Creek. Ponds and lakes are located in the analysis area primarily in the northern and southern portions. The largest are unnamed lakes associated with Busse Woods Forest Preserve, Twin Lakes Golf Course, and Doug Lindberg Park (Lake Louise). A few small

ponds are in the northern portion of the corridor and are associated with residential and commercial development.

4.6 Corridor 7

Within the analysis area, 553.05 acres of wetlands, 16 streams, and 186 (175.02 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, streams, and open-water data for the Corridor 7 analysis area is provided in Table 11. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 7-1, 7-2, and 7-3).

Table 11. Wetlands, Streams and Open Waters – Corridor 7 Analysis Area

Wetlands	
Emergent Wetlands (acres)	460.17 acres
Scrub-shrub Wetlands (acres)	14.99 acres
Forested Wetlands (acres)	77.89 acres
Total Area of Wetlands (acres)	553.05 acres
Streams	
Number of Streams within Analysis Area	15
Number of Stream Crossings by Corridor Centerline	9
Open Water	
Number of Detention Basins (acres)	17 (12.50 acres)
Number of Ponds (acres)	160 (77.85 acres)
Number of Lakes (acres)	9 (84.67 acres)
Total number of waterbodies excluding streams (acres)	186 (175.02 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Wetlands are located throughout the analysis area, with most associated with streams, rivers, and lakes. A few large wetlands are present associated with Indian and Buffalo Creeks. Several small, potentially farmed wetlands are present in the northern part of the corridor analysis area. Of the 553.05 acres of wetlands within the analysis area, approximately 80 percent are classified as emergent wetlands, 10 percent are classified as forested wetlands, and the remaining 10 percent are classified as scrub-shrub wetlands.

Approximately 50 acres (10 percent) of wetlands are potentially high-quality wetlands due to their locations within a conservation easement, forest preserve, INAI site, nature preserve or the presence of a threatened and endangered species record.

One wetland mitigation bank, Buffalo Creek, is present at the south end of the Corridor 7 analysis area where IL-53 ends (USACE 2019).

Waterbodies

Fifteen streams are located within the analysis area, and there are nine stream crossings. Buffalo Creek is crossed twice.

Open waters (lakes ponds and detention basins) are present scattered throughout the analysis area. Nine lakes have area located within the analysis area and account for almost half of open-water acreage. The largest open waters are Buffalo Creek Reservoir in Buffalo Creek Forest Preserve and an unnamed lake at Lake Cook and Hicks Roads, both of which are located at the southern end of the corridor. Other named lakes include Longview Meadows Lake, Oak Hills Lake, Yankee Lake, Lake Terramere, and Countryside Landfill Lake 2. There are also numerous ponds associated with residential development and golf courses.

4.7 Corridor 8

Within the analysis area, 86.42 acres of wetlands, 2 streams, and 61 (45.04 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 8 analysis area is provided in Table 12. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 8-1, 8-2, and 8-3).

Table 12. Wetlands, Streams and Open Waters – Corridor 8 Analysis Area

Wetlands	
Emergent Wetlands (acres)	81.64 acres
Scrub-shrub Wetlands (acres)	0.93 acre
Forested Wetlands (acres)	3.85 acres
Total Area of Wetlands (acres)	86.42 acres
Streams	
Number of Streams within Analysis Area	3
Number of Stream Crossings by Corridor Centerline	1
Open Water	
Number of Detention Basins (acres)	10 (14.56 acres)
Number of Ponds (acres)	48 (28.65 acres)
Number of Lakes (acres)	3 (1.83 acres)
Total number of waterbodies excluding streams (acres)	61 (45.04 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 86.42 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, and 10 percent are classified as forested wetlands, with a small amount classified as scrub-shrub wetlands. One large emergent wetland that accounts for almost half of the wetlands in the analysis area is located at the east end of the corridor within Deer Grove Forest Preserve, Jens Jensen Grasslands, and Woods Land and Water Reserve.

Approximately 53 acres (over half) of wetlands are potentially high-quality wetlands due to their locations within a either forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

Waterbodies

Three streams are located within the analysis area, one of which is crossed by the corridor.

Ponds account for 64 percent of open-water acreage within the analysis area, several of which are associated with commercial and residential development. Named lakes include Lake Louise and Dover Pond.

4.8 Corridor 9

Within the analysis area, 376.13 acres of wetlands, 10 streams, and 159 (201.66 acres) open waters (lakes, detention basins, and ponds) are located along Corridor 9. A summary of wetland, streams, and open-water data for the Corridor 9 analysis area is provided in Table 13. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 9-1, 9-2, and 9-3).

Table 13. Wetlands, Streams and Open Waters – Corridor 9 Analysis Area

Wetlands	
Emergent Wetlands (acres)	344.85 acres
Scrub-shrub Wetlands (acres)	1.63 acre
Forested Wetlands (acres)	29.65 acres
Total Area of Wetlands (acres)	376.13 acres
Streams	
Number of Streams within Analysis Area	10
Number of Stream Crossings by Corridor Centerline	6
Open Water	
Number of Detention Basins (acres)	6 (1.98 acres)
Number of Ponds (acres)	143 (96.12 acres)
Number of Lakes (acres)	10 (103.56 acres)
Total number of waterbodies excluding streams (acres)	159 (201.66 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 376.13 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, 10 percent are classified as forested wetlands, and less than 1 percent are classified as scrub-shrub wetlands. Several large emergent wetlands are present within the analysis area with the majority in the northern half associated with Barrington Bog Nature Preserve and Grassy Lake Forest Preserve. There is also a larger wetland in the southern half of the corridor primarily associated with Crabtree Forest Preserve.

Approximately 131 acres (about one-third) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

Waterbodies

Ten streams, mostly associated with forest preserves, are located within the analysis area, and there are six stream crossings. Poplar Creek is crossed twice by the roadway corridor.

Open waters (lakes, ponds, and detention basins) are located throughout the analysis area. Ten lakes have area located within the analysis area and account for over half of open-water acreage within the analysis area. The largest are at the northern end, including Grassy Lake and Lake Barrington. Other named lakes include Lake Rose, Lake Fairview, Fox Run of Barrington Lake, Tower Lake, and Honey Lake.

4.9 Corridor 11

Within the analysis area, 567.90 acres of wetlands, 6 streams, and 166 (216.11 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 11 analysis area is provided in Table 14. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 11-1, 11-2, and 11-3).

Table 14. Wetlands, Streams and Open Waters – Corridor 11 Analysis Area

Wetlands	
Emergent Wetlands (acres)	443.41 acres
Scrub-shrub Wetlands (acres)	10.33 acres
Forested Wetlands (acres)	114.16 acres
Total Area of Wetlands (acres)	567.90 acres
Streams	
Number of Streams within Analysis Area	6
Number of Stream Crossings by Corridor Centerline	5
Open Water	
Number of Detention Basins (acres)	32 (39.98 acres)
Number of Ponds (acres)	127 (70.80 acres)
Number of Lakes (acres)	7 (105.33 acres)
Total number of waterbodies excluding streams (acres)	166 (216.11 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 567.90 acres of wetlands scattered throughout the analysis area, approximately 80 percent are classified as emergent wetlands, 20 percent are classified as forested wetlands, and a small amount are classified as scrub-shrub wetlands. Most of the forested wetlands are located in the eastern part of the corridor associated with the Des Plaines River and Lake Carina Forest Preserve.

Approximately 253 acres (almost half) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

One wetland mitigation bank, Big Sag 1, is present within middle of the analysis area (USACE 2019).

Waterbodies

Six streams are located within the analysis area that are crossed five times by the corridor centerline. The Des Plaines River and several tributaries are present on the eastern side of the roadway. Additional streams include Squaw Creek and the Avon-Fremont Drainage Ditch.

Open waters (lakes, ponds, and detention basins) are located throughout the analysis area. Seven lakes have area located within the analysis area and account for almost half of open-water acreage. Grays Lake is the largest and is in the central portion of the corridor analysis area. Other named lakes include Gages Lake, Lake Carina, Schaul Country North Lake, Schaul Country South Lake, LCFPD Pond, and Sargent Marsh.

4.10 Corridor 13

Within the analysis area, 377.03 acres of wetlands, 2 streams, and 90 (248.37 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 13 analysis area is provided in Table 15. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 13-1, 13-2, and 13-3).

Table 15. Wetlands, Streams and Open Waters – Corridor 13 Analysis Area

Wetlands	
Emergent Wetlands (acres)	336.38 acres
Scrub-shrub Wetlands (acres)	7.21 acres
Forested Wetlands (acres)	33.44 acres
Total Area of Wetlands (acres)	377.03 acres
Streams	
Number of Streams within Analysis Area	2
Number of Stream Crossings by Corridor Centerline	0
Open Water	
Number of Detention Basins (acres)	11 (3.46 acres)
Number of Ponds (acres)	68 (43.26 acres)
Number of Lakes (acres)	11 (201.65 acres)
Total number of waterbodies excluding streams (acres)	90 (248.37 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 377.03 acres of wetlands scattered throughout the analysis area, approximately 90 percent are classified as emergent wetlands, 10 percent are classified as forested wetlands, and a small amount are

classified as scrub-shrub wetlands. A few large wetlands are present in the middle of the corridor associated with Lakewood Forest Preserve and Wauconda Bog Nature Preserve.

Approximately 248 acres (about two-thirds) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

Waterbodies

Two streams are located within the analysis area. Neither stream is crossed by the roadway corridor.

Open waters (lakes, ponds, and detention basins) are located throughout the analysis area. Eleven lakes have area located within the analysis area and account for about 80 percent of open-water acreage. Bangs Lake and Davis Lakes are the largest, located in the western and central portion of the corridor analysis area, respectively. Other named lakes include Russel Lake, Oak Lake, Lake Napa Suwe, Lake Fairfield, Drummond Lake, Summer Hill Estates Lake, Grand Dominion Lake, Broberg Marsh, and Taylor Lake.

4.11 Corridor 14

Within the analysis area, 242.57 acres of wetlands, 5 streams, and 49 (114.07 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 14 analysis area is provided in Table 16. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 14-1, 14-2, and 14-3).

Table 16. Wetlands, Streams and Open Waters – Corridor 14 Analysis Area

Wetlands	
Emergent Wetlands (acres)	213.48 acres
Scrub-shrub Wetlands (acres)	0.45 acre
Forested Wetlands (acres)	28.64 acres
Total Area of Wetlands (acres)	242.57 acres
Streams	
Number of Streams within Analysis Area	5
Number of Stream Crossings by Corridor Centerline	3
Open Water	
Number of Detention Basins (acres)	9 (6.03 acres)
Number of Ponds (acres)	37 (17.76 acres)
Number Lakes (acres)	3 (90.28 acres)
Total number of waterbodies excluding streams (acres)	49 (114.07 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 242.57 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, 10 percent are classified as forested wetlands, and less than 1 percent are classified

as scrub-shrub wetlands. Most of the wetlands are in the western half of the analysis area and are associated with Duck Lake, Squaw Creek, Duck Lake Drain, or the Grant Woods Forest Preserve.

Approximately 41 acres (almost 20 percent) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

Waterbodies

Five streams are located within the analysis area. Of these streams, three are crossed by the roadway corridor.

Three named lakes have area located within the analysis area and account for about 80 percent of open-water acreage within the analysis area. The lakes are in the western half of the corridor and include Long Lake, Duck Lake, and Fairfield Marsh North.

4.12 Corridor 15

Within the analysis area, 142.64 acres of wetlands, 4 streams, and 40 (23.28 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 15 analysis area is provided in Table 4-12. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 15-1, 15-2, and 15-3).

Table 4-12. Wetlands, Streams and Open Waters – Corridor 15 Analysis Area

Wetlands	
Emergent Wetlands (acres)	81.80 acres
Scrub-shrub Wetlands (acres)	3.19 acres
Forested Wetlands (acres)	57.65 acres
Total Area of Wetlands (acres)	142.64 acres
Streams	
Number of Streams within Analysis Area	4
Number of Stream Crossings by Corridor Centerline	2
Open Water	
Number of Detention Basins (acres)	17 (8.75 acres)
Number of Ponds (acres)	20 (10.22 acres)
Number of Lakes (acres)	3 (4.31 acres)
Total number of waterbodies excluding streams (acres)	40 (23.28 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 142.64 acres of wetlands within the analysis area, approximately 50 percent are classified as emergent wetlands, 40 percent are classified as forested wetlands, and a small amount are classified as scrub-shrub wetlands. Most of the wetlands are associated with Bull Creek or Independence Grove Forest Preserve.

Approximately 37 acres (almost one-third) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

One wetland mitigation bank, Butterfield Road Wetland Mitigation Bank, is present within the south end of the analysis area (USACE 2019).

Waterbodies

Four streams are located within the analysis area. Of these streams, Bull Creek is the only stream crossed by the roadway corridor and is crossed twice.

Open water in the analysis area mostly consists of smaller ponds and detention basins that are primarily located in the northern half and are associated with commercial and residential development.

4.13 Corridor 16

Within the analysis area, 669.58 acres of wetlands, 18 streams, and 171 (175.15 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 16 analysis area is provided in Table 18. Additional information on wetlands, streams and open waters is provided in Attachment B (Tables 16-1, 16-2, and 16-3).

Table 18. Wetlands, Streams and Open Waters – Corridor 16 Analysis Area

Wetlands	
Emergent Wetlands (acres)	574.51 acres
Scrub-shrub Wetlands (acres)	8.13 acres
Forested Wetlands (acres)	86.94 acres
Total Area of Wetlands (acres)	669.58 acres
Streams	
Number of Streams within Analysis Area	18
Number of Stream Crossings by Corridor Centerline	8
Open Water	
Number of Detention Basins (acres)	31 (30.15 acres)
Number of Ponds (acres)	132 (75.69 acres)
Number of Lakes (acres)	8 (69.31 acres)
Total number of waterbodies excluding streams (acres)	171 (175.15 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 669.58 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, 10 percent are classified as forested wetlands, and less than 1 percent are classified as scrub-shrub wetlands. Wetlands are generally scattered throughout the analysis area and most are adjacent to the named streams, including Buffalo Creek, Kildeer Creek, Indian Creek, and Avon-Fremont Drainage Ditch.

Approximately 134 acres (20 percent) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

One wetland mitigation bank, Buffalo Creek, is present within the south end of the analysis area where IL 53 freeway ends (USACE 2019).

Waterbodies

Eighteen streams are located within the analysis area, and there are 8 stream crossings with Countryside Landfill South Ditch crossed twice.

Open waters (lakes, ponds and detention basins) are located throughout the analysis area. Eight lakes have area located within the analysis area and account for 40 percent of open-water acreage. LCFPD Pond is the largest open water and is located in the middle of the corridor, just south of Countryside Golf Club. Other named lakes include Loch Lomond, Wilderness Park Lake, Kemper Lake 2, Central Slough Lake, Albert Lake, and Mardan Oaks Pond 1.

4.14 Corridor 17

Within the analysis area, 160.28 acres of wetlands, 3 streams, and 33 (34.98 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 17 analysis area is provided in Table 19. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 17-1, 17-2, and 17-3).

Table 19. Wetlands, Streams and Open Waters – Corridor 17 Analysis Area

Wetlands	
Emergent Wetlands (acres)	148.45 acres
Scrub-shrub Wetlands (acres)	6.56 acres
Forested Wetlands (acres)	5.27 acres
Total Area of Wetlands (acres)	160.28 acres
Streams	
Number of Streams within Analysis Area	3
Number of Stream Crossings by Corridor Centerline	1
Open Water	
Number of Detention Basins (acres)	None
Number of Ponds (acres)	32 (20.84 acres)
Number of Lakes (acres)	1 (14.14 acres)
Total number of waterbodies excluding streams (acres)	33 (34.98 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 160.28 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, 5 percent are classified as forested wetlands, and 5 percent are classified as scrub-shrub wetlands. Wetlands are located throughout the analysis arear with the largest located in the north central portion associated with Buffalo Creek, South Branch Buffalo Creek, Hidden Valley Lake, and Marden Oaks Pond.

Approximately 17 acres (10 percent) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, or the presence of a threatened and endangered species record.

Waterbodies

Three streams are located within the analysis area. Of these streams, only one, Buffalo Creek, is crossed by the proposed corridor centerline.

One lake, Mardan Oaks Pond 1, has area located within the analysis area and accounts for 40 percent of open-water acreage within the analysis area. Buffalo Creek flows into and out of this lake.

4.15 Corridor 18

Within the analysis area, 199.68 acres of wetlands, 4 streams, and 33 (56.93 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 18 analysis area is provided in Table 20. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 18-1, 18-2, and 18-3).

Table 20. Wetlands, Streams and Open Waters – Corridor 18 Analysis Area

Wetlands	
Emergent Wetlands (acres)	173.84 acres
Scrub-shrub Wetlands (acres)	0.58 acre
Forested Wetlands (acres)	25.26 acres
Total Area of Wetlands (acres)	199.68 acres
Streams	
Number of Streams within Analysis Area	4
Number of Stream Crossings by Corridor Centerline	2
Open Water	
Number of Detention Basins (acres)	8 (6.75 acres)
Number of Ponds (acres)	24 (22.73 acres)
Number of Lakes (acres)	1 (27.45 acres)
Total number of waterbodies excluding streams (acres)	33 (56.93 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 199.68 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, 10 percent are classified as forested wetlands, and less than 1 percent are classified as scrub-shrub wetlands. Wetlands are present throughout the analysis area with most located adjacent to Indian Creek, which is present along both the western edge and central portion of the corridor.

Approximately 70 acres (about one-third) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, or the presence of a threatened and endangered species record.

Waterbodies

Four streams are located within the analysis area. Of these streams, two are crossed by the proposed corridor centerline.

One lake, LCFPD Pond, has area located within the analysis area and accounts for almost half of open-water acreage within the analysis area. This lake is located at the north end of the corridor just south of Countryside Golf Club. Other smaller open waters, including ponds and detention basins, are scattered primarily throughout the southern half of the analysis area in open land (Conservatory of Indian Creek), agricultural land, or residential development.

4.16 Corridor 20

Within the analysis area, 330.95 acres of wetlands, 5 streams, and 115 (92.63 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 20 analysis area is provided in Table 21. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 20-1, 20-2, and 20-3).

Table 21. Wetlands, Streams and Open Waters – Corridor 20 Analysis Area

Wetlands	
Emergent Wetlands (acres)	224.17 acres
Scrub-shrub Wetlands (acres)	3.28 acres
Forested Wetlands (acres)	103.50 acres
Total Area of Wetlands (acres)	330.95 acres
Streams	
Number of Streams within Analysis Area	5
Number of Stream Crossings by Corridor Centerline	4
Open Water	
Number of Detention Basins (acres)	21 (16.09 acres)
Number of Ponds (acres)	91 (43.31 acres)
Number of Lakes (acres)	3 (33.24 acres)
Total number of waterbodies excluding streams (acres)	115 (92.63 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 330.95 acres of wetlands within the analysis area, approximately 70 percent are classified as emergent wetlands, 30 percent are classified as forested wetlands, and less than 1 percent are classified as scrub-shrub wetlands. Wetlands are scattered throughout the analysis area with concentrations in the central and east end located near Almond Marsh Forest Preserve, the Des Plaines River/Lake Carina Forest Preserve, and a local park.

Approximately 201 acres (about 60 percent) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

Waterbodies

Five streams are located within the analysis area, and there are four stream crossings. The Des Plaines River is crossed twice.

Three lakes have area located within the analysis area and account for approximately one-third of open-water acreage within the analysis area. Named lakes include Lake Carina, Countryside Landfill Lake 2, and LCFPD Pond. Lake Carina is associated with the Lake Carina Forest Preserve, and LCFPD Pond is associated with Almond Marsh Forest Preserve.

4.17 Corridor 21

Within the analysis area, 400.89 acres of wetlands, 4 streams, and 78 (83.79 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 21 analysis area is provided in Table 22. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 21-1, 21-2, and 21-3).

Table 22. Wetlands, Streams and Open Waters – Corridor 21 Analysis Area

Wetlands	
Emergent Wetlands (acres)	379.22 acres
Scrub-shrub Wetlands (acres)	2.25 acres
Forested Wetlands (acres)	19.70 acres
Total Area of Wetlands (acres)	401.17 acres
Streams	
Number of Streams within Analysis Area	4
Number of Stream Crossings by Corridor Centerline	3
Open Water	
Detention Basins (#/acres)	6 (10.09 acres)
Ponds (#/acres)	69 (45.93 acres)
Lakes (#/acres)	3 (27.77 acres)
Total Area of waterbodies excluding streams (#/Acres)	78 (83.79 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 401.17 acres of wetlands within the analysis area, approximately 95 percent are classified as emergent wetlands, 5 percent are classified as forested wetlands, and less than 1 percent are classified as scrub-shrub wetlands. A large wetland complex is associated with Squaw Creek on the eastern end of the corridor. Other wetland concentrations are located near Fischer Lake and Fish Lake Drain on the western end of the corridor and Avon-Fremont Drainage Ditch on the far eastern end of the corridor.

Approximately 124 acres (about one-third) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, nature preserve, or the presence of a threatened and endangered species record.

One wetland mitigation bank, Big Sag 3, is present within the eastern part of the analysis area (USACE 2019).

Waterbodies

Four streams are located within the analysis area, three of which are crossed by the proposed corridor centerline.

Sixty-nine ponds are located within the analysis area and account for approximately half of the open-water acreage within the analysis area. Three lakes have area located within the analysis area and account for one-third of open-water acreage within the analysis area. The three lakes are Lake Christa, Fischer Lake, and Ingleside Lake. Most open waters are in the corridor's western half and all three lakes are located near the western end of the corridor.

4.18 Corridor 22

Within the analysis area, 180.27 acres of wetlands, 3 streams, and 22 (9.09 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 22 analysis area is provided in Table 23. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 22-1, 22-2, and 22-3).

Table 23. Wetlands, Streams and Open Waters – Corridor 22 Analysis Area

Wetlands	
Emergent Wetlands (acres)	166.92 acres
Scrub-shrub Wetlands (acres)	None
Forested Wetlands (acres)	13.35 acres
Total Area of Wetlands (acres)	180.27 acres
Streams	
Number of Streams within Analysis Area	3
Number of Stream Crossings by Corridor Centerline	2
Open Water	
Number of Detention Basins (acres)	3 (0.85 acres)
Number of Ponds (acres)	19 (8.24 acres)
Number of Lakes (acres)	None
Total number of waterbodies excluding streams (acres)	22 (9.09 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 180.27 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, and the remaining are classified as forested wetlands. There are no scrub-shrub wetlands within the analysis area. A large wetland complex is associated with Squaw Creek on the west side of the corridor. Additional larger wetlands are found in the western half of the corridor. Smaller wetlands associated with the Avon-Fremont Drainage Ditch or located in agricultural fields are found in the eastern half of the corridor analysis area.

Approximately 66 acres (about one-third) of wetlands are potentially high-quality wetlands due to their locations within a conservation easement, forest preserve, INAI site, and the presence of a threatened and endangered species record.

One wetland mitigation bank, Big Sag 3, is present within the western part of the analysis area (USACE 2019).

Waterbodies

Three streams are located within the analysis area. Two streams, Squaw Creek and the Avon-Fremont Drainage Ditch, are crossed by the proposed corridor centerline.

No lakes are present within the analysis area. Ponds ranging from 0.1 to 2 acres are present throughout the analysis area, with the largest (2 acres) being an unnamed pond in the central portion of the corridor.

4.19 Corridor 23

Within the analysis area, 202.45 acres of wetlands, 1 stream, and 40 (54.92 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 23 analysis area is provided in Table 24. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 23-1, 23-2, and 23-3).

Table 24. Wetlands, Streams and Open Waters – Corridor 23 Analysis Area

Wetlands	
Emergent Wetlands (acres)	190.45 acres
Scrub-shrub Wetlands (acres)	3.76 acres
Forested Wetlands (acres)	8.25 acres
Total Area of Wetlands (acres)	202.46 acres
Streams	
Number of Streams within Analysis Area	1
Number of Stream Crossings by Corridor Centerline	1
Open Water	
Number of Detention Basins (acres)	2 (0.75 acres)
Number of Ponds (acres)	35 (15.78 acres)
Number of Lakes (acres)	3 (38.39 acres)
Total Area of waterbodies excluding streams (acres)	40 (54.92 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 202.46 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetlands, and the remaining are classified as forested or scrub-shrub wetlands. Wetlands are generally scattered throughout the analysis area, several of which are associated with Kettle Grove Forest Preserve and Marl Flat Forest Preserve in the central and western portions of the corridor analysis area.

Approximately 66 acres (one-third) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, or the presence of a threatened and endangered species record.

Waterbodies

One stream, Fish Lake Drain, is located on the west side of the analysis area and is crossed by the proposed corridor centerline.

Three lakes have area located within the analysis area and account for about 70 percent of open-water acreage within the analysis area. Named lakes include Fish Lake, LCFPD Pond, and Sargent Marsh. Fish Lake and LCFPD Pond are located within Marl Flat Forest Preserve on the west side of the corridor analysis area. Sargent Marsh is located within Kettle Grove Forest Preserve in the central portion of the corridor analysis area.

4.20 Corridor 24

Within the analysis area, 159.18 acres of wetlands, 2 streams, and 12 (15.91 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 24 analysis area is provided in Table 25. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 24-1, 24-2, and 24-3).

Table 25. Wetlands, Streams and Open Waters – Corridor 24 Analysis Area

Wetlands	
Emergent Wetlands (acres)	143.58 acres
Scrub-shrub Wetlands (acres)	8.98 acres
Forested Wetlands (acres)	6.62 acres
Total Area of Wetlands (acres)	159.18 acres
Streams	
Number of Streams within Analysis Area	2
Number of Stream Crossings by Corridor Centerline	0
Open Water	
Number of Detention Basins (acres)	4 (3.03 acres)
Number of Ponds (acres)	6 (2.73 acres)
Number of Lakes (acres)	2 (10.15 acres)
Total number of waterbodies excluding streams (acres)	12 (15.91 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 159.18 acres of wetlands within the analysis area, approximately 90 percent are classified as emergent wetland, and the remaining are classified as forested and scrub-shrub wetlands. Most of the wetland acreage is associated with Fish Lake and Fish Lake Tributary at the western end of the corridor analysis area.

Approximately 79 acres (about half) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, or the presence of a threatened and endangered species record.

Waterbodies

Two streams, both Fish Lake Tributaries, are located within the western end of the analysis area. Neither of these streams is crossed by the proposed corridor centerline.

Two lakes have area located within the analysis area and account for about two thirds of open-water acreage within the analysis area. Named lakes include Fish Lake and Sargent Marsh. Fish Lake is located within Marl Flat Forest Preserve in the central portion of the corridor analysis area. Sargent Marsh is located within Kettle Grove Forest Preserve on the east end of the corridor analysis area.

4.21 Corridor 25

Within the analysis area, 286.40 acres of wetlands, 3 streams, and 79 (47.97 acres) open waters (lakes, detention basins, and ponds) are mapped. A summary of wetland, stream, and open-water data for the Corridor 25 analysis area is provided in Table 26. Additional information on wetlands, streams, and open waters is provided in Attachment B (Tables 25-1, 25-2, and 25-3).

Table 26. Wetlands, Streams and Open Waters – Corridor 25 Analysis Area

Wetlands	
Emergent Wetlands (acres)	252.49 acres
Scrub-shrub Wetlands (acres)	8.03 acres
Forested Wetlands (acres)	25.87 acres
Total Area of Wetlands (acres)	286.39 acres
Streams	
Number of Streams within Analysis Area	3
Number of Stream Crossings by Corridor Centerline	2
Open Water	
Number of Detention Basins (acres)	10 (8.21 acres)
Number of Ponds (acres)	67 (30.22 acres)
Number Lakes (acres)	2 (9.54 acres)
Total number of waterbodies excluding streams (acres)	79 (47.97 acres)

Sources: Cook 2015, Lake 2018a, Lake 2018b, LCSMC 2018, USACE 2018, USFWS 2017, USGS 2018

Note: Due to the methodology for identifying the most accurate wetland data and because the wetland data from secondary sources often contained individual wetland polygons that are part of a larger wetland complex, total counts for wetlands are not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.

Wetlands

Of the 286.39 acres of wetlands within the analysis area, 88 percent are classified as emergent wetlands, 9 percent are classified as forested wetlands, and 3 percent are classified as scrub-shrub wetlands. Most wetlands are adjacent to Squaw Creek and Fort Hill Creek. A large wetland complex is located within Nippersink Forest Preserve.

Approximately 105 acres (37 percent) of wetlands are potentially high-quality wetlands due to their locations within either a conservation easement, forest preserve, INAI site, or the presence of a threatened and endangered species record.

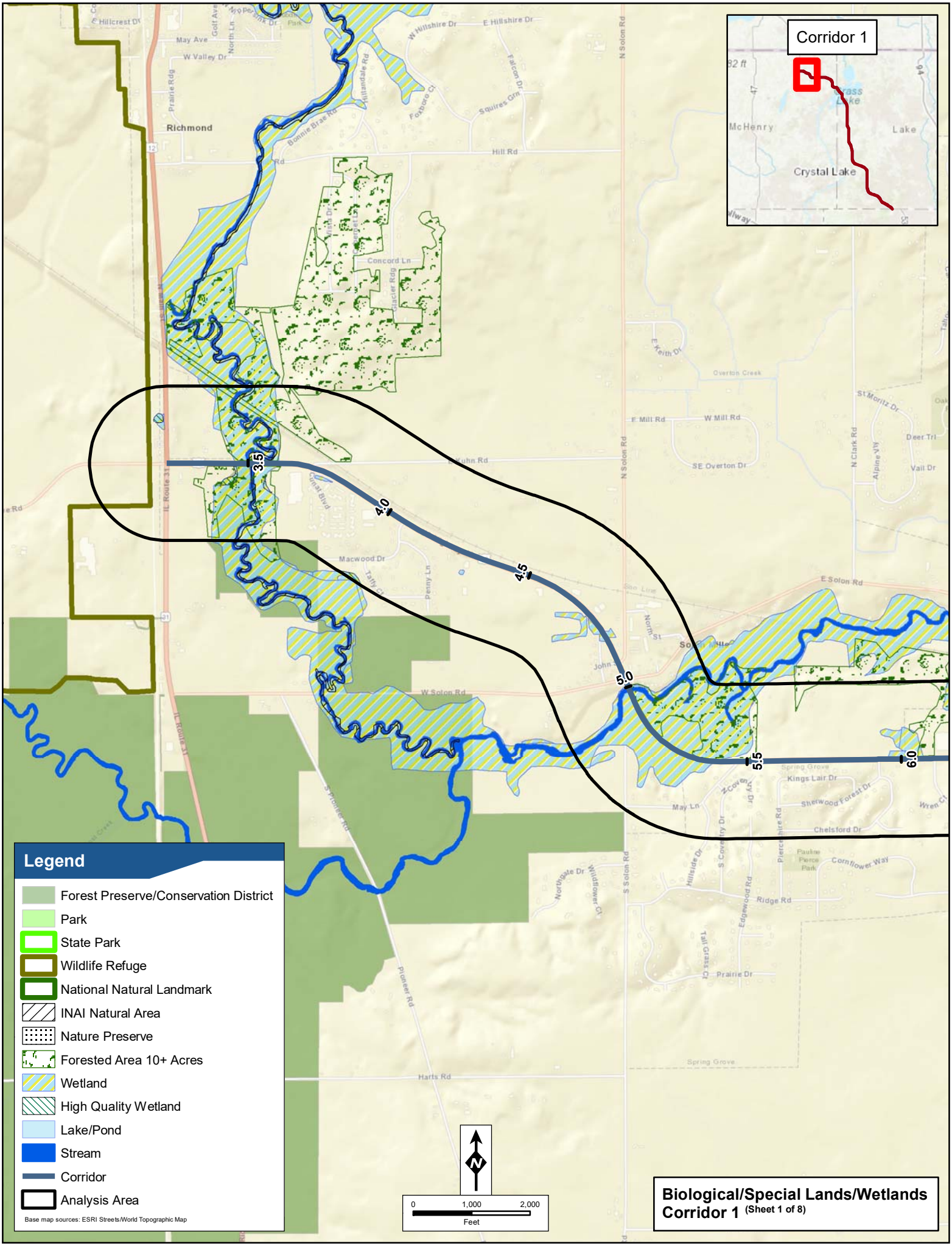
One wetland mitigation bank, Big Sag 2, is present within the eastern part of the analysis area (USACE 2019).

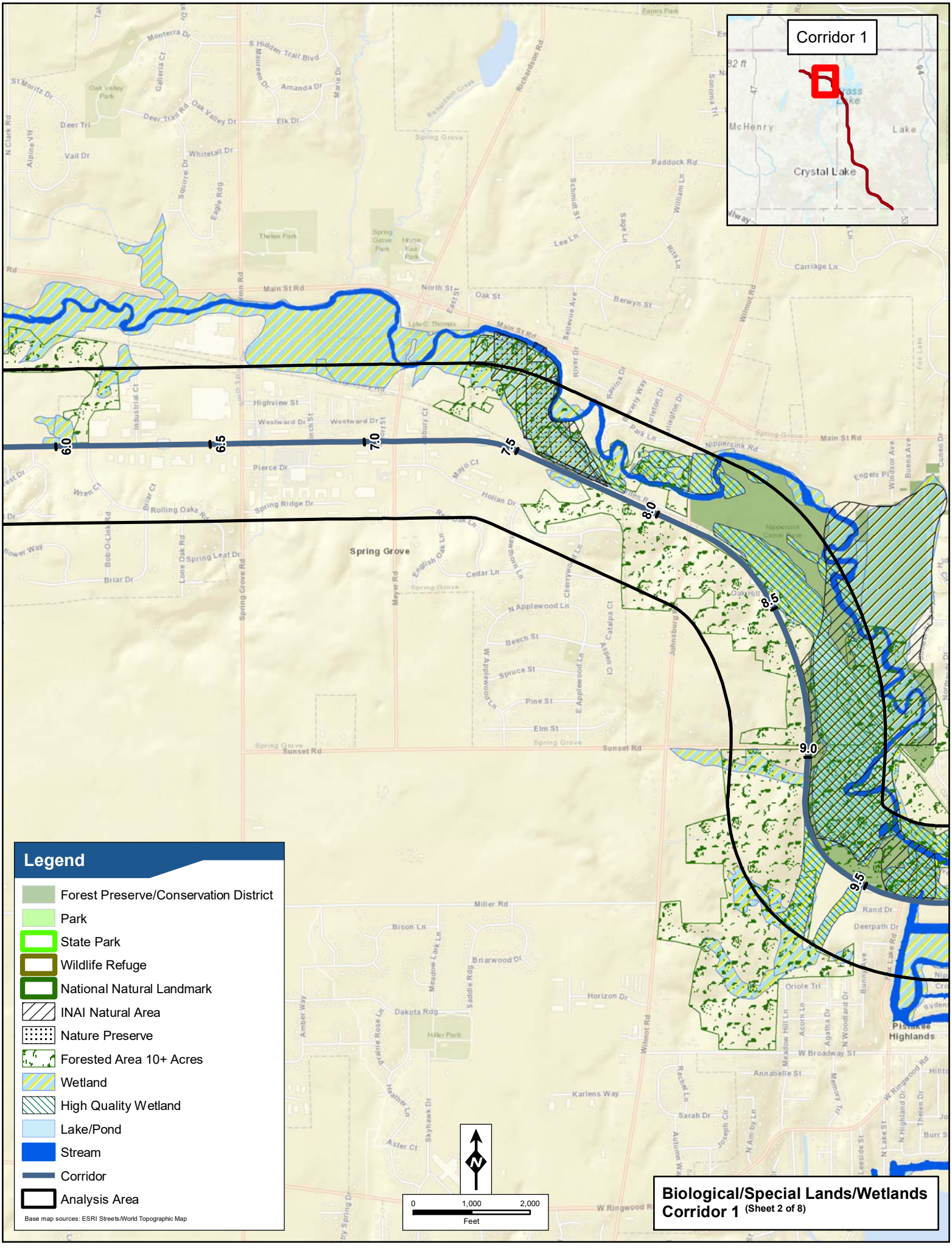
Waterbodies

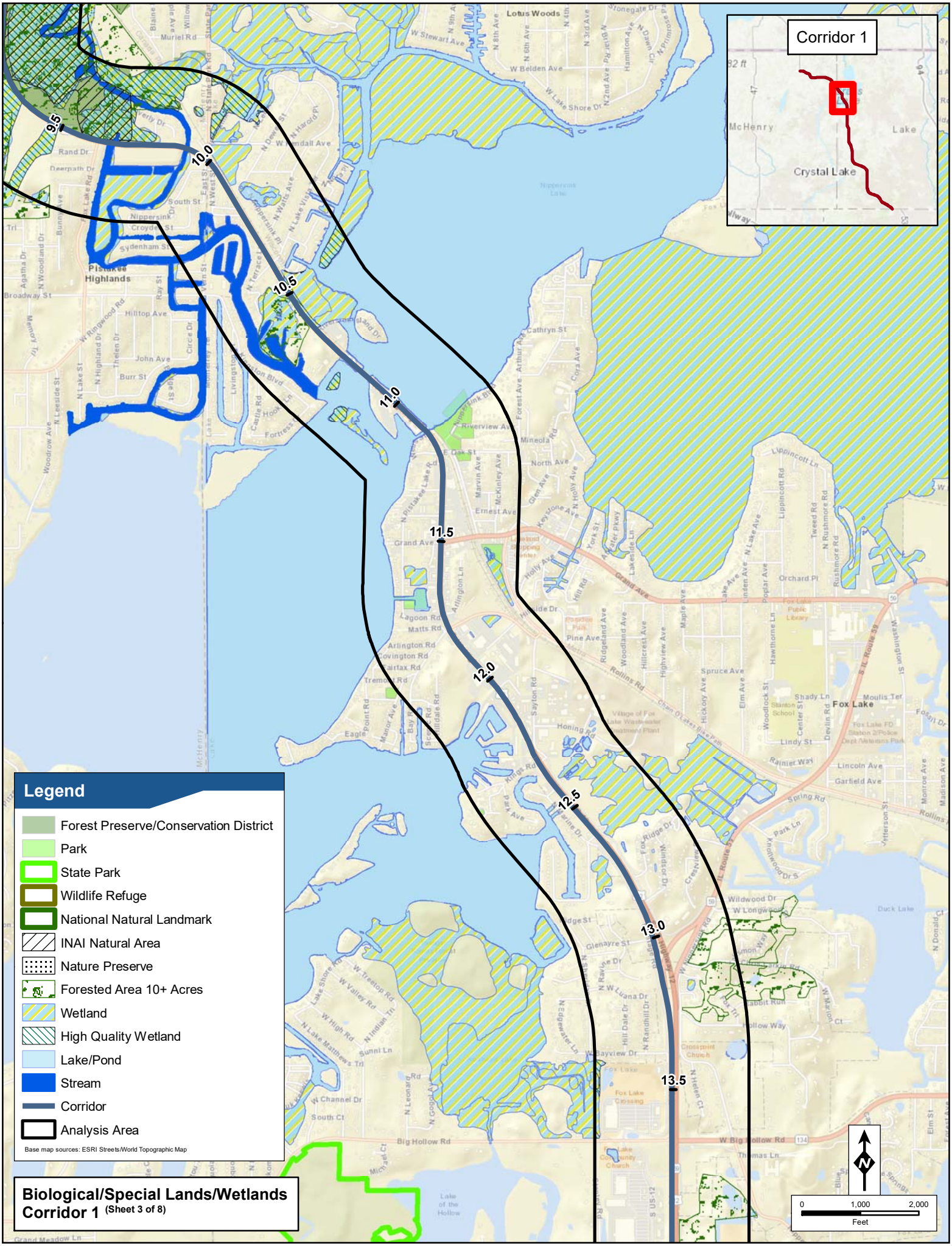
Three streams are located within the analysis area, two of which are crossed by the proposed corridor centerline.

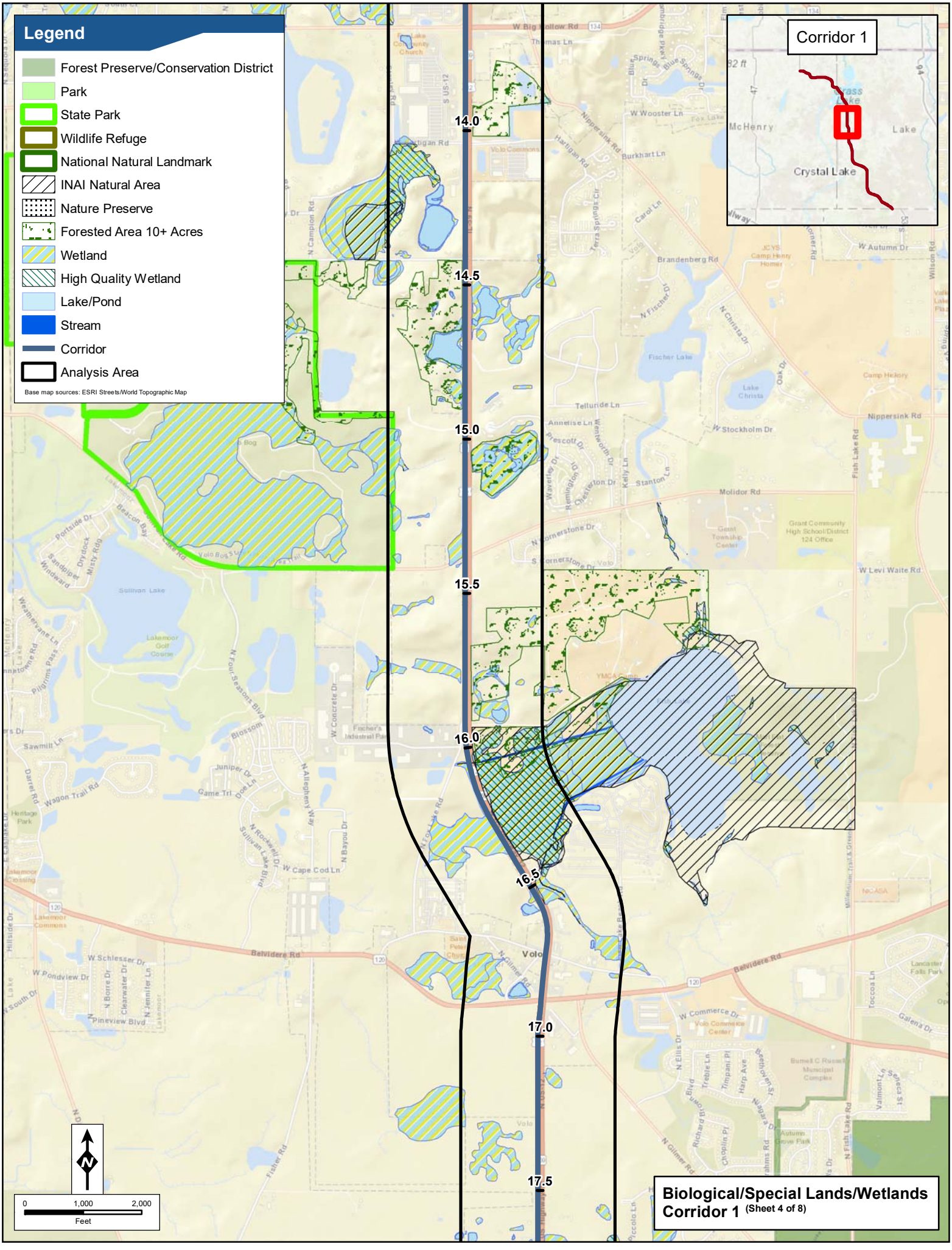
Ponds are scattered throughout the analysis area and account for about two thirds of open-water acreage. Two lakes, Round Lake Marsh North and Schaul Country North Lake, have area within the analysis area and account for 20 percent of open-water acreage. Both lakes are associated with the Nippersink Forest Preserve at the west end of the corridor analysis area.

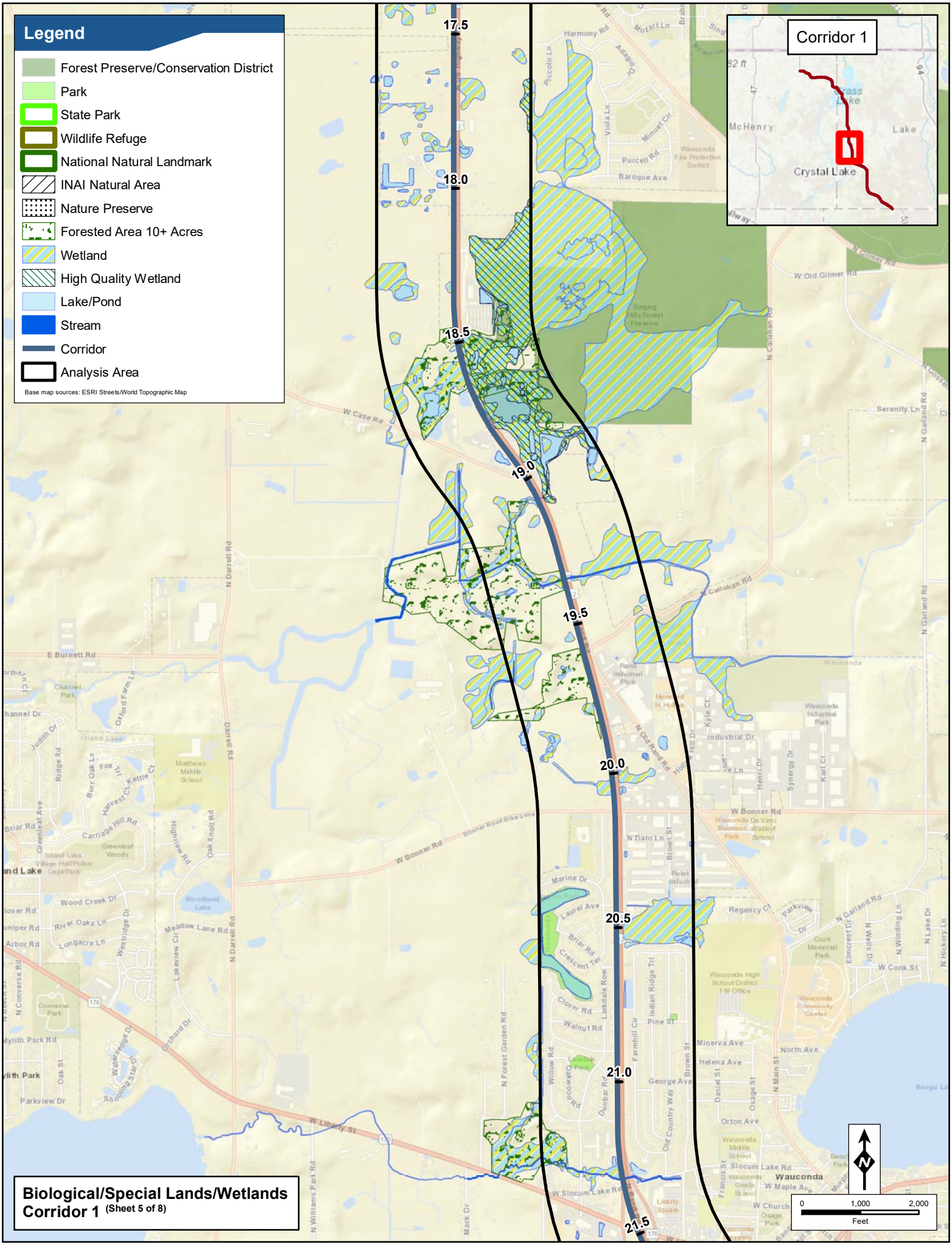
Attachment A: Wetland and Waterbodies Figures

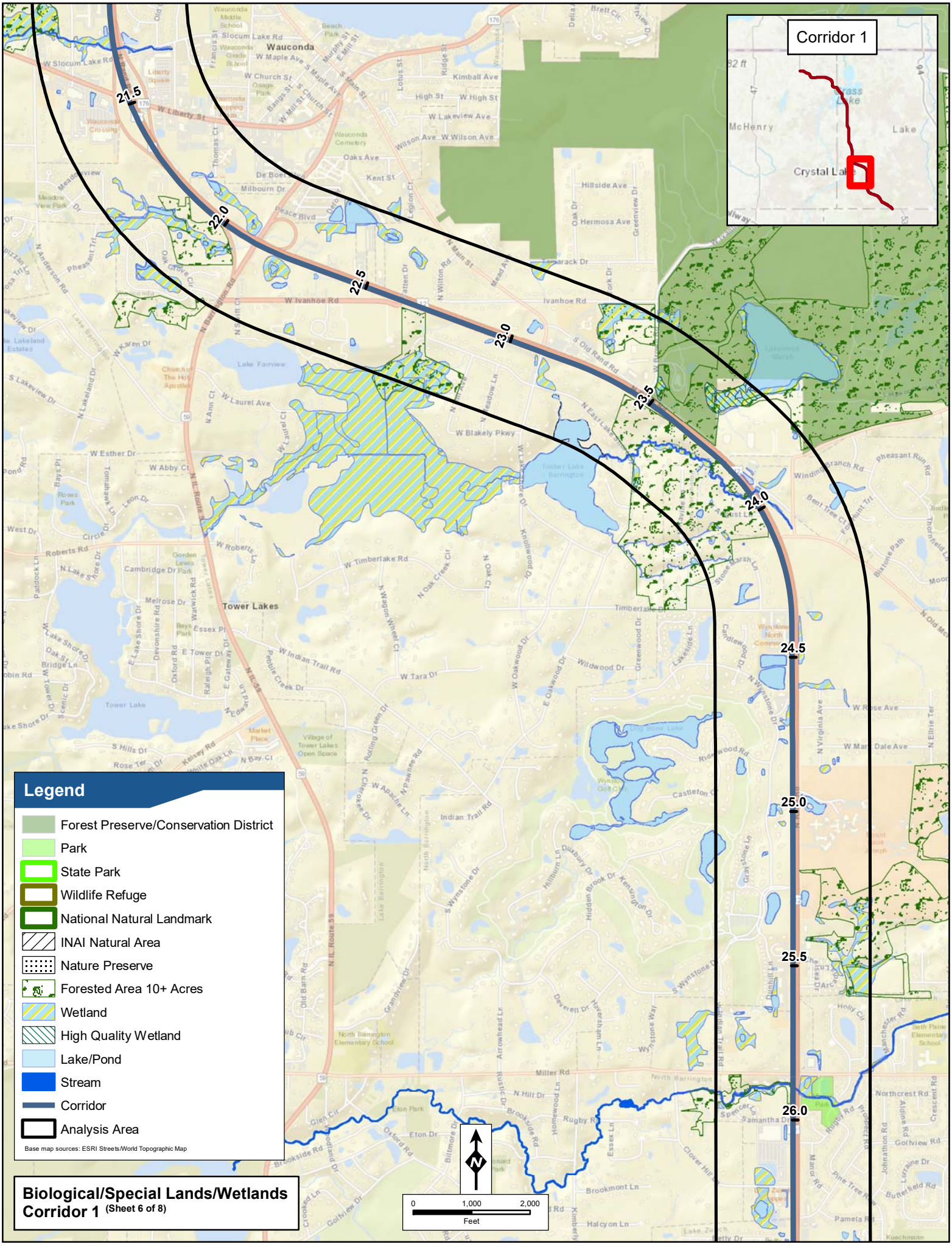

Corridor 1
Richmond
Crystal Lake
McHenry
Lake
3.5
4.0
4.5
5.0
5.5
6.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 1 of 8)

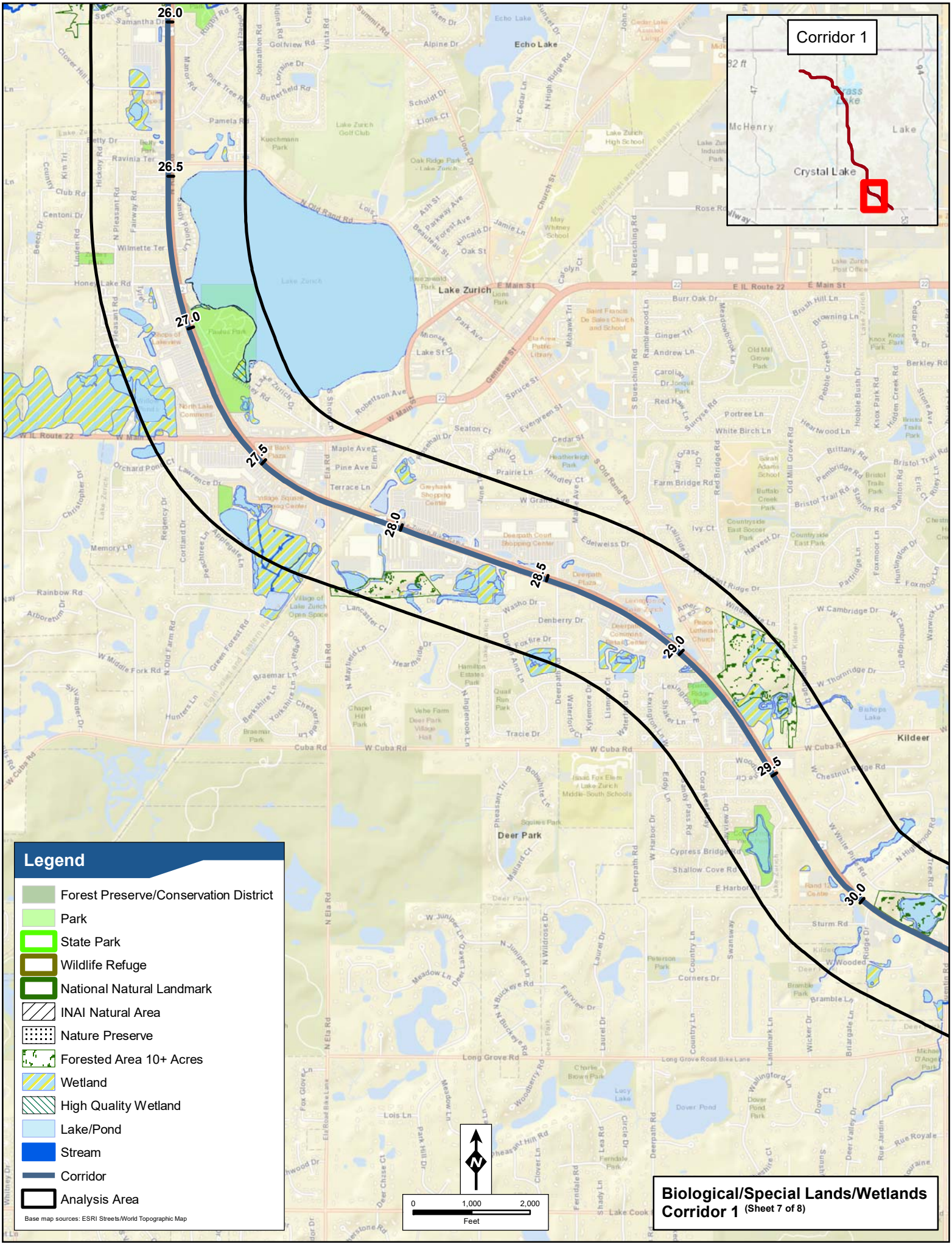

Corridor 1
McHenry
Lake
Crystal Lake
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5
Spring Grove
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 2 of 8)

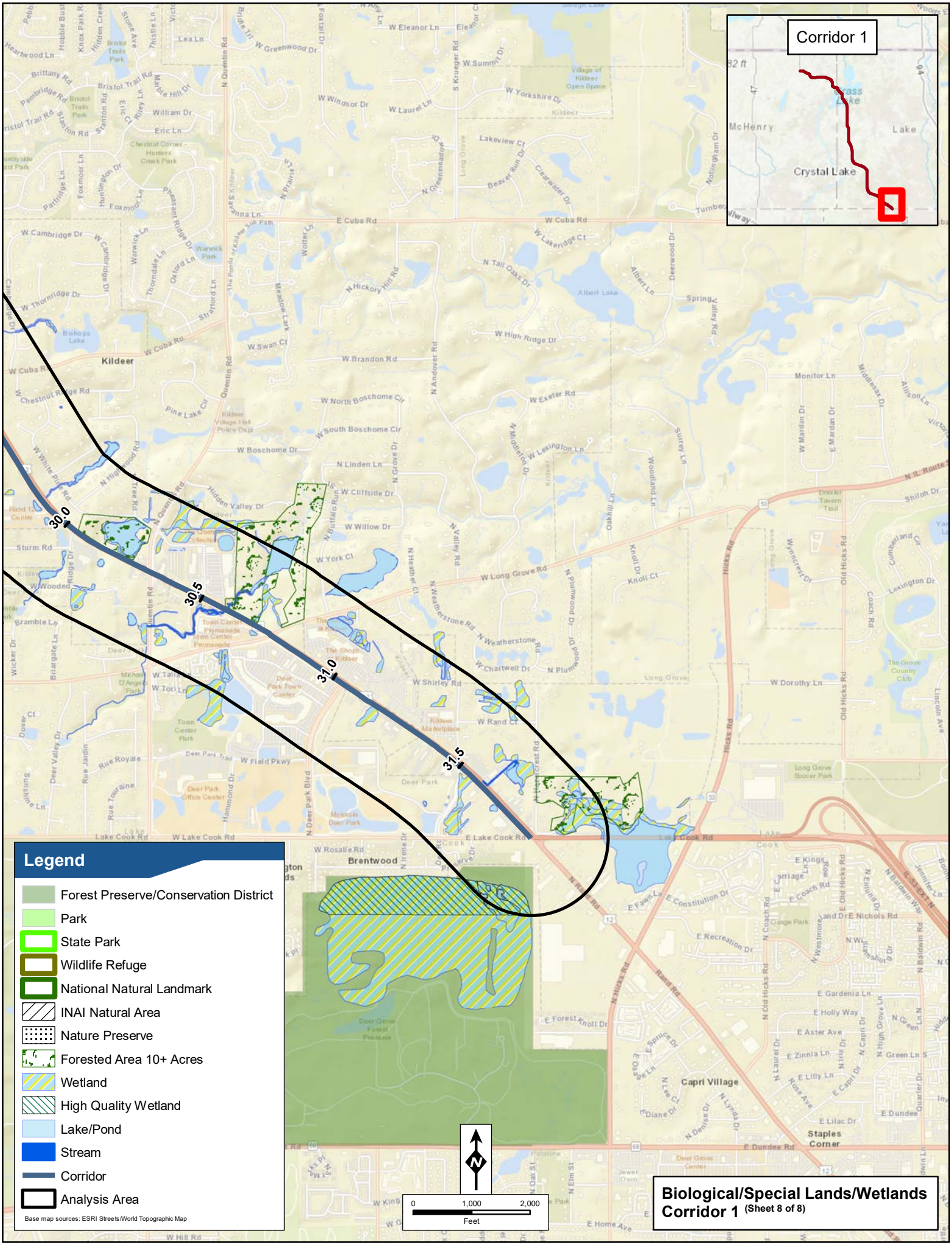

Corridor 1
82 ft
McHenry
Lake
Crystal Lake
9.5
10.0
10.5
11.0
11.5
12.0
12.5
13.0
13.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 3 of 8)
N
0
1,000
2,000
Feet

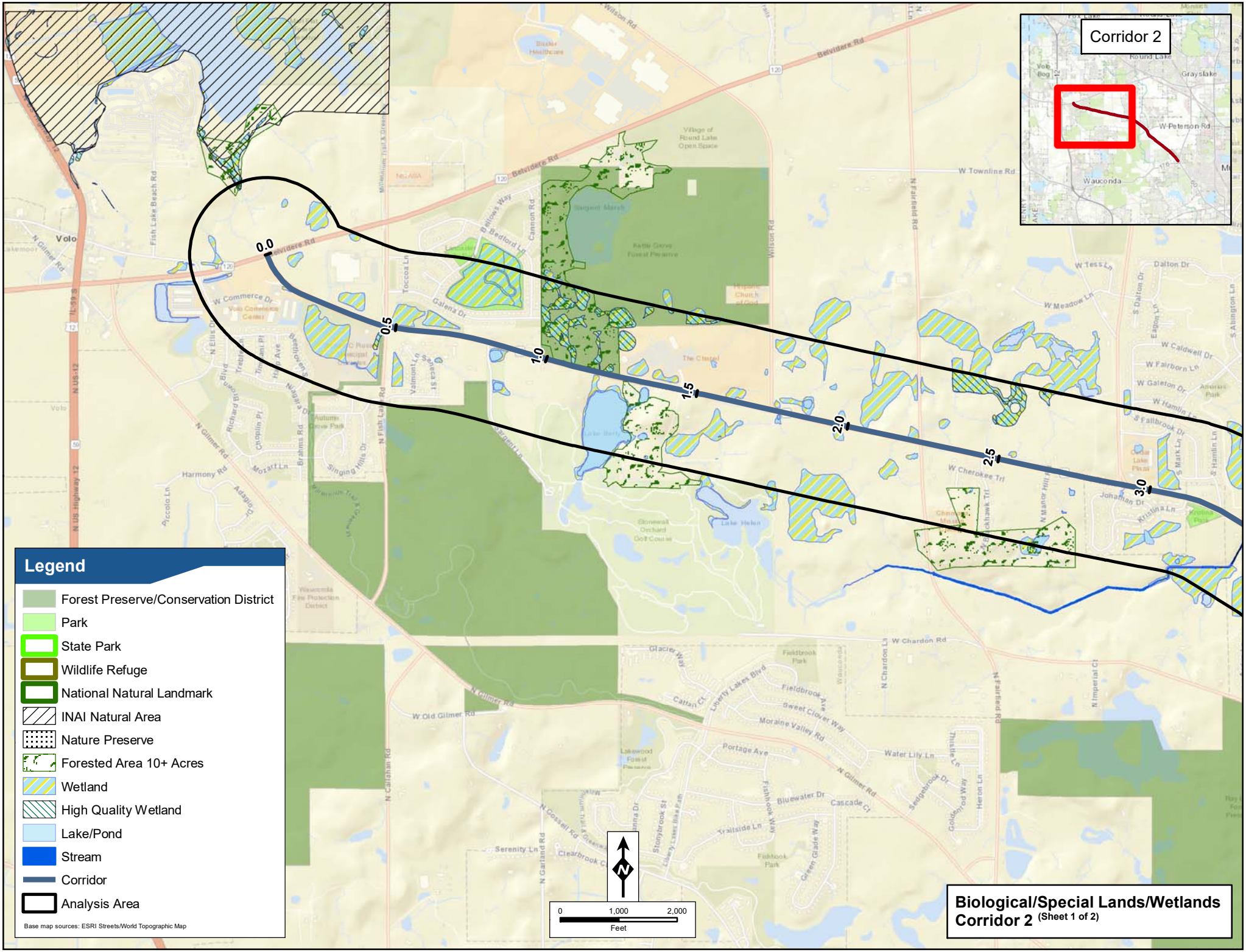

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 1
14.0
14.5
15.0
15.5
16.0
16.5
17.0
17.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 4 of 8)

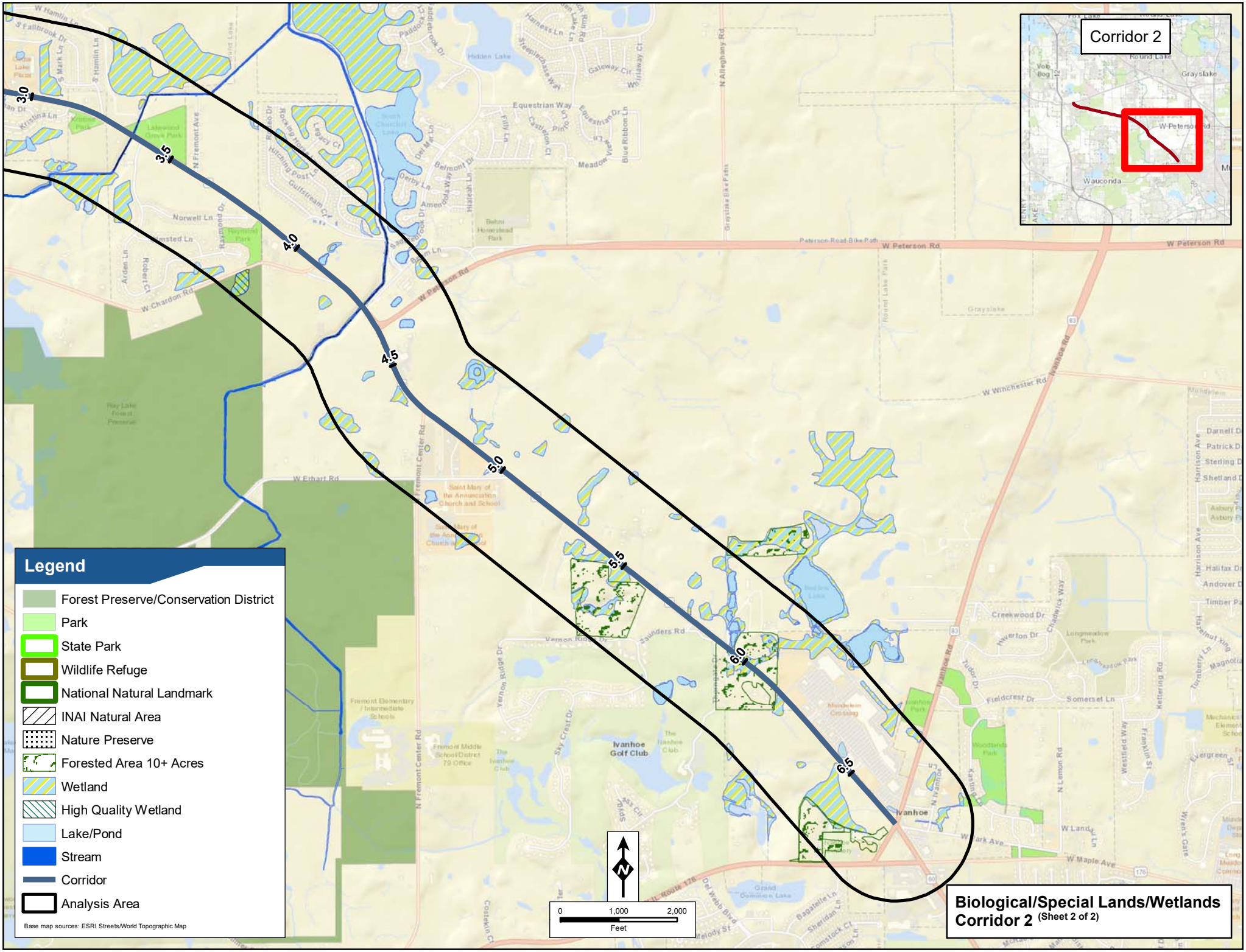

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 1
Crystal Lake
17.5
18.0
18.5
19.0
19.5
20.0
20.5
21.0
21.5
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 5 of 8)
0
1,000
2,000
Feet

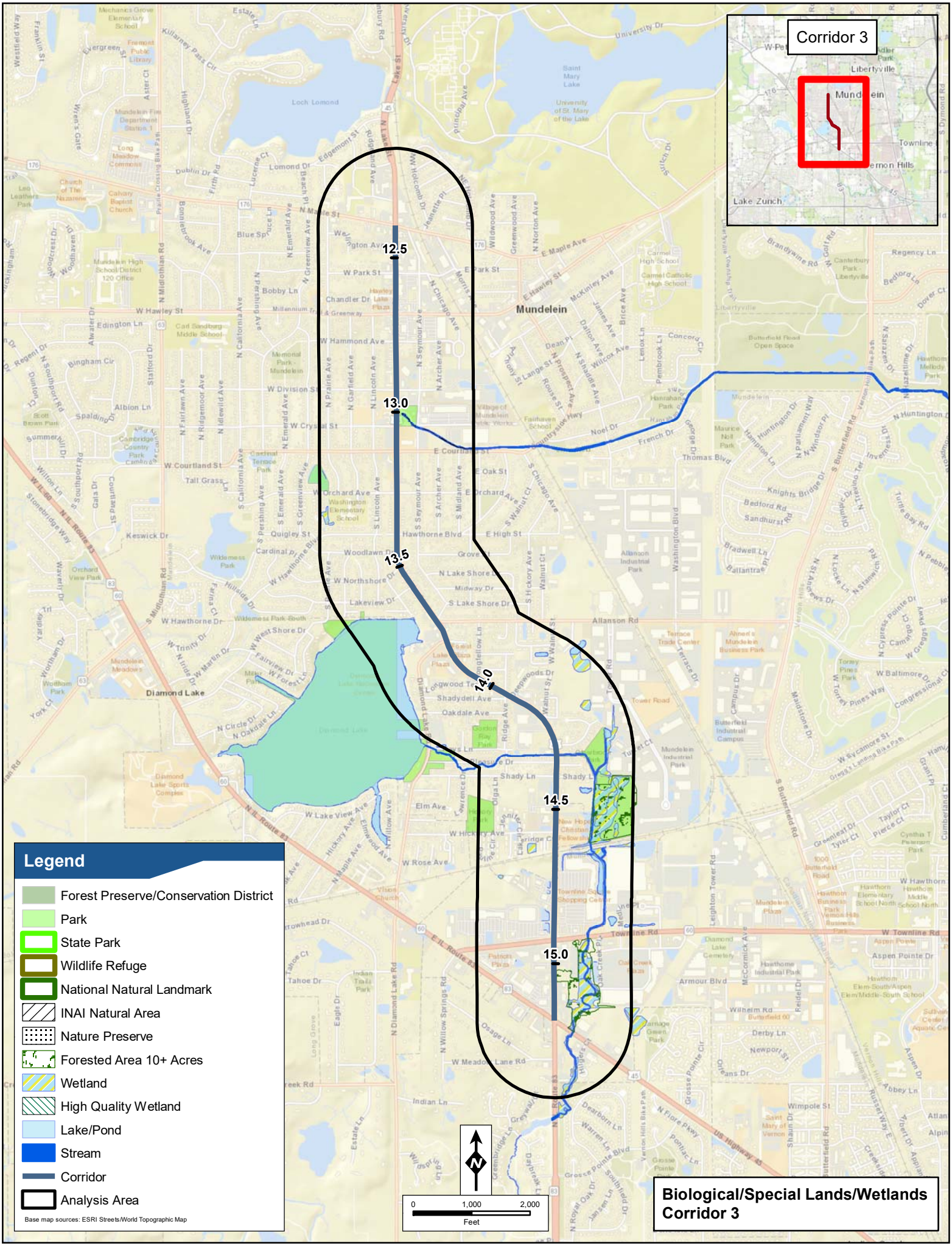

Corridor 1
21.5
22.0
22.5
23.0
23.5
24.0
24.5
25.0
25.5
26.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 6 of 8)

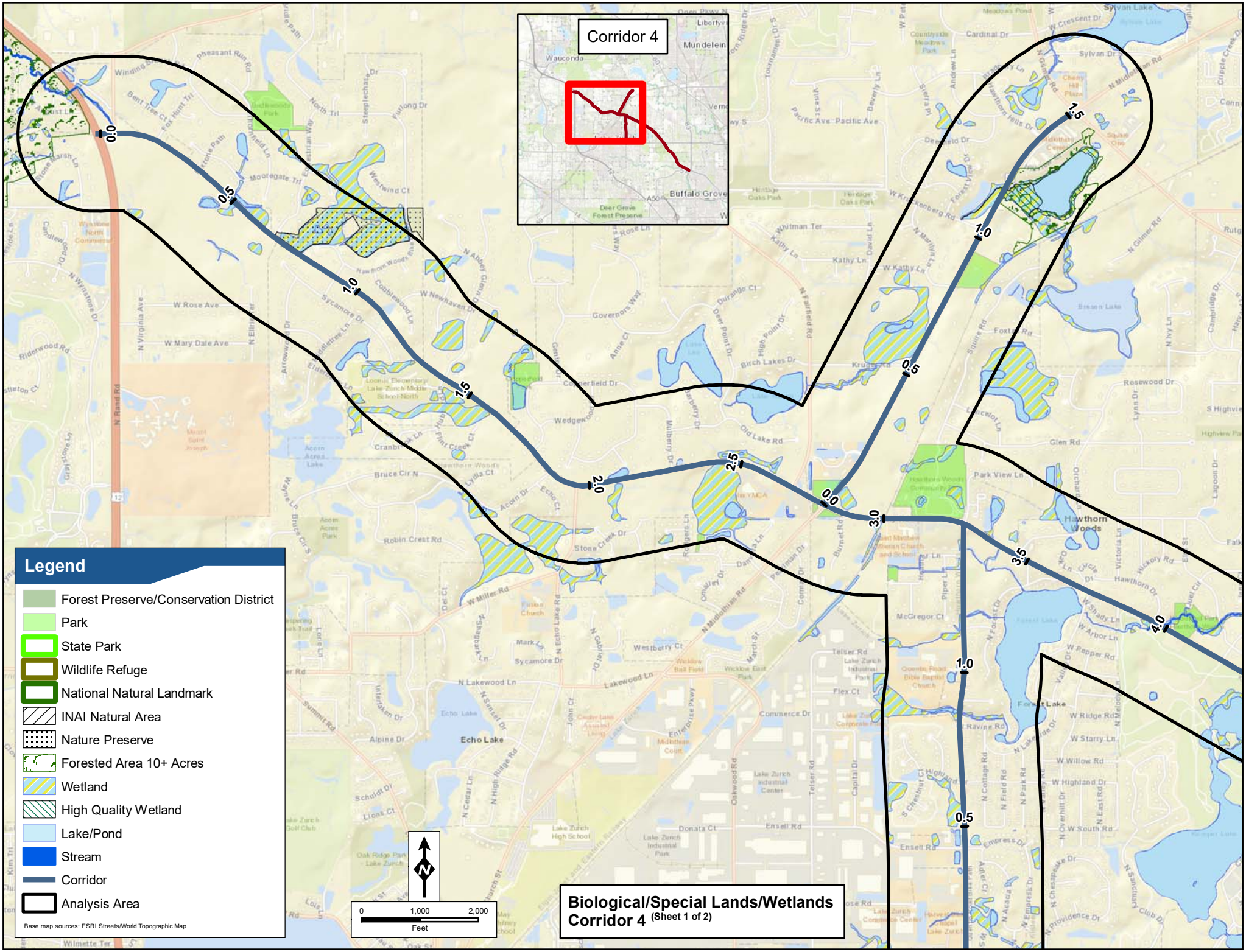

Corridor 1
26.0
26.5
27.0
27.5
28.0
28.5
29.0
29.5
30.0
Echo Lake
Lake Zurich
Crystal Lake
Deer Park
Kildeer
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 7 of 8)

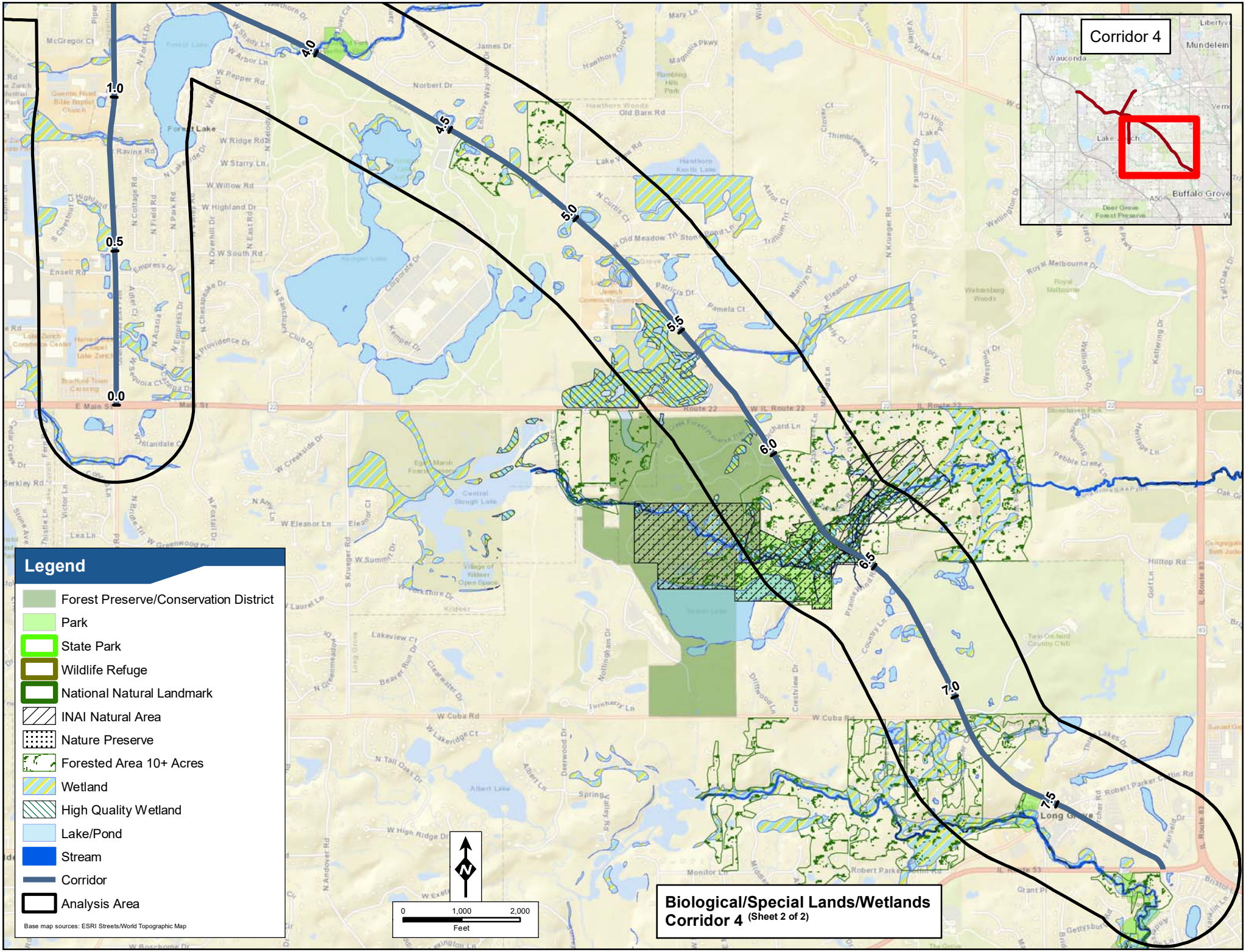

Corridor 1
McHenry
Lake
Crystal Lake
30.0
30.5
31.0
31.5
Kildeer
Brentwood
Capri Village
Staples Corner
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 1 (Sheet 8 of 8)

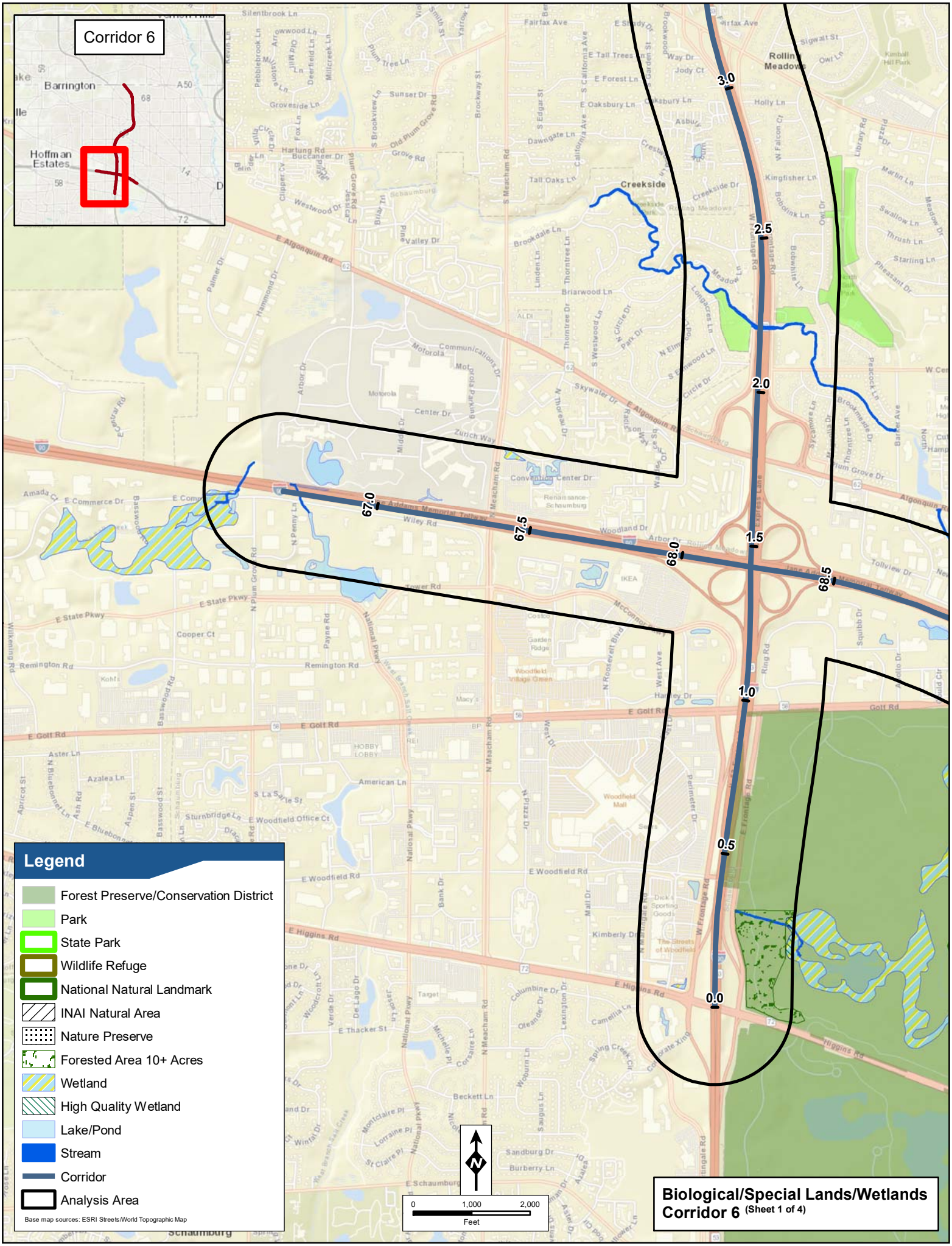

Corridor 2
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 2 (Sheet 1 of 2)

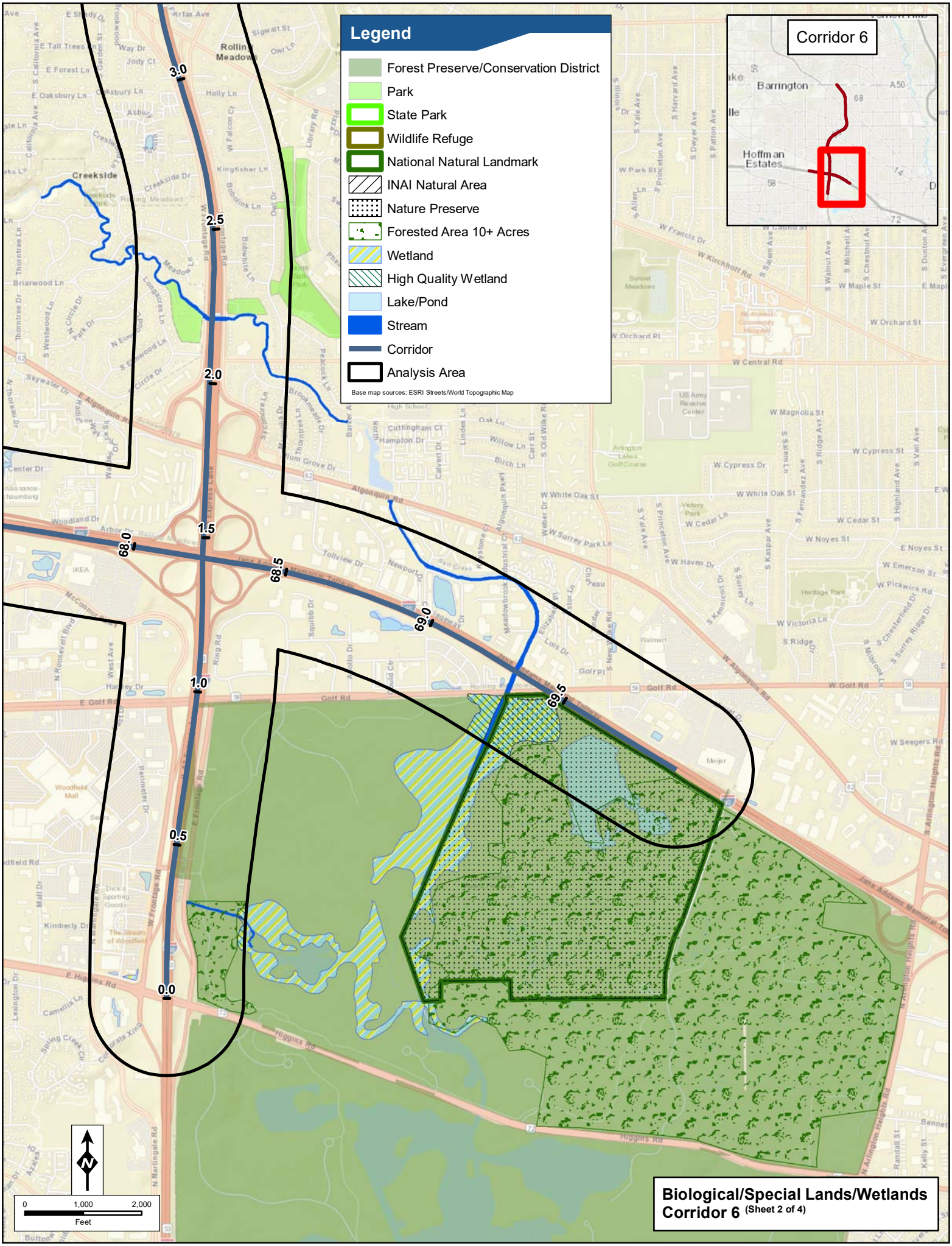

Corridor 2
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Ivanhoe Golf Club
Ivanhoe
W Peterson Rd
W Chardon Rd
W Erhart Rd
W Winchester Rd
Biological/Special Lands/Wetlands
Corridor 2 (Sheet 2 of 2)

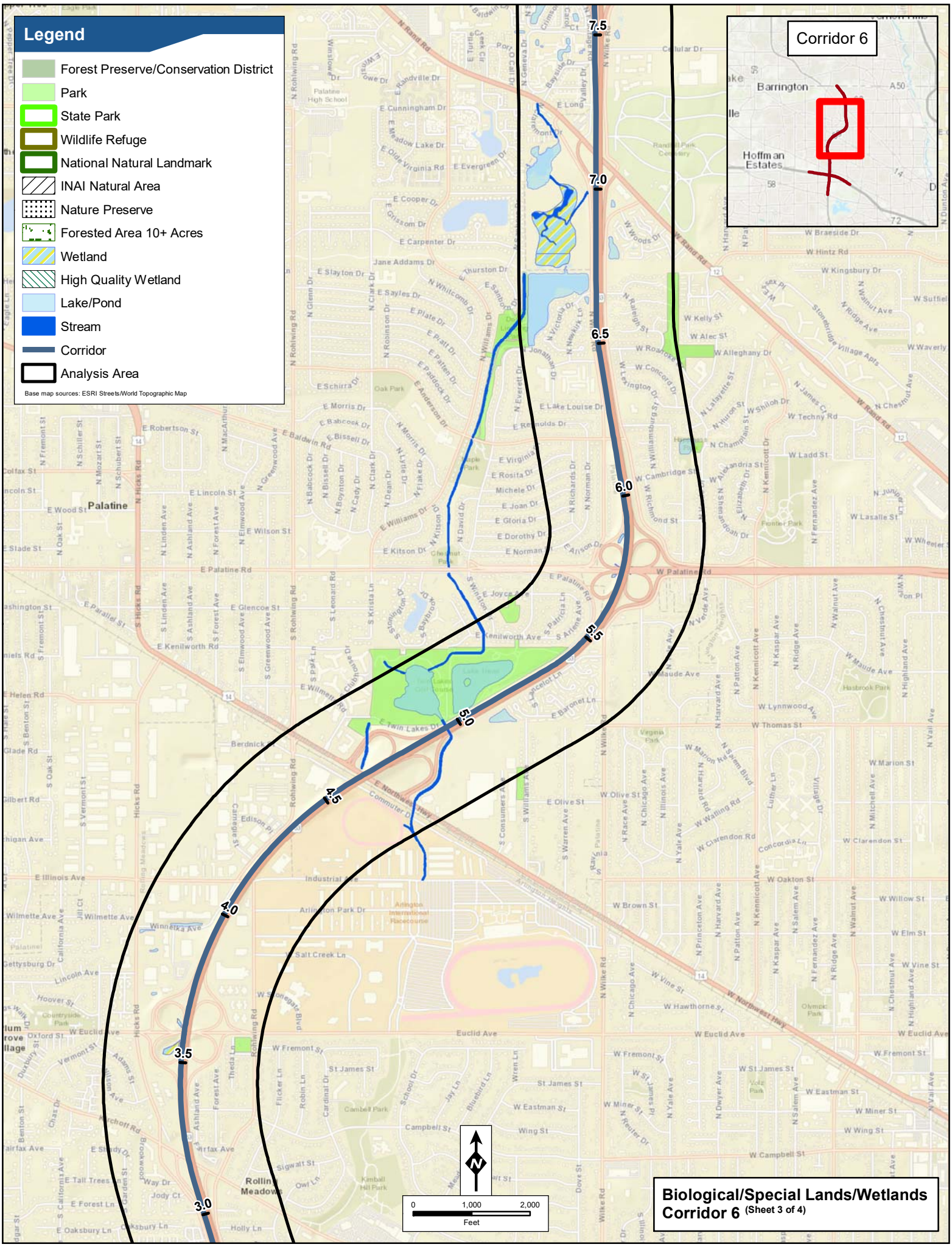

Corridor 3
Libertyville
Mundelein
Lake Zurich
12.5
13.0
13.5
14.0
14.5
15.0
Diamond Lake
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 3

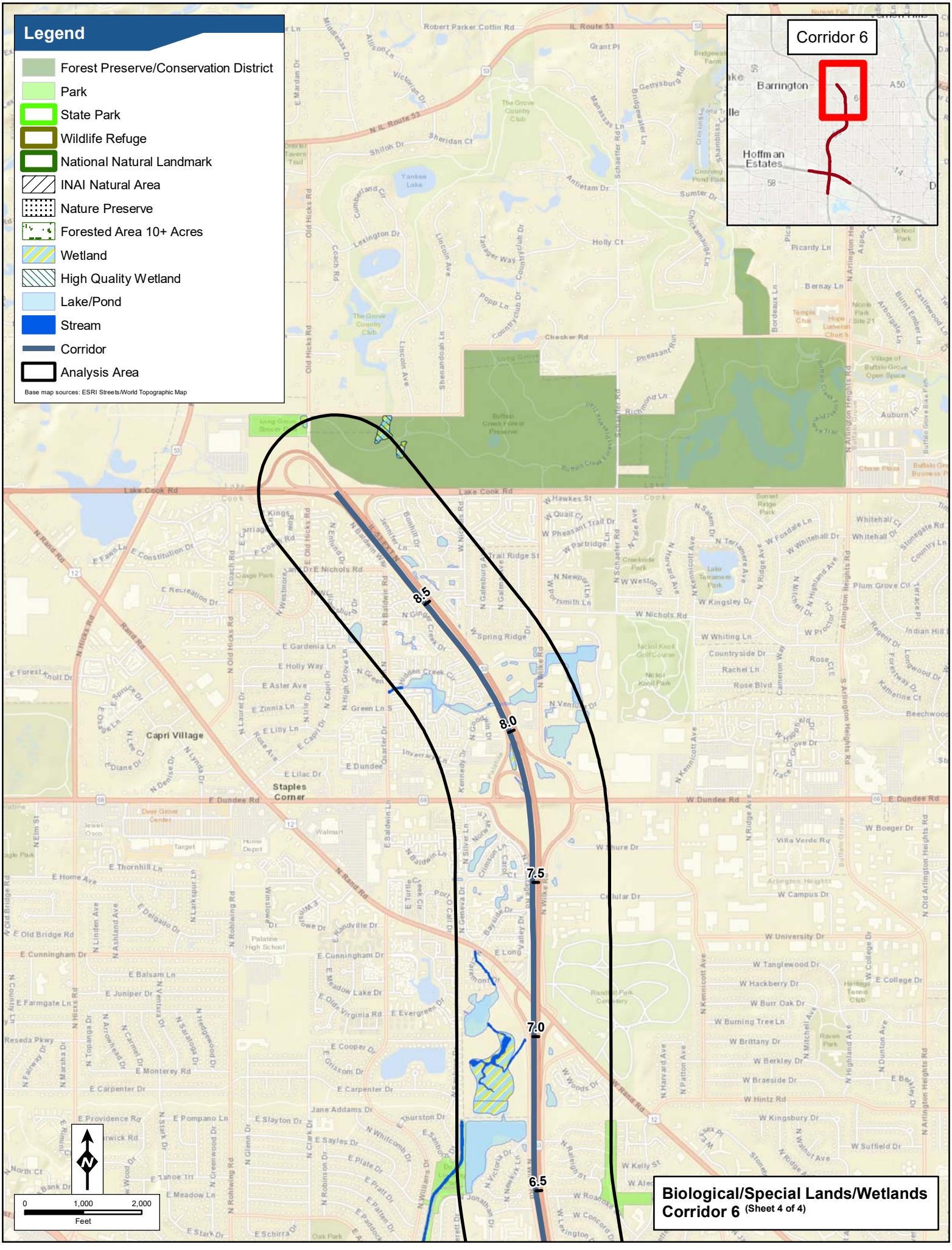

Corridor 4
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 4 (Sheet 1 of 2)
0.0
0.5
1.0
1.5
0.2
2.5
0.0
3.0
3.5
4.0
1.0
0.5
1.5
1.0
0.5
Echo Lake
Hawthorn Woods

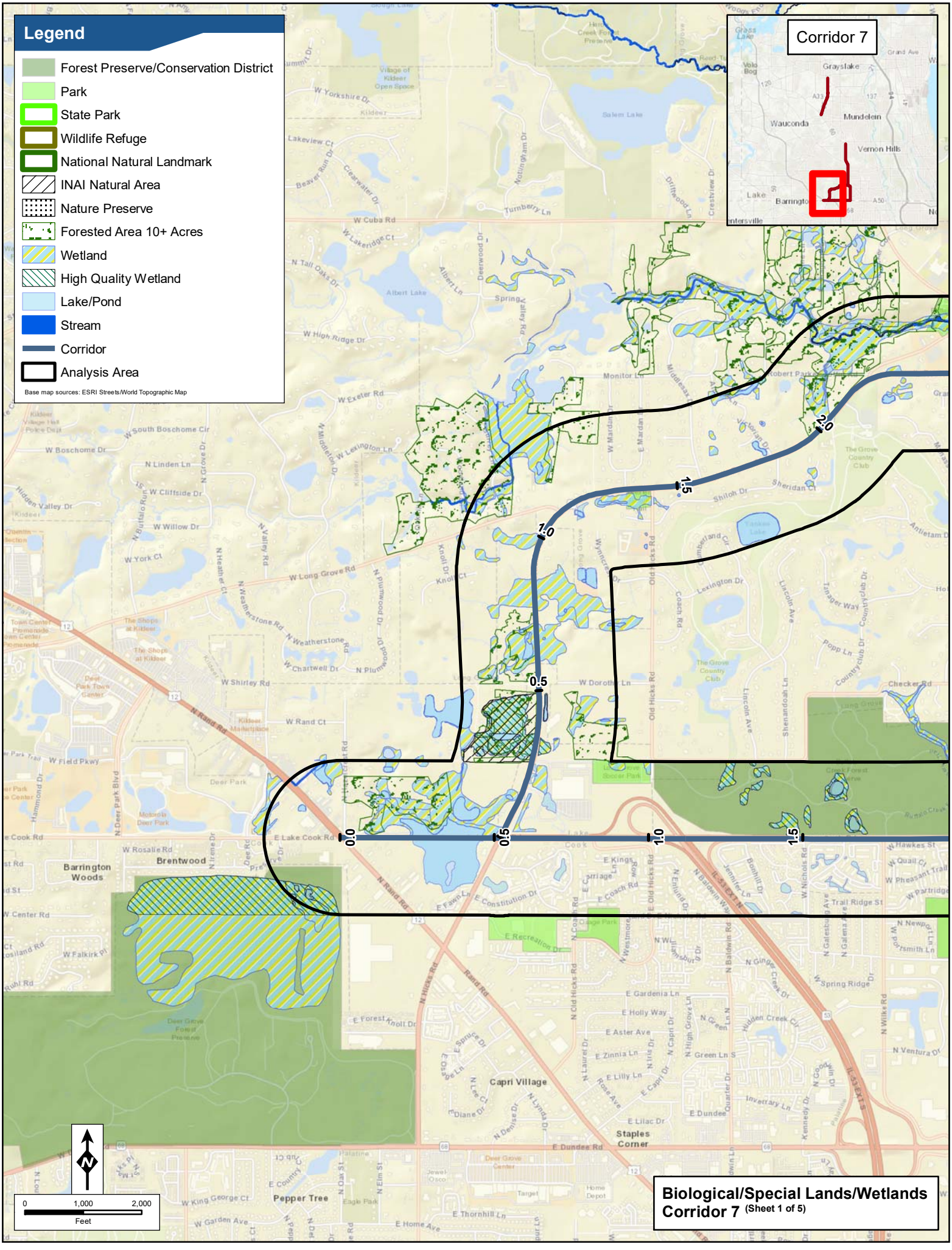

Corridor 4
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 4 (Sheet 2 of 2)
0.0
0.5
1.0
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5

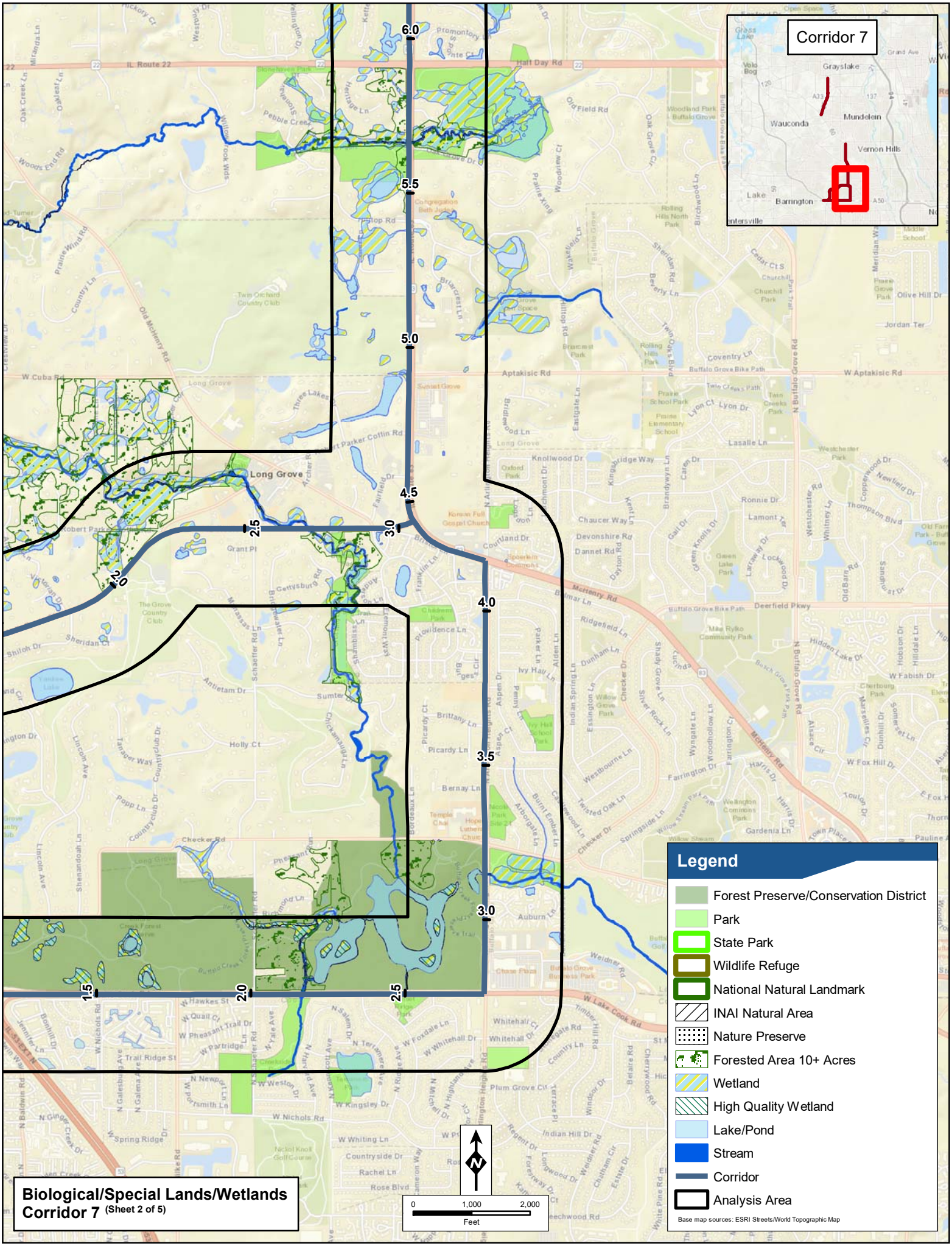

Corridor 6
Barrington
Hoffman Estates
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.9
2.7
5.7
6.8.0
6.8.5
Creekside
Rolling Meadows
Schaumburg
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 1 of 4)


Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
3.0
2.5
2.0
1.5
1.0
0.5
0.0
68.0
68.5
69.0
69.5
Creekside
Rollin Meadows
Algonquin Rd
Golf Rd
Higgins Rd
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 2 of 4)

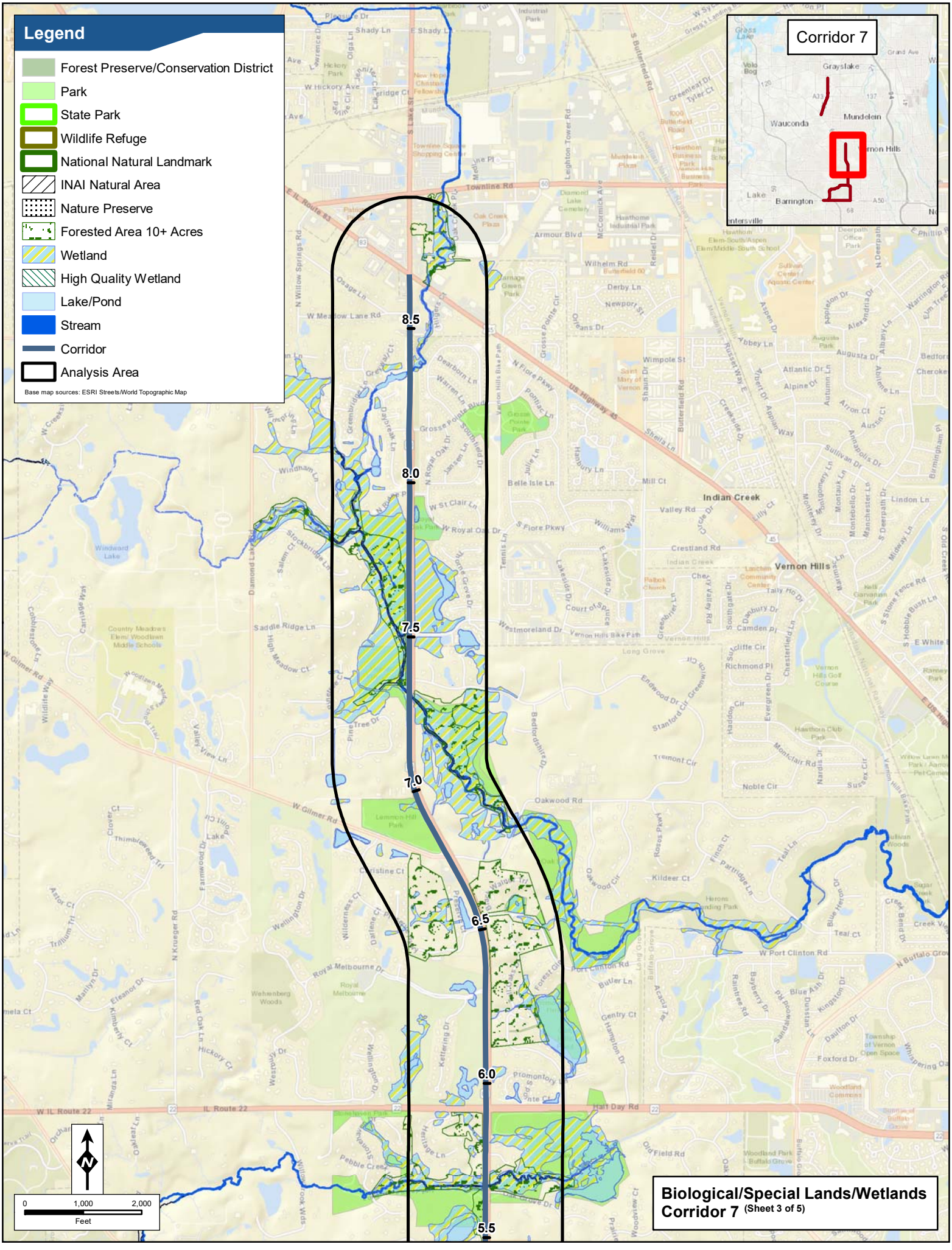

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
Palatine
Rolling Meadows
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 3 of 4)

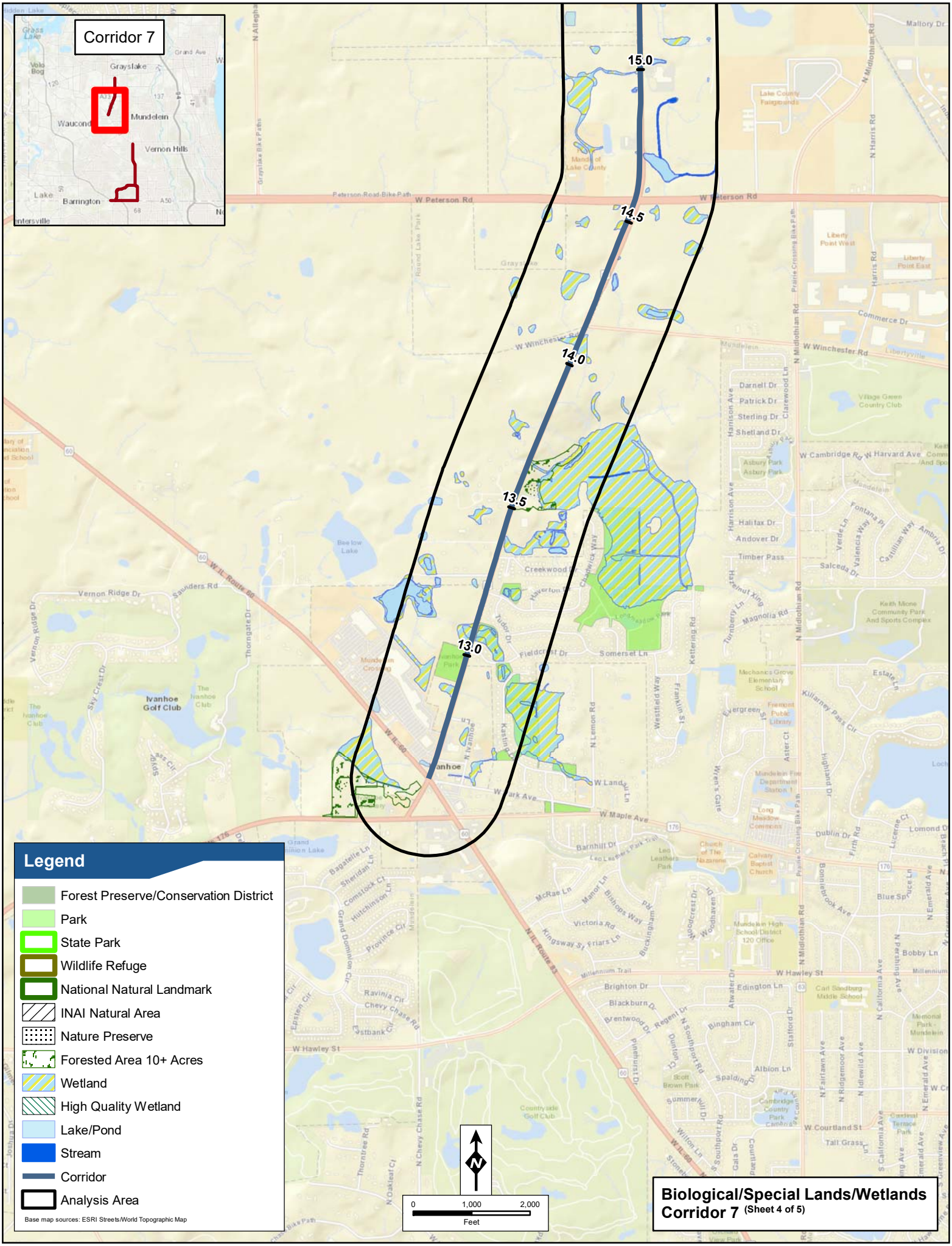

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 6
Barrington
Hoffman Estates
8.5
8.0
7.5
7.0
6.5
Capri Village
Staples Corner
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 6 (Sheet 4 of 4)

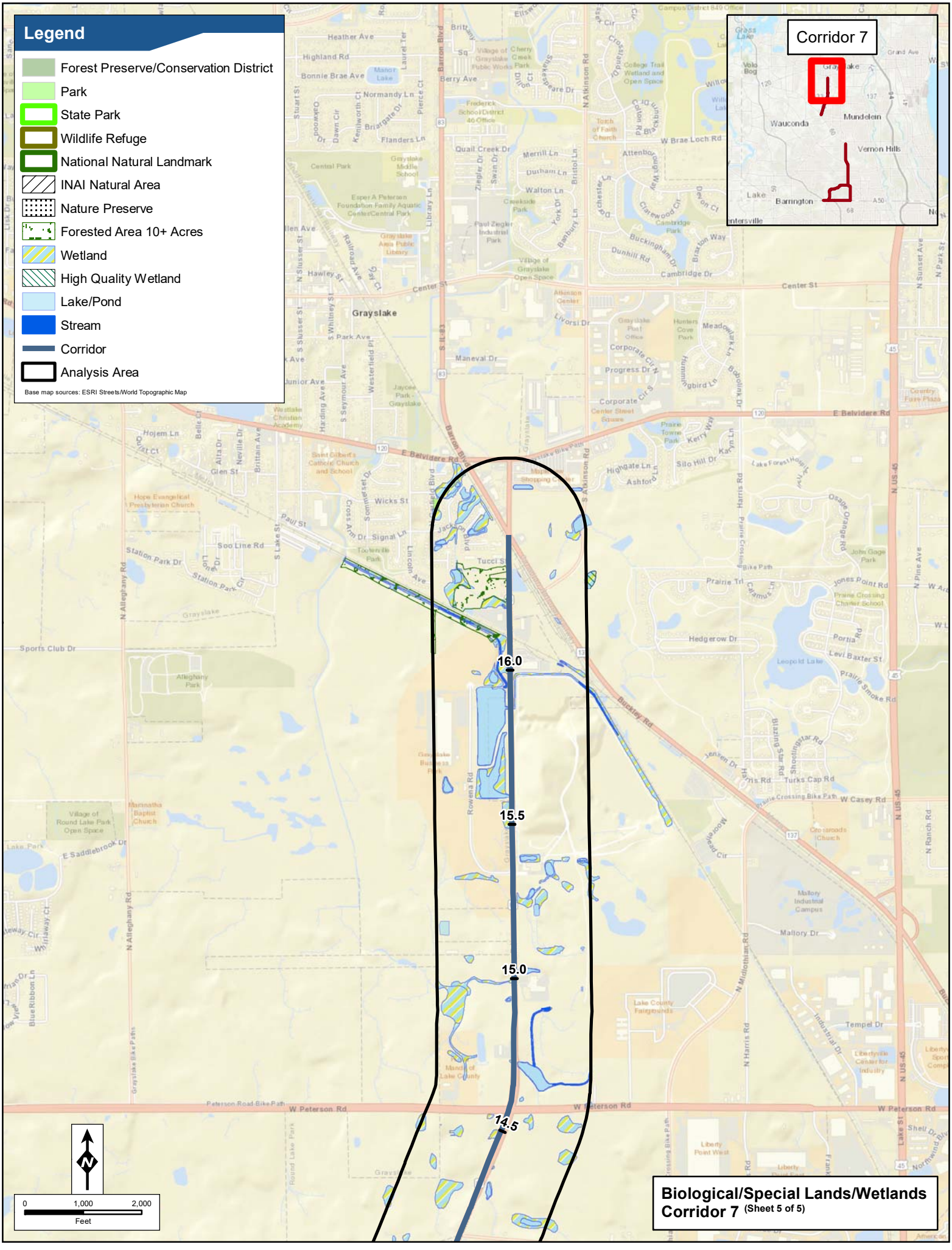

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Mundelein
Wauconda
Vernon Hills
Barrington
0.0
0.5
1.0
1.5
2.0
Barrington Woods
Brentwood
Capri Village
Staples Corner
Pepper Tree
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 1 of 5)

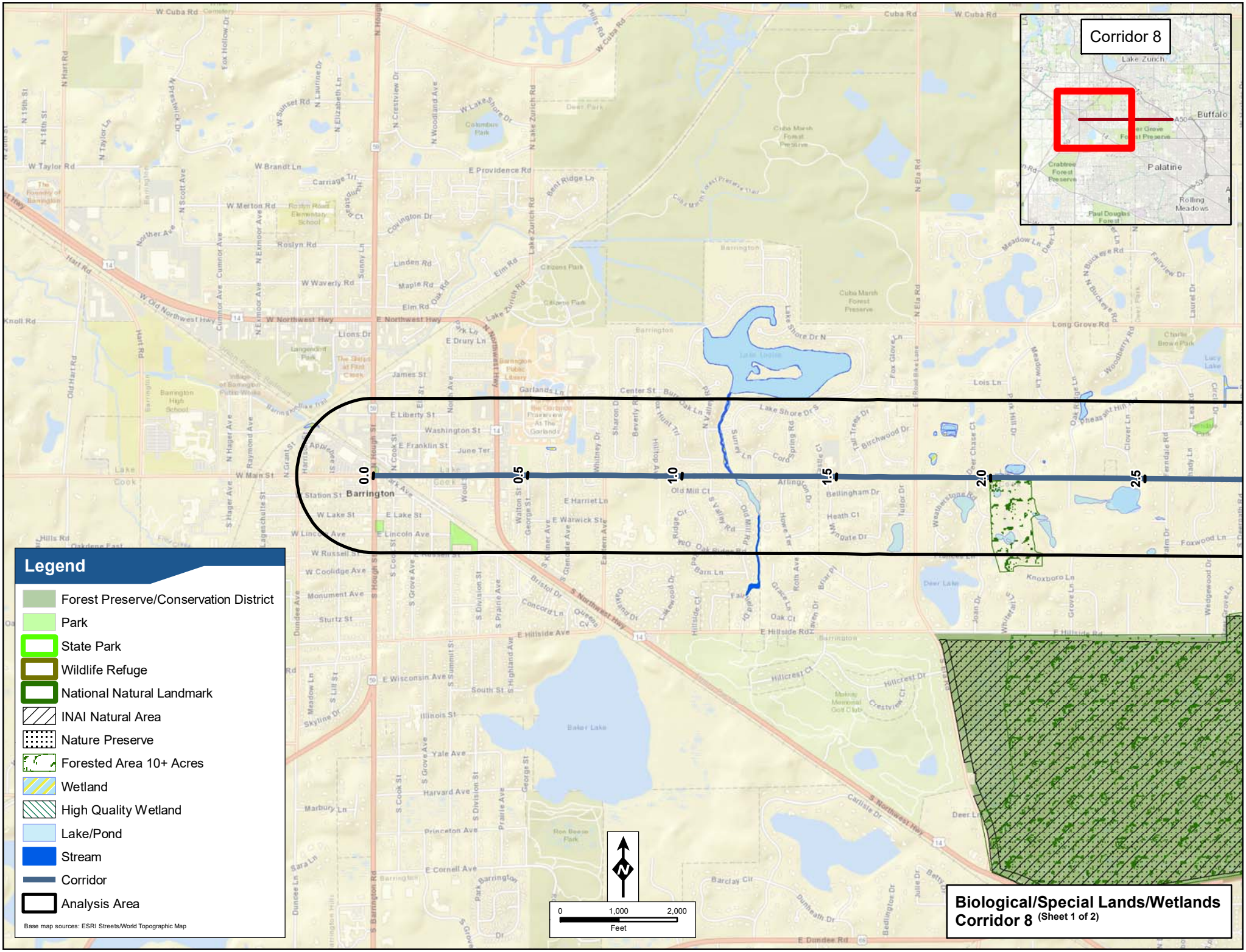


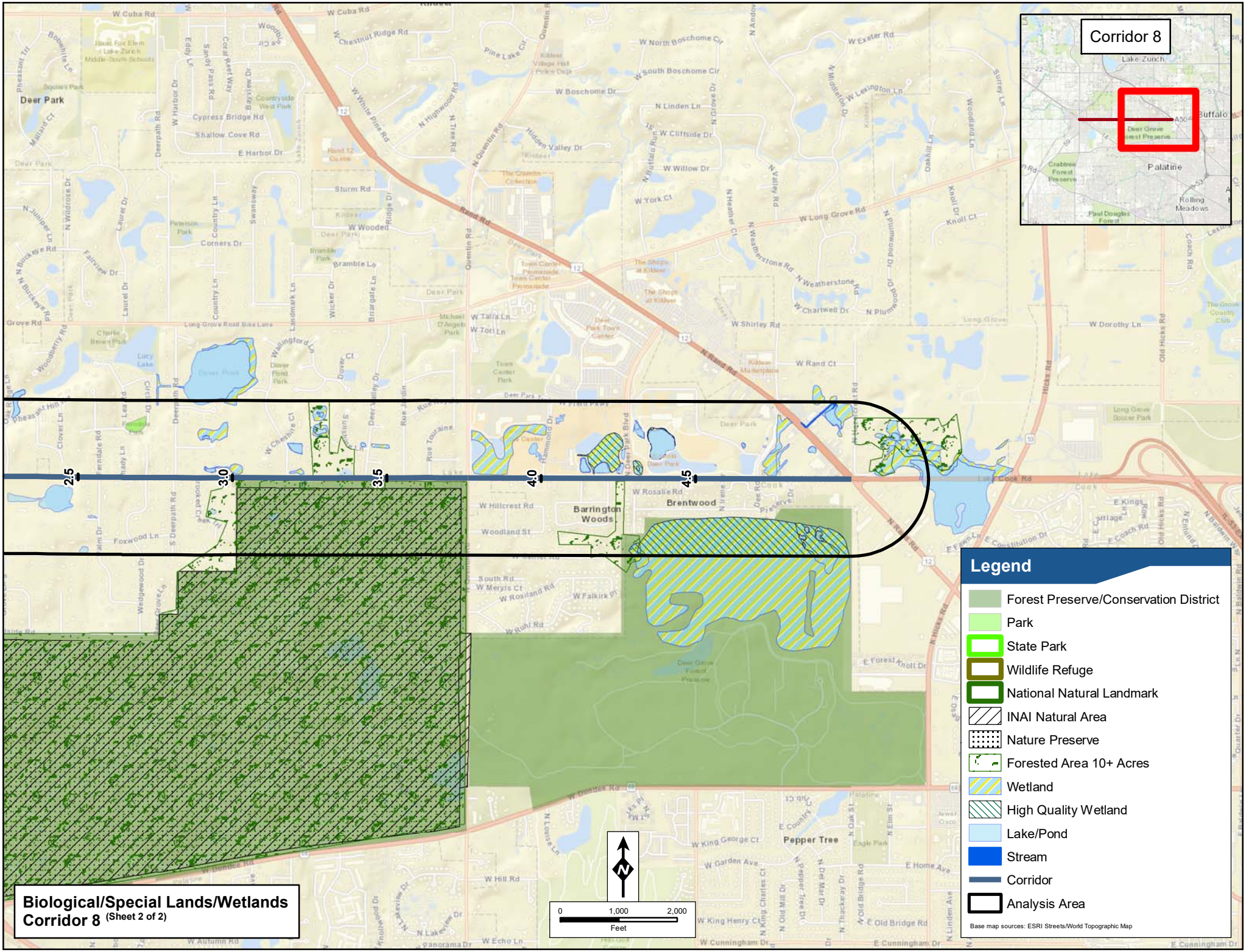
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 2 of 5)

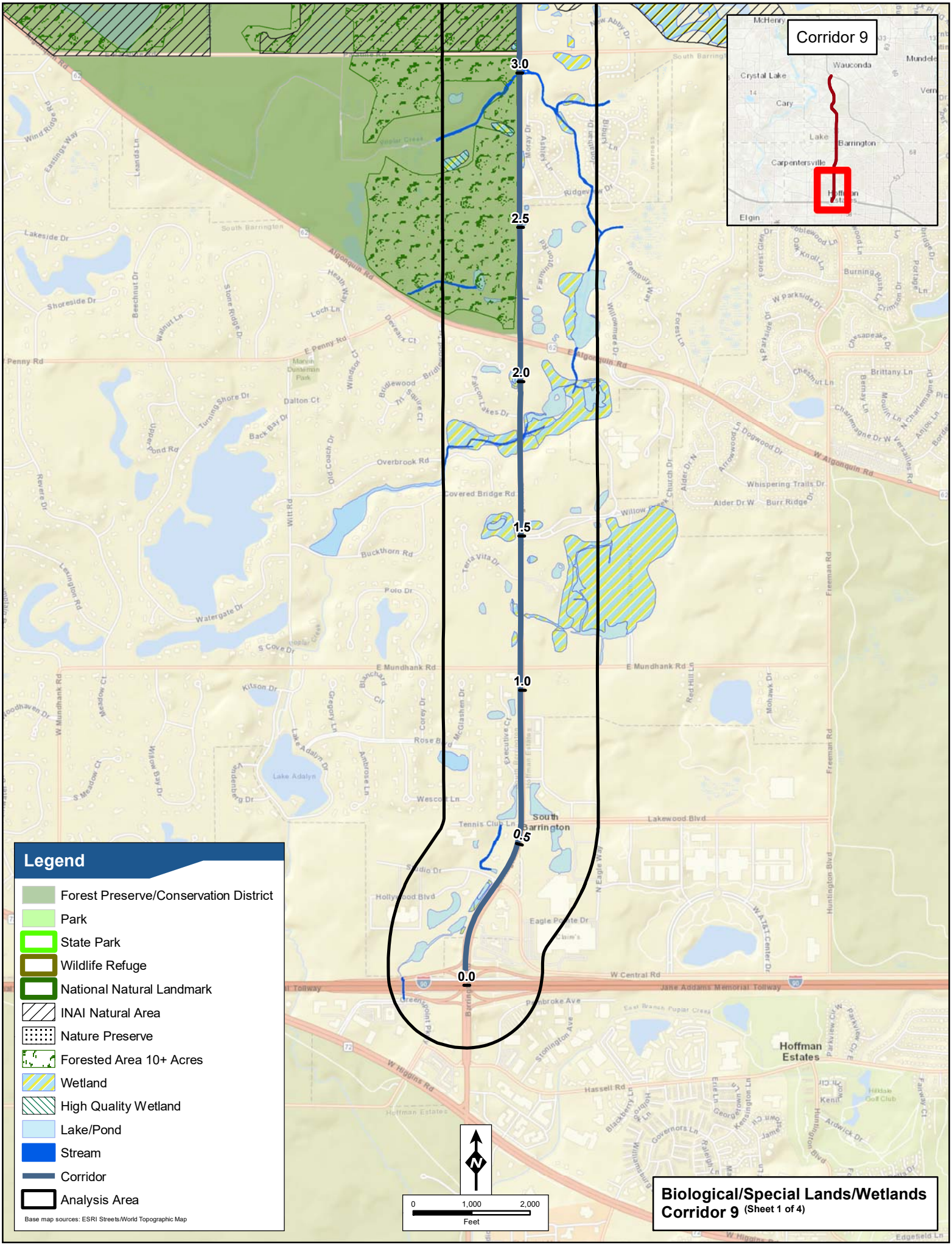

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Mundelein
Wauconda
Vernon Hills
Lake Barrington
8.5
8.0
7.5
7.0
6.5
6.0
5.5
Indian Creek
Vernon Hills
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 3 of 5)

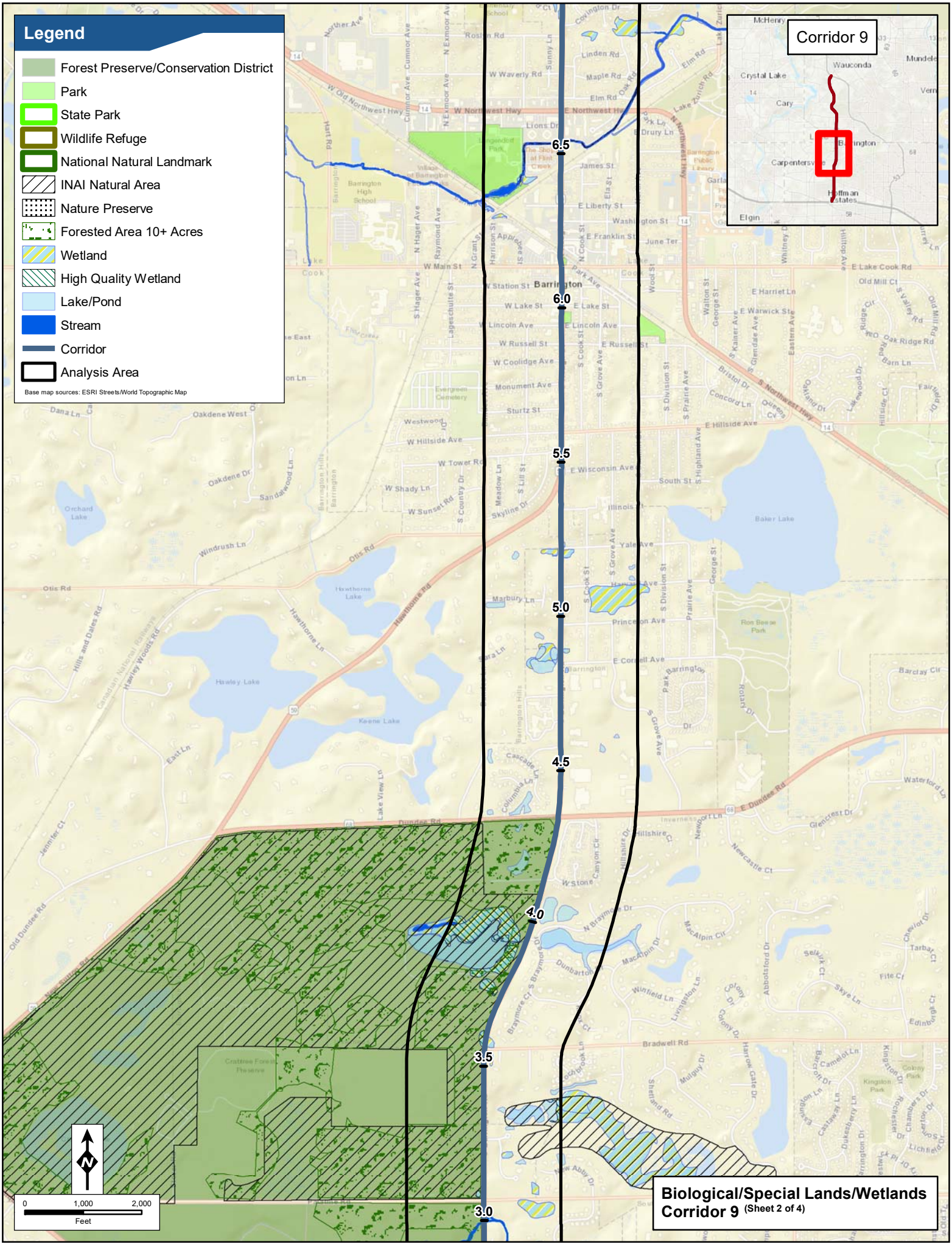

Corridor 7
Grayslake
Mundelein
Vernon Hills
Barrington
15.0
14.5
14.0
13.5
13.0
W Peterson Rd
W Winchester Rd
W Cambridge Rd
N Harvard Ave
W Maple Ave
W Hawley St
W Courtland St
W IL Route 60
N Midlothian Rd
Ivanhoe Golf Club
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 4 of 5)

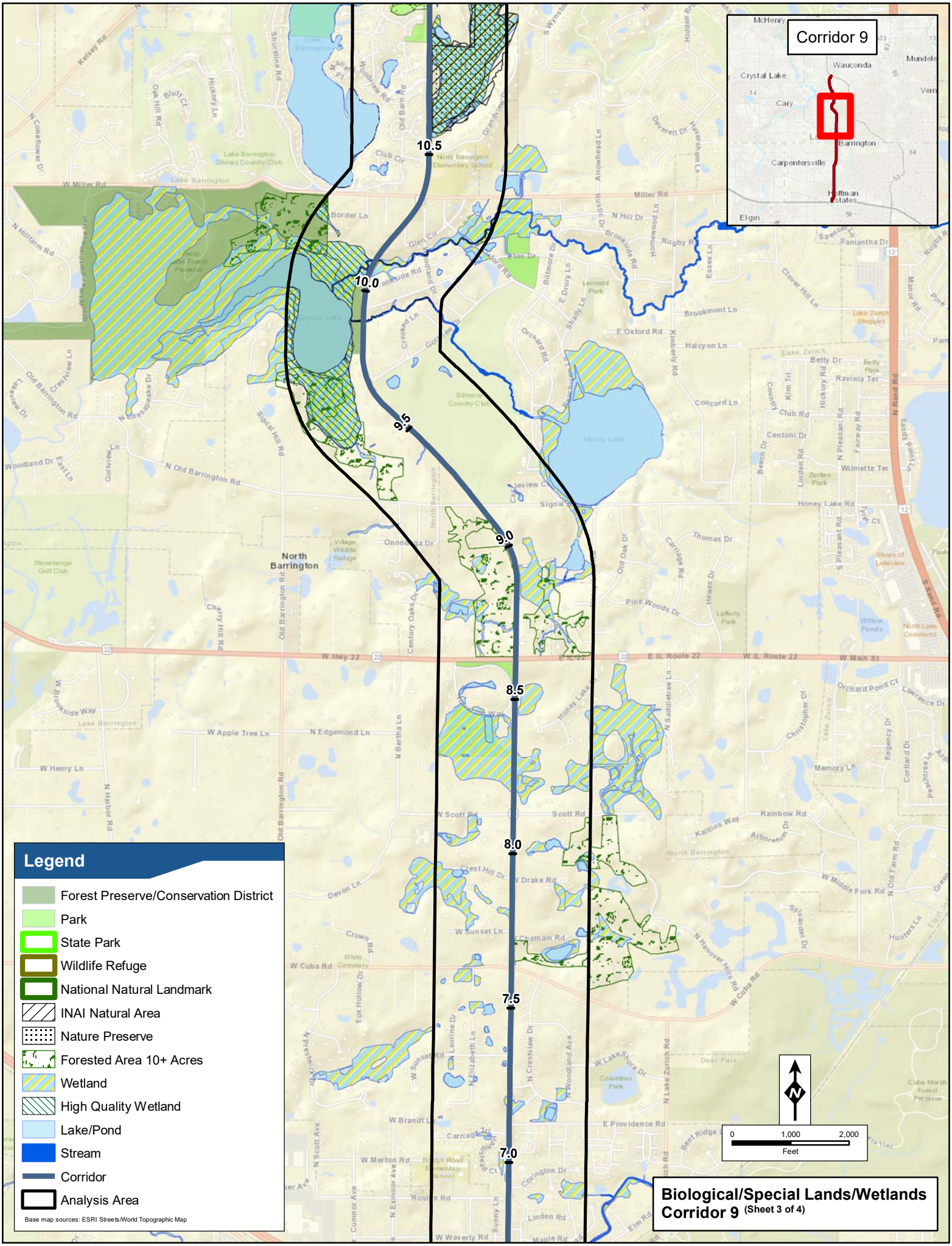

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 7
Grayslake
Wauconda
Mundelein
Vernon Hills
Lake Barrington
16.0
15.5
15.0
14.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 7 (Sheet 5 of 5)

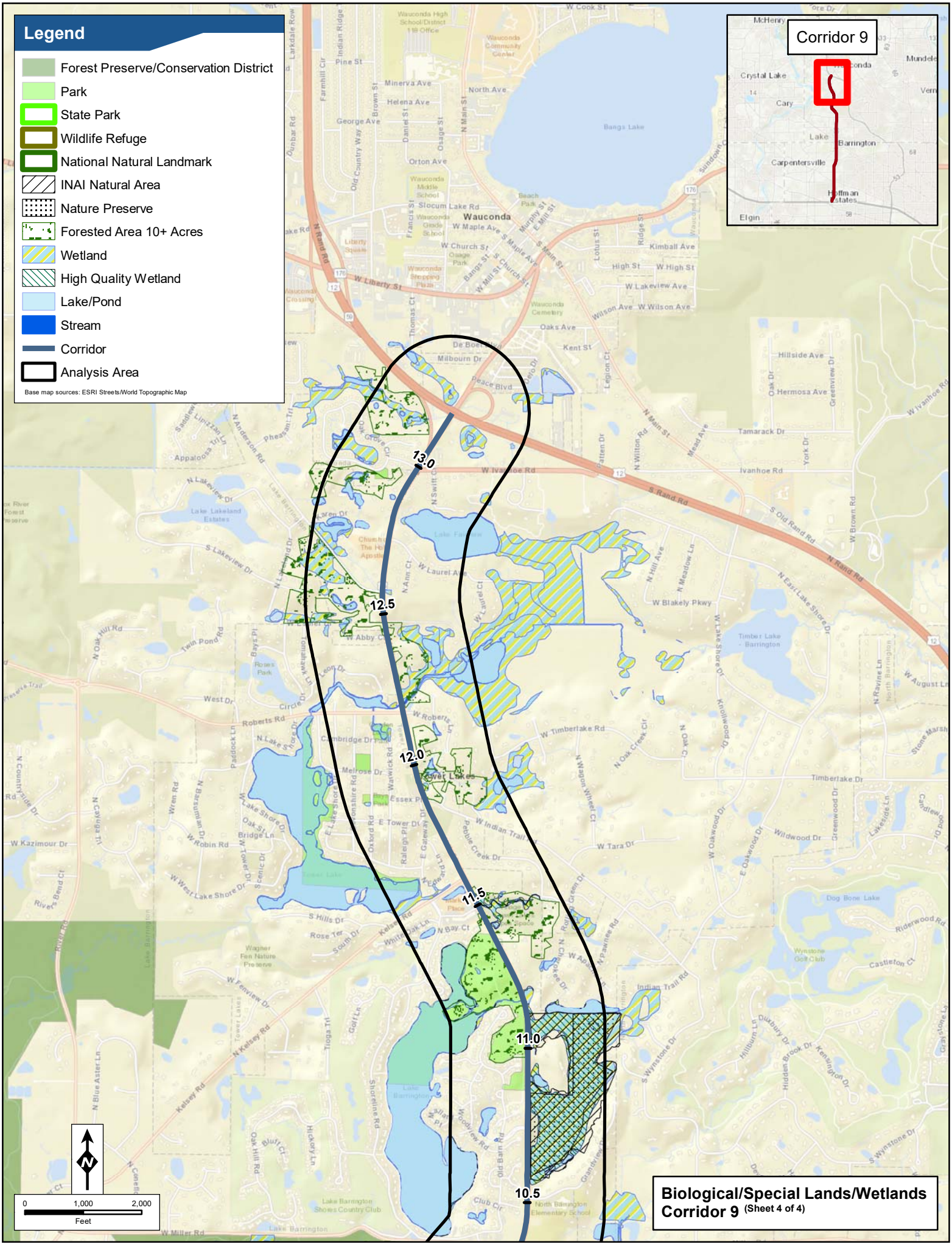

Corridor 8
Lake Zurich
Buffalo
Palatine
Rolling Meadows
0.0
0.5
1.0
1.5
2.0
2.5
Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 8 (Sheet 1 of 2)

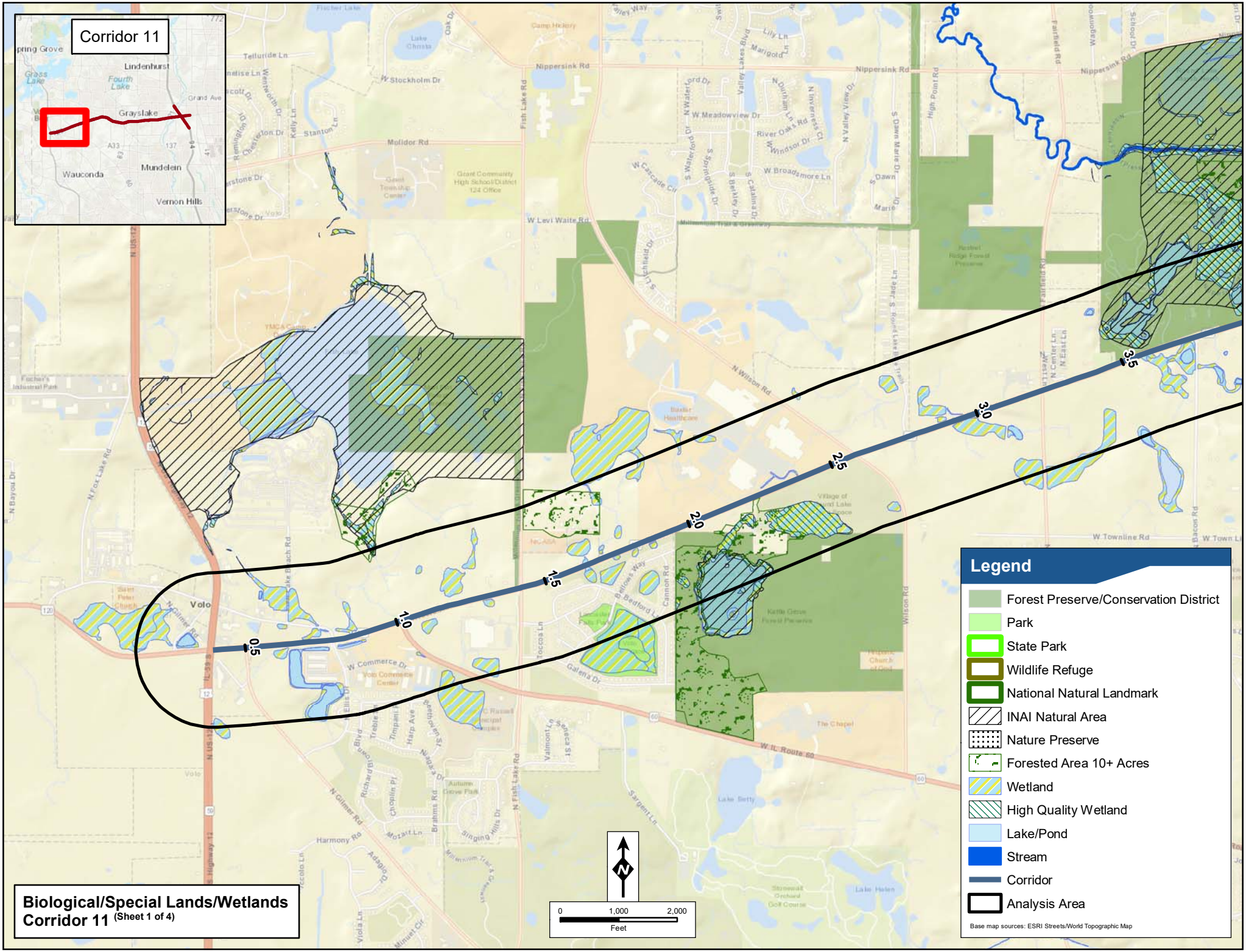

Corridor 8
Lake Zurich
Buffalo
Palatine
Deer Grove Forest Preserve
Crabtree Forest Preserve
Rolling Meadows
Paul Douglas Forest
2.5
3.0
3.5
4.0
4.5
Deer Park
Barrington Woods
Brentwood
Pepper Tree
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 8 (Sheet 2 of 2)


Corridor 9
McHenry
Wauconda
Mundelein
Crystal Lake
Cary
Lake Barrington
Carpentersville
Hoffman Estates
Elgin
3.0
2.5
2.0
1.5
1.0
0.5
0.0
South Barrington
Hoffman Estates
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 1 of 4)

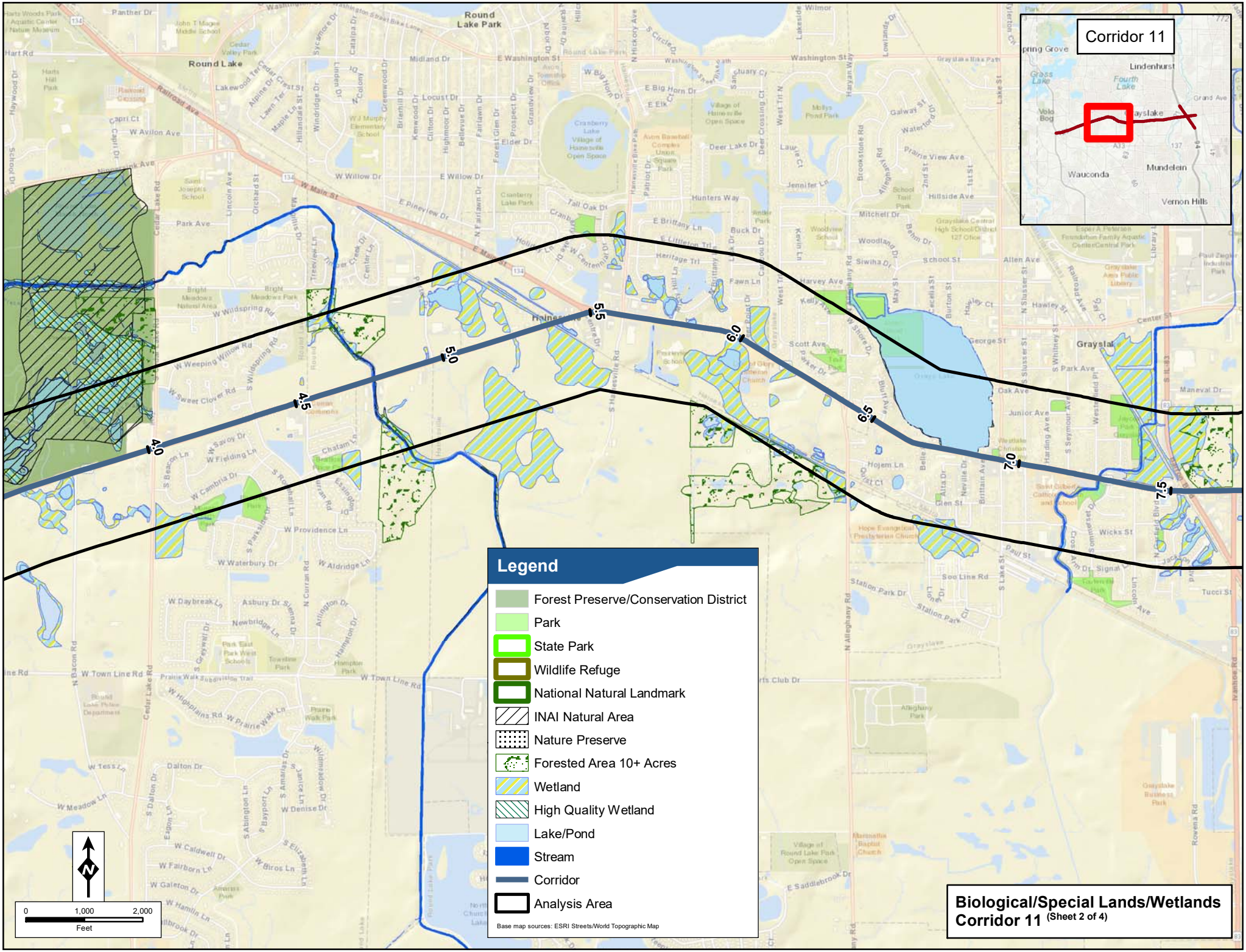

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 9
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 2 of 4)

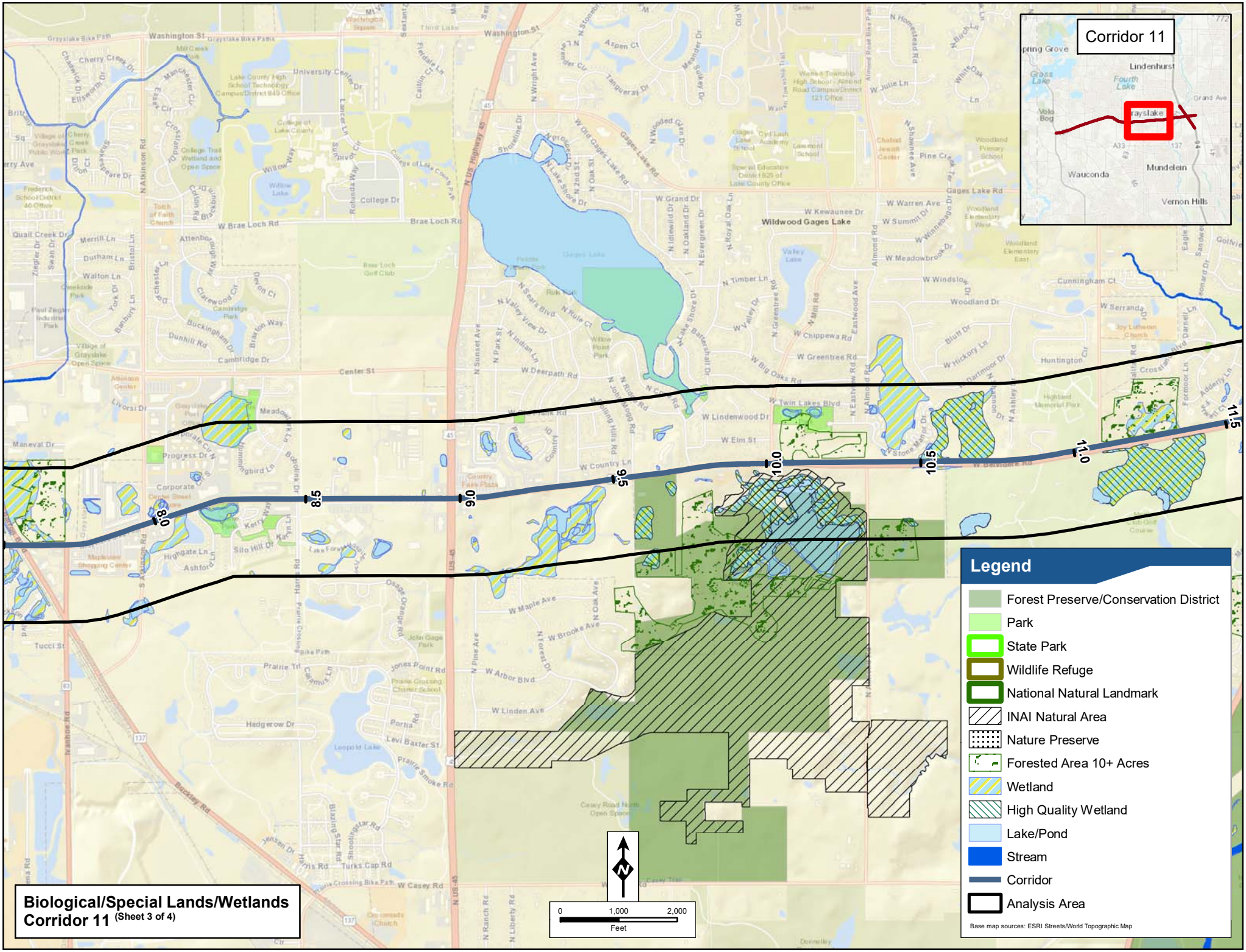

Corridor 9
McHenry
Wauconda
Crystal Lake
Cary
Barrington
Carpentersville
Hoffman Estates
Elgin
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
North Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 3 of 4)


Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 9
13.0
12.5
12.0
11.5
11.0
10.5
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 9 (Sheet 4 of 4)

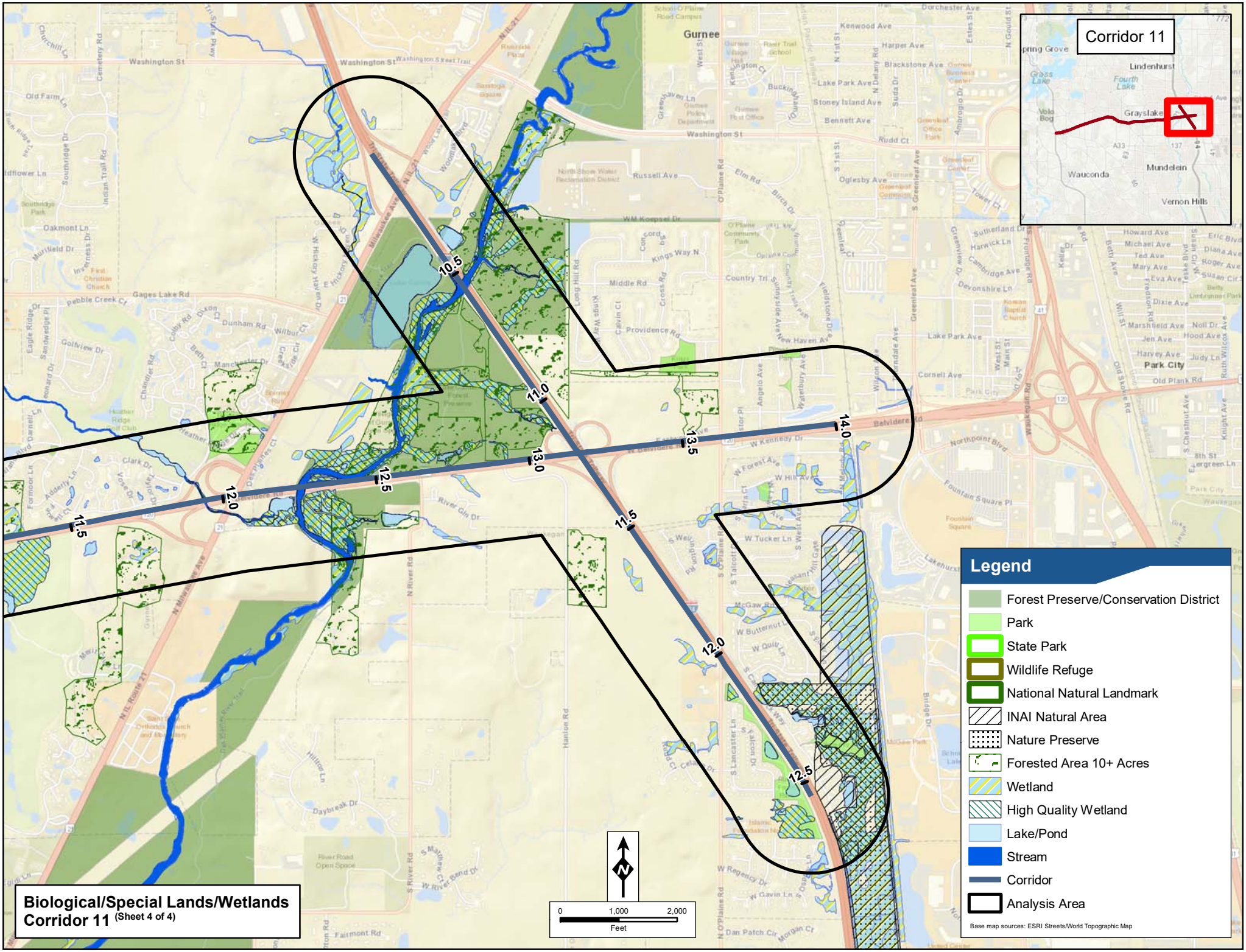


Biological/Special Lands/Wetlands
Corridor 11 (Sheet 1 of 4)

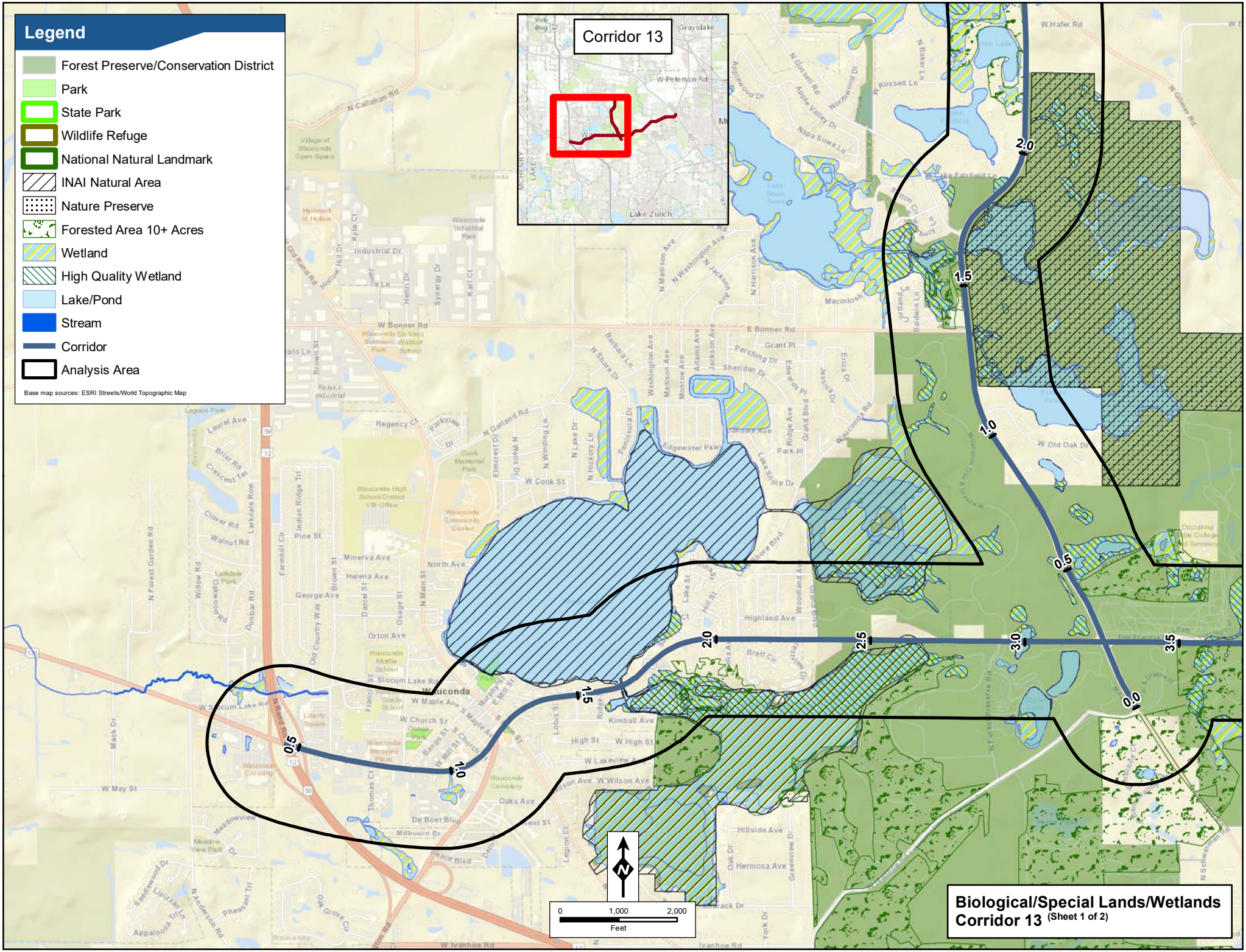

Corridor 11
Lindenhurst
Fourth Lake
Grayslake
Wauconda
Mundelein
Vernon Hills
Round Lake Park
Round Lake
Hainesville
Grayslake
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 2 of 4)

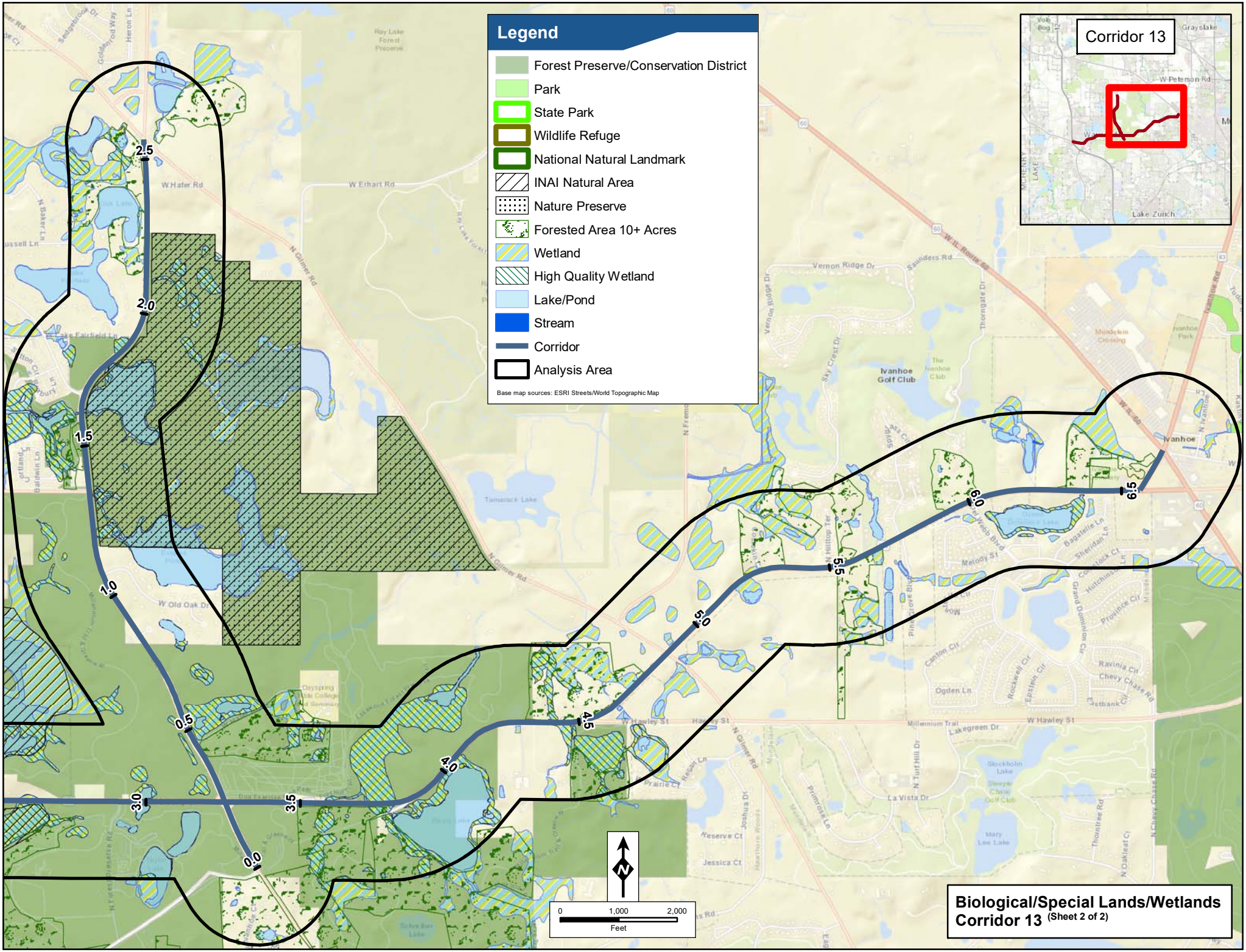


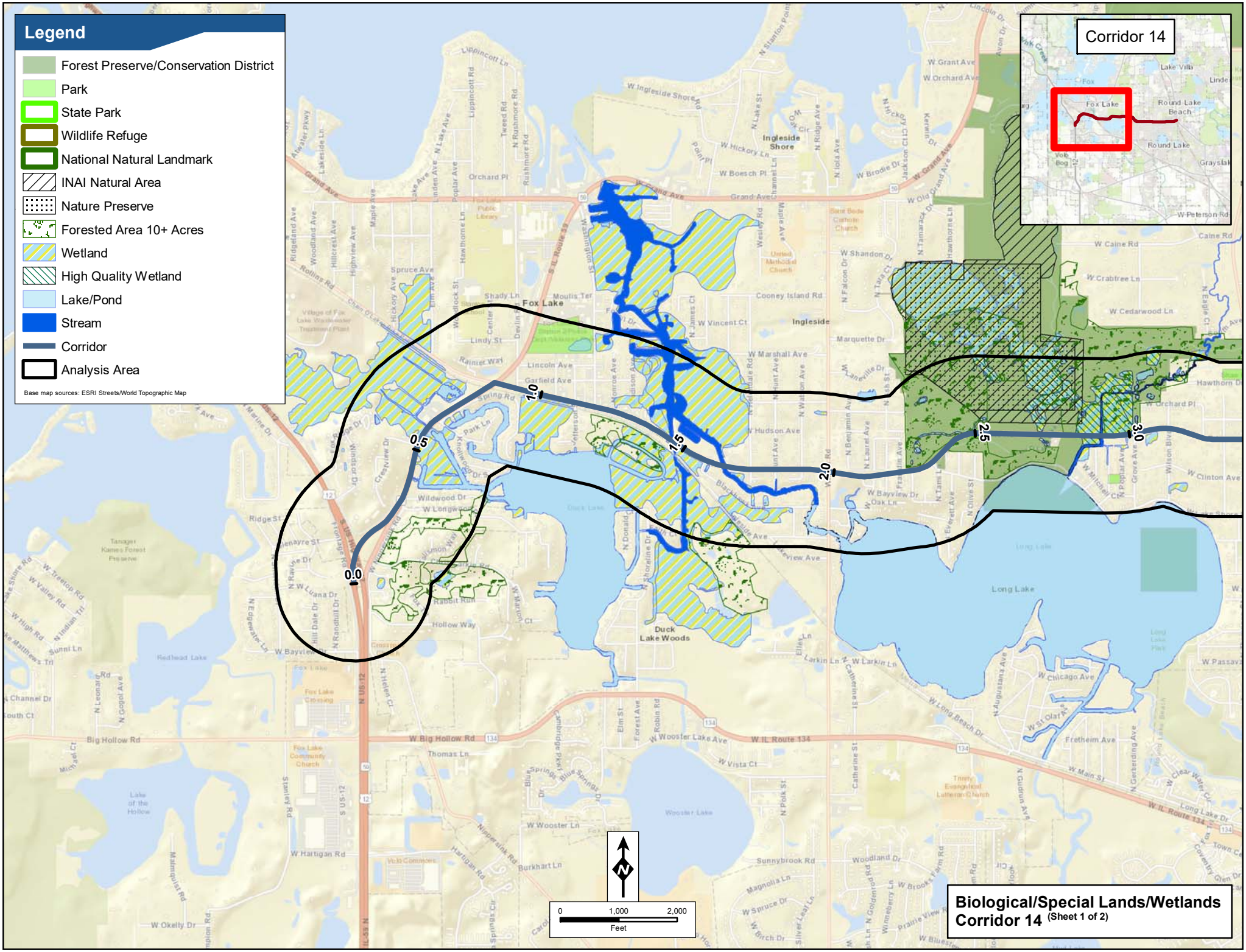
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 3 of 4)

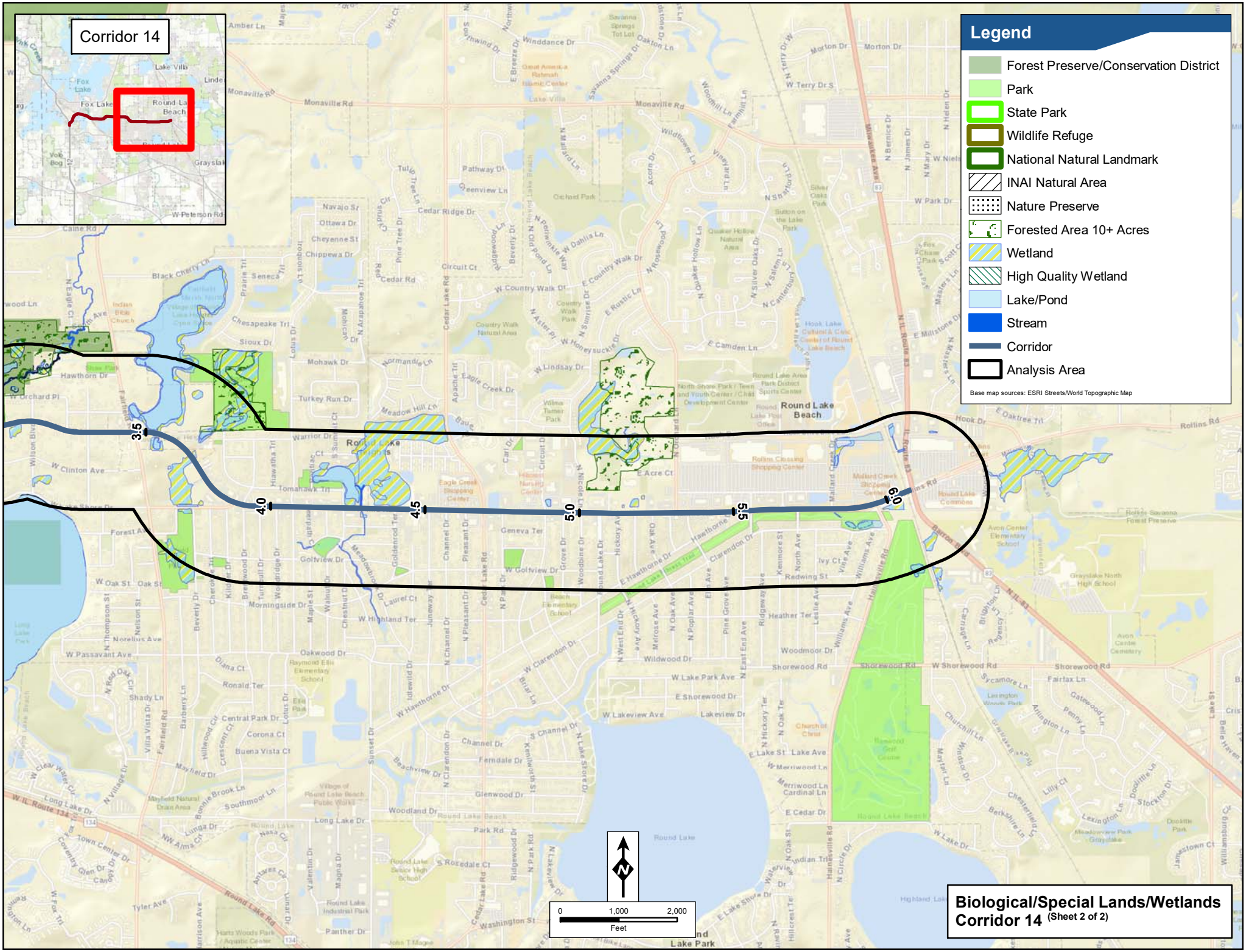


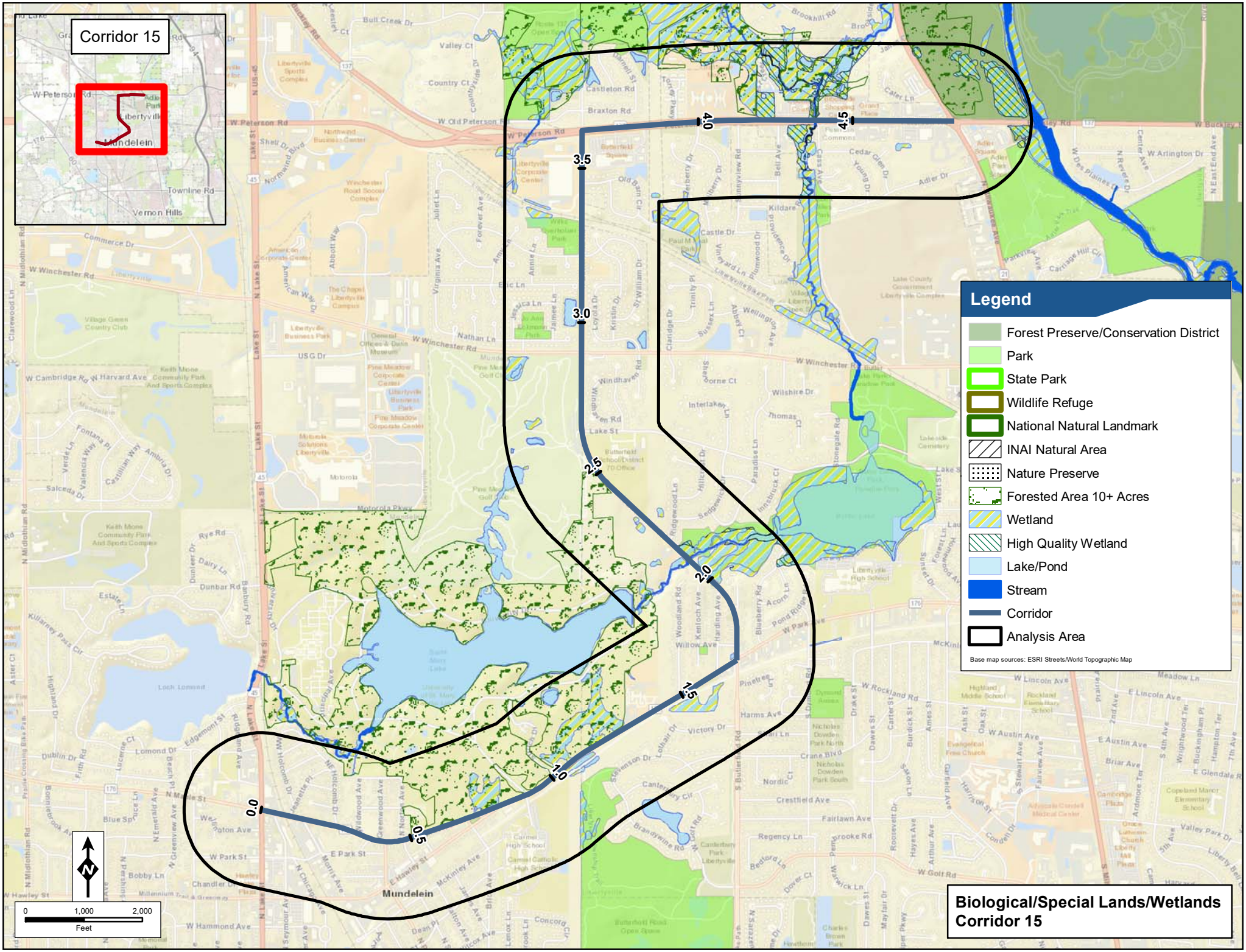
Biological/Special Lands/Wetlands
Corridor 11 (Sheet 4 of 4)

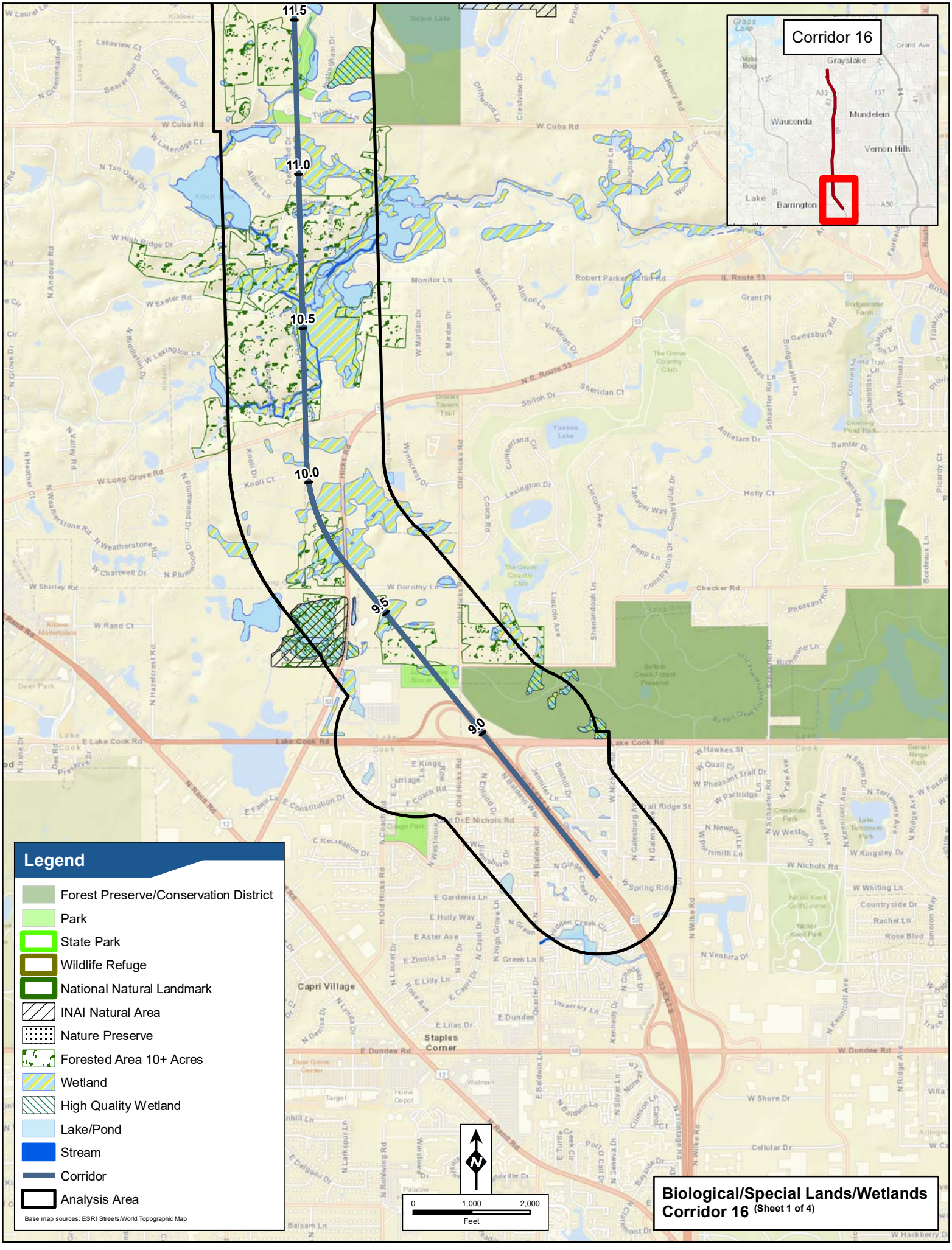

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 13
Grayslake
Lake Zurich
W Peterson Rd
Wauconda
W Hafer Rd
W Bonner Rd
E Bonner Rd
W Cook St
Highland Ave
W Maple Ave
W Church St
W Lakeview Ave
W Wilson Ave
Oaks Ave
W May St
W Ivanhoe Rd
Hillside Ave
Hermosa Ave
W Old Oak Dr
Edgewater Pkwy
Kimball Ave
High St
W High St
Peace Blvd
De Boer Blvd
Milbourn Dr
Orton Ave
North Ave
Minerva Ave
Helena Ave
George Ave
Pine St
W Stocum Lake Rd
N Main St
N Rand Rd
Old Country Way
Dunbar Rd
N Forest Garden Rd
Willow Rd
Lakedale Row
Clover Rd
Walnut Rd
Briar Rd
Laurel Ave
Lagoon Park
Regency Ct
N Gartland Rd
Parkview Dr
Industrial Dr
Hollow Hill Dr
Kyle Ct
Synergy Dr
Karl Ct
N Callahan Rd
Village of Wauconda Open Space
Wauconda Industrial Park
Wauconda High School/District 118 Office
Wauconda Community Center
Cook Memorial Park
Wauconda Middle School
Wauconda Shopping Plaza
Wauconda Cemetery
Wauconda Crossing
Liberty Square
Meadowview Park Dr
Meadowview
Appaloosa Trl
Saddlewood Dr
Lipizzan Trl
N Anderson Rd
Pheasant Trl
Oak Grove Cir
Ivanhoe Rd
Macintosh
Lake Fairfield Ln
Napa Suwe Ln
Apple Valley Dr
Applewood Dr
N Goosell Rd
Northwood Dr
W Russell Ln
N Baker Ln
N Glimer Rd
N Madison Ave
N Washington Ave
N Jackson Ave
N Harrison Ave
Barbara Ln
N Shore Dr
Washington Ave
Madison Ave
Monroe Ave
Adams Ave
Jackson Ave
Pershing Dr
Sheridan Dr
Grant Pl
Erica Dr
Jessica Dr
Grand Blvd
Park Pl
Lake Shore Dr
Wauconda
N Lake Dr
N Hickory Ln
Peninsula Dr
N Winding Ln
Emcrest Dr
N Wells Dr
Parkview Dr
Brown St
Farmhill Cir
Indian Ridge Trl
Daniel St
Osage St
Lotus St
Hill St
Woodland Ave
Brett Ct
Kimball Ave
Thomas Ct
Mack Dr
Legion Ct
Oak Dr
Greenview Dr
York Dr
Hillside Ave
Hermosa Ave
N Schwerman Rd
Deerpath Middle College Preparatory School
2.0
1.5
1.0
0.5
0.0
2.0
2.5
3.0
3.5
1.5
1.0
0.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 13 (Sheet 1 of 2)

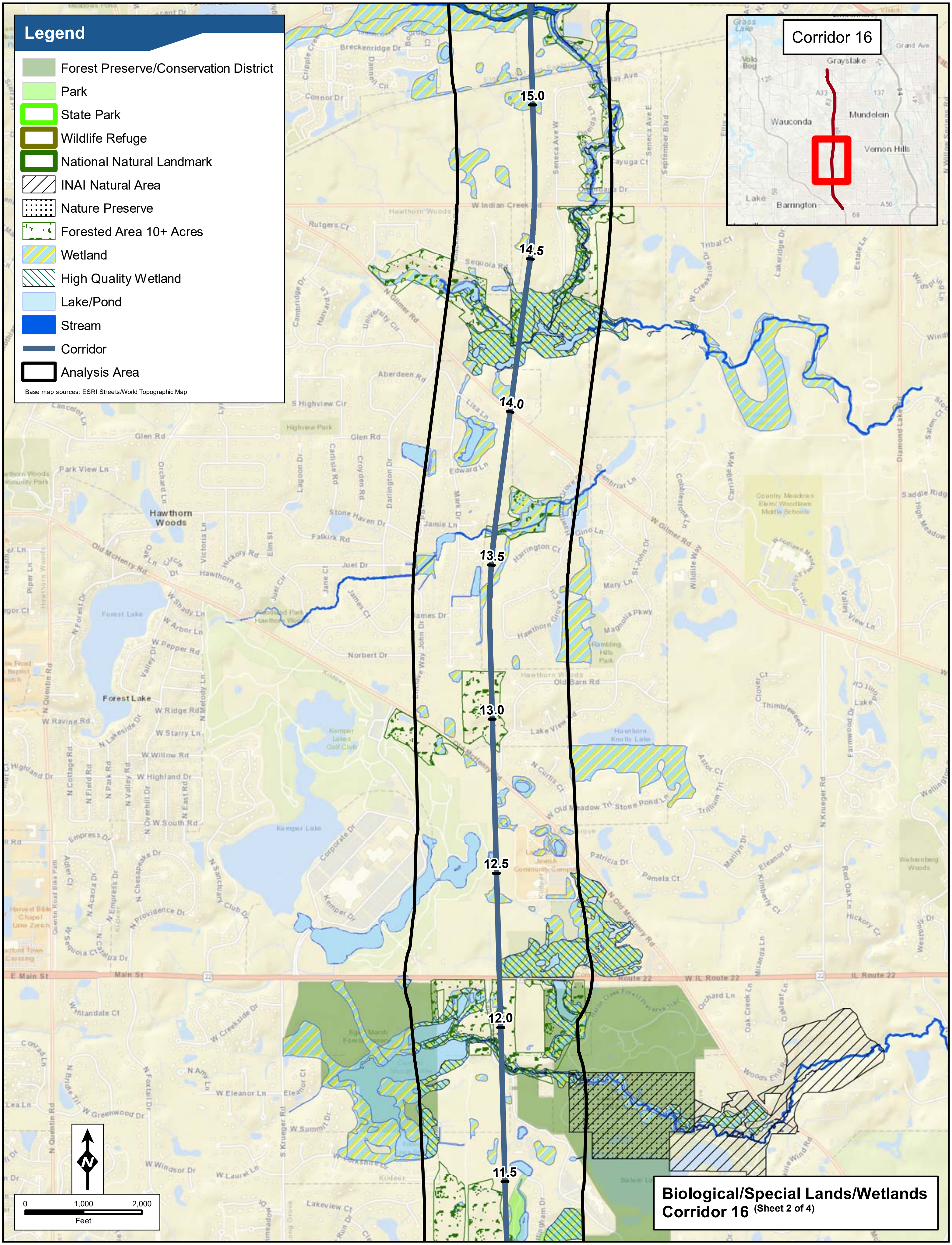

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 13
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 13 (Sheet 2 of 2)

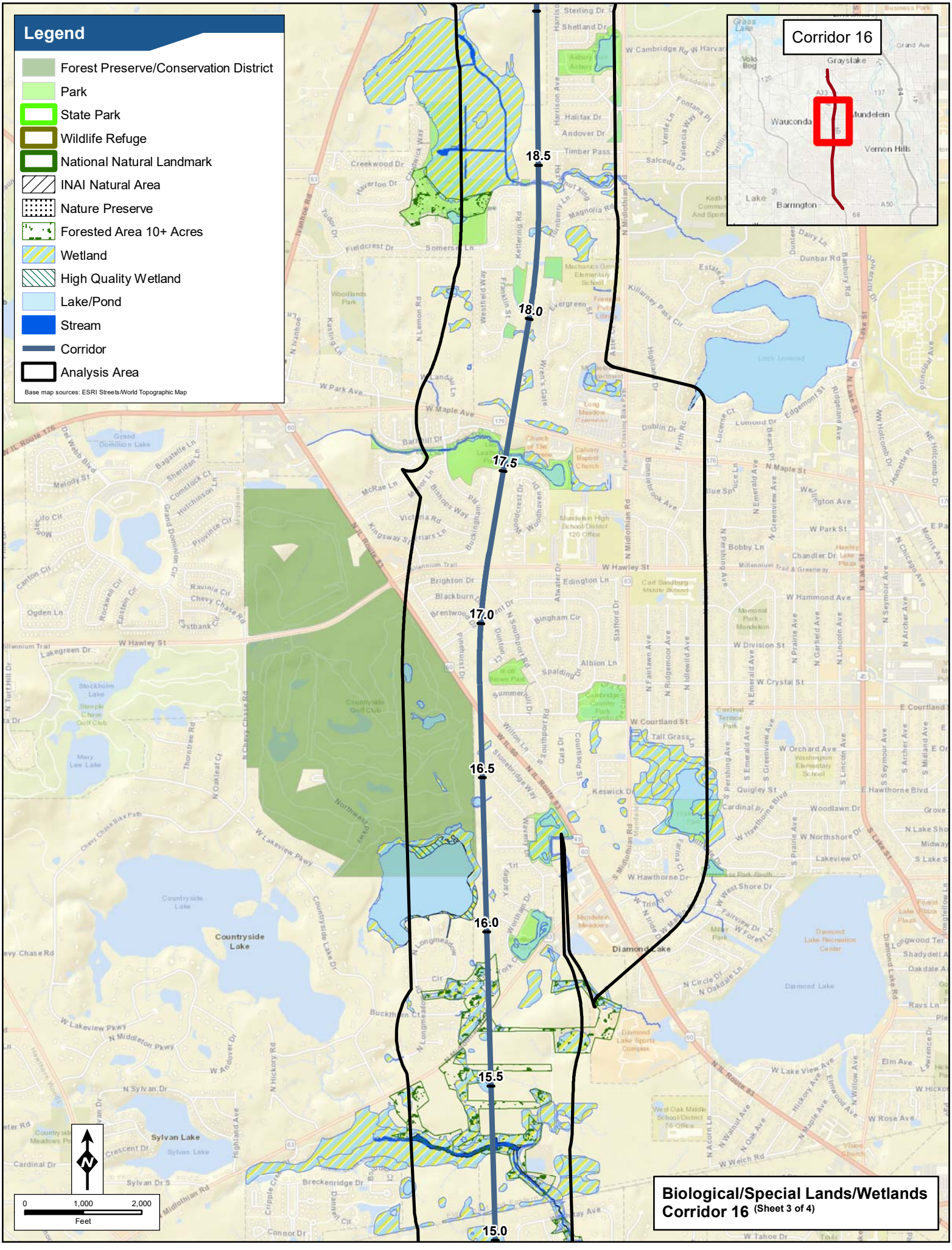

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 14
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 14 (Sheet 1 of 2)

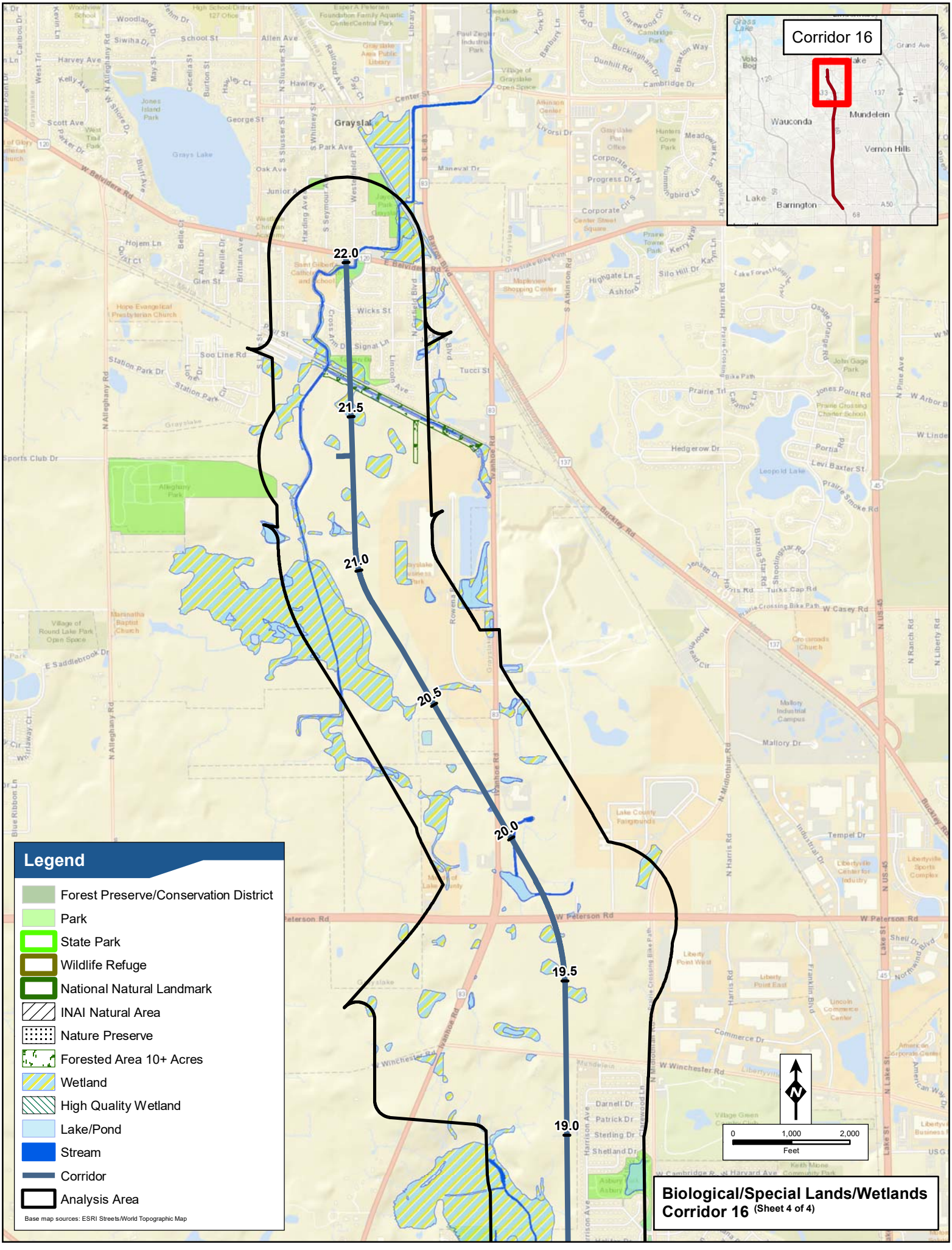

Corridor 14
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
3.5
4.0
4.5
5.0
5.5
6.0
Round Lake Beach
Round Lake
Round Lake Park
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 14 (Sheet 2 of 2)

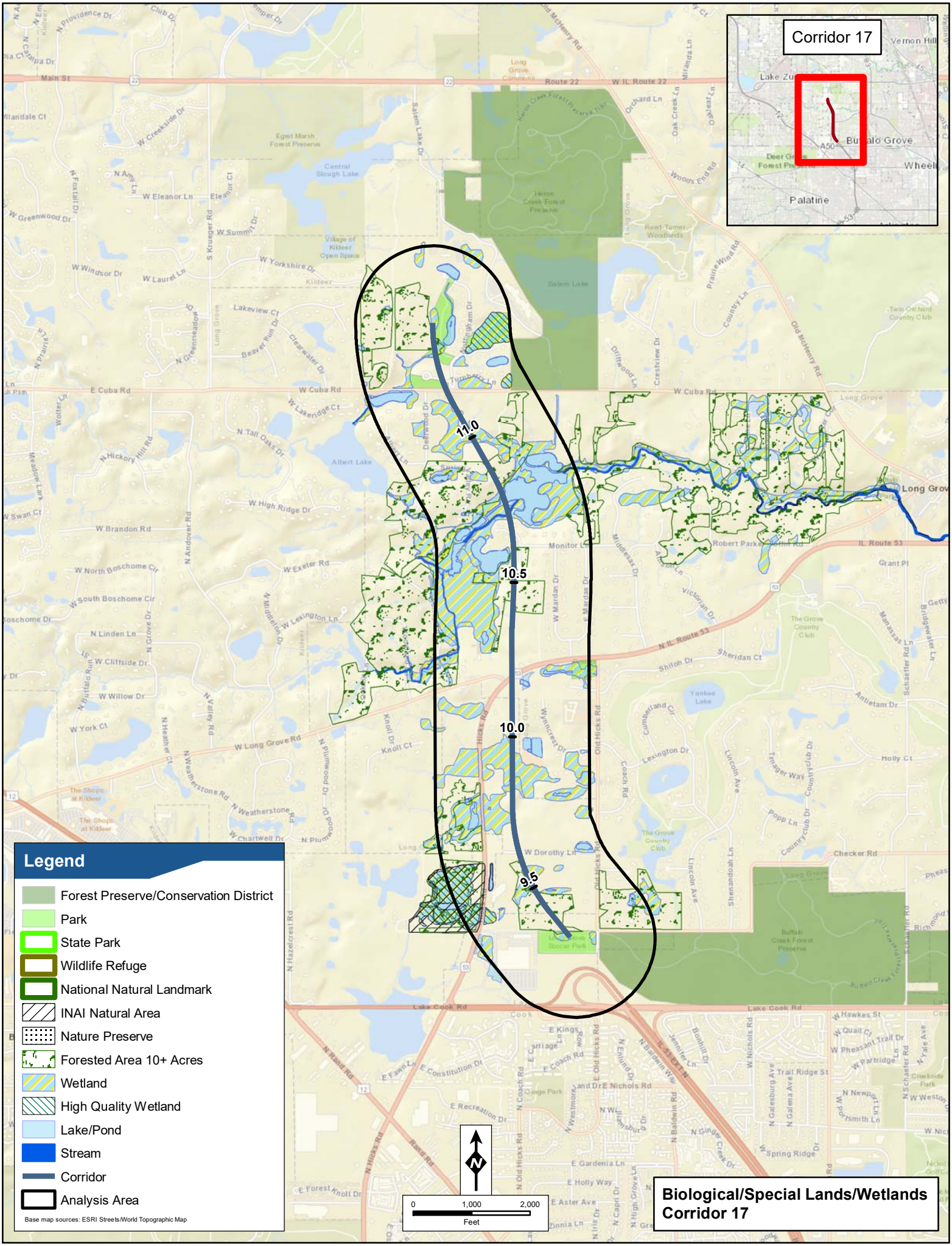

Corridor 15
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Mundelein
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 15

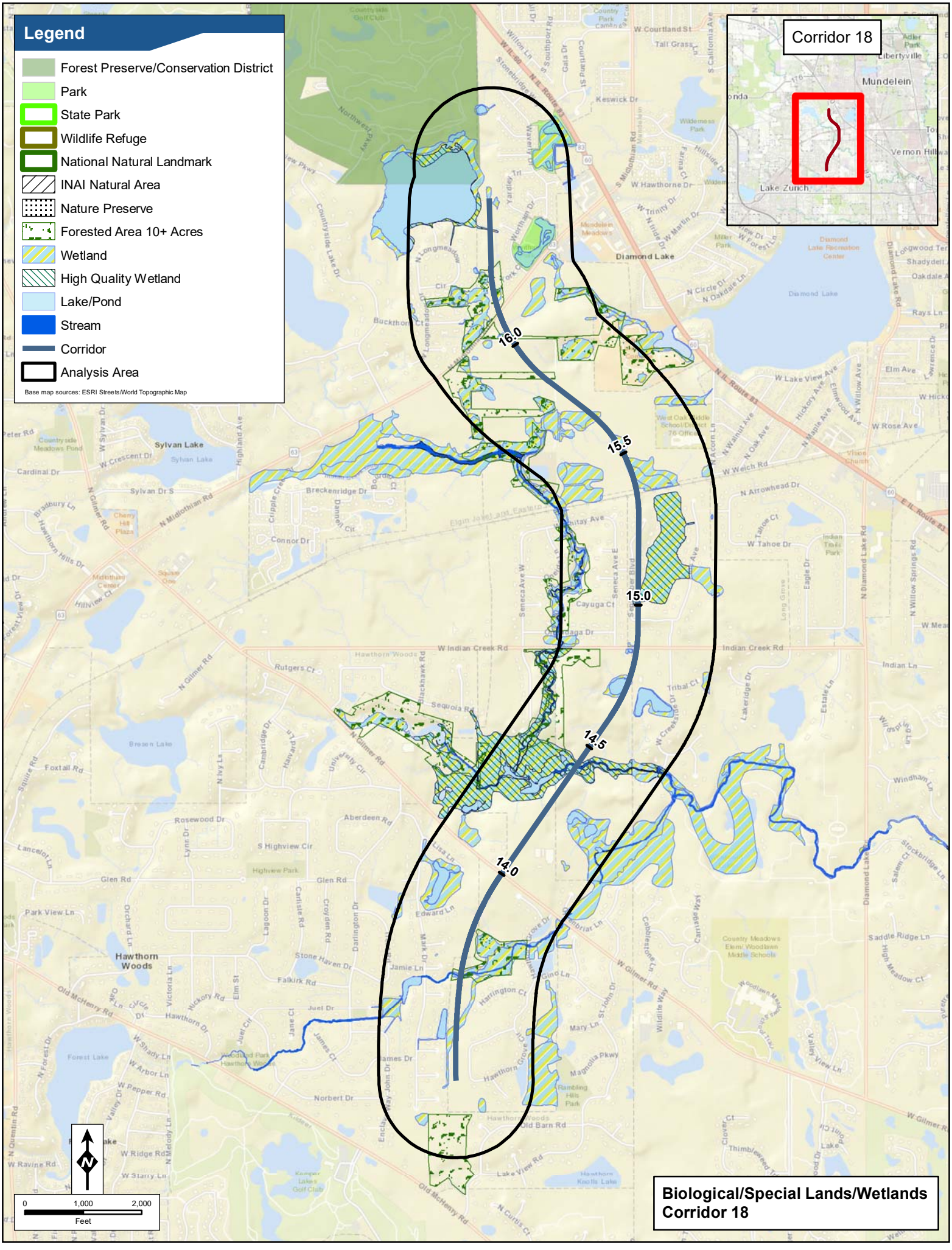

11.5
11.0
10.5
10.0
9.5
9.0
Corridor 16
Grayslake
Wauconda
Mundelein
Vernon Hills
Lake Barrington
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Capri Village
Staples Corner
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 1 of 4)

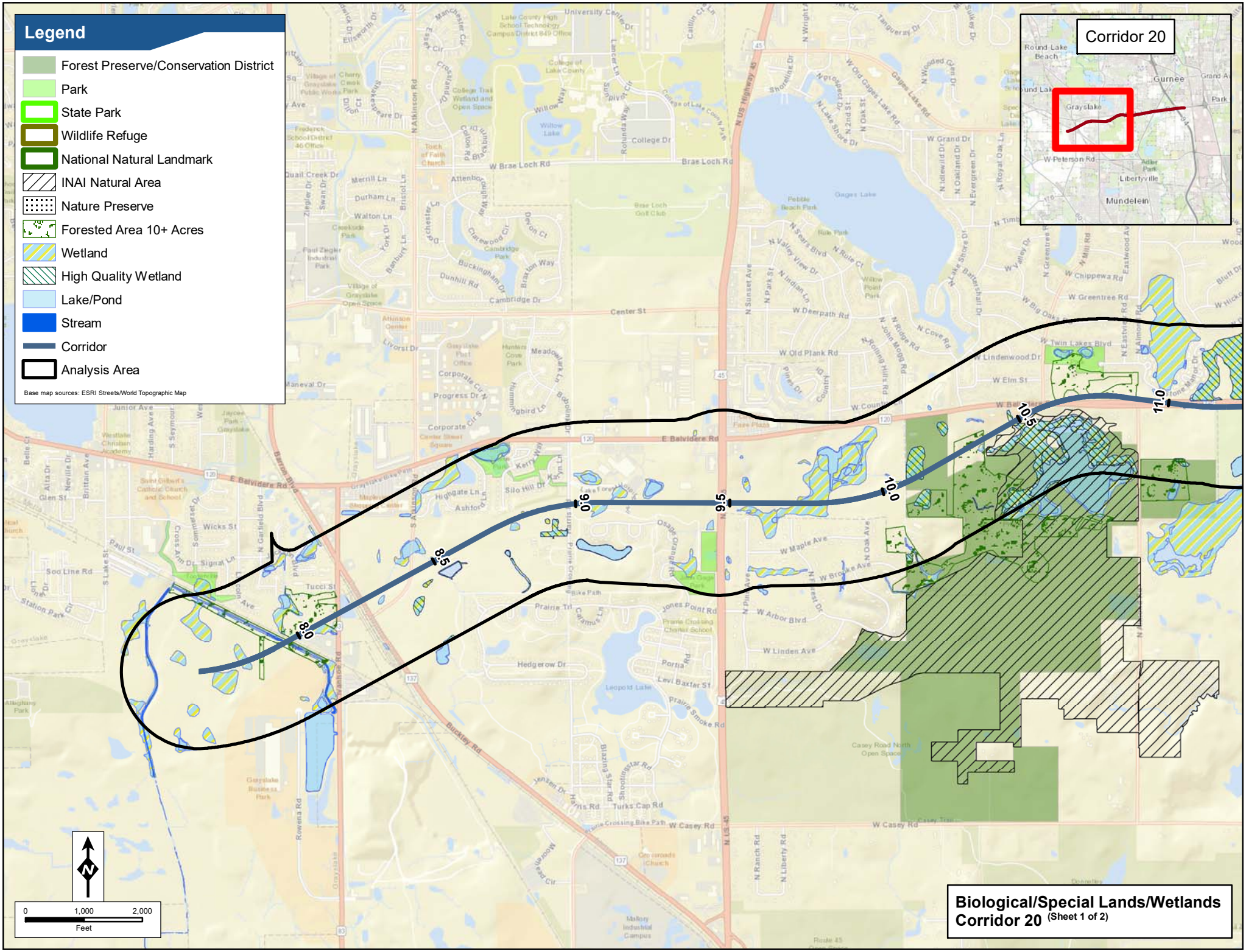

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 16
Grayslake
Volo Bog
Mundelein
Wauconda
Vernon Hills
Lake Barrington
15.0
14.5
14.0
13.5
13.0
12.5
12.0
11.5
Hawthorn Woods
Forest Lake
Kemper Lake
Highview Park
Breckenridge Dr
Connor Dr
W Indian Creek Rd
Rutgers Ct
Aberdeen Rd
S Highview Cir
Glen Rd
Park View Ln
Old McHenry Rd
W Gilmer Rd
Hawthorn Knolls Lake
Rambling Hills Park
Country Meadows Elem/ Woodlawn Middle Schools
Main St
E Main St
Route 22
W IL Route 22
IL Route 22
Lakeview Ct
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 2 of 4)

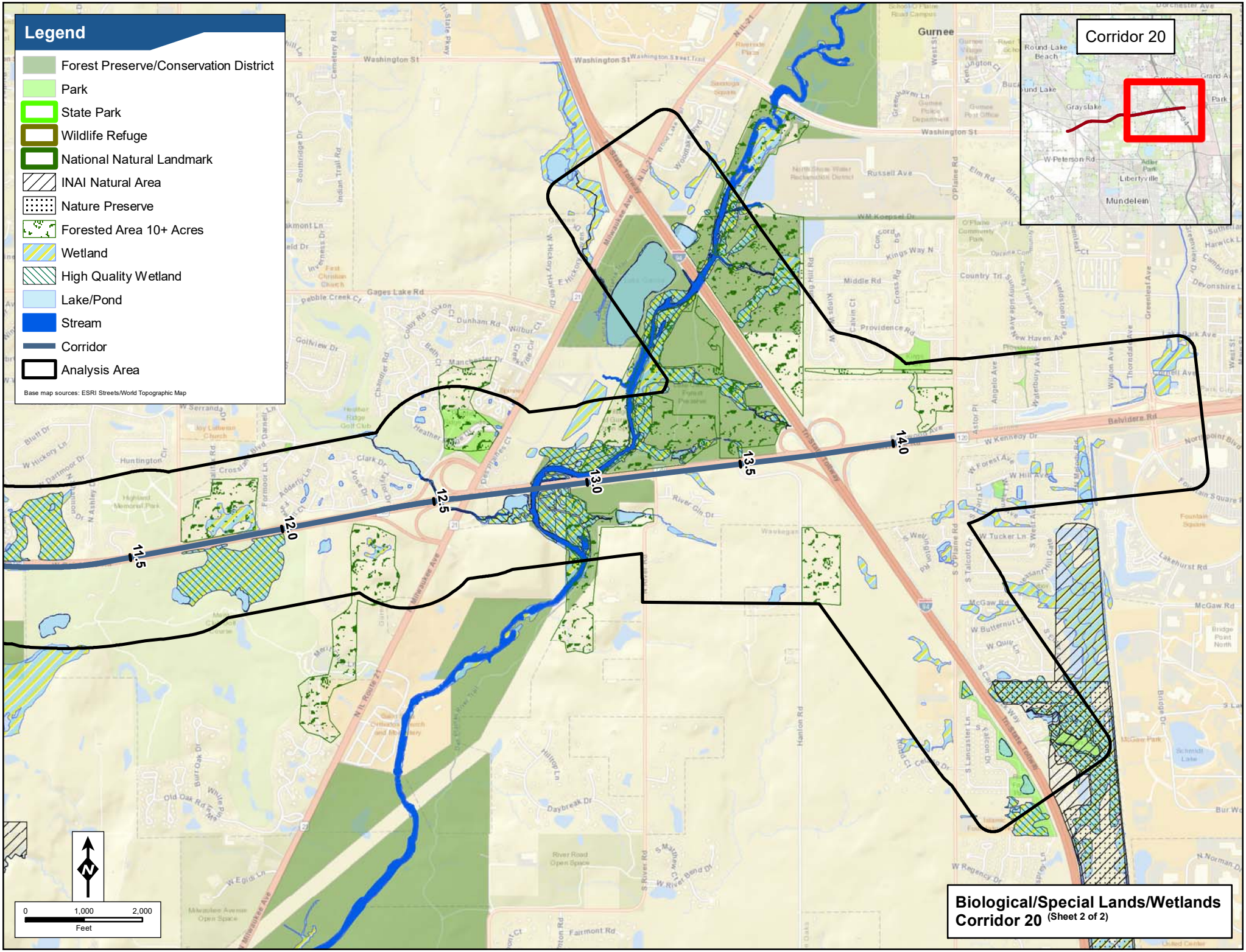

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 16
Grayslake
Wauconda
Mundelein
Vernon Hills
Barrington
18.5
18.0
17.5
17.0
16.5
16.0
15.5
15.0
Countryside Lake
Diamond Lake
Sylvan Lake
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 3 of 4)

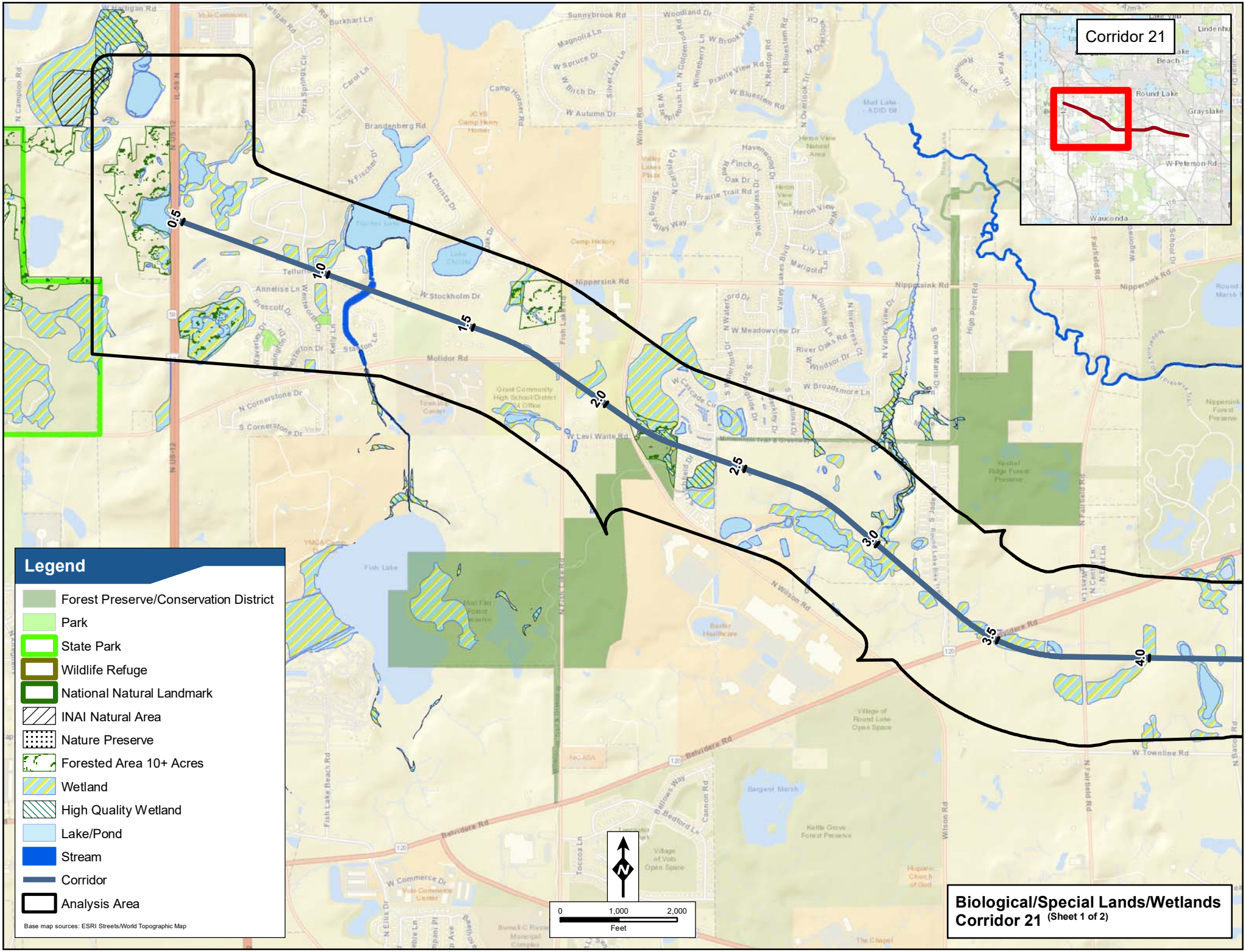

Corridor 16
Wauconda
Mundelein
Vernon Hills
Lake
Barrington
22.0
21.5
21.0
20.5
20.0
19.5
19.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 16 (Sheet 4 of 4)

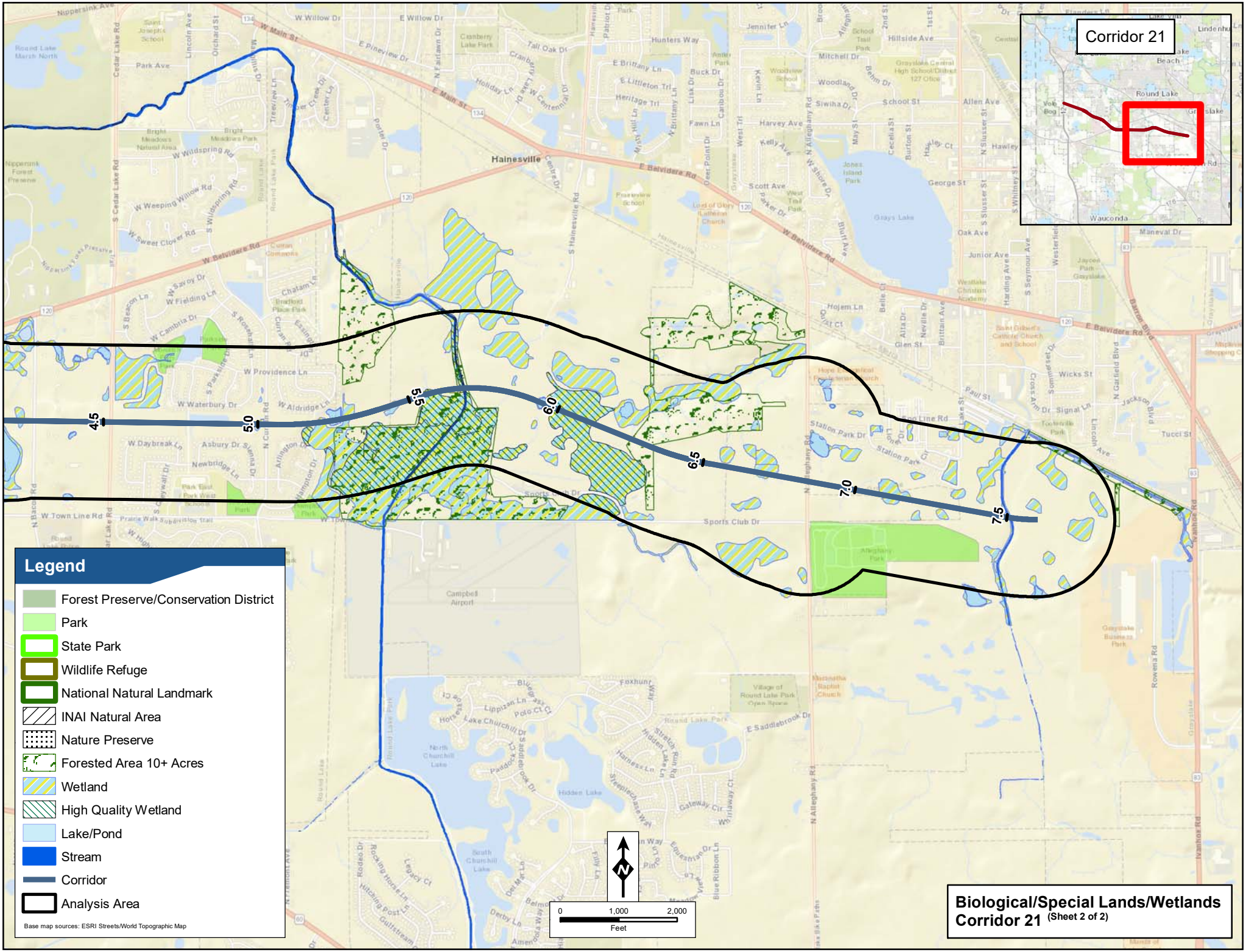

Corridor 17
Buffalo Grove
Palatine
11.0
10.5
10.0
9.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 17

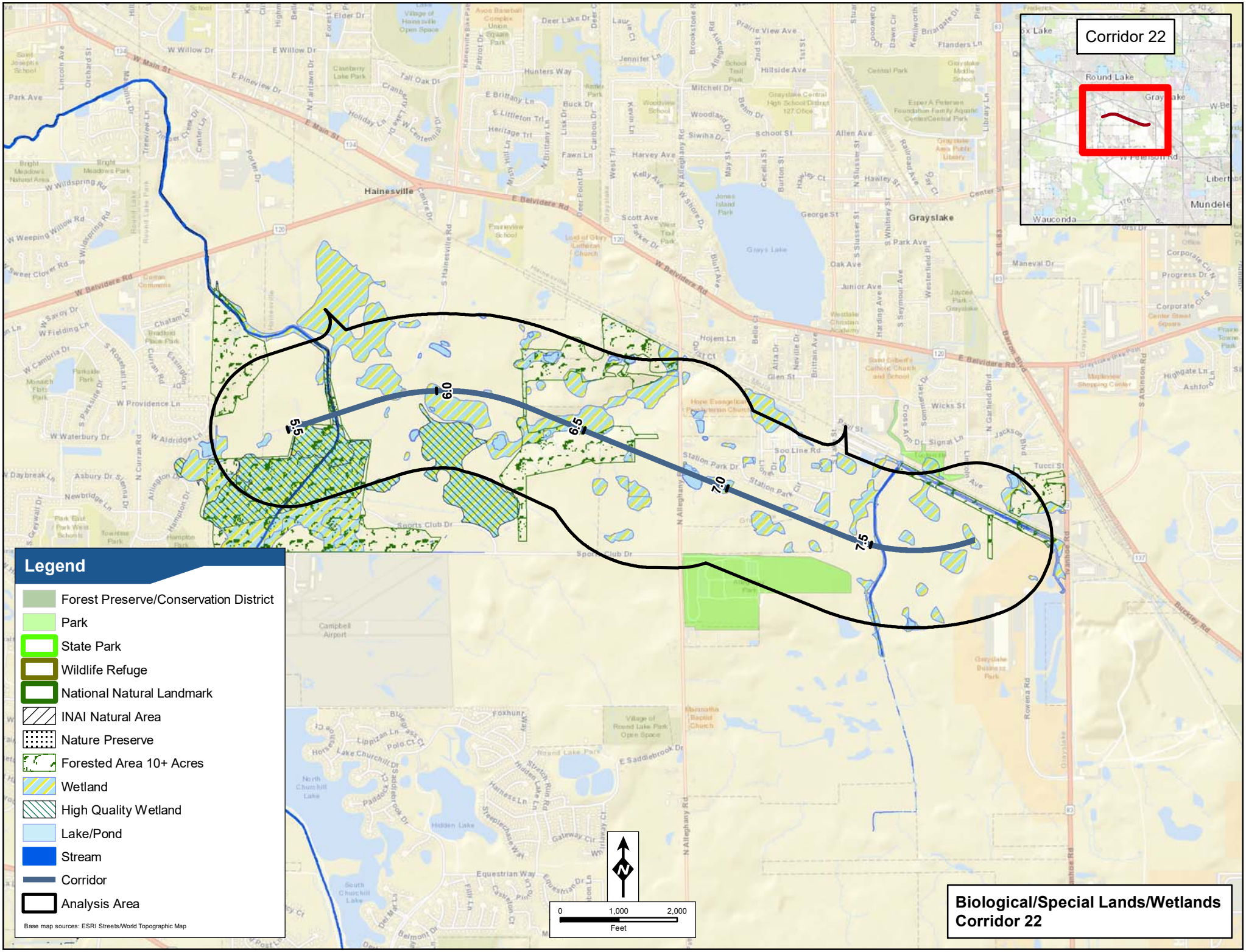

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 18
16.0
15.5
15.0
14.5
14.0
Diamond Lake
Sylvan Lake
Hawthorn Woods
Mundelein
Lake Zurich
Vernon Hills
Libertyville
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 18

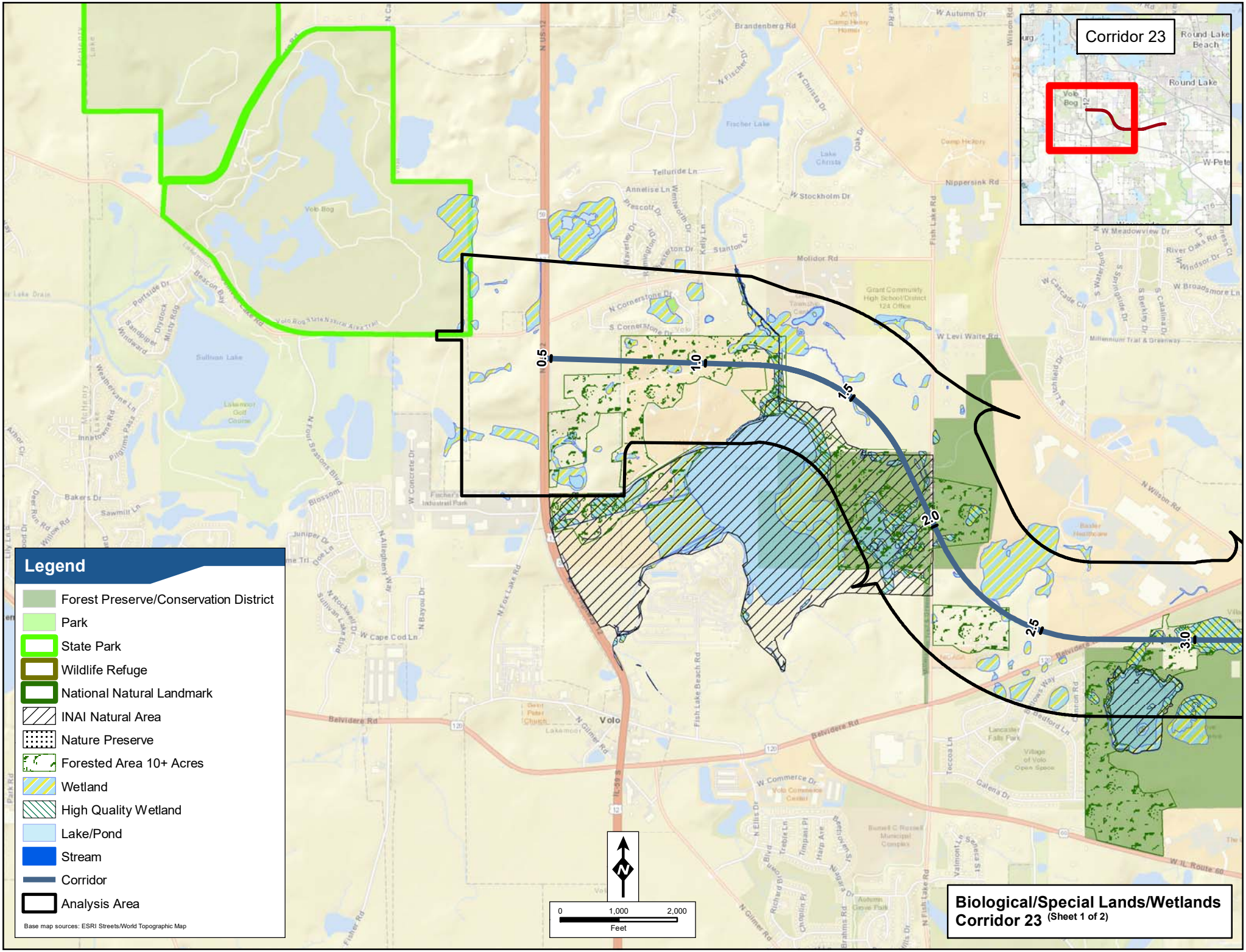

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 20
8.0
8.5
9.0
9.5
10.0
10.5
11.0
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 20 (Sheet 1 of 2)

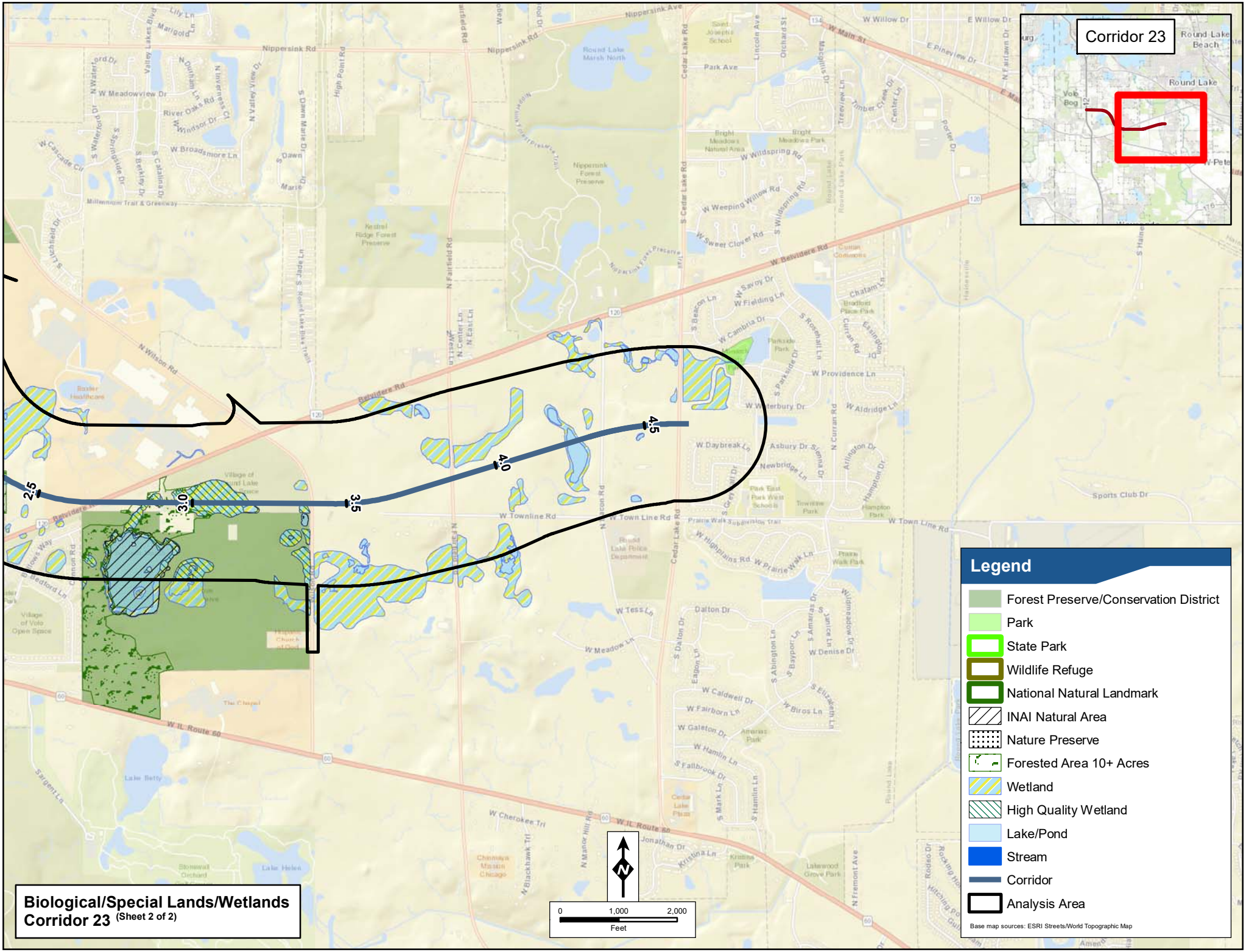

Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
Corridor 20
11.5
12.0
12.5
13.0
13.5
14.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 20 (Sheet 2 of 2)

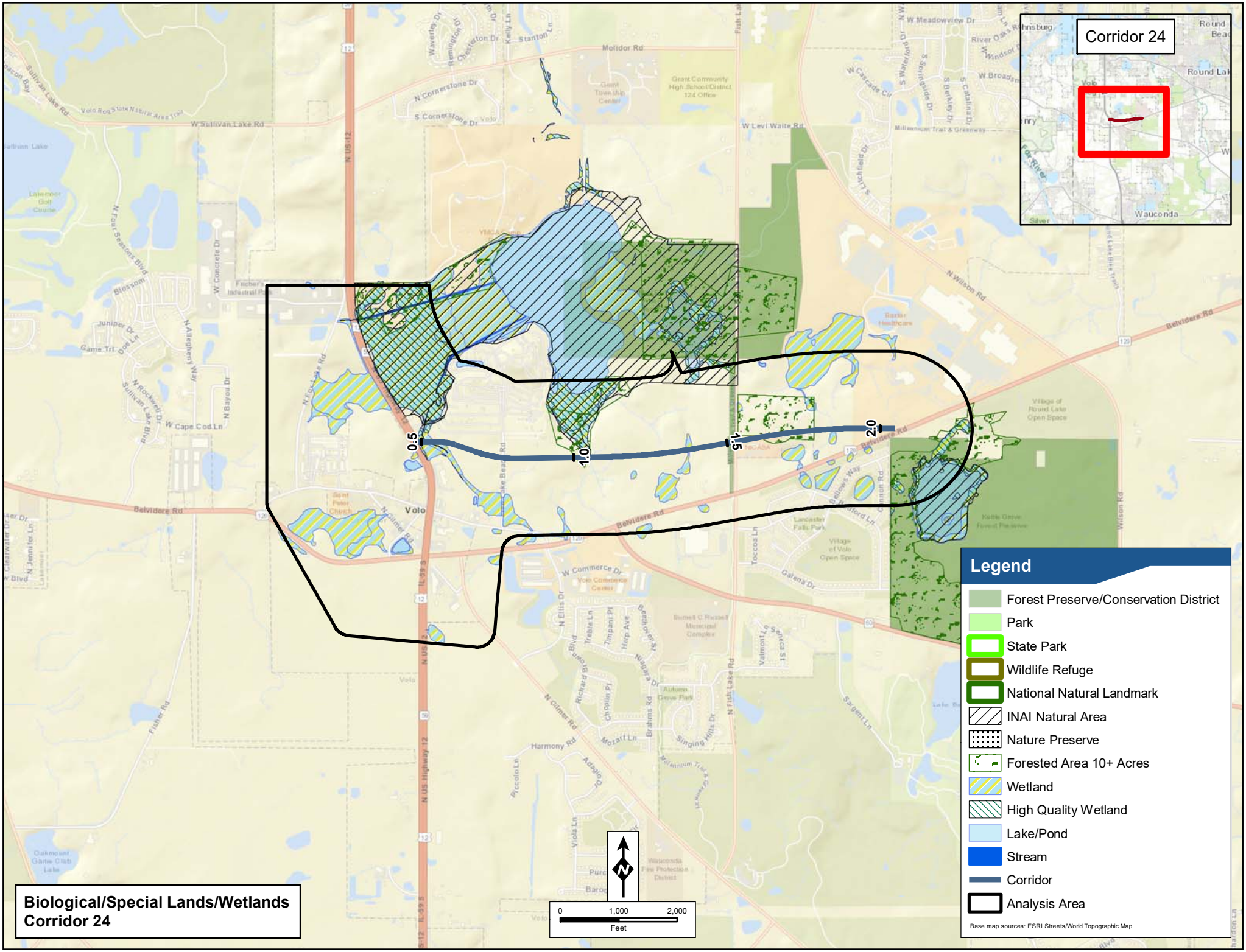

Corridor 21
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 21 (Sheet 1 of 2)

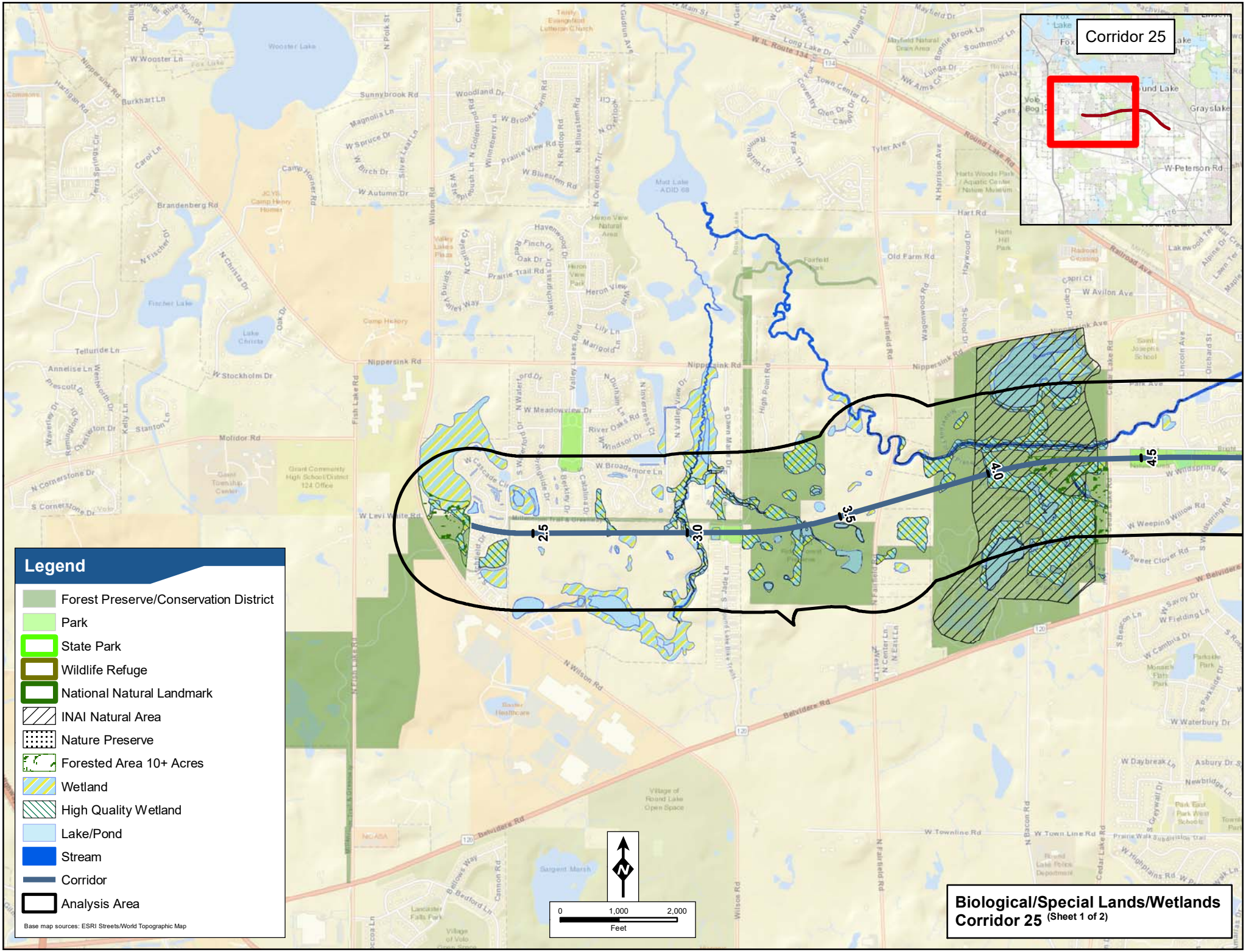

Corridor 21
Hainesville
4.5
5.0
5.5
6.0
6.5
7.0
7.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 21 (Sheet 2 of 2)

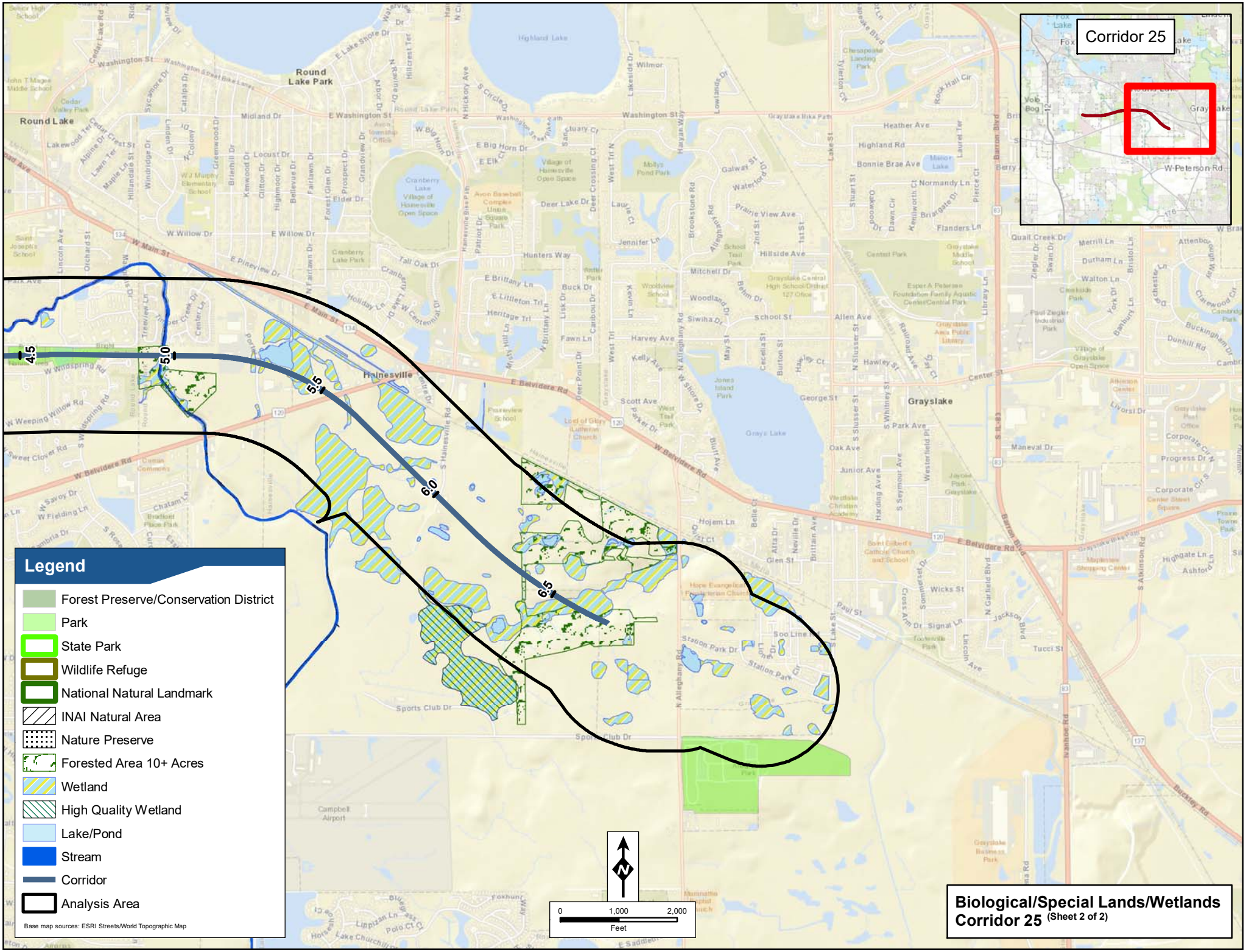

Corridor 22
Round Lake
Grayslake
Wauconda
Mundelein
Hainesville
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
5.5
6.0
6.5
7.0
7.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 22


Corridor 23
Round Lake Beach
Round Lake
Volo Bog
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0.5
1.0
1.5
2.0
2.5
3.0
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 23 (Sheet 1 of 2)


Corridor 23
Round Lake Beach
Round Lake
Volo Bog
2.5
3.0
3.5
4.0
4.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
N
Biological/Special Lands/Wetlands
Corridor 23 (Sheet 2 of 2)


Corridor 24
0.5
1.0
1.5
2.0
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 24


Corridor 25
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
2.5
3.0
3.5
4.0
4.5
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 25 (Sheet 1 of 2)


Corridor 25
W Peterson Rd
Round Lake Park
Round Lake
Highland Lake
Hainesville
Grayslake
Gray's Lake
Campbell Airport
4.5
5.0
5.5
6.0
6.5
Legend
Forest Preserve/Conservation District
Park
State Park
Wildlife Refuge
National Natural Landmark
INAI Natural Area
Nature Preserve
Forested Area 10+ Acres
Wetland
High Quality Wetland
Lake/Pond
Stream
Corridor
Analysis Area
Base map sources: ESRI Streets/World Topographic Map
N
0
1,000
2,000
Feet
Biological/Special Lands/Wetlands
Corridor 25 (Sheet 2 of 2)

Attachment B
Wetland and Open Water Feature Tables

Attachment B - Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	10.5	ADID-1671	Lake	7120006	PEMF	PEM	Y	157.66	2.08
1	13.4	ADID-1694	Lake	7120006	PFO1Ad	PFO	Y	97.62	1.00
1	14.2	ADID-1700	Lake	7120006	PEM	PEM	Y	4.38	1.65
1	14.2	ADID-1701	Lake	7120006	PEM	PEM	N	0.37	0.37
1	15.1	ADID-1706	Lake	7120006	PEM/UBF	PEM	Y	205.24	0.00
1	15.1	ADID-1707	Lake	7120006	PEM	PEM	N	1.18	1.18
1	16.3	ADID-1708	Lake	7120006	PEM/SS1As	PEM	Y	49.64	1.75
1	16.2	ADID-1716	Lake	7120006	PEM	PEM	N	0.13	0.13
1	18.5	ADID-1738	Lake	7120006	PEMCd	PEM	Y	111.23	20.21
1	22.7	ADID-1772	Lake	7120006	PUBF	PEM	N	39.73	6.82
1	27.1	ADID-1805	Lake	7120006	PEM/FO1C	PEM	N	30.75	2.22
1	31.8	ADID-1813	Lake	7120004	PEM	PEM	N	3.38	1.79
1	14	ADID-2100	Lake	7120006	PEM	PEM	N	0.48	0.48
1	23	ADID-2781	Lake	7120006	PEM	PEM	N	1.80	0.80
1	6.9	ADID-N 87	McHenry	7120006	PEM	PEM	N	1.41	1.05
1	3.3	ADID-N 315	McHenry	7120006	PFO	PFO	Y	0.50	0.50
1	4.8	ADID-N 380	McHenry	7120006	PEM	PEM	N	0.88	1.28
1	6	ADID-N 407	McHenry	7120006	PEM	PEM	N	0.69	0.69
1	6	ADID-N 409	McHenry	7120006	PEM	PEM	N	3.30	4.64
1	3.5	ADID-N 417	McHenry	7120006	PFO	PFO	N	808.31	177.74
1	8.1	ADID-N 420	McHenry	7120006	PFO	PFO	Y	6.51	5.95
1	8.2	ADID-N 425	McHenry	7120006	PEM	PEM	Y	1.41	0.62
1	7.7	ADID-N 426	McHenry	7120006	PFO	PFO	N	1.10	1.10
1	8.2	ADID-N 427	McHenry	7120006	PEM	PEM	Y	2.62	2.62
1	8.3	ADID-N 428	McHenry	7120006	PFO	PFO	Y	235.24	141.75
1	8.4	ADID-N 440	McHenry	7120006	PEM	PEM	Y	1.74	1.74
1	8.6	ADID-N 465	McHenry	7120006	PEM	PEM	Y	0.62	0.62
1	9.1	ADID-N 501	McHenry	7120006	PFO	PFO	N	12.57	7.76
1	9.2	ADID-N 528	McHenry	7120006	PFO	PFO	Y	37.95	22.75
1	9.9	ADID-N 536	McHenry	7120006	PFO	PFO	Y	0.37	0.37
1	9.9	ADID-N 546	Lake, McHenry	7120006	PFO1As	PFO	N	23.06	16.33
1	9.5	ADID-N 557	McHenry	7120006	PFO	PFO	N	1.18	0.90
1	4.7	AI-106	McHenry	7120006	PEM	PEM	N	2.73	2.73
1	9.6	AI-112	McHenry	7120006	PFO	PFO	Y	0.26	0.26
1	31.8	AI-71	Lake, Cook	7120004	PEM	PEM	N	0.00	0.00
1	29	AI-73	Lake	7120004	PEM	PEM	N	0.05	0.05
1	17.9	AI-74	Lake	7120006	PEM	PEM	N	0.12	0.12
1	15.4	AI-75	Lake	7120006	PEM	PEM	N	0.05	0.05
1	3.8	AI-76	McHenry	7120006	PEM	PEM	N	0.28	0.28
1	10.3	AI-93	Lake	7120006	PEM	PEM	N	0.00	0.00
1	9.9	AI-96	McHenry	7120006	PFO	PFO	N	0.01	0.01
1	9.7	AI-97	McHenry	7120006	PFO	PFO	Y	0.00	0.00
1	31.8	NWI-12822	Cook	7120004	PEM	PEM	Y	136.43	3.75
1	31.8	NWI-12836	Cook	7120004	PEM	PEM	Y	5.75	3.55
1	3.4	NWI-1485	McHenry	7120006	PFO	PFO	N	0.64	0.34
1	3.3	NWI-1889	McHenry	7120006	PFO	PFO	N	0.29	0.29
1	3.5	NWI-1962	McHenry	7120006	PFO	PFO	Y	1.50	1.05
1	4.3	NWI-2183	McHenry	7120006	<Null>	PEM	N	0.12	0.12
1	4	NWI-2186	McHenry	7120006	PEM	PEM	Y	4.29	0.70
1	4	NWI-2195	McHenry	7120006	PFO	PFO	N	0.29	0.01
1	7.7	NWI-2326	McHenry	7120006	PFO	PFO	Y	11.17	8.76
1	5	NWI-2334	McHenry	7120006	PFO	PFO	N	0.26	0.06
1	6.2	NWI-2371	McHenry	7120006	PFO	PFO	N	6.63	4.36
1	5.1	NWI-2422	McHenry	7120006	PFO	PFO	N	0.03	0.03
1	5	NWI-2445	McHenry	7120006	PFO	PFO	N	1.06	0.45
1	5.5	NWI-2458	McHenry	7120006	PFO	PFO	N	0.06	0.06
1	7.6	NWI-2466	McHenry	7120006	PFO	PFO	N	2.86	2.86
1	5.2	NWI-2501	McHenry	7120006	PEM	PEM	N	0.02	0.02
1	7.8	NWI-2557	McHenry	7120006	PFO	PFO	N	2.97	2.97
1	7.9	NWI-2573	McHenry	7120006	PFO	PFO	Y	3.86	3.86
1	7.9	NWI-2574	McHenry	7120006	PFO	PFO	N	0.37	0.37
1	8	NWI-2576	McHenry	7120006	PFO	PFO	N	0.00	0.00
1	7.9	NWI-2583	McHenry	7120006	PFO	PFO	Y	6.78	6.78
1	8	NWI-2604	McHenry	7120006	PFO	PFO	N	0.92	0.92
1	8.5	NWI-2606	McHenry	7120006	PEM	PEM	Y	12.39	2.69
1	7.6	NWI-2613	McHenry	7120006	PFO	PFO	N	0.79	0.79
1	8.6	NWI-2712	McHenry	7120006	PEM	PEM	Y	7.20	2.82
1	8.3	NWI-2728	McHenry	7120006	PEM	PEM	Y	2.56	2.56
1	8.5	NWI-2794	McHenry	7120006	PFO	PFO	N	0.42	0.42
1	8.6	NWI-2821	McHenry	7120006	PEM	PEM	Y	0.08	0.01
1	8.6	NWI-2852	McHenry	7120006	PEM	PEM	Y	0.10	0.10
1	8.7	NWI-2914	McHenry	7120006	PEM	PEM	Y	0.18	0.18
1	8.8	NWI-2923	McHenry	7120006	PFO	PFO	Y	0.87	0.87
1	8.9	NWI-3048	McHenry	7120006	PFO	PFO	Y	0.44	0.44
1	9	NWI-3111	McHenry	7120006	PFO	PFO	Y	0.15	0.15
1	9.1	NWI-3156	McHenry	7120006	PEM	PEM	Y	0.91	0.91
1	9.9	NWI-3195	McHenry	7120006	PFO	PFO	Y	1.24	0.01
1	9.5	NWI-3199	McHenry	7120006	PEM	PEM	Y	2.35	2.35
1	9.9	NWI-3211	McHenry	7120006	PEM	PEM	Y	1.09	1.08
1	9.5	NWI-3230	McHenry	7120006	PEM	PEM	Y	0.05	0.05
1	9.8	NWI-3252	McHenry	7120006	PEM	PEM	Y	0.12	0.12
1	9.6	NWI-3263	McHenry	7120006	PFO	PFO	Y	6.47	6.47
1	9.9	NWI-3287	McHenry	7120006	PFO	PFO	Y	0.08	0.08
1	9.7	NWI-3300	McHenry	7120006	PFO	PFO	Y	0.04	0.04

Attachment B - Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	9.3	NWI-3318	McHenry	7120006	PFO	PFO	N	2.00	1.64
1	9.4	NWI-3326	McHenry	7120006	PFO	PFO	N	10.43	1.38
1	9.8	NWI-3332	McHenry	7120006	PFO	PFO	N	0.37	0.37
1	9.9	NWI-3351	Lake, McHenry	7120006	PEM	PEM	N	0.66	0.36
1	9.5	NWI-3426	McHenry	7120006	PFO	PFO	N	0.05	0.01
1	31.6	WRAPP-103	Lake	7120004	PEM/FO1Cd	PEM	N	1.76	1.76
1	31.6	WRAPP-110	Lake	7120004	PUBGx	PEM	N	0.03	0.03
1	31.8	WRAPP-118	Lake	7120004	L1UBHh	PEM	N	0.03	0.01
1	30.4	WRAPP-12185	Lake	7120004	PEMCd	PEM	N	2.54	1.46
1	30.3	WRAPP-12188	Lake	7120004	PFO1Ad	PFO	N	1.93	1.60
1	30.3	WRAPP-12227	Lake	7120004	PEMCd	PEM	N	0.82	0.82
1	30.5	WRAPP-12228	Lake	7120004	PEM/SS1Cd	PEM	N	0.43	0.42
1	30.2	WRAPP-12229	Lake	7120004	PUBG	PEM	N	0.14	0.14
1	30.2	WRAPP-12230	Lake	7120004	PEMF	PEM	N	1.21	1.21
1	29.4	WRAPP-12231	Lake	7120004	PFO1Ad	PFO	N	0.33	0.07
1	29.3	WRAPP-12232	Lake	7120004	PUBGx	PEM	N	0.17	0.17
1	29.3	WRAPP-12233	Lake	7120004	PEM/UBFx	PEM	N	0.60	0.60
1	29.3	WRAPP-12234	Lake	7120004	PEM/FO1Cd	PEM	N	7.24	7.24
1	29.9	WRAPP-12235	Lake	7120004	PUBHh	PEM	N	0.40	0.26
1	29.9	WRAPP-12236	Lake	7120004	R4SBC	PEM	N	0.06	0.06
1	29.9	WRAPP-12237	Lake	7120004	R4SBC	PEM	N	0.14	0.14
1	29.9	WRAPP-12238	Lake	7120004	R4SBC	PEM	N	0.12	0.12
1	29.3	WRAPP-12240	Lake	7120004	PEM/FO1C	PEM	N	0.37	0.37
1	29.3	WRAPP-12241	Lake	7120004	PEM/FO1Cd	PEM	N	0.91	0.91
1	29.3	WRAPP-12242	Lake	7120004	R4SBCx	PEM	N	0.18	0.07
1	29.4	WRAPP-12243	Lake	7120004	R4SBCx	PEM	N	0.40	0.07
1	28.9	WRAPP-12245	Lake	7120004	PUBGx	PEM	N	0.34	0.34
1	29.6	WRAPP-12246	Lake	7120004	PEMC	PEM	N	1.30	1.30
1	28.9	WRAPP-12248	Lake	7120004	PEM/SS1C	PEM	N	2.68	2.68
1	28.9	WRAPP-12249	Lake	7120004	PUBGx	PEM	N	0.56	0.56
1	28.8	WRAPP-12250	Lake	7120004	PUBGx	PEM	N	1.49	1.49
1	30	WRAPP-12266	Lake	7120004	R4SBCx	PEM	N	0.09	0.05
1	30	WRAPP-12273	Lake	7120004	PUBGx	PEM	N	0.04	0.04
1	30.4	WRAPP-12278	Lake	7120004	R4SBCx	PEM	N	0.40	0.03
1	30.6	WRAPP-12283	Lake	7120004	PEM/FO1Cd	PEM	N	0.26	0.26
1	30.7	WRAPP-12284	Lake	7120004	PUBHh	PEM	N	0.08	0.05
1	31.3	WRAPP-12288	Lake	7120004	PFO1C	PFO	N	1.39	0.38
1	31	WRAPP-12289	Lake	7120004	PEMC	PEM	N	1.00	1.00
1	30.6	WRAPP-12291	Lake	7120004	R4SBA	PEM	N	0.08	0.05
1	30.8	WRAPP-12293	Lake	7120004	L2UBHx	PEM	N	0.08	0.02
1	31.6	WRAPP-12299	Lake	7120004	PEMCx	PEM	N	0.66	0.66
1	30.7	WRAPP-12300	Lake	7120004	PEMFx	PEM	N	5.56	1.21
1	31.6	WRAPP-12302	Lake	7120004	PEMFd	PEM	N	2.65	2.65
1	31.8	WRAPP-12304	Lake	7120004	PUBHx	PEM	N	0.02	0.02
1	31.4	WRAPP-12322	Lake	7120004	PEM/FO1A	PEM	N	0.81	0.81
1	31.4	WRAPP-12323	Lake	7120004	PEMFx	PEM	N	0.10	0.10
1	31.5	WRAPP-12324	Lake	7120004	PEM/FO1Cd	PEM	N	1.50	1.50
1	31.6	WRAPP-12325	Lake	7120004	PFO1A	PFO	N	1.10	1.10
1	31.8	WRAPP-12329	Lake	7120004	PEMFd	PEM	N	7.83	4.28
1	31.8	WRAPP-12330	Lake	7120004	PFO1A	PFO	N	4.03	2.71
1	31.3	WRAPP-124	Lake	7120004	PEMA	PEM	N	0.61	0.61
1	30.5	WRAPP-13	Lake	7120004	PFO1Ad	PFO	N	1.35	1.35
1	31.4	WRAPP-134	Lake	7120004	PEM/FO1Cd	PEM	N	3.93	1.69
1	10.5	WRAPP-13863	Lake	7120006	PFO1Cs	PFO	N	0.97	0.97
1	10.9	WRAPP-13865	Lake	7120006	PFO1Ad	PFO	Y	1.35	1.35
1	11.1	WRAPP-13866	Lake	7120006	PFO1Ad	PFO	N	0.95	0.95
1	12.8	WRAPP-13873	Lake	7120006	PUBFx	PEM	N	0.01	0.01
1	12.5	WRAPP-13875	Lake	7120006	PEMCd	PEM	N	0.16	0.16
1	12.5	WRAPP-13877	Lake	7120006	PEMCd	PEM	N	0.17	0.17
1	13.6	WRAPP-13886	Lake	7120006	PEM/FO1Cd	PEM	N	15.90	1.22
1	13.5	WRAPP-13889	Lake	7120006	PEMC	PEM	N	0.91	0.39
1	31.3	WRAPP-142	Lake	7120004	PEMC	PEM	N	0.37	0.33
1	30.6	WRAPP-146	Lake	7120004	PEMCx	PEM	N	0.19	0.19
1	30.6	WRAPP-148	Lake	7120004	PEM/UBFx	PEM	N	1.22	1.22
1	31	WRAPP-153	Lake	7120004	PUBGx	PEM	N	0.01	0.01
1	31.1	WRAPP-154	Lake	7120004	PEMAd	PEM	N	0.48	0.48
1	31.3	WRAPP-157	Lake	7120004	PUBGx	PEM	N	0.48	0.41
1	30.7	WRAPP-158	Lake	7120004	PUBGx	PEM	N	0.18	0.18
1	31	WRAPP-159	Lake	7120004	PEM/UBF	PEM	N	0.30	0.30
1	30.4	WRAPP-162	Lake	7120004	PEM/FO1Ad	PEM	N	0.74	0.74
1	10.6	WRAPP-16467	Lake	7120006	PFO1/SS1Cd	PFO	N	6.10	6.10
1	30.9	WRAPP-165	Lake	7120004	PUBGx	PEM	N	0.10	0.10
1	30.9	WRAPP-166	Lake	7120004	PUBGx	PEM	N	0.04	0.04
1	30.3	WRAPP-16670	Lake	7120004	PUBGx	PEM	N	1.09	1.09
1	29	WRAPP-16671	Lake	7120004	PEMFx	PEM	N	0.11	0.11
1	30.6	WRAPP-16672	Lake	7120004	PEMCx	PEM	N	0.12	0.12
1	30.7	WRAPP-167	Lake	7120004	PEMA	PEM	N	1.70	1.70
1	27.2	WRAPP-16703	Lake	7120006	PEMCd	PEM	Y	1.41	1.41
1	25.9	WRAPP-16774	Lake	7120006	PEM/FO1C	PEM	N	0.36	0.36
1	25.9	WRAPP-16775	Lake	7120006	PFO1Cd	PFO	N	1.34	1.34
1	21.3	WRAPP-16782	Lake	7120006	PEMAd	PEM	N	0.06	0.06
1	21.3	WRAPP-16783	Lake	7120006	R2UBHx	PEM	N	1.40	0.12
1	21.3	WRAPP-16785	Lake	7120006	PEMCx	PEM	N	0.02	0.02
1	23.9	WRAPP-16799	Lake	7120006	PFO1A	PFO	N	0.17	0.17

Attachment B - Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	30.3	WRAPP-168	Lake	7120004	PUBGh	PEM	N	0.05	0.05
1	23.8	WRAPP-16800	Lake	7120006	PFO1A	PFO	N	0.13	0.13
1	30.9	WRAPP-169	Lake	7120004	PEM/FO1C	PEM	N	0.30	0.30
1	28.6	WRAPP-16967	Lake	7120006	PEM/UBFx	PEM	N	3.64	1.39
1	28.2	WRAPP-16998	Lake	7120006	PEMA	PEM	N	0.32	0.32
1	30.4	WRAPP-170	Lake	7120004	PEMFx	PEM	N	0.88	0.88
1	28.3	WRAPP-17000	Lake	7120006	PUBGx	PEM	N	0.33	0.33
1	28.4	WRAPP-17001	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	28.2	WRAPP-17008	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	27.9	WRAPP-17010	Lake	7120006	PUBHh	PEM	N	0.03	0.03
1	28.2	WRAPP-17012	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	27.8	WRAPP-17014	Lake	7120006	PEMCx	PEM	N	0.02	0.02
1	28	WRAPP-17018	Lake	7120006	PEMCx	PEM	N	0.01	0.01
1	27.9	WRAPP-17027	Lake	7120006	PUBGx	PEM	N	0.14	0.14
1	28	WRAPP-17030	Lake	7120006	PEM/UBFx	PEM	N	1.47	1.47
1	27.3	WRAPP-17041	Lake	7120006	PUBHx	PEM	N	0.09	0.04
1	27.3	WRAPP-17064	Lake	7120006	PEM/SS1Ax	PEM	N	0.39	0.39
1	27	WRAPP-17082	Lake	7120006	PUBGx	PEM	N	0.12	0.12
1	26.9	WRAPP-17088	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	26.9	WRAPP-17095	Lake	7120006	PSS1Ad	PSS	N	0.36	0.36
1	26.4	WRAPP-17138	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	26.4	WRAPP-17140	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	26.4	WRAPP-17141	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	26.3	WRAPP-17150	Lake	7120006	PEMC	PEM	N	3.00	3.00
1	26.2	WRAPP-17156	Lake	7120006	PEMC	PEM	N	2.05	2.05
1	26	WRAPP-17176	Lake	7120006	PEMCx	PEM	N	0.03	0.03
1	25.9	WRAPP-17180	Lake	7120006	R2UBHx	PEM	N	0.74	0.36
1	25.8	WRAPP-17210	Lake	7120006	PEMFx	PEM	N	0.46	0.46
1	25.7	WRAPP-17227	Lake	7120006	PFO1C	PFO	N	2.15	2.15
1	25.7	WRAPP-17230	Lake	7120006	PUBGx	PEM	N	0.04	0.04
1	25.6	WRAPP-17233	Lake	7120006	PEMC	PEM	N	6.17	0.13
1	25.3	WRAPP-17263	Lake	7120006	PEMA	PEM	N	0.26	0.26
1	25.3	WRAPP-17267	Lake	7120006	PEM/FO1C	PEM	N	3.00	2.76
1	25.3	WRAPP-17268	Lake	7120006	PUBGx	PEM	N	0.09	0.09
1	25.3	WRAPP-17270	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	25.1	WRAPP-17284	Lake	7120006	PUBGx	PEM	N	0.05	0.05
1	25.1	WRAPP-17289	Lake	7120006	PUBGx	PEM	N	0.17	0.05
1	25	WRAPP-17290	Lake	7120006	PEMA	PEM	N	0.15	0.15
1	24.9	WRAPP-17301	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	24.9	WRAPP-17304	Lake	7120006	PFO1C	PFO	N	0.47	0.47
1	24.8	WRAPP-17307	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	24.9	WRAPP-17308	Lake	7120006	PUBGx	PEM	N	0.04	0.04
1	24.8	WRAPP-17309	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	24.8	WRAPP-17315	Lake	7120006	PUBGx	PEM	N	0.04	0.04
1	24.7	WRAPP-17324	Lake	7120006	L2UBHx	PEM	N	1.48	0.03
1	24.6	WRAPP-17326	Lake	7120006	PUBGx	PEM	N	0.24	0.24
1	24.6	WRAPP-17327	Lake	7120006	PSS1Ad	PSS	N	0.21	0.21
1	24.6	WRAPP-17334	Lake	7120006	PUBKx	PEM	N	0.12	0.12
1	24.5	WRAPP-17341	Lake	7120006	PUBKx	PEM	N	0.11	0.11
1	24.6	WRAPP-17357	Lake	7120006	PEM/FO1Cd	PEM	N	1.21	1.21
1	24.4	WRAPP-17362	Lake	7120006	PEMAf	PEM	N	0.61	0.61
1	24.1	WRAPP-17376	Lake	7120006	PFO1A	PFO	N	0.24	0.01
1	24.1	WRAPP-17384	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	24	WRAPP-17386	Lake	7120006	PEMF	PEM	N	0.22	0.22
1	24.1	WRAPP-17392	Lake	7120006	R4SBC	PEM	N	0.73	0.16
1	23.9	WRAPP-17394	Lake	7120006	PFO1C	PFO	N	0.05	0.05
1	24	WRAPP-17396	Lake	7120006	PSS1Cd	PSS	N	0.22	0.22
1	24	WRAPP-17400	Lake	7120006	PEM/SS1Cd	PEM	N	0.31	0.31
1	23.9	WRAPP-17407	Lake	7120006	PEMAx	PEM	N	0.06	0.06
1	23.9	WRAPP-17408	Lake	7120006	PEMAx	PEM	N	0.08	0.08
1	23.6	WRAPP-17411	Lake	7120006	PFO1A	PFO	N	0.95	0.90
1	23.9	WRAPP-17415	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	23.9	WRAPP-17416	Lake	7120006	PEMC	PEM	N	0.09	0.07
1	23.5	WRAPP-17429	Lake	7120006	PFO1C	PFO	Y	0.96	0.96
1	23.1	WRAPP-17437	Lake	7120006	PEM/FO1C	PEM	N	1.81	1.81
1	22.5	WRAPP-17443	Lake	7120006	PUBGx	PEM	N	0.03	0.03
1	23	WRAPP-17448	Lake	7120006	PUBHx	PEM	N	0.02	0.02
1	23.4	WRAPP-17450	Lake	7120006	PUBGx	PEM	Y	0.59	0.03
1	22.3	WRAPP-17460	Lake	7120006	PUBHx	PEM	N	0.04	0.04
1	22	WRAPP-17463	Lake	7120006	PEMCx	PEM	N	0.10	0.10
1	21.9	WRAPP-17465	Lake	7120006	PEM/UBFx	PEM	N	0.44	0.07
1	22.2	WRAPP-17466	Lake	7120006	PEMF	PEM	N	2.43	2.43
1	21.9	WRAPP-17475	Lake	7120006	PEM/UBGx	PEM	N	0.01	0.01
1	22.3	WRAPP-17484	Lake	7120006	PUBGx	PEM	N	0.03	0.03
1	22.3	WRAPP-17489	Lake	7120006	PUBHx	PEM	N	2.93	2.84
1	21.8	WRAPP-17499	Lake	7120006	PUBHx	PEM	N	0.11	0.11
1	21.9	WRAPP-17505	Lake	7120006	PEMCx	PEM	N	0.00	0.00
1	21.4	WRAPP-17515	Lake	7120006	PEMCx	PEM	N	0.05	0.05
1	21.4	WRAPP-17523	Lake	7120006	PEMFx	PEM	N	0.04	0.04
1	21.4	WRAPP-17524	Lake	7120006	PEMCx	PEM	N	0.02	0.02
1	21.3	WRAPP-17537	Lake	7120006	PEMCx	PEM	N	0.02	0.02
1	20.7	WRAPP-17598	Lake	7120006	PEMCx	PEM	N	0.21	0.21
1	20.3	WRAPP-17650	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	20.2	WRAPP-17653	Lake	7120006	PEMAx	PEM	N	0.05	0.03

Attachment B- Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	20.1	WRAPP-17678	Lake	7120006	PEMCx	PEM	N	0.11	0.11
1	20	WRAPP-17686	Lake	7120006	PEMAf	PEM	N	2.13	2.13
1	19.9	WRAPP-17694	Lake	7120006	PEMAf	PEM	N	0.06	0.01
1	19.9	WRAPP-17697	Lake	7120006	PUBHx	PEM	N	0.01	0.01
1	20	WRAPP-17699	Lake	7120006	PEMFx	PEM	N	1.30	1.30
1	19.8	WRAPP-17703	Lake	7120006	PEMAf	PEM	N	0.25	0.19
1	19.7	WRAPP-17706	Lake	7120006	PEMC	PEM	N	0.53	0.53
1	19.8	WRAPP-17707	Lake	7120006	PEMC	PEM	N	0.73	0.73
1	19.5	WRAPP-17733	Lake	7120006	PEMCf	PEM	N	9.17	0.44
1	19.5	WRAPP-17746	Lake	7120006	PEMCd	PEM	N	0.34	0.34
1	19.5	WRAPP-17752	Lake	7120006	PEMC	PEM	N	0.30	0.30
1	19.3	WRAPP-17755	Lake	7120006	PEM/FO1F	PEM	N	0.49	0.49
1	19.1	WRAPP-17782	Lake	7120006	PEMCd	PEM	N	0.62	0.62
1	18.8	WRAPP-17805	Lake	7120006	PEMAd	PEM	N	7.33	2.05
1	18.9	WRAPP-17818	Lake	7120006	PUBGx	PEM	N	0.05	0.05
1	18.6	WRAPP-17853	Lake	7120006	PEMAx	PEM	N	0.00	0.00
1	18.5	WRAPP-17874	Lake	7120006	PFO1Cd	PFO	N	0.21	0.21
1	18.5	WRAPP-17880	Lake	7120006	PEMCf	PEM	N	0.72	0.72
1	18.3	WRAPP-17892	Lake	7120006	PUBGx	PEM	Y	0.08	0.08
1	18.3	WRAPP-17895	Lake	7120006	PEMA	PEM	N	0.36	0.36
1	18.3	WRAPP-17906	Lake	7120006	PEMCf	PEM	N	5.00	4.15
1	18.1	WRAPP-17927	Lake	7120006	PEMA	PEM	N	0.01	0.01
1	18	WRAPP-17937	Lake	7120006	PEMA	PEM	N	0.20	0.20
1	18	WRAPP-17938	Lake	7120006	PEMA	PEM	N	0.21	0.21
1	18	WRAPP-17943	Lake	7120006	PEMA	PEM	N	0.04	0.04
1	18	WRAPP-17944	Lake	7120006	PEMA	PEM	N	0.09	0.09
1	18	WRAPP-17945	Lake	7120006	PEMC	PEM	N	0.78	0.78
1	18	WRAPP-17951	Lake	7120006	PEMC	PEM	N	0.02	0.02
1	18	WRAPP-17952	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	18	WRAPP-17960	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	18	WRAPP-17964	Lake	7120006	PUBGx	PEM	N	0.06	0.06
1	17.9	WRAPP-17966	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	17.8	WRAPP-17968	Lake	7120006	PEMAf	PEM	N	0.41	0.41
1	17.9	WRAPP-17969	Lake	7120006	PEMFd	PEM	N	0.60	0.60
1	17.8	WRAPP-17970	Lake	7120006	PEMA	PEM	N	0.06	0.06
1	17.7	WRAPP-17986	Lake	7120006	PEMAx	PEM	N	0.06	0.06
1	17.6	WRAPP-17989	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	17.7	WRAPP-17990	Lake	7120006	PEMCf	PEM	N	3.47	3.47
1	17.6	WRAPP-17992	Lake	7120006	PEMAf	PEM	N	0.09	0.02
1	17.6	WRAPP-17993	Lake	7120006	PEMCx	PEM	N	0.02	0.02
1	17.6	WRAPP-17995	Lake	7120006	PEM/FO1A	PEM	N	0.29	0.29
1	17.6	WRAPP-17998	Lake	7120006	PEMAf	PEM	N	0.19	0.19
1	17.6	WRAPP-17999	Lake	7120006	PEMCf	PEM	N	0.89	0.89
1	17.3	WRAPP-18037	Lake	7120006	PEMAf	PEM	N	9.48	9.48
1	17.3	WRAPP-18051	Lake	7120006	PEM/SS1C	PEM	N	17.72	0.98
1	17.1	WRAPP-18060	Lake	7120006	PEMCf	PEM	N	1.42	1.42
1	16.9	WRAPP-18094	Lake	7120006	PEMC	PEM	N	0.72	0.67
1	30.2	WRAPP-181	Lake	7120004	PEM/FO1C	PEM	N	1.65	1.65
1	16.9	WRAPP-18103	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	16.8	WRAPP-18108	Lake	7120006	PEMC	PEM	N	0.25	0.25
1	12.4	WRAPP-18221	Lake	7120006	PEMFd	PEM	N	62.69	25.40
1	16.6	WRAPP-18266	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	16.5	WRAPP-18275	Lake	7120006	PEM/SS1Ad	PEM	N	0.27	0.27
1	16.3	WRAPP-18296	Lake	7120006	PEMF	PEM	N	16.27	16.27
1	16.4	WRAPP-18300	Lake	7120006	PUBHx	PEM	N	0.02	0.00
1	15.9	WRAPP-18339	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	15.8	WRAPP-18360	Lake	7120006	PEMC	PEM	N	0.75	0.16
1	15.8	WRAPP-18374	Lake	7120006	PFO1C	PFO	N	0.00	0.00
1	15.7	WRAPP-18377	Lake	7120006	PEM/FO1C	PEM	N	0.73	0.73
1	15.8	WRAPP-18378	Lake	7120006	PEMC	PEM	N	3.43	3.43
1	15.6	WRAPP-18407	Lake	7120006	PFO1A	PFO	N	0.36	0.36
1	15.6	WRAPP-18416	Lake	7120006	PEM/SS1C	PEM	N	0.89	0.89
1	15.4	WRAPP-18437	Lake	7120006	PEMCf	PEM	N	0.34	0.34
1	15.3	WRAPP-18457	Lake	7120006	PEMAf	PEM	N	0.05	0.05
1	15.2	WRAPP-18461	Lake	7120006	PEMAf	PEM	N	0.24	0.24
1	15.3	WRAPP-18464	Lake	7120006	PEM/FO1C	PEM	N	1.13	1.13
1	15.2	WRAPP-18472	Lake	7120006	PEMCd	PEM	N	2.34	2.34
1	15.1	WRAPP-18497	Lake	7120006	PEMF	PEM	N	15.22	15.22
1	14.9	WRAPP-18515	Lake	7120006	PEMC	PEM	N	0.05	0.05
1	14.6	WRAPP-18551	Lake	7120006	PFO1C	PFO	N	0.17	0.17
1	14.5	WRAPP-18556	Lake	7120006	PFO1C	PFO	N	0.09	0.09
1	14.5	WRAPP-18576	Lake	7120006	PEMCx	PEM	N	1.20	1.08
1	14.4	WRAPP-18582	Lake	7120006	PEMC	PEM	N	0.91	0.48
1	14.4	WRAPP-18585	Lake	7120006	PEM/SS1Ax	PEM	N	0.28	0.23
1	14.4	WRAPP-18589	Lake	7120006	PFO1A	PFO	N	0.34	0.34
1	14.3	WRAPP-18605	Lake	7120006	L2UBHh	PEM	N	0.84	0.87
1	13.9	WRAPP-18639	Lake	7120006	PFO1C	PFO	N	0.37	0.05
1	13.7	WRAPP-18655	Lake	7120006	PUBGx	PEM	N	0.05	0.05
1	13.2	WRAPP-18698	Lake	7120006	PEM/FO1A	PEM	N	0.44	0.44
1	30.2	WRAPP-187	Lake	7120004	PFO1A	PFO	N	0.35	0.35
1	12.7	WRAPP-18714	Lake	7120006	PEMCx	PEM	N	0.01	0.01
1	12.7	WRAPP-18721	Lake	7120006	PEMCx	PEM	N	0.01	0.01
1	12.3	WRAPP-18747	Lake	7120006	PUBGx	PEM	N	0.08	0.08
1	12.3	WRAPP-18751	Lake	7120006	PUBGx	PEM	N	0.10	0.10

Appendix B - Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	12.4	WRAPP-18757	Lake	7120006	PUBGx	PEM	N	0.10	0.10
1	12.3	WRAPP-18758	Lake	7120006	PUBGx	PEM	N	0.03	0.03
1	11.8	WRAPP-18807	Lake	7120006	PEMFx	PEM	N	0.05	0.05
1	11.8	WRAPP-18814	Lake	7120006	PUBGx	PEM	N	0.84	0.84
1	14.2	WRAPP-18947	Lake	7120006	PEMC	PEM	Y	26.63	10.58
1	16.8	WRAPP-18953	Lake	7120006	PEMC	PEM	N	14.46	4.57
1	16.7	WRAPP-18958	Lake	7120006	PEMCd	PEM	N	2.72	0.64
1	23.8	WRAPP-18988	Lake	7120006	R4SBC	PEM	N	0.12	0.12
1	23.7	WRAPP-18991	Lake	7120006	PEMC	PEM	Y	12.00	6.03
1	21.3	WRAPP-18993	Lake	7120006	R2UBHx	PEM	N	0.14	0.14
1	14.2	WRAPP-19102	Lake	7120006	PSS1B	PSS	Y	12.77	1.63
1	27	WRAPP-19292	Lake	7120006	L2USJ	PEM	Y	0.12	0.12
1	26.9	WRAPP-19293	Lake	7120006	PFO1A	PFO	Y	0.25	0.25
1	26.8	WRAPP-19294	Lake	7120006	PFO1A	PFO	Y	0.02	0.02
1	26.6	WRAPP-19296	Lake	7120006	L2AB/UBH	PEM	Y	0.37	0.13
1	26.4	WRAPP-19313	Lake	7120006	PUBHx	PEM	N	0.01	0.01
1	26.4	WRAPP-19314	Lake	7120006	PFO1C	PFO	N	0.37	0.37
1	25.9	WRAPP-19325	Lake	7120006	PFO1Ad	PFO	N	0.52	0.39
1	25.9	WRAPP-19326	Lake	7120006	PSS1Ad	PSS	N	0.50	0.50
1	25.9	WRAPP-19327	Lake	7120006	PFO1Ad	PFO	N	0.43	0.31
1	25.9	WRAPP-19328	Lake	7120006	PFO1Ad	PFO	N	0.52	0.52
1	27.7	WRAPP-19331	Lake	7120006	PUBGx	PEM	N	0.01	0.00
1	27.8	WRAPP-19332	Lake	7120006	PEM/UBFx	PEM	N	1.52	1.52
1	27.6	WRAPP-19333	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	27.6	WRAPP-19334	Lake	7120006	PUBGx	PEM	N	0.04	0.04
1	27.5	WRAPP-19335	Lake	7120006	PUBGx	PEM	N	0.85	0.85
1	27.2	WRAPP-19337	Lake	7120006	PUBHx	PEM	N	0.07	0.04
1	27.1	WRAPP-19338	Lake	7120006	PUBHx	PEM	N	0.05	0.02
1	27	WRAPP-19343	Lake	7120006	PEM/FO1A	PEM	N	0.42	0.42
1	27.4	WRAPP-19344	Lake	7120006	PFO1A	PFO	N	0.76	0.76
1	28.1	WRAPP-19346	Lake	7120006	PUBGx	PEM	N	0.05	0.05
1	28.1	WRAPP-19347	Lake	7120006	PEM/UBFx	PEM	N	0.11	0.11
1	28.1	WRAPP-19348	Lake	7120006	PFO1A	PFO	N	0.48	0.48
1	28.4	WRAPP-19349	Lake	7120006	PUBGx	PEM	N	0.04	0.04
1	28.3	WRAPP-19350	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	28.3	WRAPP-19352	Lake	7120006	PEM/UBFx	PEM	N	2.06	2.06
1	28.3	WRAPP-19353	Lake	7120006	PEM/UBF	PEM	N	4.72	4.73
1	27.8	WRAPP-19354	Lake	7120006	PEMF	PEM	N	1.04	1.04
1	27.9	WRAPP-19356	Lake	7120006	PEMFx	PEM	N	0.79	0.79
1	28.4	WRAPP-19357	Lake	7120006	PUBGx	PEM	N	0.22	0.22
1	30.2	WRAPP-194	Lake	7120004	PUBGx	PEM	N	0.01	0.01
1	24.3	WRAPP-19430	Lake	7120006	PUBGx	PEM	N	0.16	0.16
1	24.1	WRAPP-19435	Lake	7120006	PUBGx	PEM	N	0.01	0.01
1	24	WRAPP-19441	Lake	7120006	R4SBC	PEM	N	0.39	0.39
1	24	WRAPP-19442	Lake	7120006	PFO1A	PFO	N	0.26	0.26
1	23.8	WRAPP-19443	Lake	7120006	PFO1A	PFO	N	0.11	0.11
1	23.8	WRAPP-19444	Lake	7120006	PFO1A	PFO	N	1.35	1.35
1	23.8	WRAPP-19445	Lake	7120006	PFO1A	PFO	N	0.69	0.69
1	23.9	WRAPP-19446	Lake	7120006	PEM/FO1Ad	PEM	N	1.00	1.00
1	24.1	WRAPP-19447	Lake	7120006	PEMCd	PEM	N	0.12	0.12
1	24	WRAPP-19448	Lake	7120006	PFO1A	PFO	N	0.20	0.20
1	24.7	WRAPP-19454	Lake	7120006	PUBGx	PEM	N	0.06	0.06
1	24.5	WRAPP-19456	Lake	7120006	PFO1Cd	PFO	N	1.01	1.01
1	25.6	WRAPP-19458	Lake	7120006	PUBGx	PEM	N	0.62	0.62
1	25.6	WRAPP-19459	Lake	7120006	PEMC	PEM	N	0.12	0.12
1	25	WRAPP-19462	Lake	7120006	PEMC	PEM	N	0.23	0.23
1	25	WRAPP-19463	Lake	7120006	PUBGx	PEM	N	0.05	0.05
1	25	WRAPP-19464	Lake	7120006	PUBHx	PEM	N	0.06	0.06
1	25.5	WRAPP-19473	Lake	7120006	PEMF	PEM	N	5.29	4.19
1	25.4	WRAPP-19474	Lake	7120006	PEM/SS1Cd	PEM	N	3.14	3.10
1	25.9	WRAPP-19475	Lake	7120006	PSS1Ad	PSS	N	0.29	0.09
1	25.8	WRAPP-19478	Lake	7120006	PSS1Ad	PSS	N	0.28	0.06
1	23.4	WRAPP-19547	Lake	7120006	PEM/FO1C	PEM	Y	1.30	0.09
1	23.7	WRAPP-19559	Lake	7120006	PEMCx	PEM	N	0.20	0.20
1	30.3	WRAPP-201	Lake	7120004	PEM/FO1Cx	PEM	N	0.01	0.01
1	11.5	WRAPP-20241	Lake	7120006	PEMFd	PEM	N	2.43	2.43
1	11.5	WRAPP-20242	Lake	7120006	PUBGx	PEM	N	0.04	0.04
1	12.3	WRAPP-20243	Lake	7120006	PUBGx	PEM	N	0.17	0.17
1	12.3	WRAPP-20244	Lake	7120006	PEM/UBFx	PEM	N	0.21	0.21
1	12.7	WRAPP-20245	Lake	7120006	PEMCx	PEM	N	0.03	0.00
1	12.4	WRAPP-20250	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	12.4	WRAPP-20251	Lake	7120006	PUBGx	PEM	N	0.15	0.15
1	12.4	WRAPP-20252	Lake	7120006	PUBF	PEM	N	0.15	0.15
1	12.5	WRAPP-20255	Lake	7120006	PEMF	PEM	N	0.43	0.36
1	13.4	WRAPP-20362	Lake	7120006	PEMC	PEM	N	0.14	0.14
1	14.2	WRAPP-20371	Lake	7120006	PEMC	PEM	N	0.29	0.29
1	30.3	WRAPP-204	Lake	7120004	PEMCd	PEM	N	0.35	0.35
1	16.3	WRAPP-20477	Lake	7120006	L1UBH	PEM	Y	0.19	0.00
1	14.7	WRAPP-20494	Lake	7120006	PEMF	PEM	N	2.35	2.35
1	14.5	WRAPP-20496	Lake	7120006	PEMFd	PEM	N	11.28	11.28
1	14.4	WRAPP-20499	Lake	7120006	PEM/SS1B	PEM	N	2.92	1.25
1	14.9	WRAPP-20500	Lake	7120006	PEMCd	PEM	N	1.64	1.64
1	15.1	WRAPP-20501	Lake	7120006	PEMAf	PEM	N	0.33	0.33
1	15	WRAPP-20502	Lake	7120006	PEM/FO1Cd	PEM	N	13.20	4.12

Attachment B- Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	14.5	WRAPP-20508	Lake	7120006	PUBGx	PEM	N	1.00	0.16
1	14.7	WRAPP-20510	Lake	7120006	PEMC	PEM	N	0.60	0.60
1	15.1	WRAPP-20513	Lake	7120006	PUBGx	PEM	N	0.65	0.24
1	15	WRAPP-20514	Lake	7120006	PUBGx	PEM	N	0.62	0.62
1	14.9	WRAPP-20515	Lake	7120006	PUBGx	PEM	N	0.17	0.17
1	14.8	WRAPP-20516	Lake	7120006	PUBGx	PEM	N	0.39	0.39
1	15.9	WRAPP-20570	Lake	7120006	PEMCf	PEM	N	3.02	3.02
1	15.7	WRAPP-20572	Lake	7120006	PEMCd	PEM	N	1.71	0.14
1	15.5	WRAPP-20573	Lake	7120006	PEMA	PEM	N	0.67	0.67
1	16.1	WRAPP-20574	Lake	7120006	PEM/FO1Cd	PEM	N	0.86	0.86
1	16.1	WRAPP-20575	Lake	7120006	R4SBCx	PEM	Y	0.07	0.07
1	16.3	WRAPP-20576	Lake	7120006	PFO1A	PFO	N	1.81	1.79
1	16.6	WRAPP-20577	Lake	7120006	PEM/SS1Cd	PEM	N	3.76	3.76
1	16.5	WRAPP-20578	Lake	7120006	R4SBCx	PEM	Y	0.26	0.26
1	16.3	WRAPP-20579	Lake	7120006	R4SBCx	PEM	Y	47.66	41.05
1	16.5	WRAPP-20581	Lake	7120006	PEMC	PEM	N	1.22	1.22
1	16.7	WRAPP-20582	Lake	7120006	PEM/UBFx	PEM	N	0.03	0.03
1	16.5	WRAPP-20583	Lake	7120006	R4SBCx	PEM	N	2.59	2.59
1	16.5	WRAPP-20584	Lake	7120006	PEMCd	PEM	Y	0.12	0.12
1	16.2	WRAPP-20585	Lake	7120006	PSS1C	PSS	Y	1.34	0.32
1	16.5	WRAPP-20586	Lake	7120006	PEMCd	PEM	Y	3.04	3.04
1	16	WRAPP-20589	Lake	7120006	PFO1Ad	PFO	Y	3.46	3.46
1	16	WRAPP-20590	Lake	7120006	PFO1A	PFO	Y	1.02	1.02
1	16	WRAPP-20591	Lake	7120006	PEMCd	PEM	Y	6.35	2.84
1	15.8	WRAPP-20596	Lake	7120006	PFO1A	PFO	N	1.83	1.83
1	15.8	WRAPP-20598	Lake	7120006	PEMAf	PEM	N	0.24	0.24
1	16.9	WRAPP-20671	Lake	7120006	PEMC	PEM	N	0.52	0.52
1	16.6	WRAPP-20674	Lake	7120006	PEMA	PEM	N	0.12	0.12
1	16.9	WRAPP-20675	Lake	7120006	PSS1C	PSS	N	4.09	4.09
1	17.6	WRAPP-20706	Lake	7120006	PEMA	PEM	N	0.04	0.04
1	17.9	WRAPP-20707	Lake	7120006	PEMFd	PEM	N	1.63	1.63
1	17.9	WRAPP-20708	Lake	7120006	PEMA	PEM	N	0.26	0.26
1	17.8	WRAPP-20709	Lake	7120006	PEMC	PEM	N	0.38	0.38
1	17.7	WRAPP-20710	Lake	7120006	PEMC	PEM	N	2.20	2.20
1	17.8	WRAPP-20711	Lake	7120006	PEMAf	PEM	N	0.08	0.08
1	18	WRAPP-20712	Lake	7120006	PEMA	PEM	N	0.38	0.38
1	18.3	WRAPP-20713	Lake	7120006	PEM/FO1F	PEM	N	1.85	1.85
1	18.2	WRAPP-20714	Lake	7120006	PEMCx	PEM	Y	0.87	0.87
1	18.5	WRAPP-20715	Lake	7120006	PEMF	PEM	Y	4.39	4.39
1	18.6	WRAPP-20717	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	18.5	WRAPP-20718	Lake	7120006	PEM/FO1C	PEM	Y	1.55	1.55
1	17.7	WRAPP-20719	Lake	7120006	PEMAd	PEM	Y	1.18	0.83
1	17.7	WRAPP-20720	Lake	7120006	PEMCd	PEM	Y	33.73	1.12
1	19	WRAPP-20723	Lake	7120006	PUBHx	PEM	N	0.02	0.02
1	18.7	WRAPP-20725	Lake	7120006	PUBGx	PEM	Y	0.00	0.00
1	18.6	WRAPP-20726	Lake	7120006	PUBHh	PEM	Y	0.01	0.01
1	18.2	WRAPP-20730	Lake	7120006	PEMFd	PEM	Y	94.60	31.36
1	18.7	WRAPP-20811	Lake	7120006	PEMC	PEM	Y	0.69	0.54
1	18.8	WRAPP-20812	Lake	7120006	PEMC	PEM	Y	1.65	1.65
1	18.9	WRAPP-20813	Lake	7120006	PEM/FO1C	PEM	Y	0.68	0.68
1	19	WRAPP-20814	Lake	7120006	PEMF	PEM	N	0.62	0.62
1	19.1	WRAPP-20815	Lake	7120006	PEMAf	PEM	N	1.70	1.69
1	19	WRAPP-20816	Lake	7120006	PEMC	PEM	N	0.25	0.25
1	18.7	WRAPP-20818	Lake	7120006	PEMCd	PEM	Y	11.36	11.20
1	19.1	WRAPP-20819	Lake	7120006	PEMC	PEM	N	0.10	0.10
1	19.1	WRAPP-20820	Lake	7120006	PFO1A	PFO	N	0.22	0.22
1	19.3	WRAPP-20821	Lake	7120006	PEMCd	PEM	N	20.98	9.55
1	19.3	WRAPP-20823	Lake	7120006	PFO1Cd	PFO	N	0.66	0.66
1	19.4	WRAPP-20824	Lake	7120006	PEM/FO1Cd	PEM	N	0.68	0.68
1	19.4	WRAPP-20825	Lake	7120006	PEMCd	PEM	N	3.41	2.18
1	19.5	WRAPP-20826	Lake	7120006	PEMCf	PEM	N	0.40	0.40
1	18.7	WRAPP-20839	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	18.7	WRAPP-20840	Lake	7120006	PABF	PEM	N	0.00	0.00
1	18.6	WRAPP-20841	Lake	7120006	PEMF	PEM	N	12.19	12.19
1	19.3	WRAPP-20843	Lake	7120006	PEMCd	PEM	N	2.14	2.14
1	19.1	WRAPP-20844	Lake	7120006	PEM/FO1Cd	PEM	N	8.75	5.42
1	18.7	WRAPP-20845	Lake	7120006	PFO1Ad	PFO	N	1.19	0.03
1	19.3	WRAPP-20847	Lake	7120006	R2UBHx	PEM	N	2.42	0.20
1	19.3	WRAPP-20860	Lake	7120006	PEM/FO1Cd	PEM	N	2.88	1.71
1	19.1	WRAPP-20862	Lake	7120006	PEMC	PEM	N	0.63	0.63
1	19.1	WRAPP-20863	Lake	7120006	PEMC	PEM	N	1.91	1.91
1	19.6	WRAPP-20864	Lake	7120006	PEMAf	PEM	N	4.42	4.42
1	19.5	WRAPP-20865	Lake	7120006	PEMCd	PEM	N	4.56	1.20
1	19.2	WRAPP-20866	Lake	7120006	PEMAf	PEM	N	0.10	0.10
1	18.6	WRAPP-20867	Lake	7120006	PEMCd	PEM	N	3.83	2.42
1	18.7	WRAPP-20868	Lake	7120006	PUBGx	PEM	Y	0.04	0.04
1	18.7	WRAPP-20869	Lake	7120006	PUBGx	PEM	Y	0.02	0.02
1	18.7	WRAPP-20870	Lake	7120006	PFO1C	PFO	Y	1.91	1.91
1	18.6	WRAPP-20871	Lake	7120006	PUBGx	PEM	Y	0.06	0.06
1	20.5	WRAPP-20937	Lake	7120006	PEMCd	PEM	N	3.62	0.68
1	20.7	WRAPP-20938	Lake	7120006	PUBHx	PEM	N	0.07	0.07
1	20.4	WRAPP-20939	Lake	7120006	PUBHx	PEM	N	0.02	0.02
1	20.5	WRAPP-20941	Lake	7120006	PEM/UBFx	PEM	N	0.19	0.15
1	20.5	WRAPP-20942	Lake	7120006	PEMC	PEM	N	18.58	15.55

Attachment B - Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	19.6	WRAPP-20945	Lake	7120006	PUBGx	PEM	N	0.02	0.02
1	19.8	WRAPP-20946	Lake	7120006	PEMAf	PEM	N	1.12	1.12
1	19.9	WRAPP-20947	Lake	7120006	PEMCd	PEM	N	0.58	0.58
1	20	WRAPP-20948	Lake	7120006	PFO1Cd	PFO	N	0.48	0.48
1	20.1	WRAPP-20949	Lake	7120006	PEMCx	PEM	N	0.10	0.10
1	20	WRAPP-20950	Lake	7120006	PEMFx	PEM	N	0.18	0.18
1	19.7	WRAPP-20951	Lake	7120006	PEMCd	PEM	N	25.24	7.59
1	20.7	WRAPP-20952	Lake	7120006	PEMAx	PEM	N	0.20	0.20
1	20.4	WRAPP-20953	Lake	7120006	PEMC	PEM	N	0.28	0.28
1	20.6	WRAPP-20954	Lake	7120006	PEMCx	PEM	N	0.29	0.29
1	20.4	WRAPP-20955	Lake	7120006	PEMCd	PEM	N	0.13	0.13
1	20.4	WRAPP-20956	Lake	7120006	PEMCx	PEM	N	0.01	0.01
1	20.5	WRAPP-20960	Lake	7120006	PEM/SS1A	PEM	N	0.79	0.00
1	21.3	WRAPP-21017	Lake	7120006	PEMAd	PEM	N	0.16	0.16
1	21.3	WRAPP-21018	Lake	7120006	R2UBHx	PEM	N	0.22	0.22
1	21.3	WRAPP-21019	Lake	7120006	PFO1Cd	PFO	N	9.73	4.09
1	21.3	WRAPP-21022	Lake	7120006	R2UBHx	PEM	N	1.67	1.67
1	21.3	WRAPP-21023	Lake	7120006	R2UBHx	PEM	N	0.87	0.87
1	20.8	WRAPP-21026	Lake	7120006	PEM/FO1Cd	PEM	N	3.10	0.76
1	21	WRAPP-21027	Lake	7120006	R4SBCx	PEM	N	0.34	0.11
1	21.3	WRAPP-21037	Lake	7120006	PEM/FO1Cd	PEM	N	2.86	0.97
1	21	WRAPP-21038	Lake	7120006	R2UBHx	PEM	N	4.85	0.09
1	22	WRAPP-21160	Lake	7120006	PEM/FO1C	PEM	N	3.42	0.46
1	21.8	WRAPP-21162	Lake	7120006	PUBHx	PEM	N	0.13	0.13
1	22.1	WRAPP-21163	Lake	7120006	PEMF	PEM	N	3.77	3.77
1	22.3	WRAPP-21164	Lake	7120006	PEMCx	PEM	N	0.62	0.62
1	21.9	WRAPP-21167	Lake	7120006	PUBHx	PEM	N	0.02	0.02
1	22.1	WRAPP-21168	Lake	7120006	PUBF	PEM	N	0.12	0.12
1	21.8	WRAPP-21171	Lake	7120006	PFO1Ad	PFO	N	1.08	1.08
1	22	WRAPP-21173	Lake	7120006	PEM/UBFx	PEM	N	0.04	0.04
1	22	WRAPP-21174	Lake	7120006	PEM/FO1Cd	PEM	N	2.57	2.57
1	22.2	WRAPP-21179	Lake	7120006	PAB/UBF	PEM	N	0.45	0.45
1	22.9	WRAPP-21182	Lake	7120006	PUBHx	PEM	N	0.00	0.00
1	23.3	WRAPP-21183	Lake	7120006	PEM/UBFh	PEM	N	0.44	0.44
1	23.3	WRAPP-21184	Lake	7120006	PEM/FO1A	PEM	N	6.15	6.08
1	22.5	WRAPP-21186	Lake	7120006	PEMC	PEM	N	1.65	1.65
1	22.5	WRAPP-21187	Lake	7120006	PEM/UBF	PEM	N	0.16	0.16
1	22.5	WRAPP-21188	Lake	7120006	PFO1C	PFO	N	1.13	0.15
1	22.6	WRAPP-21189	Lake	7120006	PFO1A	PFO	N	0.85	0.85
1	23.1	WRAPP-21191	Lake	7120006	PFO1A	PFO	N	0.16	0.16
1	23.2	WRAPP-21192	Lake	7120006	PUBGx	PEM	Y	0.00	0.00
1	23.5	WRAPP-21193	Lake	7120006	PEM/FO1A	PEM	N	0.15	0.15
1	23.4	WRAPP-21194	Lake	7120006	PEMC	PEM	Y	0.07	0.07
1	23.2	WRAPP-21195	Lake	7120006	PEMA	PEM	Y	0.03	0.03
1	23.2	WRAPP-21196	Lake	7120006	R4SBCx	PEM	Y	0.01	0.01
1	22.8	WRAPP-21197	Lake	7120006	PSS1Ad	PSS	N	3.08	0.53
1	22.8	WRAPP-21198	Lake	7120006	PEM/FO1A	PEM	N	1.21	1.21
1	22.8	WRAPP-21199	Lake	7120006	PFO1A	PFO	N	0.83	0.83
1	22.8	WRAPP-21200	Lake	7120006	PEMA	PEM	N	0.10	0.01
1	23.4	WRAPP-21201	Lake	7120006	PEMA	PEM	Y	0.03	0.03
1	23.5	WRAPP-21202	Lake	7120006	PFO1C	PFO	N	0.03	0.03
1	23.5	WRAPP-21204	Lake	7120006	PFO1A	PFO	N	0.09	0.09
1	23.3	WRAPP-21224	Lake	7120006	L1UBHh	PEM	Y	0.33	0.08
1	22.8	WRAPP-21260	Lake	7120006	R4SBAx	PEM	N	82.57	0.97
1	22.7	WRAPP-21265	Lake	7120006	PEMCd	PEM	N	34.90	2.29
1	29.9	WRAPP-213	Lake	7120004	PUBGx	PEM	N	0.02	0.02
1	27.2	WRAPP-21720	Lake	7120006	PEMCd	PEM	N	29.74	8.86
1	29.9	WRAPP-219	Lake	7120004	PUBGx	PEM	N	0.02	0.02
1	30.2	WRAPP-220	Lake	7120004	PEM/FO1Cd	PEM	N	0.31	0.31
1	27.6	WRAPP-22056	Lake	7120006	PEMF	PEM	N	22.67	13.67
1	24.7	WRAPP-22057	Lake	7120006	PEMC	PEM	N	0.59	0.59
1	19.4	WRAPP-22093	Lake	7120006	PFO1Ad	PFO	N	2.24	0.79
1	19.4	WRAPP-22095	Lake	7120006	R4SBCx	PEM	N	0.21	0.06
1	19.1	WRAPP-22096	Lake	7120006	R4SBCx	PEM	N	0.25	0.25
1	25.9	WRAPP-22103	Lake	7120006	PUBGx	PEM	N	0.51	0.51
1	26	WRAPP-22104	Lake	7120006	PUBGx	PEM	N	0.13	0.13
1	25.9	WRAPP-22106	Lake	7120006	PFO1Ad	PFO	N	0.30	0.30
1	27.9	WRAPP-22168	Lake	7120006	PEMCx	PEM	N	0.11	0.11
1	28	WRAPP-22169	Lake	7120006	PEMCx	PEM	N	0.08	0.08
1	26.3	WRAPP-22172	Lake	7120006	PUBGx	PEM	N	0.00	0.00
1	26.3	WRAPP-22173	Lake	7120006	PEMCx	PEM	N	0.17	0.17
1	21.9	WRAPP-22192	Lake	7120006	PEM/FO1Cd	PEM	N	7.55	5.78
1	27.3	WRAPP-22217	Lake	7120006	PEMFx	PEM	N	0.21	0.21
1	27.3	WRAPP-22218	Lake	7120006	PUBGx	PEM	N	0.11	0.11
1	25.5	WRAPP-22219	Lake	7120006	PUBGx	PEM	N	0.51	0.51
1	25.6	WRAPP-22220	Lake	7120006	PUBGx	PEM	N	0.14	0.14
1	31.2	WRAPP-22308	Lake	7120004	PFO1C	PFO	N	1.40	1.40
1	30.2	WRAPP-225	Lake	7120004	PFO1A	PFO	N	0.35	0.19
1	29.8	WRAPP-227	Lake	7120004	PFO1Cd	PFO	N	0.25	0.25
1	29.6	WRAPP-243	Lake	7120004	PUBGx	PEM	N	0.22	0.22
1	29.7	WRAPP-252	Lake	7120004	PUBGx	PEM	N	0.02	0.02
1	12.3	WRAPP-2653	Lake	7120006	PEMCd	PEM	N	0.03	0.03
1	12.3	WRAPP-2654	Lake	7120006	PEMCd	PEM	N	0.08	0.08
1	12	WRAPP-2655	Lake	7120006	PEMAd	PEM	N	0.34	0.33

Attachment B - Table 1-1
Corridor 1 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
1	10.9	WRAPP-2667	Lake	7120006	PEMFd	PEM	N	2.18	2.18
1	10.8	WRAPP-2668	Lake	7120006	PEM/FO1Cd	PEM	Y	0.92	0.92
1	10.8	WRAPP-2669	Lake	7120006	PEMC	PEM	N	0.16	0.16
1	10.5	WRAPP-2670	Lake	7120006	PEMFd	PEM	N	9.58	9.58
1	10.5	WRAPP-2671	Lake	7120006	PEMFd	PEM	N	8.08	8.08
1	10.2	WRAPP-2672	Lake	7120006	PFO1As	PFO	N	0.57	0.57
1	10.5	WRAPP-2674	Lake	7120006	PEM/FO1Cd	PEM	Y	10.28	3.38
1	9.9	WRAPP-2692	Lake	7120006	PSS1/FO1C	PSS	Y	37.58	0.21
1	29.3	WRAPP-279	Lake	7120004	PFO1Cs	PFO	N	0.09	0.09
1	28.9	WRAPP-284	Lake	7120004	PEMAx	PEM	N	0.00	0.00
1	29.1	WRAPP-291	Lake	7120004	PFO1Cd	PFO	N	0.28	0.28
1	29	WRAPP-294	Lake	7120004	PUBFx	PEM	N	0.04	0.04
1	29.2	WRAPP-302	Lake	7120004	PEM/FO1C	PEM	N	4.27	4.26
1	29	WRAPP-310	Lake	7120004	PEM/FO1C	PEM	N	0.88	0.88
1	12.7	WRAPP-3121	Lake	7120006	PAB/FO1F	PEM	N	3.10	3.10
1	11.6	WRAPP-3179	Lake	7120006	PEM/FO1Cd	PEM	N	2.26	2.26
1	28.9	WRAPP-325	Lake	7120004	PEMFd	PEM	N	0.36	0.36
1	10.3	WRAPP-3274	Lake	7120006	PFO1Cd	PFO	N	0.33	0.33
1	10.1	WRAPP-3287	Lake	7120006	PAB/UBF	PEM	N	0.17	0.17
1	10.1	WRAPP-3303	Lake	7120006	PEMC	PEM	N	6.16	6.16
1	10	WRAPP-3312	Lake	7120006	PEM/UBF	PEM	N	2.18	2.18
1	28.5	WRAPP-348	Lake	7120004	PUBGx	PEM	N	0.04	0.04
1	10.1	WRAPP-4246	Lake	7120006	PEMF	PEM	N	2.36	2.36
1	10	WRAPP-4347	Lake	7120006	PEM/SS1C	PEM	Y	1.40	1.40
1	10	WRAPP-4348	Lake	7120006	PEM/SS1C	PEM	N	4.51	0.77
1	10	WRAPP-4349	Lake	7120006	PEM/SS1C	PEM	Y	8.32	4.44
1	9.9	WRAPP-4350	Lake	7120006	PEM/SS1C	PEM	Y	1.42	0.31
1	30.6	WRAPP-6255	Lake	7120004	R4SBCx	PEM	N	0.08	0.08
1	30.6	WRAPP-65	Lake	7120004	PEM/FO1Cd	PEM	N	0.37	0.37
1	29.9	WRAPP-68	Lake	7120004	R4SBC	PEM	N	0.10	0.10
1	31.7	WRAPP-86	Lake	7120004	PUBGx	PEM	N	0.01	0.01
1	31.5	WRAPP-89	Lake	7120004	PEMA	PEM	N	0.02	0.02
1	10.9	WRAPP-9585	Lake	7120006	L2ABHh	PEM	N	0.15	0.15
1	10.8	WRAPP-9589	Lake	7120006	L2ABHh	PEM	N	0.00	0.00
1	10.8	WRAPP-9593	Lake	7120006	L2ABHh	PEM	N	0.04	0.04
1	10.6	WRAPP-9594	Lake	7120006	L2ABHh	PEM	N	0.07	0.07
1	10.7	WRAPP-9595	Lake	7120006	L2ABHh	PEM	N	0.01	0.01
1	10.5	WRAPP-9597	Lake	7120006	L2ABHh	PEM	N	0.24	0.24
1	10.5	WRAPP-9599	Lake	7120006	L2ABHh	PEM	N	0.25	0.19
TOTAL									**1125.08**

[1]For this memo, a wetland was identified as high quality if it overlapped with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species records (boundaries provided ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 1-2
Corridor 1 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
1	3.5	9380	McHenry	7120006	North Branch Nippersink Creek	1
1	5	9397	McHenry	7120006	Nippersink Creek	1
1	9.7	9397	Lake	7120006	Nippersink Creek	1
1	9.9	9397	Lake	7120006	Nippersink Creek	1
1	16.1	4158	Lake	7120006	Fish Lake Tributary	0
1	18.8	5162	Lake	7120006	Cotton Creek Tributary Ditch	0
1	19.2	5266	Lake	7120006	Cotton Creek	0
1	19.3	5297	Lake	7120006	Mutton Creek	1
1	19.6	5410	Lake	7120006	Mutton Creek Tributary Ditch	0
1	20.5	5688	Lake	7120006	Larkdale Drain	0
1	21.3	5950	Lake	7120006	Slocum Creek	1
1	24	6509	Lake	7120006	Lake Corner Creek	1
1	25.9	9308	Lake	7120006	North Branch Flint Creek	1
1	27.7	8234	Lake	7120006	Village Square Ditch	0
1	30.6	8932	Lake	7120004	Serryse Creek	1
1	31.6	9194	Lake	7120004	Unnamed Creek	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 1-3
Corridor 1 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
1	31.80	LR-16562	Cook	7120004	Pond		0.33	0.33
1	11.10	LR-1822	Lake	7120006	Lake	Nippersink Lake	678.26	80.23
1	31.80	LR-18558	Cook	7120004	Pond		0.15	0.15
1	31.80	LR-18559	Cook	7120004	Pond		0.18	0.18
1	10.00	LR-2090	Lake	7120006	Pond	Fox Lake Vista Pond 2	0.17	0.17
1	10.10	LR-2157	Lake	7120006	Pond	Fox Lake Vista Pond 3	2.01	2.01
1	10.80	LR-2274	Lake, McHenry	7120006	Lake	Pistakee Lake	817.22	107.50
1	10.50	LR-2276	Lake	7120006	Pond		0.06	0.06
1	10.50	LR-2294	Lake	7120006	Pond		0.02	0.02
1	10.50	LR-2298	Lake	7120006	Pond		0.04	0.04
1	10.50	LR-2302	Lake	7120006	Pond		0.04	0.04
1	10.60	LR-2303	Lake	7120006	Pond		0.04	0.04
1	11.50	LR-2560	Lake	7120006	Pond	Hollywood Pond 1	0.18	0.18
1	11.50	LR-2570	Lake	7120006	Pond	Hollywood Pond 2	0.04	0.04
1	12.10	LR-2727	Lake	7120006	Detention Basin	Tonyan Pond 1	0.07	0.07
1	12.30	LR-2767	Lake	7120006	Pond	Tonyan Pond 2	0.17	0.17
1	12.30	LR-2775	Lake	7120006	Pond	Tonyan Pond 3	0.05	0.05
1	12.30	LR-2784	Lake	7120006	Pond	Tonyan Pond 4	0.22	0.22
1	12.40	LR-2787	Lake	7120006	Pond	Tonyan Pond 7	0.45	0.45
1	12.30	LR-2788	Lake	7120006	Pond	Tonyan Pond 6	0.07	0.07
1	12.30	LR-2800	Lake	7120006	Pond	Tonyan Pond 8	0.07	0.07
1	12.30	LR-2804	Lake	7120006	Pond	Tonyan Pond 9	0.14	0.14
1	12.30	LR-2805	Lake	7120006	Pond	Tonyan Pond 5	0.42	0.42
1	12.40	LR-2813	Lake	7120006	Pond	Tonyan Pond 10	0.12	0.12
1	12.40	LR-2824	Lake	7120006	Pond	Bayview Terrace Pond 1	0.21	0.21
1	12.40	LR-2840	Lake	7120006	Pond	Bayview Terrace Pond 2	0.04	0.04
1	12.40	LR-2846	Lake	7120006	Pond	Bayview Terrace Pond 3	0.04	0.04
1	12.40	LR-2851	Lake	7120006	Pond	Bayview Terrace Pond 4	0.05	0.05
1	12.70	LR-2912	Lake	7120006	Pond	Foxridge Pond 1	0.09	0.09
1	12.70	LR-2944	Lake	7120006	Pond	Foxridge Pond 3	0.13	0.13
1	12.80	LR-2959	Lake	7120006	Pond	Foxridge Pond 4	0.05	0.05
1	12.80	LR-2973	Lake	7120006	Pond	Foxridge Pond 5	0.08	0.08
1	12.80	LR-2996	Lake	7120006	Pond		0.11	0.11
1	13.40	LR-3170	Lake	7120006	Detention Basin	Oaks of the Hollow Pond 2	2.03	2.03
1	13.40	LR-3184	Lake	7120006	Detention Basin		0.29	0.00
1	13.40	LR-3195	Lake	7120006	Detention Basin	Fox Lake Crossing Pond 1	1.20	1.20
1	13.50	LR-3211	Lake	7120006	Pond	Fox Lake Crossing Pond 2	0.05	0.05
1	13.70	LR-3264	Lake	7120006	Detention Basin		0.36	0.36
1	13.70	LR-3285	Lake	7120006	Pond	Fox Lake Community Church	0.61	0.61
1	13.80	LR-3313	Lake	7120006	Detention Basin		0.61	0.61
1	13.90	LR-3315	Lake	7120006	Detention Basin	Fox Lake Center Pond	3.07	3.07
1	13.80	LR-3318	Lake	7120006	Detention Basin		0.60	0.00
1	13.80	LR-3338	Lake	7120006	Detention Basin		2.17	2.17
1	14.00	LR-3372	Lake	7120006	Detention Basin	Volo Home Depot Pond 1	2.43	2.36
1	14.00	LR-3374	Lake	7120006	Detention Basin	Menard - Fox Lake Pond	1.05	1.05
1	14.10	LR-3431	Lake	7120006	Detention Basin	Volo Home Depot Pond 2	1.14	1.14
1	14.20	LR-3463	Lake	7120006	Pond		0.47	0.47
1	14.20	LR-3478	Lake	7120006	Pond		1.19	1.19
1	14.20	LR-3483	Lake	7120006	Pond		0.05	0.05
1	14.20	LR-3498	Lake	7120006	Pond		0.26	0.26
1	14.30	LR-3504	Lake	7120006	Lake	Illinois DOT - Ingleside Lake	7.20	7.20
1	14.60	LR-3609	Lake	7120006	Pond		3.19	3.19
1	14.50	LR-3615	Lake	7120006	Pond		0.06	0.06
1	14.60	LR-3639	Lake	7120006	Pond		0.15	0.15
1	14.60	LR-3658	Lake	7120006	Pond		0.02	0.02
1	14.70	LR-3670	Lake	7120006	Pond		1.54	1.54
1	14.70	LR-3674	Lake	7120006	Pond	Illinois DOT - Ingleside Pond	5.88	5.88
1	14.90	LR-3773	Lake	7120006	Pond		0.05	0.05
1	15.00	LR-3808	Lake	7120006	Pond	Spruce Lake Sand and Grave	0.22	0.22
1	15.10	LR-3818	Lake	7120006	Pond	Remington Pointe Pond	2.25	2.25
1	15.80	LR-4090	Lake	7120006	Pond		0.30	0.30
1	15.90	LR-4148	Lake	7120006	Pond		0.92	0.92
1	15.90	LR-4159	Lake	7120006	Pond	Fischer Industrial Park Pond	0.19	0.19
1	16.00	LR-4197	Lake	7120006	Detention Basin	Fischer Industrial Park Pond	0.76	0.76
1	16.00	LR-4198	Lake	7120006	Detention Basin	Fischer Industrial Park Pond	0.29	0.27

Attachment B - Table 1-3
Corridor 1 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
1	16.10	LR-4217	Lake	7120006	Detention Basin		1.39	1.39
1	16.40	LR-4260	Lake	7120006	Pond		0.90	0.00
1	16.60	LR-4349	Lake	7120006	Pond		0.79	0.79
1	16.70	LR-4387	Lake	7120006	Pond		0.13	0.13
1	16.80	LR-4413	Lake	7120006	Detention Basin		0.60	0.60
1	16.90	LR-4422	Lake	7120006	Pond		1.09	1.09
1	17.60	LR-4675	Lake	7120006	Pond		0.26	0.07
1	17.70	LR-4676	Lake	7120006	Pond		0.52	0.52
1	17.70	LR-4677	Lake	7120006	Pond		0.04	0.04
1	17.80	LR-4729	Lake	7120006	Pond		0.06	0.06
1	17.90	LR-4734	Lake	7120006	Pond		0.11	0.11
1	17.90	LR-4739	Lake	7120006	Pond		0.30	0.30
1	17.90	LR-4748	Lake	7120006	Pond		0.34	0.34
1	18.00	LR-4758	Lake	7120006	Pond		1.94	1.94
1	18.00	LR-4769	Lake	7120006	Pond		0.42	0.42
1	18.00	LR-4784	Lake	7120006	Pond		0.27	0.27
1	18.00	LR-4785	Lake	7120006	Pond		0.06	0.06
1	18.00	LR-4796	Lake	7120006	Pond		0.12	0.12
1	18.00	LR-4808	Lake	7120006	Pond		0.10	0.10
1	18.10	LR-4818	Lake	7120006	Pond		0.09	0.02
1	18.10	LR-4824	Lake	7120006	Pond		0.06	0.06
1	18.30	LR-4885	Lake	7120006	Pond		0.03	0.03
1	18.30	LR-4903	Lake	7120006	Pond		1.32	1.32
1	18.30	LR-4910	Lake	7120006	Pond	Vandiggelen Pond 1	0.89	0.89
1	18.40	LR-4922	Lake	7120006	Pond	LCFPD Pond	0.14	0.14
1	18.50	LR-4931	Lake	7120006	Pond	Vandiggelen Pond 2	0.38	0.38
1	18.60	LR-4973	Lake	7120006	Pond		0.54	0.54
1	18.60	LR-4975	Lake	7120006	Pond		0.53	0.53
1	18.60	LR-5000	Lake	7120006	Pond		0.14	0.14
1	18.70	LR-5002	Lake	7120006	Lake		6.13	6.13
1	18.70	LR-5011	Lake	7120006	Pond		0.15	0.15
1	18.60	LR-5013	Lake	7120006	Pond		0.14	0.14
1	18.70	LR-5019	Lake	7120006	Detention Basin		1.05	1.05
1	18.70	LR-5025	Lake	7120006	Pond		0.12	0.12
1	18.60	LR-5028	Lake	7120006	Pond		2.49	2.49
1	18.70	LR-5074	Lake	7120006	Detention Basin		1.02	1.02
1	18.80	LR-5077	Lake	7120006	Pond		0.01	0.01
1	19.00	LR-5078	Lake	7120006	Pond		4.49	3.86
1	19.00	LR-5083	Lake	7120006	Pond		0.97	0.97
1	18.80	LR-5095	Lake	7120006	Pond		0.00	0.00
1	19.00	LR-5119	Lake	7120006	Pond		0.71	0.71
1	18.90	LR-5121	Lake	7120006	Pond		0.64	0.64
1	18.90	LR-5139	Lake	7120006	Pond		0.01	0.01
1	19.10	LR-5195	Lake	7120006	Pond		0.01	0.01
1	19.30	LR-5340	Lake	7120006	Pond		0.21	0.21
1	19.60	LR-5403	Lake	7120006	Pond	Rand Industrial Park Pond	0.03	0.03
1	19.60	LR-5422	Lake	7120006	Pond		0.42	0.42
1	19.80	LR-5482	Lake	7120006	Pond		0.61	0.13
1	19.80	LR-5488	Lake	7120006	Pond		0.20	0.20
1	19.90	LR-5490	Lake	7120006	Pond		0.67	0.67
1	19.90	LR-5499	Lake	7120006	Pond		0.19	0.19
1	19.90	LR-5501	Lake	7120006	Pond		0.06	0.01
1	20.00	LR-5509	Lake	7120006	Pond	Staniewicz Pond	0.11	0.11
1	19.90	LR-5510	Lake	7120006	Pond		0.05	0.05
1	20.20	LR-5613	Lake	7120006	Detention Basin	Wauconda Industrial Park Pc	0.10	0.08
1	20.30	LR-5618	Lake	7120006	Detention Basin	Robert Crown School Pond	1.59	1.59
1	20.30	LR-5621	Lake	7120006	Pond	Specialty Pipe Pond	0.08	0.08
1	20.30	LR-5639	Lake	7120006	Pond		0.04	0.04
1	20.40	LR-5655	Lake	7120006	Detention Basin	Rolak Industrial Pond	1.21	1.16
1	20.40	LR-5668	Lake	7120006	Pond	Larkdale Pond 1	3.50	3.50
1	20.50	LR-5702	Lake	7120006	Pond	Country Ridge Pond 1	0.82	0.82
1	20.70	LR-5724	Lake	7120006	Pond	Larkdale Pond 2	4.40	4.40
1	20.70	LR-5749	Lake	7120006	Detention Basin	Country Ridge Pond 2	1.32	1.32
1	21.30	LR-5945	Lake	7120006	Detention Basin		0.19	0.19
1	21.30	LR-5953	Lake	7120006	Detention Basin	Country Ridge Pond 3	0.72	0.72

Attachment B - Table 1-3
Corridor 1 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
1	21.40	LR-6036	Lake	7120006	Pond		0.06	0.06
1	21.40	LR-6041	Lake	7120006	Pond	Wauconda Crossings Pond 1	0.30	0.30
1	21.60	LR-6051	Lake	7120006	Detention Basin		0.11	0.11
1	21.40	LR-6054	Lake	7120006	Pond		0.08	0.08
1	21.50	LR-6058	Lake	7120006	Detention Basin	Wauconda Crossings Pond 2	0.11	0.11
1	21.60	LR-6083	Lake	7120006	Detention Basin		0.41	0.41
1	21.80	LR-6115	Lake	7120006	Detention Basin	Wauconda Health Care Pond	0.05	0.05
1	21.90	LR-6125	Lake	7120006	Pond	Village of Wauconda Pond 2	0.02	0.01
1	21.90	LR-6129	Lake	7120006	Pond	Village of Wauconda Pond 1	0.00	0.00
1	21.90	LR-6138	Lake	7120006	Detention Basin	Wauconda Health Care Pond	0.49	0.49
1	21.90	LR-6155	Lake	7120006	Pond		0.11	0.11
1	21.80	LR-6156	Lake	7120006	Pond	Schirmer Pond	0.84	0.84
1	22.40	LR-6193	Lake	7120006	Pond		3.74	3.74
1	22.30	LR-6198	Lake	7120006	Pond		0.98	0.98
1	21.90	LR-6200	Lake	7120006	Pond		0.97	0.97
1	21.80	LR-6213	Lake	7120006	Pond		0.31	0.31
1	22.10	LR-6218	Lake	7120006	Pond		0.04	0.04
1	21.90	LR-6232	Lake	7120006	Pond		0.13	0.13
1	22.50	LR-6235	Lake	7120006	Pond		0.29	0.29
1	22.00	LR-6244	Lake	7120006	Pond		0.10	0.10
1	22.00	LR-6252	Lake	7120006	Pond		0.43	0.43
1	22.60	LR-6257	Lake	7120006	Pond		0.62	0.62
1	21.90	LR-6265	Lake	7120006	Pond	Oak Grove Pond 1	0.49	0.13
1	22.20	LR-6270	Lake	7120006	Pond	Carney Pond 1	0.26	0.26
1	22.30	LR-6281	Lake	7120006	Pond		0.10	0.10
1	22.30	LR-6291	Lake	7120006	Pond	Carney Pond 2	0.40	0.40
1	23.70	LR-6326	Lake	7120006	Lake	Lakewood Marsh	29.36	0.34
1	23.00	LR-6354	Lake	7120006	Pond		0.68	0.68
1	22.50	LR-6384	Lake	7120006	Pond		0.16	0.16
1	22.90	LR-6387	Lake	7120006	Pond	Meadowhill Pond 5	0.15	0.15
1	23.30	LR-6389	Lake	7120006	Pond		0.16	0.16
1	22.50	LR-6398	Lake	7120006	Detention Basin		0.39	0.39
1	23.50	LR-6424	Lake	7120006	Detention Basin	LCFPD Pond	0.43	0.43
1	23.70	LR-6450	Lake	7120006	Pond		0.26	0.26
1	23.70	LR-6452	Lake	7120006	Pond		0.12	0.12
1	23.70	LR-6453	Lake	7120006	Pond	LCFPD Pond	0.10	0.10
1	23.20	LR-6457	Lake	7120006	Pond	Timber Lake Estates Pond 22	0.16	0.16
1	23.20	LR-6466	Lake	7120006	Lake	Timber Lake - Barrington	32.82	6.60
1	23.90	LR-6489	Lake	7120006	Pond		0.14	0.13
1	23.90	LR-6502	Lake	7120006	Pond		0.12	0.12
1	23.90	LR-6540	Lake	7120006	Detention Basin		0.53	0.53
1	24.10	LR-6570	Lake	7120006	Pond	Brierwoods Estates Pond	2.20	1.04
1	23.90	LR-6592	Lake	7120006	Pond		0.04	0.04
1	23.90	LR-6599	Lake	7120006	Pond		0.24	0.24
1	24.00	LR-6631	Lake	7120006	Pond	Timbercreek Pond 2	0.02	0.02
1	24.00	LR-6633	Lake	7120006	Pond	Timbercreek Pond 1	0.03	0.03
1	24.10	LR-6645	Lake	7120006	Pond	Timbercreek Pond 3	0.02	0.02
1	24.20	LR-6703	Lake	7120006	Pond	Timbercreek Pond 4	0.92	0.92
1	24.40	LR-6763	Lake	7120006	Detention Basin	Village Bank and Trust Pond	0.14	0.14
1	24.40	LR-6768	Lake	7120006	Detention Basin	Wynstone North Commercia	0.47	0.47
1	24.40	LR-6774	Lake	7120006	Detention Basin	Wynstone North Commercia	0.07	0.07
1	24.50	LR-6811	Lake	7120006	Pond	Wynstone POA Pond 1	1.81	1.81
1	24.60	LR-6832	Lake	7120006	Pond	Wynstone POA Pond 2	3.11	3.11
1	24.60	LR-6875	Lake	7120006	Pond	Wynstone Pond 37	0.04	0.04
1	24.70	LR-6889	Lake	7120006	Lake	Dog Bone Lake	30.07	0.17
1	24.70	LR-6898	Lake	7120006	Pond	Wynstone POA Pond 3	0.05	0.05
1	24.70	LR-6910	Lake	7120006	Pond	Wynstone Pond 35	0.09	0.09
1	24.80	LR-6923	Lake	7120006	Pond	Wynstone Pond 32	0.11	0.11
1	24.80	LR-6947	Lake	7120006	Pond	Valentine Manor Pond 2	0.05	0.05
1	24.90	LR-6949	Lake	7120006	Pond	Wynstone Pond 9	0.71	0.71
1	24.80	LR-6950	Lake	7120006	Pond	Valentine Manor Pond 1	0.08	0.08
1	24.90	LR-6966	Lake	7120006	Pond	Wynstone Pond 33	0.10	0.10
1	25.00	LR-7002	Lake	7120006	Pond	Mount Saint Joseph Childrer	1.64	1.64
1	25.00	LR-7017	Lake	7120006	Pond	Wynstone Pond 15	0.43	0.43
1	25.10	LR-7045	Lake	7120006	Pond	Wynstone Pond 1	4.52	0.95

Attachment B - Table 1-3
Corridor 1 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
1	25.10	LR-7064	Lake	7120006	Pond	Wynstone Pond 36	0.06	0.06
1	25.20	LR-7079	Lake	7120006	Detention Basin	Wynstone Pond 12	0.56	0.56
1	25.30	LR-7100	Lake	7120006	Pond	Mount Saint Joseph Childrer	0.56	0.56
1	25.30	LR-7105	Lake	7120006	Pond	Wynstone Pond 4	1.99	1.99
1	25.30	LR-7124	Lake	7120006	Pond	Mount Saint Joseph Childrer	0.08	0.08
1	25.50	LR-7207	Lake	7120006	Pond	Wynstone-Sunnydale Comm	0.05	0.05
1	25.60	LR-7254	Lake	7120006	Pond	Wynstone-Sunnydale Comm	0.55	0.55
1	25.60	LR-7272	Lake	7120006	Pond	Clover Hill Farms Pond 1	0.11	0.11
1	25.70	LR-7282	Lake	7120006	Pond	Clover Hill Farms Pond 2	0.11	0.11
1	25.70	LR-7295	Lake	7120006	Detention Basin	Millers Grove Pond	1.86	1.86
1	25.70	LR-7327	Lake	7120006	Pond	Clover Hill Farms Pond 3	0.21	0.21
1	25.80	LR-7356	Lake	7120006	Pond	Rand Road Pond	0.19	0.19
1	25.90	LR-7373	Lake	7120006	Detention Basin	Manor Park Pond	0.86	0.86
1	26.00	LR-7428	Lake	7120006	Pond	Clover Hill Farms Pond 5	0.20	0.20
1	26.20	LR-7480	Lake	7120006	Detention Basin	Clover Hill Farms Pond 6	0.62	0.62
1	26.30	LR-7532	Lake	7120006	Pond	Clover Hill Farms Pond 7	1.04	1.04
1	26.30	LR-7546	Lake	7120006	Detention Basin	Clover Hill Farms Pond 8	0.34	0.34
1	26.30	LR-7555	Lake	7120006	Detention Basin	Bazur Pond	0.05	0.05
1	26.40	LR-7562	Lake	7120006	Pond	Lake Breeze Villas Pond 1	0.28	0.28
1	26.40	LR-7566	Lake	7120006	Pond		0.21	0.21
1	26.40	LR-7572	Lake	7120006	Pond		0.10	0.10
1	26.40	LR-7585	Lake	7120006	Pond		0.04	0.04
1	26.40	LR-7589	Lake	7120006	Pond		0.88	0.88
1	26.40	LR-7604	Lake	7120006	Detention Basin	Lake Breeze Villas Pond 2	0.13	0.13
1	26.40	LR-7609	Lake	7120006	Pond	Lake Breeze Villas Pond 3	0.07	0.02
1	26.60	LR-7626	Lake	7120006	Lake	Lake Zurich	232.38	63.32
1	26.80	LR-7814	Lake	7120006	Detention Basin	Willow Ponds Pond 9	0.21	0.21
1	26.90	LR-7840	Lake	7120006	Detention Basin	Willow Ponds Pond 8	0.23	0.23
1	26.90	LR-7860	Lake	7120006	Pond	Knollwood Recreation Pond	1.63	1.63
1	27.00	LR-7902	Lake	7120006	Pond		0.79	0.79
1	27.10	LR-7977	Lake	7120006	Pond	Willow Ponds Pond 2	2.25	0.46
1	27.20	LR-7999	Lake	7120006	Pond	Willow Ponds Pond 1	5.68	5.42
1	27.30	LR-8033	Lake	7120006	Pond		0.19	0.19
1	27.30	LR-8116	Lake	7120006	Pond	Orchard Ponds Pond 1	2.16	0.62
1	28.00	LR-8136	Lake	7120006	Detention Basin	Concord Village PUD Pond 4	0.11	0.00
1	28.00	LR-8139	Lake	7120006	Detention Basin	Concord Village PUD Pond 3	0.11	0.00
1	28.00	LR-8148	Lake	7120006	Pond	Concord Village PUD Pond 5	0.17	0.17
1	27.90	LR-8172	Lake	7120006	Pond	Concord Village PUD Pond 6	0.15	0.15
1	27.90	LR-8186	Lake	7120006	Detention Basin	Lake Zurich Retail Center Po	2.28	2.28
1	27.70	LR-8187	Lake	7120006	Detention Basin		0.10	0.10
1	27.50	LR-8191	Lake	7120006	Pond	Village Square Pond 1	1.75	1.75
1	27.60	LR-8207	Lake	7120006	Pond	Village Square Pond 2	0.35	0.35
1	27.60	LR-8214	Lake	7120006	Pond	Village Square Pond 3	4.38	4.38
1	28.00	LR-8215	Lake	7120006	Detention Basin	Lake Zurich Retail Center Po	0.32	0.32
1	27.70	LR-8231	Lake	7120006	Detention Basin	Village Square Pond 9	0.38	0.38
1	27.90	LR-8237	Lake	7120006	Detention Basin	Lake Zurich Theater PUD Por	1.01	1.01
1	27.60	LR-8251	Lake	7120006	Pond	Village Square Pond 5	0.01	0.01
1	28.20	LR-8262	Lake	7120006	Detention Basin	Lake Zurich Retail Center Po	0.45	0.45
1	28.20	LR-8275	Lake	7120006	Detention Basin	Lake Zurich Retail Center Po	0.12	0.12
1	27.80	LR-8283	Lake	7120006	Pond	Village Square Pond 8	0.30	0.30
1	27.60	LR-8286	Lake	7120006	Pond	Village Square Pond 4	0.85	0.10
1	28.30	LR-8299	Lake	7120006	Detention Basin	Deerpath Court Retail Cente	0.45	0.45
1	27.80	LR-8303	Lake	7120006	Pond	Village Square Pond 7	0.04	0.04
1	28.50	LR-8312	Lake	7120004	Pond	Deerpath Court Retail Cente	0.26	0.26
1	28.40	LR-8314	Lake	7120006	Detention Basin	Deerpath Court Retail Cente	0.35	0.35
1	28.60	LR-8325	Lake	7120004	Detention Basin	Deerpath Court Retail Cente	0.71	0.71
1	28.30	LR-8328	Lake	7120006	Pond	Lake Zurich Theater PUD Por	0.07	0.07
1	27.70	LR-8330	Lake	7120006	Pond	Village Square Pond 6	0.23	0.02
1	27.90	LR-8331	Lake	7120006	Pond		2.04	2.04
1	28.30	LR-8334	Lake	7120006	Pond	Lake Zurich Theater PUD Por	1.32	1.32
1	28.30	LR-8339	Lake	7120006	Pond		0.45	0.45
1	28.70	LR-8344	Lake	7120004	Detention Basin	Villa Lucerne Pond	2.34	2.34
1	28.10	LR-8345	Lake	7120006	Pond	Lake Zurich Theater PUD Por	0.50	0.50
1	28.30	LR-8347	Lake	7120006	Pond	Lake Zurich Theater PUD Por	0.18	0.18
1	28.40	LR-8362	Lake	7120006	Pond	Meadows of Lake Zurich Por	0.47	0.47

Attachment B - Table 1-3
Corridor 1 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
1	28.30	LR-8364	Lake	7120006	Pond	Squires Pond 2	1.24	1.24
1	28.10	LR-8366	Lake	7120006	Pond	Squires Pond 1	0.49	0.49
1	28.90	LR-8367	Lake	7120004	Detention Basin	Plaza on the Pond Pond 1	4.18	4.18
1	28.90	LR-8368	Lake	7120004	Detention Basin	Lexington Healthcare Center	0.27	0.27
1	28.80	LR-8379	Lake	7120004	Detention Basin	Lexington Healthcare Center	0.28	0.28
1	28.80	LR-8437	Lake	7120004	Pond	Deerpath Commons Pond 1	0.09	0.09
1	29.00	LR-8444	Lake	7120004	Detention Basin	Plaza on the Pond Pond 2	0.55	0.55
1	28.60	LR-8454	Lake	7120006	Pond	Quail Run Pond 1	1.38	0.80
1	29.00	LR-8458	Lake	7120004	Pond		0.05	0.05
1	28.90	LR-8464	Lake	7120004	Pond	Deerpath Commons Pond 2	0.44	0.44
1	29.10	LR-8477	Lake	7120004	Pond		0.10	0.10
1	28.90	LR-8486	Lake	7120004	Detention Basin	Chasewood North Pond 1	0.77	0.77
1	29.10	LR-8497	Lake	7120004	Detention Basin	Sparrow Ridge Park Pond	1.92	1.92
1	29.30	LR-8515	Lake	7120004	Pond		0.77	0.77
1	29.30	LR-8530	Lake	7120004	Pond		0.34	0.34
1	29.20	LR-8539	Lake	7120004	Detention Basin	Sparrow Ridge Pond 1	0.07	0.07
1	29.20	LR-8575	Lake	7120004	Detention Basin	Sparrow Ridge Pond 2	0.56	0.19
1	29.40	LR-8577	Lake	7120004	Detention Basin	Courtyard of Lake Zurich Por	0.20	0.20
1	29.70	LR-8647	Lake	7120004	Pond	Pine Valley - Kildeer Pond 6	0.02	0.02
1	29.60	LR-8692	Lake	7120004	Pond	Village of Lake Zurich Pond	4.50	4.50
1	29.90	LR-8699	Lake	7120004	Pond	Pine Valley - Kildeer Pond 3	2.00	1.13
1	29.90	LR-8756	Lake	7120004	Pond	Pine Valley - Kildeer Pond 4	0.04	0.04
1	29.90	LR-8783	Lake	7120004	Pond	Rand 12 Centre Pond 1	0.29	0.29
1	29.90	LR-8808	Lake	7120004	Pond	Rand 12 Centre Pond 2	0.22	0.22
1	30.20	LR-8810	Lake	7120004	Pond	Pine Valley Lake	5.90	5.90
1	30.00	LR-8826	Lake	7120004	Detention Basin	Sturm Pond 1	0.74	0.74
1	30.50	LR-8836	Lake	7120004	Pond	L.B. Anderson Pond	1.34	1.34
1	30.70	LR-8838	Lake	7120004	Pond		5.11	2.86
1	30.30	LR-8858	Lake	7120004	Detention Basin		0.25	0.25
1	30.80	LR-8859	Lake	7120004	Lake	Lake Farmington	8.36	0.69
1	30.00	LR-8863	Lake	7120004	Pond	Sturm Pond 2	0.18	0.18
1	30.20	LR-8876	Lake	7120004	Pond		0.25	0.25
1	30.10	LR-8902	Lake	7120004	Pond	Wooded Ridge Pond	0.81	0.81
1	30.60	LR-8916	Lake	7120004	Pond		0.46	0.46
1	30.20	LR-8933	Lake	7120004	Detention Basin	Concorde Pond 1	0.20	0.20
1	30.20	LR-8962	Lake	7120004	Pond	Concorde Pond 2	0.04	0.04
1	30.30	LR-8986	Lake	7120004	Pond		0.53	0.53
1	30.90	LR-8998	Lake	7120004	Pond	Shops at Kildeer Shopping C	0.40	0.40
1	30.90	LR-9000	Lake	7120004	Pond	Shops at Kildeer Shopping C	1.69	1.69
1	31.00	LR-9022	Lake	7120004	Pond	Shops at Kildeer Shopping C	0.19	0.19
1	31.00	LR-9034	Lake	7120004	Pond	Shops at Kildeer Shopping C	0.17	0.17
1	31.00	LR-9035	Lake	7120004	Pond	Shops at Kildeer Shopping C	0.01	0.01
1	30.70	LR-9047	Lake	7120004	Pond	Deer Park Town Center Pond	0.04	0.04
1	31.30	LR-9051	Lake	7120004	Pond	Rand Acres Pond 1	0.38	0.37
1	30.70	LR-9059	Lake	7120004	Pond	Deer Park Town Center Pond	0.36	0.36
1	30.70	LR-9081	Lake	7120004	Detention Basin	Deer Park Town Center Pond	5.17	3.72
1	30.70	LR-9089	Lake	7120004	Pond	Deer Park Town Center Pond	0.06	0.06
1	31.40	LR-9097	Lake	7120004	Pond	Rand Acres Pond 2	0.07	0.07
1	31.60	LR-9198	Lake	7120004	Pond		1.11	1.11
1	31.80	LR-9241	Lake	7120004	Pond		0.37	0.37
1	31.50	LR-9246	Lake	7120004	Pond		0.02	0.02
1	31.50	LR-9252	Lake	7120004	Pond	Motorola - Deer Park Pond 3	0.08	0.08
1	31.60	LR-9256	Lake	7120004	Pond		0.03	0.03
1	31.70	LR-9257	Lake	7120004	Pond		0.27	0.27
1	31.60	LR-9267	Lake	7120004	Detention Basin	Motorola - Deer Park Pond 6	1.66	1.66
1	31.80	LR-9271	Lake, Cook	7120004	Lake		23.16	1.12
1	11.10	WRAPP-9560	Lake, McHenry	7120006	Lake	Nippersink	4058.25	5.36
TOTAL								**467.81**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 2-1
Corridor 2 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
2	0	ADID-1708	Lake	7120006	PEM/SS1As	PEM	Y	49.64	0.16
2	2.3	ADID-1721	Lake	7120006	PEMF	PEM	N	10.47	0.13
2	4.7	AI-105	Lake	7120006	PEM	PEM	N	1.85	1.23
2	4.5	AI-21	Lake	7120006	PEM	PEM	N	0.47	0.47
2	5.1	AI-32	Lake	7120006	PEM	PEM	N	1.43	1.06
2	5	AI-4	Lake	7120006	PEM	PEM	N	0.78	0.78
2	5	AI-42	Lake	7120006	PEM	PEM	N	0.16	0.16
2	5.8	AI-45	Lake	7120006	PEM	PEM	N	0.30	0.30
2	5.8	AI-77	Lake	7120006	<Null>	PEM	N	0.13	0.13
2	3.1	AI-78	Lake	7120006	PEM	PEM	N	0.03	0.03
2	1.4	AI-79	Lake	7120006	PEM	PEM	N	0.00	0.00
2	0.1	AI-80	Lake	7120006	PEM	PEM	N	0.11	0.11
2	0	AI-9	Lake	7120006	PEM	PEM	N	0.00	0.00
2	0.3	AI-91	Lake	7120006	PEM	PEM	N	0.01	0.01
2	1.8	WRAPP-16702	Lake	7120006	PEMC	PEM	N	1.55	0.41
2	1.2	WRAPP-16745	Lake	7120006	PEMC	PEM	N	2.02	1.37
2	4.3	WRAPP-16793	Lake	7120006	PEM/FO1Ad	PEM	N	0.48	0.48
2	6.4	WRAPP-17705	Lake	7120006	PEMAf	PEM	N	0.29	0.29
2	6.2	WRAPP-17710	Lake	7120006	PEMA	PEM	N	0.52	0.29
2	6.2	WRAPP-17732	Lake	7120006	PEM/SS1C	PEM	N	1.06	1.06
2	6	WRAPP-17744	Lake	7120006	PFO1Cd	PFO	N	1.20	1.20
2	6	WRAPP-17748	Lake	7120006	PFO1Cd	PFO	N	0.76	0.76
2	5.9	WRAPP-17757	Lake	7120006	PAB/UBF	PEM	N	0.32	0.33
2	5.9	WRAPP-17767	Lake	7120006	PAB/UBF	PEM	N	0.09	0.09
2	5.6	WRAPP-17772	Lake	7120006	PEMC	PEM	N	3.28	3.28
2	5.7	WRAPP-17778	Lake	7120006	PEMC	PEM	N	1.05	1.05
2	5.5	WRAPP-17794	Lake	7120006	PEMCf	PEM	N	5.90	5.90
2	5.6	WRAPP-17800	Lake	7120006	PEMCf	PEM	N	0.26	0.22
2	5.1	WRAPP-17802	Lake	7120006	PEMAf	PEM	N	1.78	0.90
2	5.5	WRAPP-17806	Lake	7120006	PEMAf	PEM	N	0.37	0.37
2	4.9	WRAPP-17820	Lake	7120006	PUBGx	PEM	N	0.04	0.04
2	5.3	WRAPP-17828	Lake	7120006	PEMAf	PEM	N	2.70	2.70
2	5.4	WRAPP-17833	Lake	7120006	PEMCf	PEM	N	0.61	0.41
2	5	WRAPP-17837	Lake	7120006	PFO1Cd	PFO	N	0.40	0.40
2	4.8	WRAPP-17847	Lake	7120006	PEMAf	PEM	N	0.17	0.17
2	4.9	WRAPP-17849	Lake	7120006	PEMAf	PEM	N	0.20	0.20
2	4.9	WRAPP-17868	Lake	7120006	PEMCf	PEM	N	1.81	1.81
2	4.6	WRAPP-17869	Lake	7120006	PEMCf	PEM	N	3.98	2.75
2	4.6	WRAPP-17879	Lake	7120006	PEMC	PEM	N	1.05	1.05
2	4.7	WRAPP-17888	Lake	7120006	PEMCf	PEM	N	3.26	3.26
2	4.4	WRAPP-17901	Lake	7120006	PUBGx	PEM	N	0.06	0.06
2	4.3	WRAPP-17910	Lake	7120006	PUBGx	PEM	N	0.02	0.02
2	4.2	WRAPP-17911	Lake	7120006	PEMAf	PEM	N	0.86	0.86
2	3.9	WRAPP-17922	Lake	7120006	PEM/FO1C	PEM	Y	2.26	2.21
2	4.3	WRAPP-17928	Lake	7120006	PEMCf	PEM	N	1.73	1.41
2	4.1	WRAPP-17940	Lake	7120006	PUBGx	PEM	N	0.10	0.10
2	4.3	WRAPP-17942	Lake	7120006	PUBGx	PEM	N	0.72	0.13
2	3.2	WRAPP-17975	Lake	7120006	PEMCd	PEM	N	1.73	1.73
2	3.8	WRAPP-17987	Lake	7120006	PEMF	PEM	N	2.48	1.99
2	2.7	WRAPP-17994	Lake	7120006	PUBFx	PEM	N	0.01	0.01
2	3.3	WRAPP-18002	Lake	7120006	PEMCd	PEM	N	0.24	0.24
2	2.4	WRAPP-18004	Lake	7120006	PFO1A	PFO	N	0.19	0.19
2	2.7	WRAPP-18005	Lake	7120006	PUBGx	PEM	N	0.01	0.01
2	2	WRAPP-18014	Lake	7120006	PEMCd	PEM	N	21.25	9.09
2	1.4	WRAPP-18018	Lake	7120006	PFO1A	PFO	N	0.06	0.06
2	2.5	WRAPP-18021	Lake	7120006	PEMAf	PEM	N	0.23	0.23
2	2.2	WRAPP-18022	Lake	7120006	PEMAf	PEM	N	0.32	0.32
2	1.4	WRAPP-18026	Lake	7120006	PUBHx	PEM	N	0.01	0.01
2	1.6	WRAPP-18027	Lake	7120006	PEMC	PEM	N	6.97	6.97
2	2.2	WRAPP-18029	Lake	7120006	PEMC	PEM	N	0.63	0.63
2	2	WRAPP-18030	Lake	7120006	PEMAf	PEM	N	0.75	0.75
2	3.2	WRAPP-18031	Lake	7120006	PEMCd	PEM	N	32.39	15.69
2	2.3	WRAPP-18032	Lake	7120006	PEMC	PEM	N	0.48	0.48
2	1.8	WRAPP-18034	Lake	7120006	PEMAf	PEM	N	0.21	0.21
2	2	WRAPP-18035	Lake	7120006	PEMAf	PEM	N	0.57	0.57
2	2.5	WRAPP-18036	Lake	7120006	PEMF	PEM	Y	13.25	8.79
2	1.8	WRAPP-18039	Lake	7120006	PEMA	PEM	N	0.22	0.22

Attachment B - Table 2-1
Corridor 2 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
2	1.8	WRAPP-18040	Lake	7120006	PEMA	PEM	N	0.68	0.68
2	1.9	WRAPP-18042	Lake	7120006	PEMCd	PEM	N	0.72	0.72
2	1.3	WRAPP-18043	Lake	7120006	L2UBH	PEM	N	0.01	0.01
2	2.6	WRAPP-18044	Lake	7120006	PABF	PEM	Y	0.05	0.05
2	1.6	WRAPP-18045	Lake	7120006	PEMAf	PEM	N	1.14	1.14
2	1.3	WRAPP-18047	Lake	7120006	PUBHx	PEM	N	0.06	0.06
2	0.9	WRAPP-18048	Lake	7120006	PUBGx	PEM	N	0.00	0.00
2	2.2	WRAPP-18050	Lake	7120006	PEM/SS1A	PEM	N	0.45	0.45
2	2.6	WRAPP-18053	Lake	7120006	PEMF	PEM	Y	19.07	0.86
2	1.7	WRAPP-18054	Lake	7120006	PEMAf	PEM	N	0.09	0.09
2	1.2	WRAPP-18056	Lake	7120006	PEMC	PEM	Y	0.37	0.37
2	0.7	WRAPP-18059	Lake	7120006	PEMA	PEM	N	0.17	0.17
2	0.5	WRAPP-18063	Lake	7120006	PEMC	PEM	N	1.26	1.26
2	1.8	WRAPP-18064	Lake	7120006	PEMA	PEM	N	1.12	1.12
2	0.8	WRAPP-18066	Lake	7120006	PAB/EMF	PEM	N	0.43	0.43
2	1.7	WRAPP-18067	Lake	7120006	PEMC	PEM	N	1.59	1.59
2	2.1	WRAPP-18068	Lake	7120006	PEMCd	PEM	N	9.45	9.45
2	1.2	WRAPP-18069	Lake	7120006	PFO1C	PFO	Y	0.85	0.85
2	0.5	WRAPP-18070	Lake	7120006	PEMCd	PEM	Y	0.46	0.46
2	1.4	WRAPP-18079	Lake	7120006	PEMC	PEM	Y	2.05	1.46
2	1.2	WRAPP-18081	Lake	7120006	PEMF	PEM	Y	2.90	2.90
2	1.3	WRAPP-18082	Lake	7120006	PEMAf	PEM	Y	0.40	0.40
2	0.2	WRAPP-18083	Lake	7120006	PAB/EMF	PEM	N	10.85	10.85
2	0.5	WRAPP-18084	Lake	7120006	PEM/SS1Cd	PEM	N	3.35	3.35
2	1.9	WRAPP-18086	Lake	7120006	PEM/SS1C	PEM	N	8.38	1.90
2	1.4	WRAPP-18089	Lake	7120006	PEMC	PEM	Y	0.96	0.11
2	0	WRAPP-18092	Lake	7120006	PEM/UBFx	PEM	N	0.76	0.00
2	0	WRAPP-18097	Lake	7120006	PEMCx	PEM	N	0.28	0.28
2	1.1	WRAPP-18101	Lake	7120006	PEMF	PEM	Y	3.74	3.74
2	0	WRAPP-18105	Lake	7120006	PEMCd	PEM	N	0.75	0.02
2	3.4	WRAPP-18124	Lake	7120006	PEMCd	PEM	N	9.43	6.64
2	3.4	WRAPP-18125	Lake	7120006	PEMAd	PEM	N	0.10	0.10
2	3.4	WRAPP-18126	Lake	7120006	PEMAd	PEM	N	0.08	0.08
2	0.3	WRAPP-18249	Lake	7120006	PEMC	PEM	N	0.43	0.41
2	0	WRAPP-18259	Lake	7120006	PEMCf	PEM	N	3.25	3.21
2	0	WRAPP-18262	Lake	7120006	PEMAf	PEM	N	0.25	0.25
2	0	WRAPP-18954	Lake	7120006	PEMCf	PEM	N	0.91	0.91
2	4.3	WRAPP-18997	Lake	7120006	R2UBHx	PFO	Y	3.54	0.26
2	6.5	WRAPP-19081	Lake	7120006	PEMC	PEM	N	10.35	10.35
2	5.9	WRAPP-19082	Lake	7120006	PAB/UBF	PEM	N	0.01	0.01
2	6.2	WRAPP-19095	Lake	7120006	PEMC	PEM	N	2.62	0.14
2	6.1	WRAPP-19096	Lake	7120006	PEM/UBF	PEM	N	0.03	0.03
2	5.3	WRAPP-19131	Lake	7120006	PEMAf	PEM	N	0.89	0.89
2	5.9	WRAPP-19132	Lake	7120006	PUBGx	PEM	N	0.02	0.02
2	5.9	WRAPP-19134	Lake	7120006	PEM/SS1F	PEM	N	0.54	0.54
2	5.8	WRAPP-19136	Lake	7120006	PUBGx	PEM	N	0.05	0.05
2	6.1	WRAPP-19137	Lake	7120006	PABG	PEM	N	0.20	0.00
2	5.8	WRAPP-19139	Lake	7120004	PEMF	PEM	N	43.74	4.24
2	6.1	WRAPP-19140	Lake	7120006	PSS1C	PSS	N	0.38	0.38
2	5.7	WRAPP-19141	Lake	7120006	PEMCf	PEM	N	1.00	1.00
2	6	WRAPP-19147	Lake	7120006	PFO1C	PFO	N	1.13	1.13
2	6	WRAPP-19148	Lake	7120006	PFO1/UBF	PFO	N	1.26	1.26
2	5.9	WRAPP-19149	Lake	7120006	PUBGx	PEM	N	0.16	0.13
2	6.3	WRAPP-19609	Lake	7120006	PEMCd	PEM	N	6.02	0.10
2	4.1	WRAPP-19752	Lake	7120006	PUBGx	PEM	N	0.33	0.33
2	4.2	WRAPP-19755	Lake	7120006	PEM/FO1Ad	PEM	N	8.08	0.11
2	4.3	WRAPP-19758	Lake	7120006	PEM/FO1Ad	PEM	N	0.39	0.39
2	4.2	WRAPP-19759	Lake	7120006	PEMAd	PEM	N	1.21	0.11
2	4.3	WRAPP-19762	Lake	7120006	PEM/FO1Ad	PEM	N	1.03	0.55
2	4.3	WRAPP-19764	Lake	7120006	PEM/FO1Ad	PEM	N	0.60	0.36
2	4.7	WRAPP-19765	Lake	7120006	PEMA	PEM	N	0.27	0.27
2	3.4	WRAPP-19766	Lake	7120006	PUBGx	PEM	N	4.29	4.02
2	3.1	WRAPP-19769	Lake	7120006	PUBGx	PEM	N	3.68	3.68
2	3.3	WRAPP-19775	Lake	7120006	PEMAd	PEM	N	0.06	0.06
2	3.4	WRAPP-19776	Lake	7120006	PEMAd	PEM	N	0.67	0.38
2	3.4	WRAPP-19777	Lake	7120006	PEMAd	PEM	N	0.05	0.05
2	3.7	WRAPP-19778	Lake	7120006	PEM/SS1Ad	PEM	N	0.55	0.25

Attachment B - Table 2-
1 Corridor 2 Wetland
Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
2	3.3	WRAPP-19780	Lake	7120006	PEMAd	PEM	N	0.31	0.25
2	3.8	WRAPP-19787	Lake	7120006	PUBGx	PEM	N	3.56	1.00
2	2.7	WRAPP-19788	Lake	7120006	PUBHx	PEM	N	0.04	0.04
2	2.6	WRAPP-19789	Lake	7120006	PEMC	PEM	N	1.41	0.43
2	2.5	WRAPP-19820	Lake	7120006	PEMC	PEM	Y	0.14	0.14
2	2.5	WRAPP-19822	Lake	7120006	PUBF	PEM	Y	0.90	0.88
2	2	WRAPP-19823	Lake	7120006	PEMC	PEM	N	1.72	1.05
2	1.9	WRAPP-19824	Lake	7120006	PEMA	PEM	N	0.18	0.18
2	2.2	WRAPP-19825	Lake	7120006	PEMAf	PEM	N	1.59	1.59
2	3.1	WRAPP-19832	Lake	7120006	PUBGx	PEM	N	4.28	4.28
2	2.9	WRAPP-19833	Lake	7120006	PUBGx	PEM	N	0.99	0.29
2	3.3	WRAPP-19845	Lake	7120006	PEMAd	PEM	N	0.62	0.31
2	0	WRAPP-20602	Lake	7120006	PEM/FO1C	PEM	Y	3.42	0.03
2	0.8	WRAPP-20627	Lake	7120006	PEM/FO1C	PEM	N	2.12	2.12
2	0.9	WRAPP-20630	Lake	7120006	PEMC	PEM	N	0.67	0.67
2	1.4	WRAPP-20631	Lake	7120006	PUBGx	PEM	N	1.08	1.08
2	0.6	WRAPP-20632	Lake	7120006	PUBGx	PEM	N	2.09	2.09
2	0.3	WRAPP-20633	Lake	7120006	PUBGx	PEM	N	2.32	2.32
2	0.1	WRAPP-20634	Lake	7120006	PUBGx	PEM	N	0.97	0.97
2	0.7	WRAPP-20637	Lake	7120006	PUBGx	PEM	N	14.52	11.68
2	0.9	WRAPP-20638	Lake	7120006	PEMFx	PEM	N	3.79	2.39
2	1	WRAPP-20640	Lake	7120006	PEMCd	PEM	Y	1.62	0.96
2	1.1	WRAPP-20641	Lake	7120006	PEMC	PEM	Y	1.72	1.59
2	1	WRAPP-20642	Lake	7120006	PEMF	PEM	Y	1.27	1.27
2	1	WRAPP-20643	Lake	7120006	PEMC	PEM	Y	0.84	0.84
2	1.1	WRAPP-20644	Lake	7120006	PEMA	PEM	Y	0.37	0.37
2	1.2	WRAPP-20645	Lake	7120006	PEMC	PEM	Y	1.82	1.82
2	1.3	WRAPP-20646	Lake	7120006	PEMAx	PEM	N	1.52	1.52
2	1.2	WRAPP-20651	Lake	7120006	PEMA	PEM	N	0.73	0.73
2	1.3	WRAPP-20652	Lake	7120006	PEMC	PEM	N	1.22	0.97
2	1.7	WRAPP-20653	Lake	7120006	PEMAf	PEM	N	0.80	0.80
2	0.5	WRAPP-20661	Lake	7120006	PUBGx	PEM	N	1.87	1.87
2	0	WRAPP-20670	Lake	7120006	PEMCx	PEM	N	0.32	0.32
2	1.6	WRAPP-20768	Lake	7120006	PEMC	PEM	N	1.92	0.01
2	1	WRAPP-22067	Lake	7120006	PEM/FO1Cd	PEM	Y	1.14	1.14
2	6.1	WRAPP-22167	Lake	7120006	PEMFx	PEM	N	6.47	6.14
2	6.2	WRAPP-22214	Lake	7120006	PEMCx	PEM	N	0.26	0.26
2	6.5	WRAPP-22215	Lake	7120006	PEM/UBGx	PEM	N	2.95	2.79
2	6.7	WRAPP-9197	Lake	7120004	PEM/SS1Ad	PEM	N	0.09	0.09
2	6.7	WRAPP-9201	Lake	7120004	PEM/FO1Ad	PEM	N	1.43	1.43
2	6.7	WRAPP-9202	Lake	7120004	PEMC	PEM	N	0.63	0.63
2	6.5	WRAPP-9204	Lake	7120004	PFO1A	PFO	N	0.85	0.76
TOTAL									**236.02**

[1]For this memo, a wetland was identified as high quality if it overlapped with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 2-2
Corridor 2 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
2	3.4	4568	Lake	7120006	Lake Helen Drain	1
2	4.3	9333	Lake	7120006	Squaw Creek	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 2-3
Corridor 2 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
2	0	LR-4429	Lake	7120006	Pond	Volo Commerce Center Pond 3	0.40	0.40
2	0	LR-4433	Lake	7120006	Pond	Volo Commerce Center Pond 2	0.47	0.00
2	0.2	LR-4449	Lake	7120006	Detention Basin	Volo Commerce Center Pond 5	0.80	0.80
2	1	LR-4479	Lake	7120006	Pond		0.03	0.03
2	1	LR-4483	Lake	7120006	Pond		0.04	0.04
2	0.8	LR-4496	Lake	7120006	Pond	Stonewall Orchard Golf Club Pond 1	0.74	0.74
2	1.5	LR-4510	Lake	7120006	Pond		0.16	0.16
2	0.9	LR-4529	Lake	7120006	Pond	Stonewall Orchard Golf Club Pond 2	0.43	0.43
2	1.3	LR-4534	Lake	7120006	Pond	Lake Betty Pond 2	0.74	0.74
2	1.2	LR-4537	Lake	7120006	Lake	Lake Betty	17.63	15.02
2	1.9	LR-4548	Lake	7120006	Pond		0.42	0.42
2	2.5	LR-4554	Lake	7120006	Pond	Hampshire Farms Pond 9	0.01	0.01
2	1.8	LR-4567	Lake	7120006	Pond		0.05	0.05
2	1.4	LR-4591	Lake	7120006	Pond	Lake Betty Pond 1	0.32	0.32
2	1.6	LR-4593	Lake	7120006	Pond		0.02	0.02
2	2.9	LR-4602	Lake	7120006	Pond	Cedar Lake Commons Pond	0.35	0.35
2	1.6	LR-4615	Lake	7120006	Pond		0.01	0.01
2	4.2	LR-4637	Lake	7120006	Lake	South Churchill Lake	24.41	0.26
2	2.9	LR-4646	Lake	7120006	Pond	Lakewood Grove Pond 1	0.01	0.01
2	2.7	LR-4648	Lake	7120006	Pond		0.18	0.18
2	2.9	LR-4650	Lake	7120006	Pond	Lakewood Grove Pond 2	0.08	0.08
2	3.4	LR-4652	Lake	7120006	Pond		0.00	0.00
2	2.9	LR-4653	Lake	7120006	Pond		0.00	0.00
2	3.4	LR-4654	Lake	7120006	Pond		0.00	0.00
2	2.7	LR-4669	Lake	7120006	Pond	Manor Hill Pond 1	0.04	0.04
2	3	LR-4684	Lake	7120006	Pond	Lakewood Grove Pond 3	0.60	0.60
2	2.7	LR-4689	Lake	7120006	Pond	Manor Hill Pond 2	0.96	0.79
2	3.2	LR-4715	Lake	7120006	Pond	Lakewood Grove Pond 4	0.11	0.11
2	4	LR-4765	Lake	7120006	Pond		0.02	0.02
2	4.1	LR-4771	Lake	7120006	Pond		0.25	0.25
2	4	LR-4772	Lake	7120006	Pond		0.03	0.03
2	4	LR-4773	Lake	7120006	Pond		0.02	0.02
2	4.1	LR-4774	Lake	7120006	Pond		0.02	0.02
2	4	LR-4776	Lake	7120006	Pond		0.02	0.02
2	4.1	LR-4803	Lake	7120006	Pond		0.19	0.19
2	4.1	LR-4814	Lake	7120006	Detention Basin		0.05	0.05
2	4.3	LR-4817	Lake	7120006	Pond	Saddlebrook Farms Pond 1	0.79	0.79
2	4.1	LR-4821	Lake	7120006	Pond		0.41	0.41
2	4.1	LR-4826	Lake	7120006	Detention Basin		0.05	0.05
2	3.8	LR-4834	Lake	7120006	Pond	Lakewood Grove Pond 6	0.39	0.20
2	4.3	LR-4865	Lake	7120006	Pond	Fremont Subdivision Pond 1	0.40	0.40
2	4.4	LR-4892	Lake	7120006	Pond	Fremont Subdivision Pond 2	0.72	0.72
2	4.7	LR-4940	Lake	7120006	Pond		1.31	1.31
2	4.9	LR-5109	Lake	7120006	Pond		0.75	0.75
2	6.1	LR-5221	Lake	7120006	Lake	Beelow Lake	13.20	0.26
2	5.8	LR-5246	Lake	7120006	Pond	Beelow Pond 1	0.97	0.97
2	5.9	LR-5281	Lake	7120006	Pond	Beelow Pond 2	0.53	0.53
2	5.5	LR-5293	Lake	7120006	Pond		0.37	0.37
2	5.9	LR-5304	Lake	7120006	Pond	Beelow Pond 3	0.35	0.35
2	5.9	LR-5313	Lake	7120006	Pond	Beelow Pond 4	0.51	0.51
2	6	LR-5314	Lake	7120006	Pond	Beelow Pond 5	0.04	0.04
2	6.2	LR-5319	Lake	7120006	Lake		7.16	0.22
2	6.1	LR-5326	Lake	7120006	Pond	Mundelein Crossings Pond 1	0.20	0.20
2	5.9	LR-5333	Lake	7120006	Pond		0.43	0.43
2	6	LR-5344	Lake	7120006	Pond		0.06	0.06
2	5.8	LR-5378	Lake	7120006	Pond	Thorngate Country Club Pond 3	0.03	0.03
2	5.9	LR-5379	Lake	7120006	Pond	Thorngate Country Club Pond 4	0.69	0.69
2	5.9	LR-5387	Lake	7120006	Pond	Smith Lake	2.11	1.35
2	6.4	LR-5455	Lake	7120006	Pond	Mundelein Crossings Pond 2	0.61	0.61
2	6.7	LR-5514	Lake	7120004	Pond	Mundelein Crossings Pond 3	0.25	0.25
2	4.2	WRAPP-19751	Lake	7120006	Lake		22.50	2.79
TOTAL								**36.47**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 3-1
Corridor 3 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
3	13	WRAPP-10370	Lake	7120004	PEMAd	PEM	N	0.01	0.01
3	13.1	WRAPP-10388	Lake	7120004	PSS1Ad	PSS	N	0.11	0.11
3	13	WRAPP-10389	Lake	7120004	PEMAd	PEM	N	0.14	0.14
3	13.1	WRAPP-10390	Lake	7120004	PSS1Ad	PSS	N	0.07	0.03
3	13.1	WRAPP-10391	Lake	7120004	PSS1Ad	PSS	N	0.06	0.03
3	13.7	WRAPP-10401	Lake	7120004	PEM/FO1A	PEM	N	0.03	0.03
3	13.7	WRAPP-10402	Lake	7120004	L2USJ	PEM	N	0.10	0.10
3	13.7	WRAPP-10484	Lake	7120004	L2UBHh	PEM	N	0.69	0.27
3	14.4	WRAPP-10671	Lake	7120004	PUBGx	PEM	N	0.05	0.05
3	14.6	WRAPP-10673	Lake	7120004	PEMCd	PEM	N	0.37	0.32
3	14.4	WRAPP-10674	Lake	7120004	PUBGx	PEM	N	0.06	0.06
3	14.2	WRAPP-10675	Lake	7120004	PEMCd	PEM	N	1.60	1.60
3	14.1	WRAPP-10676	Lake	7120004	PUBGx	PEM	N	0.02	0.01
3	14.6	WRAPP-10677	Lake	7120004	PFO1Cd	PFO	N	0.49	0.49
3	14.3	WRAPP-10678	Lake	7120004	PEM/SS1Ad	PEM	N	0.13	0.13
3	14.3	WRAPP-10679	Lake	7120004	PEM/SS1Ad	PEM	N	0.31	0.31
3	14.6	WRAPP-10680	Lake	7120004	PFO1Cd	PFO	N	5.29	5.29
3	14.6	WRAPP-10686	Lake	7120004	PFO1Cd	PFO	N	0.47	0.47
3	14.3	WRAPP-10687	Lake	7120004	PEM/SS1Ad	PEM	N	0.02	0.02
3	14.3	WRAPP-10688	Lake	7120004	PEMFx	PEM	N	0.00	0.00
3	14.6	WRAPP-10689	Lake	7120004	PEM/FO1Cd	PEM	N	0.32	0.32
3	14.4	WRAPP-10690	Lake	7120004	PEM/FO1Ad	PEM	N	1.46	1.46
3	14.6	WRAPP-10691	Lake	7120004	PFO1Fd	PFO	N	3.23	3.23
3	14.6	WRAPP-10692	Lake	7120004	PEM/FO1Cx	PEM	N	0.06	0.06
3	14.9	WRAPP-10693	Lake	7120004	PSS1Ad	PSS	N	0.23	0.23
3	14.9	WRAPP-10694	Lake	7120004	PEM/SS1Cd	PEM	N	0.69	0.69
3	15.1	WRAPP-10695	Lake	7120004	PFO1Ad	PFO	N	2.10	2.10
3	15.1	WRAPP-11055	Lake	7120004	PEMCx	PEM	N	0.09	0.09
3	15.1	WRAPP-11056	Lake	7120004	PEM/SS1Cx	PEM	N	0.66	0.29
3	15.1	WRAPP-15966	Lake	7120004	PEM/FO1Ad	PEM	N	0.77	0.55
3	15.1	WRAPP-15967	Lake	7120004	PEM/FO1Ad	PEM	N	1.29	0.78
3	14.6	WRAPP-16580	Lake	7120004	PEM/UBFx	PEM	N	0.50	0.50
3	15.1	WRAPP-38	Lake	7120004	PFO1Ad	PFO	N	4.15	4.15
3	14.6	WRAPP-40	Lake	7120004	PUBGx	PEM	N	0.03	0.03
3	13	WRAPP-43	Lake	7120004	PEMAd	PEM	N	0.01	0.01
3	13	WRAPP-44	Lake	7120004	PEMAd	PEM	N	0.02	0.02
3	14.3	WRAPP-6282	Lake	7120004	R2UBHx	PEM	N	0.74	0.54
3	13	WRAPP-6285	Lake	7120004	R2UBHx	PEM	Y	0.90	0.05
3	15.1	WRAPP-811	Lake	7120004	PEMAd	PEM	N	1.41	0.13
3	15	WRAPP-837	Lake	7120004	PEMCx	PEM	N	0.00	0.00
3	15	WRAPP-839	Lake	7120004	PEMCx	PEM	N	0.00	0.00
3	14.9	WRAPP-862	Lake	7120004	PUBGx	PEM	N	0.04	0.01
3	14.9	WRAPP-863	Lake	7120004	PEM/UBFx	PEM	N	0.01	0.01
3	14.9	WRAPP-867	Lake	7120004	PUBGx	PEM	N	0.03	0.03
3	14.8	WRAPP-871	Lake	7120004	PEM/UBFx	PEM	N	0.02	0.02
3	14.8	WRAPP-877	Lake	7120004	PEMAx	PEM	N	0.00	0.00
3	14.7	WRAPP-880	Lake	7120004	PEMCx	PEM	N	0.00	0.00
3	14.7	WRAPP-881	Lake	7120004	PEMCx	PEM	N	0.09	0.09
3	14.7	WRAPP-892	Lake	7120004	PEM/SS1Cd	PEM	N	0.29	0.29
3	14	WRAPP-932	Lake	7120004	PUBGx	PEM	N	0.01	0.01
3	14.2	WRAPP-941	Lake	7120004	PEM/FO1Cd	PEM	N	0.54	0.54
3	14.1	WRAPP-946	Lake	7120004	PUBGx	PEM	N	0.02	0.02
3	13.4	WRAPP-987	Lake	7120004	PFO1A	PFO	N	0.55	0.55
3	13.2	WRAPP-995	Lake	7120004	PEMCx	PEM	N	0.00	0.00
TOTAL									**26.26**

[1]For this memo, a wetland was identified as high quality if it overlapped with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 3-2
Corridor 3 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
3	13	5806	Lake	7120004	Seavey Drainage Ditch	0
3	14.3	6282	Lake	7120004	Diamond Lake Drain	1
3	14.4	6273	Lake	7120004	Diamond Lake Drain Tributary	0
3	14.6	6443	Lake	7120004	Forty-Five Sixty Pond Drain	0
3	14.7	6436	Lake	7120004	Medline Pond Drain	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 3-3
Corridor 3 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
3	12.9	LR-5808	Lake	7120004	Detention Basin	Mundelein Police Station Pond	0.09	0.09
3	12.9	LR-5817	Lake	7120004	Detention Basin		0.56	0.50
3	13.2	LR-5905	Lake	7120004	Detention Basin	Orchard Basin Pond	2.10	0.92
3	13.7	LR-6116	Lake	7120004	Lake	Diamond Lake	153.17	24.61
3	14	LR-6131	Lake	7120004	Detention Basin	Diamond Pointe Townhome Pond 1	0.15	0.15
3	14	LR-6141	Lake	7120004	Detention Basin	Diamond Pointe Townhome Pond 2	0.22	0.22
3	14.1	LR-6144	Lake	7120004	Detention Basin	Diamond Pointe Townhome Pond 3	0.21	0.21
3	14.1	LR-6150	Lake	7120004	Pond	Bio-Logic Systems Pond	0.74	0.43
3	14.1	LR-6168	Lake	7120004	Pond	Diamond Pointe Townhome Pond 4	0.29	0.29
3	14.2	LR-6228	Lake	7120004	Detention Basin	Mundelein Industrial Park Pond 2	0.06	0.06
3	14.2	LR-6246	Lake	7120004	Detention Basin	Cairo Industrial Park Pond	0.30	0.30
3	14.3	LR-6263	Lake	7120004	Pond	Mundelein Industrial Park Pond 3	0.34	0.34
3	14.3	LR-6271	Lake	7120004	Detention Basin	Mundelein Industrial Park Pond 4	0.07	0.07
3	14	LR-6279	Lake	7120004	Pond	Chioles Pond	0.10	0.07
3	14.3	LR-6286	Lake	7120004	Detention Basin	Mundelein Industrial Park Pond 5	0.13	0.13
3	14.3	LR-6288	Lake	7120004	Detention Basin		0.09	0.09
3	14.4	LR-6342	Lake	7120004	Detention Basin	Consumers Co-op Credit Union - Mundelein Pond	0.20	0.20
3	14.4	LR-6349	Lake	7120004	Pond	Roseler Pond	0.29	0.29
3	14.5	LR-6392	Lake	7120004	Detention Basin	Century Assembly of God Pond 1	1.05	1.05
3	14.6	LR-6409	Lake	7120004	Detention Basin	Insignia Ridge Pond 1	0.46	0.46
3	14.6	LR-6413	Lake	7120004	Detention Basin	Mundelein Fire Department Station 2 Pond	0.21	0.21
3	14.6	LR-6421	Lake	7120004	Detention Basin	Century Assembly of God Pond 2	0.11	0.11
3	14.6	LR-6425	Lake	7120004	Detention Basin	Insignia Ridge Pond 2	0.15	0.15
3	14.6	LR-6446	Lake	7120004	Pond	Forty-Five Sixty Pond	1.20	1.20
3	14.7	LR-6461	Lake	7120004	Detention Basin	C.D.S. Pond	0.20	0.20
3	14.7	LR-6475	Lake	7120004	Detention Basin	Mundelein Autozone Pond 1	0.14	0.14
3	14.8	LR-6484	Lake	7120004	Detention Basin	Mundelein Autozone Pond 2	0.06	0.06
3	14.8	LR-6506	Lake	7120004	Detention Basin	Supervalu Pond 1	0.59	0.59
3	14.9	LR-6514	Lake	7120004	Pond	Medline Pond 3	0.34	0.34
3	14.9	LR-6522	Lake	7120004	Detention Basin	Supervalu Pond 2	0.31	0.31
3	14.9	LR-6523	Lake	7120004	Pond	Medline Pond 4	0.28	0.08
3	14.9	LR-6532	Lake	7120004	Detention Basin	Cel-Tax Pond	0.55	0.55
3	15	LR-6577	Lake	7120004	Detention Basin	Patriots Plaza Pond	0.33	0.33
3	15	LR-6581	Lake	7120004	Detention Basin	Oak Creek Plaza Pond 2	0.89	0.89
TOTAL								**35.63**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 4-1
Corridor 4 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
4	5.4	ADID-1789	Lake	7120004	PEM	PEM	Y	8.08	5.21
4	6.3	ADID-1806	Lake	7120004	PUBGx	PEM	Y	37.48	7.51
4	7.1	ADID-1817	Lake	7120004	PUBHh	PEM	N	37.06	11.15
4	5.6	ADID-2712	Lake	7120004	PEMAs	PEM	N	12.51	1.39
4	6.3	ADID-2714	Lake	7120004	PFO1Cd	PFO	Y	34.66	3.53
4	5.9	AI-104	Lake	7120004	PEM	PEM	Y	0.34	0.34
4	5.9	AI-64	Lake	7120004	PEM	PEM	Y	0.35	0.35
4	5.9	AI-81	Lake	7120004	PEM	PEM	Y	0.02	0.02
4	0.1	AI-82	Lake	7120004	PEM	PEM	N	0.14	0.14
4	1.3	AI-92	Lake	7120006	PEM	PEM	N	0.08	0.08
4	0.4	WRAPP-10448	Lake	7120004	R4SBCx	PEM	N	0.65	0.62
4	2.5	WRAPP-10449	Lake	7120004	L1UBHh	PEM	N	0.40	0.30
4	0.5	WRAPP-10450	Lake	7120004	R4SBCx	PEM	N	1.28	1.28
4	1.2	WRAPP-10451	Lake	7120004	R4SBCx	PEM	N	2.92	2.92
4	1.2	WRAPP-10452	Lake	7120004	R4SBCx	PEM	N	0.06	0.06
4	1.2	WRAPP-10453	Lake	7120004	PFO1A	PFO	Y	1.90	1.90
4	1.5	WRAPP-10454	Lake	7120004	R4SBCx	PEM	N	0.34	0.34
4	0	WRAPP-10461	Lake	7120004	R4SBCx	PEM	N	1.54	1.54
4	0.9	WRAPP-10462	Lake	7120004	R4SBCx	PEM	N	0.66	0.66
4	7.2	WRAPP-10466	Lake	7120004	R4SBCx	PEM	N	0.67	0.67
4	7.4	WRAPP-10467	Lake	7120004	PUBGh	PEM	N	0.07	0.03
4	6.6	WRAPP-10468	Lake	7120004	R4SBCx	PEM	N	2.71	1.85
4	6.1	WRAPP-10470	Lake	7120004	PEM/FO1C	PEM	Y	0.57	0.57
4	0.9	WRAPP-10476	Lake	7120004	PUBGh	PEM	N	0.33	0.33
4	1.1	WRAPP-10477	Lake	7120004	PEM/FO1Ad	PEM	N	1.01	0.81
4	1.2	WRAPP-10478	Lake	7120004	R4SBCx	PEM	N	0.11	0.11
4	3.5	WRAPP-10479	Lake	7120004	R4SBCx	PEM	N	0.10	0.10
4	3.4	WRAPP-10480	Lake	7120004	PEMCd	PEM	N	0.22	0.22
4	6.1	WRAPP-10483	Lake	7120004	R4SBA	PFO	Y	0.12	0.12
4	1.4	WRAPP-10560	Lake	7120004	PEM/SS1F	PEM	N	3.07	3.07
4	1.5	WRAPP-10570	Lake	7120004	R4SBCx	PEM	N	0.29	0.29
4	1.5	WRAPP-10575	Lake	7120004	R4SBCx	PEM	N	0.08	0.08
4	1.5	WRAPP-10576	Lake	7120004	PEM/FO1Cd	PEM	N	0.25	0.21
4	1.5	WRAPP-10581	Lake	7120004	PEMA	PEM	N	0.14	0.14
4	1.5	WRAPP-10582	Lake	7120004	L2UBHh	PEM	N	0.34	0.01
4	7.4	WRAPP-10993	Lake	7120004	PEM/FO1Cd	PEM	N	10.66	1.96
4	7.6	WRAPP-11448	Lake	7120004	PUBGx	PEM	N	0.09	0.00
4	6.9	WRAPP-11450	Lake	7120004	PUBGx	PEM	N	0.74	0.74
4	6.6	WRAPP-11461	Lake	7120004	PEMC	PEM	N	0.08	0.08
4	7.1	WRAPP-11462	Lake	7120004	PUBGx	PEM	N	0.18	0.18
4	7.1	WRAPP-11463	Lake	7120004	PUBGx	PEM	N	0.11	0.11
4	6.4	WRAPP-11498	Lake	7120004	PFO1A	PFO	Y	0.45	0.45
4	6.4	WRAPP-11499	Lake	7120004	PFO1A	PFO	Y	0.31	0.31
4	6.4	WRAPP-11500	Lake	7120004	PFO1A	PFO	Y	1.43	1.43
4	6.4	WRAPP-11501	Lake	7120004	PFO1A	PFO	Y	1.30	1.30
4	6.4	WRAPP-11502	Lake	7120004	PFO1A	PFO	Y	0.67	0.58
4	6.3	WRAPP-11503	Lake	7120004	PFO1A	PFO	Y	0.71	0.71
4	6.3	WRAPP-11506	Lake	7120004	PFO1A	PFO	Y	6.12	1.56
4	7.9	WRAPP-11591	Lake	7120004	PUBGx	PEM	N	0.02	0.02
4	7.9	WRAPP-11592	Lake	7120004	PFO1Ad	PFO	N	4.63	2.58
4	7.5	WRAPP-11593	Lake	7120004	PUBGx	PEM	N	0.03	0.03
4	7.5	WRAPP-11594	Lake	7120004	PFO1Ad	PFO	N	0.12	0.12
4	7.9	WRAPP-11595	Lake	7120004	PFO1Ad	PFO	N	2.51	1.53
4	7.8	WRAPP-11597	Lake	7120004	PEMC	PEM	N	0.72	0.72
4	7.5	WRAPP-11598	Lake	7120004	PFO1Ad	PFO	N	0.64	0.64
4	7.5	WRAPP-11599	Lake	7120004	PFO1Ad	PFO	N	1.42	1.42
4	7.7	WRAPP-11600	Lake	7120004	PFO1Cd	PFO	N	0.78	0.78
4	7.7	WRAPP-11601	Lake	7120004	PFO1Ad	PFO	N	0.12	0.12
4	7.4	WRAPP-11602	Lake	7120004	PEMCd	PEM	N	0.88	0.88
4	7.4	WRAPP-11604	Lake	7120004	PEMCd	PEM	N	0.54	0.54
4	7.4	WRAPP-11606	Lake	7120004	R4SBCx	PEM	N	0.24	0.24
4	7.2	WRAPP-11607	Lake	7120004	R4SBCx	PEM	N	0.29	0.29
4	7.3	WRAPP-11608	Lake	7120004	R4SBCx	PEM	N	0.26	0.26
4	0.9	WRAPP-11772	Lake	7120004	PSS1A	PSS	N	4.63	0.64
4	1.1	WRAPP-11773	Lake	7120004	PFO1Cd	PFO	N	1.21	0.12
4	0.7	WRAPP-11774	Lake	7120004	PUBG	PEM	N	0.27	0.27
4	0.6	WRAPP-11775	Lake	7120004	PEMF	PEM	N	16.18	16.18

Attachment B - Table 4-1
Corridor 4 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
4	1	WRAPP-11776	Lake	7120004	PUBGx	PEM	N	0.06	0.06
4	0.9	WRAPP-11777	Lake	7120004	PEMCd	PEM	N	1.32	1.32
4	0.6	WRAPP-11778	Lake	7120004	PUBGx	PEM	N	0.55	0.18
4	0.6	WRAPP-11779	Lake	7120004	R4SBCx	PEM	N	18.45	2.06
4	1.2	WRAPP-11780	Lake	7120004	L2ABHh	PEM	Y	0.77	0.77
4	1.1	WRAPP-11784	Lake	7120004	PFO1Ad	PFO	N	0.91	0.17
4	1.2	WRAPP-11785	Lake	7120004	R4SBCx	PEM	Y	4.18	4.18
4	0.7	WRAPP-11786	Lake	7120004	PEMC	PEM	N	0.32	0.32
4	0.8	WRAPP-11787	Lake	7120004	PEMA	PEM	N	1.38	1.38
4	1.5	WRAPP-11788	Lake	7120004	PFO1A	PFO	N	0.24	0.24
4	1.5	WRAPP-11789	Lake	7120004	PEM/FO1C	PEM	N	0.39	0.39
4	1.2	WRAPP-11791	Lake	7120004	R4SBCx	PEM	Y	0.59	0.59
4	1.2	WRAPP-11792	Lake	7120004	R4SBC	PEM	Y	0.30	0.30
4	1.1	WRAPP-11793	Lake	7120004	R4SBC	PEM	N	1.29	1.29
4	1.2	WRAPP-11794	Lake	7120004	R4SBCx	PEM	Y	1.63	1.63
4	0.9	WRAPP-11795	Lake	7120004	PEMCx	PEM	N	0.26	0.26
4	0.7	WRAPP-11796	Lake	7120004	PEMCx	PEM	N	0.10	0.03
4	1.1	WRAPP-11797	Lake	7120004	PFO1A	PFO	N	0.67	0.08
4	2.4	WRAPP-11803	Lake	7120004	L1AB/UBHh	PEM	N	0.46	0.09
4	2.9	WRAPP-11815	Lake	7120004	PEM/SS1Ad	PEM	N	1.76	0.34
4	2.5	WRAPP-11818	Lake	7120004	R4SBCx	PEM	N	0.05	0.05
4	0.4	WRAPP-11819	Lake	7120004	R4SBCx	PEM	N	0.33	0.33
4	0.5	WRAPP-11820	Lake	7120004	R4SBCx	PEM	N	0.28	0.28
4	3	WRAPP-11821	Lake	7120004	PEMC	PEM	N	0.36	0.36
4	3.3	WRAPP-11823	Lake	7120004	PEMC	PEM	N	0.90	0.90
4	3.6	WRAPP-11824	Lake	7120004	PUBHx	PEM	N	0.09	0.09
4	3.5	WRAPP-11825	Lake	7120004	PEM/FO1Cd	PEM	N	2.26	1.50
4	3.7	WRAPP-11826	Lake	7120004	L2UBHh	PEM	N	0.20	0.19
4	3.9	WRAPP-11827	Lake	7120004	PEMA	PEM	N	0.09	0.09
4	1.2	WRAPP-11839	Lake	7120004	R4SBC	PEM	N	1.04	1.04
4	1.2	WRAPP-11840	Lake	7120004	R4SBCx	PEM	N	0.08	0.08
4	4.1	WRAPP-11845	Lake	7120004	PFO1Ad	PFO	N	0.63	0.63
4	4	WRAPP-11846	Lake	7120004	PFO1Ad	PFO	N	0.39	0.39
4	4	WRAPP-11847	Lake	7120004	PFO1Ad	PFO	N	0.11	0.11
4	4.1	WRAPP-11857	Lake	7120004	PFO1Ad	PFO	N	0.95	0.47
4	4.1	WRAPP-11858	Lake	7120004	PFO1Ad	PFO	N	0.29	0.29
4	4.1	WRAPP-11859	Lake	7120004	PFO1Ad	PFO	N	0.93	0.34
4	5.5	WRAPP-11913	Lake	7120004	PAB4F	PEM	N	0.01	0.01
4	5.6	WRAPP-11914	Lake	7120004	PEMFd	PEM	Y	28.41	19.23
4	5.3	WRAPP-11917	Lake	7120004	PUBHx	PEM	N	0.02	0.02
4	5.1	WRAPP-11922	Lake	7120004	PEM/SS1Cd	PEM	N	27.51	5.48
4	5.7	WRAPP-11941	Lake	7120004	PEMCd	PEM	N	2.00	0.44
4	5.7	WRAPP-11943	Lake	7120004	PEMCd	PEM	N	0.17	0.17
4	5.7	WRAPP-11944	Lake	7120004	PEMCd	PEM	N	0.24	0.24
4	5.7	WRAPP-11945	Lake	7120004	PEMCd	PEM	N	2.02	0.27
4	5.6	WRAPP-11946	Lake	7120004	PEMCd	PEM	N	0.74	0.74
4	5.6	WRAPP-11947	Lake	7120004	PFO1Ad	PFO	N	0.44	0.44
4	5.6	WRAPP-11948	Lake	7120004	PFO1Ad	PFO	N	0.21	0.21
4	5.6	WRAPP-11949	Lake	7120004	PUBGx	PEM	Y	0.41	0.41
4	5.5	WRAPP-11953	Lake	7120004	PEMC	PEM	N	4.50	4.50
4	5.4	WRAPP-11954	Lake	7120004	PEM/SS1C	PEM	N	2.52	2.47
4	5.3	WRAPP-11962	Lake	7120004	PFO1A	PFO	N	0.14	0.14
4	5	WRAPP-11964	Lake	7120004	L1UBHh	PEM	N	0.21	0.01
4	5	WRAPP-11965	Lake	7120004	PFO1A	PFO	N	1.22	1.22
4	4.6	WRAPP-11966	Lake	7120004	PFO1C	PFO	N	0.85	0.85
4	4.3	WRAPP-11969	Lake	7120004	PSS1C	PSS	N	1.74	1.74
4	4.3	WRAPP-11970	Lake	7120004	PEMC	PEM	N	1.16	1.16
4	5.1	WRAPP-11976	Lake	7120004	PEM/UBF	PEM	N	0.32	0.32
4	5.1	WRAPP-11977	Lake	7120004	PEMC	PEM	N	0.80	0.80
4	5.2	WRAPP-11978	Lake	7120004	PEM/UBF	PEM	N	0.53	0.53
4	5.2	WRAPP-11979	Lake	7120004	PEM/UBF	PEM	N	0.45	0.45
4	5.3	WRAPP-11980	Lake	7120004	PEMC	PEM	N	0.15	0.15
4	0.9	WRAPP-11982	Lake	7120004	R4SBC	PEM	N	0.03	0.03
4	0.9	WRAPP-11983	Lake	7120004	R4SBC	PEM	N	5.96	4.49
4	0.9	WRAPP-11984	Lake	7120004	R4SBCx	PEM	N	0.23	0.23
4	0.9	WRAPP-11985	Lake	7120004	R4SBC	PEM	N	0.35	0.35
4	0.9	WRAPP-11987	Lake	7120004	R4SBCx	PEM	N	0.11	0.11

Attachment B - Table 4-1
Corridor 4 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
4	0.9	WRAPP-11988	Lake	7120004	R4SBCx	PEM	N	0.26	0.26
4	0.1	WRAPP-11989	Lake	7120004	PEMCd	PEM	N	0.19	0.19
4	1	WRAPP-11995	Lake	7120004	PUBGx	PEM	N	1.09	0.03
4	0	WRAPP-12007	Lake	7120004	PEM/FO1Cd	PEM	N	0.16	0.16
4	0	WRAPP-12010	Lake	7120004	PUBGx	PEM	N	0.01	0.01
4	0	WRAPP-12011	Lake	7120004	PUBGx	PEM	N	0.03	0.03
4	0	WRAPP-12014	Lake	7120004	PEM/FO1Cd	PEM	N	0.19	0.19
4	0	WRAPP-12015	Lake	7120004	R4SBCx	PEM	N	2.06	2.06
4	6.3	WRAPP-12042	Lake	7120004	PFO1A	PFO	Y	0.06	0.06
4	6.4	WRAPP-12043	Lake	7120004	PFO1A	PFO	Y	3.03	2.47
4	6.3	WRAPP-12044	Lake	7120004	PFO1A	PFO	Y	0.12	0.12
4	6.2	WRAPP-12045	Lake	7120004	PFO1A	PFO	Y	3.93	0.14
4	6.4	WRAPP-12046	Lake	7120004	R2UBHx	PFO	Y	1.77	0.40
4	6.9	WRAPP-12060	Lake	7120004	PUBHx	PEM	N	0.04	0.04
4	6.8	WRAPP-12061	Lake	7120004	PUBHx	PEM	N	0.01	0.01
4	6.8	WRAPP-12062	Lake	7120004	PUBHx	PEM	N	0.00	0.00
4	6.7	WRAPP-12065	Lake	7120004	PUBHx	PEM	N	0.00	0.00
4	6.8	WRAPP-12066	Lake	7120004	PFO1Cd	PFO	N	1.14	1.14
4	6.6	WRAPP-12067	Lake	7120004	PUBGx	PEM	N	0.05	0.05
4	6.4	WRAPP-12070	Lake	7120004	L1ABHh	PEM	Y	0.64	0.02
4	6.3	WRAPP-12071	Lake	7120004	PFO1A	PFO	Y	0.31	0.11
4	6.2	WRAPP-12072	Lake	7120004	PUBGh	PEM	Y	0.05	0.05
4	6.2	WRAPP-12073	Lake	7120004	PFO1C	PFO	Y	0.16	0.16
4	6.3	WRAPP-12077	Lake	7120004	R4SBA	PFO	Y	2.69	2.43
4	6.4	WRAPP-12078	Lake	7120004	PEM/FO1A	PEM	Y	1.82	1.82
4	6.3	WRAPP-12079	Lake	7120004	R4SBA	PEM	Y	0.11	0.11
4	6	WRAPP-12080	Lake	7120004	PEM/FO1C	PEM	Y	2.44	0.43
4	6.4	WRAPP-12082	Lake	7120004	R4SBA	PEM	Y	0.08	0.08
4	6.4	WRAPP-12083	Lake	7120004	R4SBA	PEM	Y	0.37	0.37
4	6.4	WRAPP-12084	Lake	7120004	R2UBHx	PEM	Y	1.16	1.16
4	6.3	WRAPP-12085	Lake	7120004	R4SBC	PEM	Y	0.21	0.21
4	6.4	WRAPP-12086	Lake	7120004	PFO1C	PFO	Y	0.01	0.01
4	6.4	WRAPP-12090	Lake	7120004	PFO1C	PFO	Y	0.14	0.14
4	6.5	WRAPP-12091	Lake	7120004	R4SBA	PEM	Y	0.06	0.05
4	6.1	WRAPP-12095	Lake	7120004	R4SBA	PEM	N	0.15	0.15
4	6.6	WRAPP-12096	Lake	7120004	PUBFx	PEM	N	0.01	0.01
4	7.1	WRAPP-12101	Lake	7120004	PUBGx	PEM	N	0.06	0.06
4	7.1	WRAPP-12102	Lake	7120004	PEM/FO1A	PEM	N	1.90	1.90
4	7	WRAPP-12103	Lake	7120004	PEMC	PEM	N	0.00	0.00
4	7	WRAPP-12104	Lake	7120004	PUBGx	PEM	N	0.09	0.08
4	7.4	WRAPP-12105	Lake	7120004	PFO1Ad	PFO	N	8.38	0.95
4	7.1	WRAPP-12106	Lake	7120004	PEM/FO1C	PEM	N	0.13	0.13
4	7.3	WRAPP-12117	Lake	7120004	PFO1C	PFO	N	0.51	0.00
4	7	WRAPP-12118	Lake	7120004	PFO1A	PFO	N	0.37	0.37
4	7.1	WRAPP-12119	Lake	7120004	PFO1C	PFO	N	0.54	0.54
4	7.1	WRAPP-12120	Lake	7120004	PEM/FO1A	PEM	N	1.30	1.30
4	6.4	WRAPP-15848	Lake	7120004	R4SBA	PEM	Y	0.04	0.04
4	6.4	WRAPP-15849	Lake	7120004	R4SBA	PEM	Y	0.04	0.04
4	6.6	WRAPP-15976	Lake	7120004	PFO1C	PFO	N	0.07	0.07
4	1.1	WRAPP-16247	Lake	7120004	R4SBC	PEM	N	1.21	1.21
4	1.5	WRAPP-16604	Lake	7120004	PUBFx	PEM	N	0.25	0.25
4	1.4	WRAPP-16605	Lake	7120004	PUBFx	PEM	N	0.57	0.57
4	1.4	WRAPP-16606	Lake	7120004	PUBFx	PEM	N	0.85	0.85
4	1.3	WRAPP-16607	Lake	7120004	PUBFx	PEM	N	0.28	0.28
4	1.3	WRAPP-16608	Lake	7120004	PUBFx	PEM	N	0.17	0.14
4	5.6	WRAPP-16625	Lake	7120004	PEMFx	PEM	N	0.43	0.43
4	5.7	WRAPP-16626	Lake	7120004	PUBGx	PEM	N	0.16	0.16
4	5.7	WRAPP-16627	Lake	7120004	PUBGx	PEM	N	0.44	0.44
4	5.2	WRAPP-16628	Lake	7120004	PUBGx	PEM	N	0.39	0.39
4	0.1	WRAPP-16629	Lake	7120004	PEMCx	PEM	N	0.37	0.37
4	0	WRAPP-16630	Lake	7120004	PUBGx	PEM	N	1.21	1.21
4	0.3	WRAPP-16631	Lake	7120004	PEMFx	PEM	N	0.89	0.89
4	0.2	WRAPP-16632	Lake	7120004	PEMFx	PEM	N	0.38	0.38
4	0.4	WRAPP-16633	Lake	7120004	PUBGx	PEM	N	0.84	0.84
4	0.5	WRAPP-16645	Lake	7120004	PEMCx	PEM	N	0.28	0.28
4	5.9	WRAPP-16655	Lake	7120004	PUBGx	PEM	N	0.69	0.69
4	7.9	WRAPP-16667	Lake	7120004	PEMCx	PEM	N	1.92	1.05

Attachment B - Table 4-1
Corridor 4 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
4	0	WRAPP-16799	Lake	7120006	PFO1A	PFO	N	0.17	0.17
4	0	WRAPP-16800	Lake	7120006	PFO1A	PFO	N	0.13	0.05
4	2.2	WRAPP-17254	Lake	7120006	PEMC	PEM	N	0.60	0.60
4	2.5	WRAPP-17255	Lake	7120006	PUBGx	PEM	N	0.05	0.05
4	2	WRAPP-17256	Lake	7120006	PFO1Ad	PFO	N	0.42	0.42
4	2.7	WRAPP-17264	Lake	7120004	PEMFx	PEM	N	0.18	0.18
4	2.1	WRAPP-17272	Lake	7120006	PEM/FO1Cd	PEM	N	1.88	1.88
4	2.1	WRAPP-17276	Lake	7120006	PUBGx	PEM	N	0.04	0.04
4	2.6	WRAPP-17280	Lake	7120006	PUBGx	PEM	N	0.03	0.03
4	2.3	WRAPP-17281	Lake	7120006	PEMCx	PEM	N	0.01	0.01
4	1.6	WRAPP-17282	Lake	7120006	PEMA	PEM	N	0.71	0.71
4	1.4	WRAPP-17288	Lake	7120006	PEMAf	PEM	N	0.12	0.07
4	1.4	WRAPP-17303	Lake	7120006	PEMA	PEM	N	0.56	0.56
4	1.3	WRAPP-17305	Lake	7120006	PEM/SS1C	PEM	N	1.59	1.59
4	1.6	WRAPP-17312	Lake	7120006	PEMF	PEM	N	2.63	2.63
4	1.1	WRAPP-17313	Lake	7120006	PUBGx	PEM	N	0.11	0.11
4	1.5	WRAPP-17316	Lake	7120006	PEMAf	PEM	N	0.17	0.08
4	1.3	WRAPP-17319	Lake	7120006	PEMC	PEM	N	4.89	4.89
4	1.4	WRAPP-17323	Lake	7120006	PEMCx	PEM	N	1.17	0.84
4	1.1	WRAPP-17340	Lake	7120006	PEM/FO1C	PEM	N	3.04	1.95
4	0.7	WRAPP-17342	Lake	7120006	PEMA	PEM	N	0.76	0.76
4	0.6	WRAPP-17347	Lake	7120006	PEMAf	PEM	N	0.39	0.39
4	0.3	WRAPP-17362	Lake	7120006	PEMAf	PEM	N	0.61	0.61
4	0.5	WRAPP-17365	Lake	7120006	PEMC	PEM	N	0.77	0.77
4	0.5	WRAPP-17367	Lake	7120006	PEMAf	PEM	N	0.39	0.39
4	0.7	WRAPP-17372	Lake	7120006	PEM/FO1C	PEM	N	1.28	1.28
4	0	WRAPP-17376	Lake	7120006	PFO1A	PFO	N	0.24	0.01
4	0.7	WRAPP-17382	Lake	7120006	PEMF	PEM	N	36.43	23.56
4	0	WRAPP-17384	Lake	7120006	PUBGx	PEM	N	0.01	0.01
4	0	WRAPP-17386	Lake	7120006	PEMF	PEM	N	0.22	0.22
4	0.5	WRAPP-17390	Lake	7120006	PEM/FO1C	PEM	N	2.16	0.94
4	0	WRAPP-17392	Lake	7120006	R4SBC	PEM	N	0.73	0.13
4	0	WRAPP-17394	Lake	7120006	PFO1C	PFO	N	0.05	0.02
4	0	WRAPP-17396	Lake	7120006	PSS1Cd	PSS	N	0.22	0.22
4	0	WRAPP-17400	Lake	7120006	PEM/SS1Cd	PEM	N	0.31	0.31
4	0	WRAPP-17407	Lake	7120006	PEMAx	PEM	N	0.06	0.06
4	0	WRAPP-17408	Lake	7120006	PEMAx	PEM	N	0.08	0.08
4	0	WRAPP-18988	Lake	7120006	R4SBC	PEM	N	0.12	0.03
4	0.8	WRAPP-19264	Lake	7120006	PSS1C	PSS	N	0.20	0.20
4	0.8	WRAPP-19265	Lake	7120006	PUBF	PEM	N	0.02	0.02
4	1.6	WRAPP-19266	Lake	7120006	PUBGx	PEM	N	0.10	0.10
4	2	WRAPP-19271	Lake	7120006	PUBGx	PEM	N	0.18	0.12
4	2.5	WRAPP-19273	Lake	7120006	PAB/UBGx	PEM	N	0.13	0.13
4	0	WRAPP-19430	Lake	7120006	PUBGx	PEM	N	0.16	0.15
4	0.5	WRAPP-19431	Lake	7120006	PUBHx	PEM	N	0.09	0.09
4	0.6	WRAPP-19432	Lake	7120006	PEM/FO1C	PEM	N	1.56	1.56
4	0.5	WRAPP-19433	Lake	7120006	PEM/SS1Cd	PEM	N	0.28	0.28
4	0.4	WRAPP-19434	Lake	7120006	PUBGx	PEM	N	0.03	0.03
4	0.1	WRAPP-19435	Lake	7120006	PUBGx	PEM	N	0.01	0.01
4	0	WRAPP-19441	Lake	7120006	R4SBC	PEM	N	0.39	0.39
4	0	WRAPP-19442	Lake	7120006	PFO1A	PFO	N	0.26	0.26
4	0	WRAPP-19443	Lake	7120006	PFO1A	PFO	N	0.11	0.09
4	0	WRAPP-19446	Lake	7120006	PEM/FO1Ad	PEM	N	1.00	1.00
4	0	WRAPP-19447	Lake	7120006	PEMCd	PEM	N	0.12	0.12
4	0	WRAPP-19448	Lake	7120006	PFO1A	PFO	N	0.20	0.20
4	0.5	WRAPP-19455	Lake	7120006	PEMCd	PEM	N	0.22	0.22
4	1.6	WRAPP-19488	Lake	7120006	PEMCd	PEM	N	10.05	8.41
4	1.9	WRAPP-19504	Lake	7120006	PEMFd	PEM	N	21.28	9.03
4	1.8	WRAPP-19506	Lake	7120006	PEMC	PEM	N	0.59	0.52
4	1.8	WRAPP-19508	Lake	7120006	PEMF	PEM	N	1.93	0.27
4	2.4	WRAPP-22054	Lake	7120004	PEM/SS1Cd	PEM	N	16.99	16.99
4	2	WRAPP-22055	Lake	7120006	PEM/FO1Cd	PEM	N	2.79	0.05
4	1.3	WRAPP-22107	Lake	7120006	PEMCx	PEM	N	0.57	0.57
4	1.4	WRAPP-22108	Lake	7120006	PUBGx	PEM	N	0.35	0.35
4	1.5	WRAPP-22109	Lake	7120006	PEMAx	PEM	N	1.31	1.31
4	1.2	WRAPP-22110	Lake	7120006	PEMCx	PEM	N	0.84	0.84
4	0.8	WRAPP-22174	Lake	7120006	PEM/UBFx	PEM	N	1.11	0.03

Attachment B - Table 4-1
Corridor 4 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
4	7.9	WRAPP-251	Lake	7120004	PUBGx	PEM	N	0.05	0.05
4	7.9	WRAPP-260	Lake	7120004	PUBGx	PEM	N	0.00	0.00
4	7.9	WRAPP-263	Lake	7120004	PUBGx	PEM	N	0.02	0.02
4	7.2	WRAPP-278	Lake	7120004	PUBGx	PEM	N	0.04	0.02
4	7.2	WRAPP-282	Lake	7120004	PUBGx	PEM	N	0.03	0.03
4	7.8	WRAPP-287	Lake	7120004	PUBGx	PEM	N	0.13	0.13
4	7.2	WRAPP-293	Lake	7120004	PFO1C	PFO	N	0.01	0.01
4	7.6	WRAPP-299	Lake	7120004	PUBGx	PEM	N	0.07	0.07
4	3.9	WRAPP-30	Lake	7120004	PFO1Ad	PFO	N	0.34	0.34
4	7.1	WRAPP-307	Lake	7120004	PEM/FO1C	PEM	N	0.21	0.21
4	7.2	WRAPP-315	Lake	7120004	PFO1C	PFO	N	0.19	0.13
4	7	WRAPP-317	Lake	7120004	PEM/FO1C	PEM	N	0.29	0.23
4	7.2	WRAPP-324	Lake	7120004	R4SBCx	PEM	N	0.19	0.19
4	7.1	WRAPP-326	Lake	7120004	PEMC	PEM	N	1.72	1.72
4	7.1	WRAPP-334	Lake	7120004	PUBGx	PEM	N	0.12	0.12
4	6.8	WRAPP-360	Lake	7120004	PUBGx	PEM	N	0.02	0.02
4	6.8	WRAPP-371	Lake	7120004	PUBGx	PEM	N	0.01	0.01
4	6.8	WRAPP-377	Lake	7120004	PUBHx	PEM	N	0.02	0.02
4	6.6	WRAPP-388	Lake	7120004	PUBGx	PEM	N	0.00	0.00
4	6.6	WRAPP-391	Lake	7120004	PUBGx	PEM	N	0.02	0.02
4	6.4	WRAPP-395	Lake	7120004	PUBGx	PEM	N	0.02	0.02
4	6.6	WRAPP-404	Lake	7120004	PUBGx	PEM	N	0.47	0.47
4	6.1	WRAPP-429	Lake	7120004	PFO1C	PFO	Y	0.60	0.60
4	5.9	WRAPP-438	Lake	7120004	PFO1C	PFO	Y	0.88	0.88
4	5.9	WRAPP-442	Lake	7120004	PEM/FO1C	PEM	Y	0.57	0.57
4	0	WRAPP-453	Lake	7120004	PEMC	PEM	N	0.44	0.44
4	5.7	WRAPP-455	Lake	7120004	PEMA	PEM	Y	0.05	0.04
4	0	WRAPP-460	Lake	7120004	PUBGx	PEM	N	0.03	0.02
4	0	WRAPP-470	Lake	7120004	PEMC	PEM	N	0.19	0.19
4	5.9	WRAPP-473	Lake	7120004	PEMC	PEM	N	0.16	0.15
4	0.1	WRAPP-485	Lake	7120004	PEMC	PEM	N	1.30	1.29
4	5.7	WRAPP-488	Lake	7120004	PEMAf	PEM	N	1.07	1.02
4	0.1	WRAPP-492	Lake	7120004	PEMCd	PEM	N	3.75	0.61
4	0.2	WRAPP-499	Lake	7120004	PEMCd	PEM	N	0.21	0.21
4	0	WRAPP-50	Lake	7120004	R4SBCx	PEM	N	0.17	0.17
4	0.2	WRAPP-501	Lake	7120004	PEM/FO1Cd	PEM	N	2.03	2.03
4	5.4	WRAPP-504	Lake	7120004	PUBGx	PEM	N	1.38	1.38
4	5.7	WRAPP-510	Lake	7120004	PUBGx	PEM	N	0.01	0.01
4	5.5	WRAPP-512	Lake	7120004	PUBGx	PEM	N	0.05	0.05
4	5.6	WRAPP-514	Lake	7120004	PUBGx	PEM	Y	0.04	0.04
4	5.4	WRAPP-516	Lake	7120004	PUBGx	PEM	N	0.26	0.26
4	0.4	WRAPP-517	Lake	7120004	PUBGx	PEM	N	0.01	0.01
4	5.6	WRAPP-52	Lake	7120004	PEMCd	PEM	N	0.97	0.97
4	5.1	WRAPP-520	Lake	7120004	PEMF	PEM	N	0.38	0.38
4	5.2	WRAPP-521	Lake	7120004	PFO5F	PFO	N	0.42	0.42
4	0.4	WRAPP-523	Lake	7120004	PEMFx	PEM	N	0.02	0.02
4	0.5	WRAPP-533	Lake	7120004	PEMC	PEM	N	0.53	0.53
4	0.5	WRAPP-534	Lake	7120004	PEMA	PEM	N	0.47	0.47
4	5.5	WRAPP-537	Lake	7120004	PUBGx	PEM	N	0.12	0.08
4	0.5	WRAPP-538	Lake	7120004	PEMFx	PEM	N	0.02	0.02
4	5.2	WRAPP-541	Lake	7120004	PFO1A	PFO	N	1.42	1.42
4	5.3	WRAPP-542	Lake	7120004	PEM/FO1C	PEM	N	0.21	0.21
4	5.2	WRAPP-543	Lake	7120004	PSS1C	PSS	N	0.40	0.40
4	5.3	WRAPP-549	Lake	7120004	PEMC	PEM	N	0.94	0.14
4	5	WRAPP-558	Lake	7120004	PEMAf	PEM	N	1.02	1.02
4	0.6	WRAPP-568	Lake	7120004	PEMC	PEM	N	2.18	2.18
4	5	WRAPP-569	Lake	7120004	PUBFx	PEM	N	0.23	0.23
4	0.9	WRAPP-57	Lake	7120004	R4SBCx	PEM	N	0.20	0.20
4	0.5	WRAPP-572	Lake	7120004	PEMC	PEM	N	3.16	3.16
4	4.8	WRAPP-584	Lake	7120004	PEMA	PEM	N	0.66	0.66
4	4.5	WRAPP-588	Lake	7120004	PUBHx	PEM	N	0.03	0.03
4	4.7	WRAPP-589	Lake	7120004	PEM/FO1C	PEM	N	0.89	0.89
4	4.7	WRAPP-595	Lake	7120004	PEM/SS1C	PEM	N	1.19	1.19
4	4.6	WRAPP-599	Lake	7120004	PUBGx	PEM	N	0.00	0.00
4	4.4	WRAPP-6	Lake	7120004	PEMC	PEM	N	0.17	0.17
4	4.6	WRAPP-604	Lake	7120004	PFO1C	PFO	N	0.68	0.68
4	5.2	WRAPP-607	Lake	7120004	PUBGx	PEM	N	2.49	2.37

Attachment B - Table 4-1
Corridor 4 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
4	4.5	WRAPP-611	Lake	7120004	PFO1C	PFO	N	0.74	0.74
4	4.1	WRAPP-612	Lake	7120004	PFO1C	PFO	N	0.05	0.05
4	4.4	WRAPP-613	Lake	7120004	L1UBHh	PEM	N	0.20	0.02
4	4.5	WRAPP-614	Lake	7120004	PEMC	PEM	N	0.58	0.58
4	4.7	WRAPP-616	Lake	7120004	PEMCx	PEM	N	0.76	0.76
4	4.5	WRAPP-619	Lake	7120004	PUBF	PEM	N	0.30	0.30
4	1	WRAPP-622	Lake	7120004	PUBGx	PEM	N	0.04	0.04
4	7.4	WRAPP-6254	Lake	7120004	R2UBHx	PFO	Y	1.95	0.62
4	1	WRAPP-626	Lake	7120004	PSS1Cd	PSS	N	0.05	0.05
4	0	WRAPP-6263	Lake	7120004	PUBGx	PEM	N	0.05	0.02
4	5.6	WRAPP-6267	Lake	7120004	R4SBCx	PEM	N	0.23	0.23
4	4	WRAPP-6273	Lake	7120004	R4SBCx	PEM	N	0.87	0.74
4	3.9	WRAPP-6274	Lake	7120004	R4SBCx	PEM	N	0.13	0.13
4	1.1	WRAPP-629	Lake	7120004	PEMCx	PEM	N	0.00	0.00
4	6.4	WRAPP-6330	Lake	7120004	R4SBA	PEM	Y	0.11	0.11
4	1.1	WRAPP-642	Lake	7120004	R4SBC	PEM	N	0.09	0.09
4	1.2	WRAPP-643	Lake	7120004	PFO1Ad	PFO	N	0.22	0.22
4	1.3	WRAPP-656	Lake	7120004	PEMCd	PEM	N	0.20	0.20
4	3.4	WRAPP-658	Lake	7120004	PEMCd	PEM	N	0.09	0.09
4	3	WRAPP-659	Lake	7120004	PEMCd	PEM	N	0.26	0.26
4	1.4	WRAPP-662	Lake	7120004	PEMCx	PEM	N	0.33	0.33
4	2.9	WRAPP-663	Lake	7120004	PUBGx	PEM	N	0.03	0.03
4	3.1	WRAPP-665	Lake	7120004	PEMCx	PEM	N	0.09	0.09
4	1.4	WRAPP-667	Lake	7120004	PEMCd	PEM	N	0.12	0.12
4	1.4	WRAPP-675	Lake	7120004	PEMCx	PEM	N	0.13	0.13
4	3.6	WRAPP-678	Lake	7120004	PUBHx	PEM	N	0.07	0.07
4	3.4	WRAPP-682	Lake	7120004	PEMC	PEM	N	0.48	0.48
4	3.7	WRAPP-685	Lake	7120004	PUBHx	PEM	N	0.07	0.07
4	3	WRAPP-687	Lake	7120004	PSS1Ad	PSS	N	0.51	0.51
4	3	WRAPP-688	Lake	7120004	PEM/SS1Cd	PEM	N	0.36	0.36
4	3.1	WRAPP-699	Lake	7120004	PEMCx	PEM	N	0.37	0.37
4	4.3	WRAPP-7	Lake	7120004	PEMC	PEM	N	0.60	0.60
4	3.3	WRAPP-700	Lake	7120004	PUBF	PEM	N	0.03	0.03
4	3.2	WRAPP-701	Lake	7120004	PEMC	PEM	N	1.33	1.33
4	0.1	WRAPP-703	Lake	7120004	PEMCf	PEM	N	1.70	1.70
4	3.4	WRAPP-711	Lake	7120004	PUBGx	PEM	N	0.05	0.01
4	0.2	WRAPP-712	Lake	7120004	PEMC	PEM	N	0.17	0.17
4	2.7	WRAPP-714	Lake	7120004	PEMFx	PEM	N	0.07	0.07
4	0.1	WRAPP-720	Lake	7120004	PEM/UBFx	PEM	N	0.01	0.01
4	2.6	WRAPP-721	Lake	7120004	PEMFx	PEM	N	2.33	2.33
4	3.2	WRAPP-722	Lake	7120004	PEMC	PEM	N	0.95	0.95
4	0.3	WRAPP-735	Lake	7120004	PEMCf	PEM	N	0.68	0.68
4	0.4	WRAPP-738	Lake	7120004	PEM/SS1C	PEM	N	0.70	0.70
4	0.5	WRAPP-742	Lake	7120004	R4SBCx	PEM	N	0.28	0.22
4	0.2	WRAPP-751	Lake	7120004	PEMC	PEM	N	0.78	0.78
4	0.9	WRAPP-758	Lake	7120004	PEMCx	PEM	N	0.00	0.00
4	0.9	WRAPP-763	Lake	7120004	PEMCx	PEM	N	0.01	0.01
4	0.9	WRAPP-764	Lake	7120004	PEMFx	PEM	N	0.03	0.03
4	1.2	WRAPP-796	Lake	7120004	R4SBCx	PEM	Y	0.24	0.24
4	1.2	WRAPP-802	Lake	7120004	PUBGx	PEM	N	0.09	0.09
4	1.2	WRAPP-805	Lake	7120004	R4SBC	PEM	N	0.28	0.15
4	1.5	WRAPP-806	Lake	7120004	PEMCx	PEM	N	0.02	0.02
4	1.3	WRAPP-830	Lake	7120004	PEMAf	PEM	N	1.78	0.04
4	1.5	WRAPP-833	Lake	7120004	PFO1A	PFO	N	0.54	0.54
4	1.5	WRAPP-835	Lake	7120004	PUBGx	PEM	N	0.02	0.02
4	1.4	WRAPP-842	Lake	7120004	PUBF	PEM	N	0.01	0.01
4	1.5	WRAPP-849	Lake	7120004	PEM/UBFx	PEM	N	0.00	0.00
4	1.5	WRAPP-857	Lake	7120004	R4SBCx	PEM	N	0.24	0.21
TOTAL									**325.80**

[1]For this memo, a wetland was identified as high quality if it overlapped with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 4-2
Corridor 4 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
4	0	7790	Lake	7120004	Kildeer Creek	0
4	0	6509	Lake	7120006	Lake Corner Creek	0
4	4	7199	Lake	7120004	Forest Lake Drain	1
4	5.7	7713	Lake	7120004	Kildeer Creek Tributary	0
4	6.4	7892	Lake	7120004	Kildeer Creek	1
4	7.4	8461	Lake	7120004	Buffalo Creek	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 4-3
Corridor 4 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
4	1.5	LR-6428	Lake	7120004	Lake	Sylvan Lake	31.57	0.33
4	0	LR-6540	Lake	7120006	Detention Basin		0.53	0.50
4	1.5	LR-6556	Lake	7120004	Detention Basin		0.33	0.33
4	1.5	LR-6557	Lake	7120004	Detention Basin		0.57	0.57
4	0.1	LR-6570	Lake	7120006	Pond	Brierwoods Estates Pond	2.20	2.20
4	1.4	LR-6580	Lake	7120004	Pond	Yankee Tavern Pond	1.18	1.18
4	1.5	LR-6587	Lake	7120004	Pond		0.08	0.08
4	0	LR-6592	Lake	7120006	Pond		0.04	0.04
4	0	LR-6599	Lake	7120006	Pond		0.24	0.08
4	1.2	LR-6619	Lake	7120004	Detention Basin	Pheasant Ridge Estates Pond 1	0.76	0.36
4	0.4	LR-6628	Lake	7120006	Pond	Thornfield of Hawthorn Woods Pond 1	1.31	1.31
4	0	LR-6631	Lake	7120006	Pond	Timbercreek Pond 2	0.02	0.02
4	0	LR-6633	Lake	7120006	Pond	Timbercreek Pond 1	0.03	0.03
4	0	LR-6645	Lake	7120006	Pond	Timbercreek Pond 3	0.02	0.02
4	1.5	LR-6657	Lake	7120004	Detention Basin		0.22	0.22
4	1.2	LR-6677	Lake	7120004	Lake	Pond-a-Rudy	13.03	13.03
4	1.2	LR-6688	Lake	7120004	Pond	Pheasant Ridge Estates Pond 2	1.12	1.12
4	0	LR-6703	Lake	7120006	Pond	Timbercreek Pond 4	0.92	0.91
4	1.1	LR-6705	Lake	7120004	Detention Basin	Pheasant Ridge Estates Pond 3	2.02	2.02
4	0.5	LR-6721	Lake	7120006	Pond	Thornfield of Hawthorn Woods Pond 2	0.59	0.59
4	0.7	LR-6726	Lake	7120006	Pond		0.16	0.16
4	0.5	LR-6735	Lake	7120006	Pond		0.83	0.83
4	0.8	LR-6770	Lake	7120006	Pond	Walnut Creek of Hawthorn Woods Pond 1	0.25	0.25
4	1	LR-6813	Lake	7120004	Pond		0.32	0.32
4	1.1	LR-6885	Lake	7120006	Detention Basin	Walnut Creek of Hawthorn Woods Pond 2	0.52	0.52
4	0.6	LR-6907	Lake	7120004	Pond		1.10	1.10
4	2.4	LR-6911	Lake	7120004	Lake	Lake Leo	13.82	0.72
4	1.1	LR-6928	Lake	7120006	Pond	Lakewood Estates of Hawthorn Woods Pond 1	1.98	1.98
4	0.7	LR-6932	Lake	7120004	Pond	Meadows Pond 4	0.33	0.04
4	1.6	LR-6936	Lake	7120006	Pond		0.15	0.15
4	1.6	LR-6960	Lake	7120006	Pond	Copperfield of Hawthorn Woods Pond 1	0.08	0.08
4	0.6	LR-6971	Lake	7120004	Pond	Knottingwood Lake Pond 1	4.91	1.22
4	2.5	LR-6974	Lake	7120004	Lake	Lake Naomi	13.11	7.59
4	1.6	LR-6990	Lake	7120006	Pond	Copperfield of Hawthorn Woods Pond 2	1.90	1.90
4	0.2	LR-7060	Lake	7120004	Detention Basin	Hawthorn Woods Business Park Pond 2	0.36	0.36
4	0.2	LR-7063	Lake	7120004	Detention Basin	Hawthorn Woods Business Park Pond 1	1.57	1.57
4	2.5	LR-7066	Lake	7120004	Pond	White Birch Lakes Pond 3	0.29	0.29
4	0.2	LR-7070	Lake	7120004	Detention Basin	Hawthorn Woods Business Park Pond 3	0.21	0.21
4	2.3	LR-7073	Lake	7120006	Detention Basin	White Birch Lakes Pond 2	0.23	0.23
4	2.6	LR-7075	Lake	7120004	Pond	White Birch Lakes Pond 4	0.16	0.16
4	2.7	LR-7076	Lake	7120004	Pond		0.35	0.35
4	3.4	LR-7078	Lake	7120004	Pond	Park Place Estates Pond 1	0.95	0.00
4	2.1	LR-7081	Lake	7120006	Pond	Copperfield of Hawthorn Woods Pond 4	0.75	0.75
4	0.1	LR-7090	Lake	7120004	Detention Basin	Hawthorn Woods Business Park Pond 4	0.64	0.64
4	2.7	LR-7092	Lake	7120004	Detention Basin		0.15	0.15
4	3.6	LR-7109	Lake	7120004	Pond	Lake Germaine	3.44	3.44
4	3.1	LR-7112	Lake	7120004	Pond		0.15	0.15
4	3.3	LR-7114	Lake	7120004	Pond	Park Place Estates Pond 2	1.16	1.16
4	2.7	LR-7118	Lake	07120004, 0	Detention Basin		0.72	0.72
4	2.5	LR-7120	Lake	7120006	Pond		1.27	1.27
4	1.8	LR-7127	Lake	7120006	Pond	Acorn Acres Pond 5	0.08	0.08
4	2.7	LR-7132	Lake	7120004	Pond	Lake Zurich Fire Department Station 3 Pond 1	0.02	0.02
4	2.6	LR-7134	Lake	7120006	Pond		0.13	0.13
4	2.7	LR-7143	Lake	7120004	Pond	Lake Zurich Fire Department Station 3 Pond 2	0.07	0.07
4	2.8	LR-7147	Lake	7120004	Detention Basin		0.44	0.44
4	3.4	LR-7152	Lake	7120004	Pond	Hawthorn Woods Pond 1	0.04	0.04
4	3.7	LR-7158	Lake	7120004	Detention Basin	Hawthorn Woods Pond 3	0.40	0.40
4	3.7	LR-7160	Lake	7120004	Pond	Glenshire Lake	1.44	1.44
4	2.5	LR-7163	Lake	7120006	Pond	Wicklow Village Pond 1	0.53	0.53
4	3.6	LR-7171	Lake	7120004	Pond	Hawthorn Woods Pond 2	0.71	0.71
4	3.1	LR-7185	Lake	7120004	Detention Basin	Saint Matthew Lutheran Church Pond	2.07	2.07
4	2.9	LR-7192	Lake	7120004	Detention Basin		0.37	0.37
4	2.9	LR-7193	Lake	7120004	Pond		0.31	0.31

Attachment B - Table 4-3
Corridor 4 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
4	2	LR-7194	Lake	7120006	Pond	Glens of Stone Creek Pond 1	0.42	0.41
4	2	LR-7202	Lake	7120006	Pond	Glens of Stone Creek Pond 2	0.15	0.01
4	2.9	LR-7238	Lake	7120004	Detention Basin		0.82	0.60
4	3.7	LR-7248	Lake	7120004	Lake	Forest Lake	39.14	38.28
4	3.9	LR-7309	Lake	7120004	Pond	Kemper Lakes Golf Club Pond 1	0.35	0.35
4	1.1	LR-7351	Lake	7120004	Detention Basin	Quentin Road Christian School Pond	1.22	1.22
4	1	LR-7370	Lake	7120004	Pond	Forest Lake Farm Pond 1	0.41	0.41
4	4.5	LR-7388	Lake	7120004	Pond	Enclave of Hawthorn Woods Pond	0.79	0.79
4	4.1	LR-7392	Lake	7120004	Pond	Kemper Lakes Golf Club Pond 2	0.30	0.30
4	4.4	LR-7401	Lake	7120004	Lake	Kemper Lake 1	69.87	15.84
4	0.9	LR-7402	Lake	7120004	Detention Basin	Forest Lake Farm Pond 2	0.52	0.52
4	0.9	LR-7408	Lake	7120004	Pond	Forest Lake Farm Pond 3	0.33	0.33
4	0.8	LR-7413	Lake	7120004	Detention Basin	Lake Zurich Corporate Park Pond 1	2.79	0.34
4	4.6	LR-7423	Lake	7120004	Pond	Lorr Pond	0.39	0.39
4	0.8	LR-7448	Lake	7120004	Detention Basin	Lake Zurich Corporate Park Pond 2	6.71	1.05
4	4.5	LR-7463	Lake	7120004	Pond	Kemper Lakes Golf Club Pond 3	0.57	0.57
4	0.7	LR-7490	Lake	7120004	Detention Basin	Lakewood Meadows Pond	0.91	0.91
4	5	LR-7522	Lake	7120004	Pond	Long Meadow Farms Pond	0.76	0.76
4	5	LR-7538	Lake	7120004	Pond		0.20	0.20
4	0.5	LR-7565	Lake	7120004	Pond	Lake Zurich Corporate Park Pond 3	0.06	0.06
4	0.5	LR-7568	Lake	7120004	Pond		0.02	0.02
4	0.5	LR-7571	Lake	7120004	Pond	Lake Zurich Corporate Park Pond 4	0.48	0.48
4	5.5	LR-7576	Lake	7120004	Pond	White Oaks Estates - Long Grove Pond 5	2.10	1.99
4	5.3	LR-7581	Lake	7120004	Pond	White Oaks Estates - Long Grove Pond 1	1.53	1.53
4	5	LR-7592	Lake	7120004	Lake	Kemper Lake 2	27.89	1.84
4	5.2	LR-7600	Lake	7120004	Pond		0.65	0.65
4	0.4	LR-7611	Lake	7120004	Pond	Lake Zurich Corporate Park Pond 5	0.42	0.42
4	5.1	LR-7618	Lake	7120004	Pond		0.24	0.24
4	0.4	LR-7631	Lake	7120004	Pond	Lake Zurich Estates Pond 1	0.11	0.11
4	5.4	LR-7639	Lake	7120004	Pond	White Oaks Estates - Long Grove Pond 2	0.53	0.53
4	0.3	LR-7640	Lake	7120004	Pond		0.31	0.31
4	5.6	LR-7652	Lake	7120004	Pond	White Oaks Estates - Long Grove Pond 4	1.39	1.24
4	5.5	LR-7665	Lake	7120004	Pond	White Oaks Estates - Long Grove Pond 3	0.47	0.47
4	0.2	LR-7669	Lake	7120004	Detention Basin	Lake Zurich Commerce Center Pond	2.52	2.52
4	5.5	LR-7670	Lake	7120004	Pond		0.35	0.35
4	0.2	LR-7678	Lake	7120004	Pond		0.52	0.52
4	5.6	LR-7716	Lake	7120004	Pond		0.92	0.92
4	5.6	LR-7762	Lake	7120004	Pond		0.21	0.21
4	0	LR-7822	Lake	7120004	Pond	Cedar Creek Pond 2	0.47	0.23
4	0	LR-7823	Lake	7120004	Pond	Groves of Kildeer Pond 1	0.73	0.73
4	5.7	LR-7830	Lake	7120004	Pond	LCFPD Pond	0.25	0.24
4	0	LR-7834	Lake	7120004	Pond		1.25	1.25
4	0	LR-7916	Lake	7120004	Pond	Groves of Kildeer Pond 2	0.23	0.23
4	0	LR-7927	Lake	7120004	Pond	Groves of Kildeer Pond 3	0.49	0.30
4	6.2	LR-7936	Lake	7120004	Pond	Oak Leaf PUD Pond	0.37	0.37
4	6.6	LR-8036	Lake	7120004	Pond		0.16	0.11
4	6.7	LR-8117	Lake	7120004	Pond	Twin Orchard Country Club Pond 1	1.27	1.27
4	6.3	LR-8143	Lake	7120004	Lake	Salem-Reed Lake	40.93	3.96
4	6.7	LR-8151	Lake	7120004	Pond	Twin Orchard Country Club Pond 2	0.28	0.28
4	6.4	LR-8153	Lake	7120004	Pond		0.23	0.23
4	6.6	LR-8176	Lake	7120004	Pond	Prairie Wind Pond 1	0.15	0.15
4	6.6	LR-8179	Lake	7120004	Pond	Prairie Wind Pond 2	0.22	0.22
4	6.6	LR-8189	Lake	7120004	Pond	Prairie Wind Pond 3	0.33	0.33
4	6.7	LR-8208	Lake	7120004	Pond	Pine Valley - Long Grove Pond 1	0.58	0.58
4	6.7	LR-8213	Lake	7120004	Pond		0.38	0.38
4	6.8	LR-8219	Lake	7120004	Pond	Twin Orchard Country Club Pond 3	0.16	0.16
4	6.8	LR-8249	Lake	7120004	Pond	Pine Valley - Long Grove Pond 2	0.10	0.10
4	6.8	LR-8285	Lake	7120004	Pond	Meadowlake - Long Grove Pond	0.59	0.59
4	6.8	LR-8291	Lake	7120004	Pond	Pine Valley - Long Grove Pond 3	0.35	0.35
4	6.9	LR-8318	Lake	7120004	Pond		0.38	0.38
4	7.1	LR-8343	Lake	7120004	Pond	Twin Orchard Country Club Pond 5	0.05	0.05
4	7.6	LR-8369	Lake	7120004	Pond	Lakes of Long Grove Pond 4	4.32	0.12
4	7.4	LR-8370	Lake	7120004	Pond	Lakes of Long Grove Pond 2	1.85	0.83

Attachment B - Table 4-3
Corridor 4 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
4	7	LR-8385	Lake	7120004	Pond	Matthews - Long Grove Pond 1	0.57	0.57
4	7.3	LR-8389	Lake	7120004	Pond	Lakes of Long Grove Pond 1	0.03	0.03
4	7.1	LR-8402	Lake	7120004	Pond	Clemetsen Pond 1	0.41	0.41
4	7.1	LR-8410	Lake	7120004	Pond	Matthews - Long Grove Pond 3	0.05	0.05
4	7.1	LR-8414	Lake	7120004	Pond	Matthews - Long Grove Pond 2	0.05	0.04
4	7.1	LR-8427	Lake	7120004	Pond	Clemetsen Pond 2	0.05	0.05
4	7.5	LR-8441	Lake	7120004	Pond	Lakes of Long Grove Pond 5	2.19	2.19
4	7.2	LR-8459	Lake	7120004	Pond	Grays Pond	0.05	0.05
4	7.2	LR-8468	Lake	7120004	Pond	Sklars Pond	0.38	0.24
4	7.8	LR-8476	Lake	7120004	Pond	Fairfield Village - Long Grove Pond	1.71	1.71
4	7.2	LR-8490	Lake	7120004	Pond	Clemetsen Pond 3	0.11	0.11
4	7.2	LR-8509	Lake	7120004	Pond	Clemetsen Pond 4	0.18	0.11
4	7.9	LR-8596	Lake	7120004	Pond	Crossings Pond 2	0.17	0.17
4	7.9	LR-8618	Lake	7120004	Pond	Crossings Pond 3	0.02	0.02
4	7.9	LR-8655	Lake	7120004	Pond	Crossings Pond 1	2.14	2.14
4	7.9	LR-8658	Lake	7120004	Pond	Bridgewater Farm Park Pond	0.58	0.58
4	0.9	LR-9338	Lake	7120004	Detention Basin	Meadows Pond 1	0.61	0.61
4	0.9	LR-9339	Lake	7120004	Detention Basin	Meadows Pond 2	0.51	0.51
4	0.9	LR-9340	Lake	7120004	Detention Basin	Meadows Pond 3	0.56	0.51
4	3.3	LR-9341	Lake	7120004	Detention Basin	Park Place Estates Pond 3	0.88	0.88
4	3.2	LR-9342	Lake	7120004	Detention Basin		0.54	0.54
TOTAL								**162.42**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 6-1
Corridor 6 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
6	3.6	AI-11	Cook	7120004	PEM	PEM	N	0.24	0.24
6	3.6	AI-12	Cook	7120004	PEM	PEM	N	0.12	0.12
6	5.7	AI-13	Cook	7120004	PEM	PEM	N	0.06	0.06
6	5.8	AI-14	Cook	7120004	PEM	PEM	N	0.01	0.01
6	5.8	AI-15	Cook	7120004	PEM	PEM	N	0.00	0.00
6	5.9	AI-17	Cook	7120004	PEM	PEM	N	0.15	0.15
6	5.7	AI-18	Cook	7120004	PEM	PEM	N	0.00	0.00
6	7.8	AI-22	Cook	7120004	PEM	PEM	N	0.16	0.16
6	3.6	AI-55	Cook	7120004	PEM	PEM	N	0.70	0.70
6	7.9	AI-63	Cook	7120004	PEM	PEM	N	0.60	0.60
6	0.1	AI-65	Cook	7120004	PEM	PEM	N	0.37	0.37
6	67.4	AI-66	Cook	7120004	PEM	PEM	N	0.79	0.77
6	8.1	NHD-2354	Cook	7120004	PEM	PEM	N	0.02	0.02
6	7	NWI-13520	Cook	7120004	PEM	PEM	N	11.55	11.55
6	6.8	NWI-13641	Cook	7120004	PEM	PEM	N	2.70	2.70
6	66.7	NWI-15448	Cook	7120004	PEM	PEM	N	40.25	5.81
6	69.5	NWI-15653	Cook	7120004	PEM	PEM	Y	92.50	24.80
6	0.3	NWI-15836	Cook	7120004	PEM	PEM	Y	54.45	1.60
6	8.9	WRAPP-107	Lake	7120004	PEM/FO1C	PEM	Y	1.90	0.75
6	8.9	WRAPP-12355	Lake	7120004	PSS1A	PSS	N	0.44	0.17
6	8.9	WRAPP-95	Lake	7120004	PFO1C	PFO	Y	0.71	0.37
TOTAL									**50.98**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 6-2
Corridor 6 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
6	0.3	9426	Cook	7120004	Unnamed Trib to Salt Creek 1	0
6	2.2	15576	Cook	7120004	Salt Creek	1
6	4.7	13944	Cook	7120004	Unnamed Trib to Salt Creek 2	0
6	4.9	9406	Cook	7120004	Unnamed Trib to Salt Creek 3	0
6	4.9	13758	Cook	7120004	Salt Creek	1
6	5.2	16920	Cook	7120004	Salt Creek	0
6	7	9404	Cook	7120004	Unnamed Trib to Salt Creek 4	0
6	7.2	18304	Cook	7120004	Unnamed Trib to Salt Creek 5	0
6	8.3	13941	Cook	7120004	Buffalo Creek Reservoir Tributary	0
6	66.7	17062	Cook	7120004	Unnamed Trib. I-90	1
6	66.7	17064	Cook	7120004	Unnamed Trib. I-90	0
6	69.3	15576	Cook	7120004	Salt Creek	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 6-3
Corridor 6 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
6	7.5	LR-10001	Cook	7120004	Pond		0.54	0.54
6	7.5	LR-10003	Cook	7120004	Pond		0.02	0.02
6	7.4	LR-10005	Cook	7120004	Pond		0.05	0.05
6	66.8	LR-10151	Cook	7120004	Pond		0.24	0.24
6	67.2	LR-10154	Cook	7120004	Pond		0.35	0.35
6	66.7	LR-10161	Cook	7120004	Pond		0.33	0.33
6	8.6	LR-10224	Cook	7120004	Pond		0.55	0.55
6	8.6	LR-10227	Cook	7120004	Pond		0.11	0.11
6	8.6	LR-10228	Cook	7120004	Pond		0.09	0.09
6	8.6	LR-10230	Cook	7120004	Pond		0.21	0.21
6	8.5	LR-10234	Cook	7120004	Pond		0.12	0.12
6	8.5	LR-10237	Cook	7120004	Pond		0.07	0.07
6	8.6	LR-10247	Cook	7120004	Pond		1.42	1.11
6	8.4	LR-10248	Cook	7120004	Pond		0.03	0.03
6	8.5	LR-10255	Cook	7120004	Pond		0.12	0.12
6	8.4	LR-10258	Cook	7120004	Pond		0.04	0.04
6	8.4	LR-10259	Cook	7120004	Pond		0.09	0.09
6	8.4	LR-10260	Cook	7120004	Pond		0.04	0.04
6	8.4	LR-10261	Cook	7120004	Pond		0.10	0.10
6	8	LR-10287	Cook	7120004	Pond		0.22	0.22
6	7.9	LR-10291	Cook	7120004	Pond		0.11	0.11
6	7.9	LR-10304	Cook	7120004	Pond		0.47	0.47
6	7.6	LR-10321	Cook	7120004	Pond		0.13	0.13
6	7.6	LR-10330	Cook	7120004	Pond		0.24	0.24
6	7.5	LR-10336	Cook	7120004	Pond		0.18	0.18
6	7.5	LR-10340	Cook	7120004	Pond		0.15	0.11
6	6.8	LR-10387	Cook	7120004	Pond		1.03	1.03
6	6.7	LR-10393	Cook	7120004	Lake	Unnamed (Lake Louise)	14.19	14.19
6	6.6	LR-10399	Cook	7120004	Pond		0.14	0.14
6	5	LR-10502	Cook	7120004	Lake		9.82	9.82
6	5.1	LR-10515	Cook	7120004	Pond		1.34	1.34
6	3.9	LR-10546	Cook	7120004	Pond		0.56	0.56
6	3.9	LR-10550	Cook	7120004	Pond		0.16	0.16
6	3.8	LR-10553	Cook	7120004	Pond		0.10	0.10
6	3.7	LR-10562	Cook	7120004	Pond		0.07	0.07
6	2.8	LR-10649	Cook	7120004	Pond		0.55	0.55
6	67.7	LR-10793	Cook	7120004	Pond		2.19	2.19
6	66.7	LR-10798	Cook	7120004	Pond		0.19	0.00
6	69	LR-10809	Cook	7120004	Pond		4.04	4.04
6	69.3	LR-10820	Cook	7120004	Pond		0.08	0.05
6	68.9	LR-10822	Cook	7120004	Pond		1.99	1.99
6	1.2	LR-10824	Cook	7120004	Pond		0.46	0.46
6	68.7	LR-10826	Cook	7120004	Pond		0.48	0.48
6	69.2	LR-10828	Cook	7120004	Pond		0.17	0.17
6	69.3	LR-10840	Cook	7120004	Pond		0.11	0.11
6	69.2	LR-10842	Cook	7120004	Pond		0.92	0.92
6	1	LR-10848	Cook	7120004	Pond		0.63	0.63
6	1	LR-10849	Cook	7120004	Pond		0.25	0.25
6	69.8	LR-10876	Cook	7120004	Pond		0.42	0.42
6	69.7	LR-10877	Cook	7120004	Lake		36.74	29.34
6	69.9	LR-10902	Cook	7120004	Pond		0.17	0.02
6	69.9	LR-10916	Cook	7120004	Pond		0.37	0.12
6	0.4	LR-10932	Cook	7120004	Pond		0.74	0.74
6	0.1	LR-10959	Cook	7120004	Pond		0.13	0.13
6	0	LR-10973	Cook	7120004	Pond		0.54	0.54
6	7.9	LR-12379	Cook	7120004	Pond		4.48	4.48

Attachment B - Table 6-3
Corridor 6 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
6	6.1	LR-12405	Cook	7120004	Pond		1.23	1.17
6	66.7	LR-12444	Cook	7120004	Pond		0.26	0.01
6	66.8	LR-12496	Cook	7120004	Lake		6.26	6.26
6	7.7	LR-13796	Cook	7120004	Pond		1.63	1.63
6	8.1	LR-13940	Cook	7120004	Pond		0.13	0.13
6	7.9	LR-14127	Cook	7120004	Pond		0.04	0.04
6	8	LR-14192	Cook	7120004	Pond		0.98	0.80
6	7.9	LR-14728	Cook	7120004	Pond		0.86	0.86
6	8.2	LR-14855	Cook	7120004	Pond		0.10	0.10
6	7.5	LR-15406	Cook	7120004	Pond		0.11	0.11
6	7.5	LR-15416	Cook	7120004	Pond		0.03	0.03
6	8.1	LR-15582	Cook	7120004	Pond		0.45	0.45
6	8.2	LR-15655	Cook	7120004	Pond		0.16	0.16
6	8.2	LR-15755	Cook	7120004	Pond		0.13	0.13
6	8.2	LR-16032	Cook	7120004	Pond		0.11	0.11
6	8.1	LR-16099	Cook	7120004	Pond		4.73	4.73
6	8.1	LR-16117	Cook	7120004	Pond		2.08	2.08
6	66.7	LR-16342	Cook	7120004	Pond		0.15	0.14
6	8.2	LR-16867	Cook	7120004	Pond		0.02	0.02
6	7	LR-17032	Cook	7120004	Pond		0.15	0.15
6	8.1	LR-17035	Cook	7120004	Lake		6.46	1.83
6	8.6	LR-17072	Cook	7120004	Pond		0.52	0.52
6	8.1	LR-17105	Cook	7120004	Pond		0.02	0.02
6	8.1	LR-17106	Cook	7120004	Pond		0.02	0.02
6	5	LR-17252	Cook	7120004	Lake		11.88	11.88
6	7.1	LR-18130	Cook	7120004	Pond		5.84	5.84
6	69.5	LR-18303	Cook	7120004	Pond		0.58	0.27
6	67.7	LR-18485	Cook	7120004	Pond		0.60	0.60
6	66.8	LR-18777	Cook	7120004	Lake		12.24	7.40
6	66.7	LR-18778	Cook	7120004	Pond		0.89	0.05
6	66.7	LR-18779	Cook	7120004	Pond		1.06	0.01
6	67.5	LR-18781	Cook	7120004	Pond		1.00	1.00
6	67.5	LR-18782	Cook	7120004	Pond		0.44	0.44
6	67.5	LR-18783	Cook	7120004	Pond		0.73	0.73
6	7.5	LR-9998	Cook	7120004	Pond		0.13	0.13
TOTAL								**130.54**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 7-1
Corridor 7 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
7	7.4	ADID-1781	Lake	7120004	PSS1Ad	PSS	N	22.89	13.08
7	7.3	ADID-1791	Lake	7120004	PEM	PEM	N	0.25	0.23
7	0.3	ADID-1812	Lake	7120004	PEM	PEM	Y	2.34	2.34
7	0.1	ADID-1813	Lake	7120004	PEM	PEM	N	3.38	3.38
7	2.2	ADID-1817	Lake	7120004	PUBHh	PEM	N	37.06	7.28
7	6.7	ADID-2872	Lake	7120004	PEMA	PEM	N	33.01	0.20
7	14.5	AI-1	Lake	7120004	PEM	PEM	N	1.30	1.20
7	0.1	AI-103	Lake	7120004	PEM	PEM	N	1.17	1.17
7	1.4	AI-23	Lake	7120004	PEM	PEM	Y	0.00	0.00
7	2.2	AI-24	Cook	7120004	PEM	PEM	N	0.02	0.02
7	0.2	AI-51	Lake	7120004	PEM	PEM	N	0.01	0.01
7	0.2	AI-71	Lake, Cook	7120004	PEM	PEM	N	0.00	0.00
7	0.6	NHD-10576	Lake	7120004	<Null>	PEM	N	0.73	0.73
7	0	NWI-12822	Cook	7120004	PEM	PEM	Y	136.43	3.36
7	0	NWI-12836	Cook	7120004	PEM	PEM	Y	5.75	3.16
7	1.3	WRAPP-101	Lake	7120004	PFO1C	PFO	Y	0.43	0.43
7	3	WRAPP-102	Lake	7120004	PUBGx	PEM	N	0.03	0.03
7	0	WRAPP-103	Lake	7120004	PEM/FO1Cd	PEM	N	1.76	0.13
7	1.6	WRAPP-104	Lake	7120004	PUBH	PEM	Y	0.23	0.23
7	2	WRAPP-1046	Lake	7120004	R4SBCx	PFO	Y	1.87	0.25
7	6.3	WRAPP-10473	Lake	7120004	L2UBHx	PEM	N	0.23	0.11
7	1.4	WRAPP-105	Lake	7120004	PEM/FO1C	PEM	Y	0.81	0.81
7	8.6	WRAPP-10695	Lake	7120004	PFO1Ad	PFO	N	2.10	2.05
7	1.2	WRAPP-107	Lake	7120004	PEM/FO1C	PEM	Y	1.90	1.90
7	1.3	WRAPP-108	Lake	7120004	PSS1C	PSS	Y	0.13	0.13
7	0.9	WRAPP-109	Lake	7120004	PEM/FO1A	PEM	N	0.80	0.80
7	8.1	WRAPP-10973	Lake	7120004	PEM/UBFx	PEM	N	0.00	0.00
7	8	WRAPP-10977	Lake	7120004	PEM/UBFx	PEM	N	0.03	0.03
7	7.3	WRAPP-10979	Lake	7120004	PEM/FO1C	PEM	N	28.72	24.10
7	7.8	WRAPP-10981	Lake	7120004	PEMC	PEM	N	0.02	0.02
7	7.9	WRAPP-10982	Lake	7120004	PEMC	PEM	N	0.02	0.02
7	8	WRAPP-10983	Lake	7120004	PEMA	PEM	N	0.11	0.11
7	8	WRAPP-10984	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	8.3	WRAPP-10987	Lake	7120004	PEMAd	PEM	N	0.17	0.17
7	8.3	WRAPP-10988	Lake	7120004	PEMAd	PEM	N	0.21	0.21
7	2.2	WRAPP-10993	Lake	7120004	PEM/FO1Cd	PEM	N	10.66	10.66
7	1.1	WRAPP-10996	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	2	WRAPP-11	Lake	7120004	PFO1Ad	PFO	Y	1.59	1.18
7	0	WRAPP-110	Lake	7120004	PUBGx	PEM	N	0.03	0.02
7	1.1	WRAPP-11006	Lake	7120004	PEM/FO1C	PEM	N	1.01	1.01
7	1.1	WRAPP-11007	Lake	7120004	PEMCd	PEM	N	6.12	0.74
7	1.1	WRAPP-11008	Lake	7120004	PEM/FO1Cd	PEM	N	20.24	7.13
7	1.1	WRAPP-11010	Lake	7120004	PFO1A	PFO	N	0.17	0.17
7	1	WRAPP-11011	Lake	7120004	PFO1C	PFO	N	0.36	0.36
7	1	WRAPP-11012	Lake	7120004	PFO1A	PFO	N	0.53	0.53
7	8.3	WRAPP-11054	Lake	7120004	PEMAd	PEM	N	0.03	0.03
7	8.5	WRAPP-11055	Lake	7120004	PEMCx	PEM	N	0.09	0.09
7	8.6	WRAPP-11056	Lake	7120004	PEM/SS1Cx	PEM	N	0.66	0.25
7	7.4	WRAPP-11097	Lake	7120004	PEMC	PEM	N	1.61	1.61
7	7.5	WRAPP-11098	Lake	7120004	PUBGx	PEM	N	0.06	0.06
7	7.6	WRAPP-11099	Lake	7120004	PUBHx	PEM	N	0.44	0.44
7	7.6	WRAPP-11100	Lake	7120004	PEM/SS1Cd	PEM	N	16.59	16.59
7	7.5	WRAPP-11101	Lake	7120004	PFO1Cx	PFO	N	2.57	2.57
7	7.5	WRAPP-11102	Lake	7120004	PEMC	PEM	N	0.72	0.72
7	7.5	WRAPP-11103	Lake	7120004	PEM/FO1Cd	PEM	N	24.96	24.96
7	7.2	WRAPP-11104	Lake	7120004	PFO1A	PFO	N	0.40	0.40
7	7.3	WRAPP-11105	Lake	7120004	PEMC	PEM	N	1.11	1.11
7	6.9	WRAPP-11106	Lake	7120004	PABFx	PEM	N	0.02	0.02
7	7.1	WRAPP-11107	Lake	7120004	PABFx	PEM	N	0.04	0.04
7	7.9	WRAPP-11108	Lake	7120004	PEM/FO1Ad	PEM	N	1.72	1.72
7	7.5	WRAPP-11110	Lake	7120004	PEMAx	PEM	N	0.28	0.28
7	7.7	WRAPP-11111	Lake	7120004	PEM/FO1Cd	PEM	N	5.65	2.01
7	7.3	WRAPP-11112	Lake	7120004	PEMCd	PEM	N	6.20	6.20
7	0.2	WRAPP-114	Lake	7120004	PEM/FO1Ad	PEM	Y	0.16	0.16
7	6.3	WRAPP-11408	Lake	7120004	PEMC	PEM	N	4.33	1.76
7	6.2	WRAPP-11409	Lake	7120004	PEM/FO1A	PEM	N	0.88	0.88
7	6	WRAPP-11427	Lake	7120004	PUBGx	PEM	N	0.07	0.07
7	6.2	WRAPP-11429	Lake	7120004	PEMF	PEM	N	7.66	3.98
7	7.1	WRAPP-11436	Lake	7120004	PFO1A	PFO	N	1.52	1.52
7	6.5	WRAPP-11437	Lake	7120004	PFO1A	PFO	N	2.19	0.20
7	6.7	WRAPP-11438	Lake	7120004	PFO1A	PFO	N	0.38	0.38
7	6.7	WRAPP-11440	Lake	7120004	PEMA	PEM	N	0.41	0.26
7	6.7	WRAPP-11441	Lake	7120004	PEMA	PEM	N	0.23	0.01

Attachment B - Table 7-1
Corridor 7 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
7	6.8	WRAPP-11443	Lake	7120004	PFO1A	PFO	N	0.12	0.12
7	6.8	WRAPP-11444	Lake	7120004	PEMCd	PEM	N	0.64	0.50
7	6.3	WRAPP-11445	Lake	7120004	PEMA	PEM	N	0.88	0.88
7	6.2	WRAPP-11446	Lake	7120004	R4SBC	PEM	N	0.94	0.94
7	4.9	WRAPP-11448	Lake	7120004	PUBGx	PEM	N	0.09	0.09
7	4.9	WRAPP-11449	Lake	7120004	PEMF	PEM	N	0.42	0.42
7	5.2	WRAPP-11451	Lake	7120004	PUBGx	PEM	N	0.28	0.28
7	5.3	WRAPP-11452	Lake	7120004	PEM/FO1Cd	PEM	N	3.99	3.84
7	5.3	WRAPP-11453	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	5.4	WRAPP-11454	Lake	7120004	PEMC	PEM	N	3.98	3.98
7	5.4	WRAPP-11455	Lake	7120004	PEMC	PEM	N	1.98	1.98
7	5.6	WRAPP-11456	Lake	7120004	PFO1/SS1C	PFO	N	4.44	4.44
7	5.7	WRAPP-11459	Lake	7120004	PEM/FO1Cd	PEM	N	2.46	0.02
7	5.6	WRAPP-11460	Lake	7120004	PUBHb	PEM	N	4.05	0.04
7	5.1	WRAPP-11464	Lake	7120004	PEMCx	PEM	N	0.16	0.16
7	5	WRAPP-11465	Lake	7120004	PUBGx	PEM	N	0.54	0.54
7	5.4	WRAPP-11466	Lake	7120004	PEM/FO1C	PEM	N	0.88	0.88
7	5.5	WRAPP-11467	Lake	7120004	PEMC	PEM	N	3.40	3.40
7	5.4	WRAPP-11468	Lake	7120004	PEMC	PEM	N	0.63	0.63
7	5.5	WRAPP-11469	Lake	7120004	PEMC	PEM	N	0.07	0.07
7	5	WRAPP-11470	Lake	7120004	PABFx	PEM	N	0.06	0.06
7	5	WRAPP-11471	Lake	7120004	PFO1A	PFO	N	0.42	0.42
7	5.8	WRAPP-11477	Lake	7120004	PEMC	PEM	N	10.76	10.76
7	5.8	WRAPP-11479	Lake	7120004	PEMCd	PEM	N	11.58	3.06
7	5.7	WRAPP-11480	Lake	7120004	PEM/FO1C	PEM	N	4.85	4.03
7	5.7	WRAPP-11481	Lake	7120004	PEM/FO1C	PEM	N	2.50	2.23
7	5.6	WRAPP-11482	Lake	7120004	PEMA	PEM	N	0.25	0.23
7	5.8	WRAPP-11483	Lake	7120004	PFO1Cd	PFO	N	0.14	0.14
7	5.7	WRAPP-11484	Lake	7120004	PEMC	PEM	N	1.25	1.25
7	5.7	WRAPP-11487	Lake	7120004	PFO1Cd	PFO	N	3.48	2.26
7	5.7	WRAPP-11488	Lake	7120004	PEMC	PEM	N	0.38	0.38
7	5.7	WRAPP-11489	Lake	7120004	PEMC	PEM	N	0.57	0.57
7	0.3	WRAPP-115	Lake	7120004	PEM/UBFx	PEM	N	0.29	0.29
7	5	WRAPP-11508	Lake	7120004	PEMCd	PEM	N	8.12	0.78
7	5.3	WRAPP-11509	Lake	7120004	PEMCd	PEM	N	3.56	0.00
7	2	WRAPP-11556	Lake	7120004	R4SBCx	PFO	Y	3.40	0.26
7	3.2	WRAPP-11567	Lake	7120004	PFO1Ad	PFO	N	0.79	0.79
7	3.1	WRAPP-11571	Lake	7120004	PFO1A	PFO	N	1.95	1.95
7	2.9	WRAPP-11591	Lake	7120004	PUBGx	PEM	N	0.02	0.02
7	2.7	WRAPP-11592	Lake	7120004	PFO1Ad	PFO	N	4.63	2.75
7	2.7	WRAPP-11595	Lake	7120004	PFO1Ad	PFO	N	2.51	1.54
7	2.3	WRAPP-11596	Lake	7120004	PEM/SS1A	PEM	N	0.15	0.15
7	2.8	WRAPP-11597	Lake	7120004	PEMC	PEM	N	0.72	0.72
7	2.6	WRAPP-11598	Lake	7120004	PFO1Ad	PFO	N	0.64	0.64
7	2.6	WRAPP-11599	Lake	7120004	PFO1Ad	PFO	N	1.42	1.42
7	0.3	WRAPP-116	Lake	7120004	PEM/SS1C	PEM	Y	0.93	0.93
7	2.7	WRAPP-11600	Lake	7120004	PFO1Cd	PFO	N	0.78	0.78
7	2.7	WRAPP-11601	Lake	7120004	PFO1Ad	PFO	N	0.12	0.12
7	2.5	WRAPP-11602	Lake	7120004	PEMCd	PEM	N	0.88	0.88
7	2.5	WRAPP-11604	Lake	7120004	PEMCd	PEM	N	0.54	0.54
7	3.1	WRAPP-11609	Lake	7120004	PUBHh	PEM	Y	0.02	0.02
7	3.2	WRAPP-11614	Lake	7120004	PFO1Ad	PFO	N	2.88	2.88
7	2.2	WRAPP-11617	Lake	7120004	PFO1Ad	PFO	Y	1.76	1.76
7	2.2	WRAPP-11618	Lake	7120004	PFO1Ad	PFO	Y	0.71	0.71
7	2.2	WRAPP-11619	Lake	7120004	PEMA	PEM	Y	0.43	0.42
7	2.3	WRAPP-11620	Lake	7120004	PEMAd	PEM	Y	0.02	0.01
7	2.2	WRAPP-11621	Lake	7120004	PFO1Ad	PFO	Y	0.91	0.54
7	2.2	WRAPP-11622	Lake	7120004	PFO1Ad	PFO	Y	0.06	0.06
7	2.3	WRAPP-11623	Lake	7120004	PEMAd	PEM	Y	0.03	0.02
7	2.2	WRAPP-11624	Lake	7120004	L1UBHh	PEM	Y	0.18	0.18
7	2.2	WRAPP-11625	Lake	7120004	R2UBHx	PFO	Y	0.02	0.02
7	2.5	WRAPP-11626	Lake	7120004	PSS1Ad	PSS	Y	0.05	0.05
7	2.5	WRAPP-11627	Lake	7120004	PSS1Ad	PSS	Y	0.08	0.08
7	3.1	WRAPP-11631	Lake	7120004	PEM/SS1C	PEM	Y	0.66	0.66
7	3.2	WRAPP-11638	Lake	7120004	PEMCx	PEM	N	0.87	0.87
7	3.2	WRAPP-11639	Lake	7120004	PEMCx	PEM	N	2.96	2.96
7	0.3	WRAPP-118	Lake	7120004	L1UBHh	PEM	N	0.03	0.03
7	3.1	WRAPP-12	Lake	7120004	PUBGx	PEM	N	0.03	0.03
7	0.4	WRAPP-120	Lake	7120004	PEMA	PEM	N	0.86	0.65
7	5.7	WRAPP-12046	Lake	7120004	R2UBHx	PFO	Y	1.77	0.70
7	1.8	WRAPP-12097	Lake	7120004	PFO1C	PFO	N	0.51	0.49
7	2.3	WRAPP-12105	Lake	7120004	PFO1Ad	PFO	N	8.38	2.90
7	2.1	WRAPP-12111	Lake	7120004	R4SBA	PEM	N	0.13	0.13

Attachment B- Table 7-1
Corridor 7 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
7	2.1	WRAPP-12112	Lake	7120004	R4SBA	PEM	N	3.07	3.07
7	2.2	WRAPP-12115	Lake	7120004	PFO1Ad	PFO	N	9.36	0.53
7	2.2	WRAPP-12116	Lake	7120004	PFO1Cx	PFO	N	0.63	0.63
7	2.2	WRAPP-12117	Lake	7120004	PFO1C	PFO	N	0.51	0.51
7	1.8	WRAPP-12121	Lake	7120004	PEM/FO1A	PEM	N	0.27	0.27
7	1.9	WRAPP-12122	Lake	7120004	PFO1A	PFO	N	0.24	0.18
7	1.8	WRAPP-12123	Lake	7120004	PFO1C	PFO	N	0.79	0.01
7	1.8	WRAPP-12124	Lake	7120004	PEM/FO1C	PEM	N	0.60	0.02
7	1.9	WRAPP-12125	Lake	7120004	PFO1Cd	PFO	N	0.26	0.26
7	1.2	WRAPP-12126	Lake	7120004	PFO1C	PFO	N	0.08	0.08
7	0	WRAPP-12299	Lake	7120004	PEMCx	PEM	N	0.66	0.60
7	0.4	WRAPP-123	Lake	7120004	PEM/SS1Cd	PEM	N	3.15	3.15
7	0	WRAPP-12302	Lake	7120004	PEMFd	PEM	N	2.65	2.32
7	0.4	WRAPP-12303	Lake	7120004	PUBHx	PEM	N	0.06	0.06
7	0.1	WRAPP-12304	Lake	7120004	PUBHx	PEM	N	0.02	0.02
7	0.2	WRAPP-12305	Lake	7120004	PUBGx	PEM	N	0.00	0.00
7	0.1	WRAPP-12307	Lake	7120004	PEM/FO1Cd	PEM	N	13.69	13.69
7	0.3	WRAPP-12308	Lake	7120004	PEMC	PEM	Y	0.39	0.39
7	0.3	WRAPP-12309	Lake	7120004	PUBGx	PEM	Y	0.08	0.08
7	0.3	WRAPP-12310	Lake	7120004	PEM/FO1Fd	PEM	Y	14.30	14.30
7	0.5	WRAPP-12313	Lake	7120004	L1UBHx	PEM	N	0.20	0.02
7	0.7	WRAPP-12315	Lake	7120004	PEMF	PEM	N	6.28	6.28
7	0.9	WRAPP-12317	Lake	7120004	PUBKx	PEM	N	0.01	0.01
7	0	WRAPP-12324	Lake	7120004	PEM/FO1Cd	PEM	N	1.50	0.01
7	0.2	WRAPP-12328	Lake	7120004	PEM/FO1C	PEM	N	1.64	0.65
7	0.5	WRAPP-12329	Lake	7120004	PEMFd	PEM	N	7.83	7.83
7	0.3	WRAPP-12330	Lake	7120004	PFO1A	PFO	N	4.03	4.03
7	0.7	WRAPP-12335	Lake	7120004	PEMA	PEM	N	0.47	0.47
7	0.6	WRAPP-12336	Lake	7120004	PEM/FO1C	PEM	N	1.02	1.02
7	0.6	WRAPP-12337	Lake	7120004	PFO1A	PFO	N	0.09	0.09
7	0.6	WRAPP-12338	Lake	7120004	PEM/UBF	PEM	N	0.32	0.32
7	0.7	WRAPP-12339	Lake	7120004	PUBGx	PEM	N	0.06	0.06
7	0.7	WRAPP-12340	Lake	7120004	PEMC	PEM	N	5.02	5.02
7	0.7	WRAPP-12341	Lake	7120004	PFO1A	PFO	N	1.24	1.24
7	0.8	WRAPP-12342	Lake	7120004	PEMC	PEM	N	12.49	12.47
7	0.9	WRAPP-12343	Lake	7120004	PUBKx	PEM	N	0.01	0.01
7	1.6	WRAPP-12344	Lake	7120004	PFO1As	PFO	Y	1.80	1.80
7	0.7	WRAPP-12352	Lake	7120004	PEM/FO1C	PEM	N	2.39	0.71
7	1	WRAPP-12355	Lake	7120004	PSS1A	PSS	N	0.44	0.44
7	1.5	WRAPP-12363	Lake	7120004	PEMAf	PEM	Y	2.30	2.30
7	0.5	WRAPP-126	Lake	7120004	PEMA	PEM	N	0.30	0.28
7	0.4	WRAPP-127	Lake	7120004	PUBGx	PEM	Y	0.24	0.24
7	2.2	WRAPP-129	Lake	7120004	R4SBCx	PFO	Y	0.65	0.26
7	3.3	WRAPP-130	Lake	7120004	PEMCx	PEM	Y	0.09	0.09
7	3.3	WRAPP-131	Lake	7120004	PEMAx	PEM	Y	0.03	0.03
7	15.3	WRAPP-15854	Lake	7120004	PUBHx	PEM	N	0.87	0.87
7	7.9	WRAPP-15895	Lake	7120004	PEM/FO1Cd	PEM	N	7.61	5.42
7	8	WRAPP-15896	Lake	7120004	PSS1C	PSS	N	0.13	0.13
7	8	WRAPP-15897	Lake	7120004	PEM/SS1C	PEM	N	0.95	0.95
7	8.4	WRAPP-15966	Lake	7120004	PEM/FO1Ad	PEM	N	0.77	0.77
7	8.4	WRAPP-15967	Lake	7120004	PEM/FO1Ad	PEM	N	1.29	1.29
7	13	WRAPP-15979	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	0.7	WRAPP-160	Lake	7120004	PEM/UBF	PEM	N	0.22	0.22
7	6.2	WRAPP-16248	Lake	7120004	R4SBC	PEM	N	0.12	0.12
7	3.5	WRAPP-16261	Lake	7120004	R4SBCx	PEM	N	0.29	0.29
7	1	WRAPP-16268	Lake	7120004	PFO1A	PFO	N	0.99	0.65
7	16	WRAPP-16524	Lake	7120004	R4SBCx	PEM	N	4.71	3.06
7	14.7	WRAPP-16538	Lake	7120004	PEMCx	PEM	N	0.40	0.40
7	8	WRAPP-16591	Lake	7120004	PEMFx	PEM	N	0.24	0.24
7	8.1	WRAPP-16592	Lake	7120004	PEMFx	PEM	N	0.11	0.11
7	8.1	WRAPP-16593	Lake	7120004	PUBGx	PEM	N	0.17	0.17
7	8.3	WRAPP-16597	Lake	7120004	PUBGx	PEM	N	0.35	0.35
7	8.3	WRAPP-16598	Lake	7120004	PUBGx	PEM	N	0.35	0.35
7	8.4	WRAPP-16600	Lake	7120004	PUBGx	PEM	N	0.72	0.72
7	6.7	WRAPP-16618	Lake	7120004	PFO1C	PFO	N	0.14	0.14
7	5.8	WRAPP-16656	Lake	7120004	PFO1C	PFO	N	0.32	0.32
7	2.8	WRAPP-16667	Lake	7120004	PEMCx	PEM	N	1.92	1.92
7	1.7	WRAPP-16668	Lake	7120004	PFO1C	PFO	N	0.25	0.25
7	0.2	WRAPP-16673	Lake	7120004	PUBGx	PEM	N	1.97	1.97
7	0.3	WRAPP-16675	Lake	7120004	PEM/FO1C	PEM	N	0.63	0.41
7	0.3	WRAPP-16677	Lake	7120004	PEMCd	PEM	N	1.51	1.41
7	1.7	WRAPP-16678	Lake	7120004	PEMC	PEM	Y	0.13	0.13
7	1	WRAPP-17	Lake	7120004	PFO1A	PFO	N	1.46	1.18

Attachment B - Table 7-1
Corridor 7 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
7	13.1	WRAPP-17766	Lake	7120006	PABF	PEM	N	1.07	1.07
7	0.8	WRAPP-186	Lake	7120004	PEMC	PEM	N	5.65	5.65
7	12.6	WRAPP-19081	Lake	7120006	PEMC	PEM	N	10.35	7.89
7	13.2	WRAPP-19083	Lake	7120006	PEMF	PEM	N	1.30	1.30
7	13.5	WRAPP-19085	Lake	7120006	PEMAf	PEM	N	0.22	0.22
7	13.5	WRAPP-19086	Lake	7120006	PEMAf	PEM	N	0.10	0.10
7	13.5	WRAPP-19090	Lake	7120006	PUBGx	PEM	N	0.00	0.00
7	13.2	WRAPP-19093	Lake	7120006	PUBF	PEM	N	0.00	0.00
7	13.2	WRAPP-19094	Lake	7120006	PUBGx	PEM	N	0.04	0.04
7	13.1	WRAPP-19095	Lake	7120006	PEMC	PEM	N	2.62	1.82
7	0.9	WRAPP-191	Lake	7120004	PUBKx	PEM	N	0.03	0.03
7	0.9	WRAPP-199	Lake	7120004	PFO1A	PFO	N	0.95	0.95
7	2.2	WRAPP-2	Lake	7120004	PEMA	PEM	Y	0.60	0.60
7	1.4	WRAPP-202	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	0.9	WRAPP-205	Lake	7120004	PEM/FO1A	PEM	N	0.36	0.20
7	1.4	WRAPP-206	Lake	7120004	PEMAx	PEM	N	0.03	0.03
7	1	WRAPP-209	Lake	7120004	PEMC	PEM	N	3.43	3.43
7	1.7	WRAPP-215	Lake	7120004	L1UBHx	PEM	N	0.17	0.17
7	1.4	WRAPP-221	Lake	7120004	PFO1A	PFO	N	0.28	0.28
7	12.9	WRAPP-22215	Lake	7120006	PEM/UBGx	PEM	N	2.95	2.95
7	1.5	WRAPP-223	Lake	7120004	PFO1C	PFO	N	0.02	0.02
7	1.3	WRAPP-226	Lake	7120004	PEM/FO1C	PEM	N	3.42	3.42
7	1.9	WRAPP-232	Lake	7120004	PFO1Cd	PFO	N	0.45	0.45
7	2.7	WRAPP-239	Lake	7120004	PEMCx	PEM	N	1.22	0.41
7	1.6	WRAPP-240	Lake	7120004	PFO1A	PFO	N	0.45	0.45
7	1.8	WRAPP-241	Lake	7120004	PUBGx	PEM	N	0.06	0.06
7	1.8	WRAPP-247	Lake	7120004	PEMC	PEM	N	0.28	0.28
7	1.8	WRAPP-249	Lake	7120004	PEMC	PEM	N	0.13	0.13
7	4.2	WRAPP-250	Lake	7120004	PEMCx	PEM	N	0.18	0.18
7	3	WRAPP-251	Lake	7120004	PUBGx	PEM	N	0.05	0.05
7	4.1	WRAPP-253	Lake	7120004	PEMCx	PEM	N	0.04	0.04
7	2.3	WRAPP-257	Lake	7120004	PUBGx	PEM	N	0.08	0.08
7	1.7	WRAPP-259	Lake	7120004	PFO1C	PFO	N	0.83	0.58
7	2.9	WRAPP-260	Lake	7120004	PUBGx	PEM	N	0.00	0.00
7	2	WRAPP-261	Lake	7120004	PUBHx	PEM	N	0.00	0.00
7	2.3	WRAPP-262	Lake	7120004	PEMFx	PEM	N	1.21	1.21
7	2.9	WRAPP-263	Lake	7120004	PUBGx	PEM	N	0.02	0.02
7	2.3	WRAPP-267	Lake	7120004	PEMC	PEM	N	0.52	0.52
7	1.8	WRAPP-268	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	5.7	WRAPP-27	Lake	7120004	PFO1Cd	PFO	N	4.28	3.20
7	2.2	WRAPP-278	Lake	7120004	PUBGx	PEM	N	0.04	0.04
7	2.3	WRAPP-282	Lake	7120004	PUBGx	PEM	N	0.03	0.02
7	4.7	WRAPP-285	Lake	7120004	PEMFx	PEM	N	0.03	0.03
7	16.2	WRAPP-2855	Lake	7120004	PEMC	PEM	N	1.32	1.32
7	16.3	WRAPP-2856	Lake	7120004	PEMAf	PEM	N	0.22	0.22
7	16.3	WRAPP-2858	Lake	7120004	PUBGx	PEM	N	0.00	0.00
7	16.4	WRAPP-2865	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	4.6	WRAPP-287	Lake	7120004	PUBGx	PEM	N	0.13	0.13
7	16.4	WRAPP-2874	Lake	7120004	PEMAf	PEM	N	0.16	0.16
7	16.4	WRAPP-2884	Lake	7120004	PEMCx	PEM	N	0.02	0.00
7	16.4	WRAPP-2887	Lake	7120004	PUBGx	PEM	N	0.03	0.03
7	6.8	WRAPP-29	Lake	7120004	PEMCx	PEM	N	0.77	0.77
7	4.8	WRAPP-299	Lake	7120004	PUBGx	PEM	N	0.07	0.02
7	2.3	WRAPP-3	Lake	7120004	PEMA	PEM	Y	0.89	0.89
7	4.9	WRAPP-331	Lake	7120004	PFO1C	PFO	N	0.10	0.10
7	8.1	WRAPP-34	Lake	7120004	PEMAd	PEM	N	0.19	0.19
7	5	WRAPP-341	Lake	7120004	PUBGx	PEM	N	0.51	0.07
7	5	WRAPP-353	Lake	7120004	PUBGx	PEM	N	0.15	0.15
7	5	WRAPP-357	Lake	7120004	PUBGx	PEM	N	0.40	0.33
7	5.1	WRAPP-358	Lake	7120004	R4SBCx	PEM	N	0.02	0.02
7	8.4	WRAPP-36	Lake	7120004	PEMAd	PEM	N	0.02	0.02
7	5.2	WRAPP-365	Lake	7120004	PUBGx	PEM	N	0.02	0.02
7	5.2	WRAPP-367	Lake	7120004	PUBGx	PEM	N	0.14	0.14
7	5.2	WRAPP-373	Lake	7120004	PEMC	PEM	N	1.09	0.85
7	5.2	WRAPP-375	Lake	7120004	PUBGx	PEM	N	0.05	0.05
7	5.2	WRAPP-376	Lake	7120004	PFO1C	PFO	N	0.20	0.20
7	8.6	WRAPP-38	Lake	7120004	PFO1Ad	PFO	N	4.15	3.87
7	5.3	WRAPP-384	Lake	7120004	PSS1C	PSS	N	0.22	0.22
7	5.3	WRAPP-386	Lake	7120004	PEMC	PEM	N	0.81	0.81
7	3	WRAPP-4	Lake	7120004	PEMA	PEM	Y	0.51	0.51
7	5.4	WRAPP-401	Lake	7120004	PEM/SS1C	PEM	N	0.42	0.42
7	5.4	WRAPP-414	Lake	7120004	PUBGx	PEM	N	0.03	0.03
7	5.5	WRAPP-427	Lake	7120004	PUB/ABF	PEM	N	0.00	0.00

Attachment B- Table 7-1
Corridor 7 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
7	5.8	WRAPP-444	Lake	7120004	PEMC	PEM	N	0.31	0.31
7	5.9	WRAPP-452	Lake	7120004	PFO1C	PFO	N	0.29	0.29
7	5.9	WRAPP-461	Lake	7120004	PEMCd	PEM	N	0.63	0.63
7	5.9	WRAPP-463	Lake	7120004	PFO1C	PFO	N	0.46	0.46
7	5.9	WRAPP-471	Lake	7120004	PUBGx	PEM	N	0.05	0.05
7	5.9	WRAPP-472	Lake	7120004	PEMC	PEM	N	1.31	1.31
7	6	WRAPP-474	Lake	7120004	PUBGx	PEM	N	0.05	0.05
7	6	WRAPP-484	Lake	7120004	PSS1C	PSS	N	0.86	0.86
7	6.3	WRAPP-522	Lake	7120004	PUBGx	PEM	N	0.06	0.06
7	6.2	WRAPP-526	Lake	7120004	R4SBC	PEM	N	0.12	0.12
7	6.4	WRAPP-544	Lake	7120004	PFO1C	PFO	N	0.01	0.01
7	6.6	WRAPP-554	Lake	7120004	PEMCx	PEM	N	0.49	0.18
7	6.5	WRAPP-561	Lake	7120004	PEMC	PEM	N	0.57	0.57
7	6.5	WRAPP-563	Lake	7120004	PEMC	PEM	N	1.14	1.14
7	6.6	WRAPP-575	Lake	7120004	PFO1A	PFO	N	3.17	3.17
7	6.6	WRAPP-577	Lake	7120004	PUBGx	PEM	N	0.05	0.05
7	6.5	WRAPP-579	Lake	7120004	PAB4Fh	PEM	N	1.67	1.67
7	6.8	WRAPP-596	Lake	7120004	PUBGx	PEM	N	0.08	0.08
7	6.9	WRAPP-601	Lake	7120004	PEMC	PEM	N	0.40	0.40
7	6.9	WRAPP-609	Lake	7120004	PUBGx	PEM	N	0.48	0.20
7	6.9	WRAPP-620	Lake	7120004	PEM/FO1Cd	PEM	N	0.73	0.73
7	7	WRAPP-623	Lake	7120004	PFO1A	PFO	N	0.46	0.27
7	2.5	WRAPP-6253	Lake	7120004	R4SBAx	PFO	Y	0.05	0.05
7	2.7	WRAPP-6254	Lake	7120004	R2UBHx	PFO	Y	1.95	0.92
7	1.1	WRAPP-6257	Lake	7120004	R2UBHx	PEM	N	0.23	0.07
7	5.1	WRAPP-6262	Lake	7120004	R2UBHx	PEM	N	0.12	0.01
7	7.3	WRAPP-6276	Lake	7120004	R2UBHx	PFO	Y	8.81	2.99
7	8.1	WRAPP-6277	Lake	7120004	PEMC	PEM	N	12.33	0.52
7	8.4	WRAPP-6282	Lake	7120004	R2UBHx	PEM	N	0.74	0.47
7	7.1	WRAPP-630	Lake	7120004	PUBHx	PEM	N	0.07	0.03
7	3.1	WRAPP-6329	Lake, Cook	7120004	R2UBHx	PEM	N	0.15	0.06
7	6.9	WRAPP-6332	Lake	7120004	PEMCx	PEM	N	16.97	16.97
7	2.5	WRAPP-64	Lake	7120004	L1UBHh	PEM	Y	0.35	0.30
7	7.2	WRAPP-644	Lake	7120004	R4SBCx	PEM	N	0.33	0.33
7	7.3	WRAPP-660	Lake	7120004	PEMCd	PEM	N	0.37	0.00
7	7.4	WRAPP-668	Lake	7120004	PEM/FO1Cd	PEM	N	0.15	0.09
7	7.3	WRAPP-673	Lake	7120004	PEMFx	PEM	N	0.00	0.00
7	7.3	WRAPP-677	Lake	7120004	PEM/FO1Cd	PEM	N	20.01	20.01
7	7.7	WRAPP-716	Lake	7120004	PEMC	PEM	N	0.47	0.47
7	7.9	WRAPP-744	Lake	7120004	PUBGx	PEM	N	0.09	0.09
7	8.6	WRAPP-811	Lake	7120004	PEMAd	PEM	N	1.41	0.13
7	1.7	WRAPP-83	Lake	7120004	PFO1C	PFO	Y	1.34	1.34
7	8.6	WRAPP-837	Lake	7120004	PEMCx	PEM	N	0.00	0.00
7	8.6	WRAPP-839	Lake	7120004	PEMCx	PEM	N	0.00	0.00
7	1.5	WRAPP-84	Lake	7120004	PEM/SS1C	PEM	Y	0.69	0.69
7	0	WRAPP-86	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	13.2	WRAPP-8886	Lake	7120004	PEMCx	PEM	N	0.74	0.74
7	13.2	WRAPP-8888	Lake	7120004	PEMC	PEM	N	0.22	0.22
7	13.4	WRAPP-8890	Lake	7120004	PFO1Ad	PFO	N	2.48	2.48
7	13.5	WRAPP-8898	Lake	7120004	PEM/FO1C	PEM	N	1.08	1.08
7	13.5	WRAPP-8902	Lake	7120004	PEMAf	PEM	N	0.12	0.12
7	13.7	WRAPP-8907	Lake	7120004	PEM/FO1C	PEM	N	0.15	0.15
7	13.8	WRAPP-8910	Lake	7120004	PEMAf	PEM	N	1.27	1.27
7	13.6	WRAPP-8913	Lake	7120004	PEMCd	PEM	N	105.13	25.73
7	14	WRAPP-8916	Lake	7120004	PEMA	PEM	N	0.28	0.28
7	13.9	WRAPP-8917	Lake	7120004	PEMA	PEM	N	0.67	0.67
7	14	WRAPP-8922	Lake	7120004	PEMAf	PEM	N	0.31	0.31
7	14	WRAPP-8924	Lake	7120004	PEMAf	PEM	N	0.17	0.17
7	14.1	WRAPP-8928	Lake	7120004	PEMC	PEM	N	0.86	0.86
7	14.1	WRAPP-8929	Lake	7120004	PEMC	PEM	N	1.01	1.01
7	14.3	WRAPP-8933	Lake	7120004	PEMCf	PEM	N	2.47	1.80
7	14.7	WRAPP-8962	Lake	7120004	PEMCd	PEM	N	0.89	0.89
7	15.1	WRAPP-8965	Lake	7120004	PEM/SS1Ad	PEM	N	1.02	1.02
7	12.6	WRAPP-9197	Lake	7120004	PEM/SS1Ad	PEM	N	0.09	0.09
7	12.6	WRAPP-9201	Lake	7120004	PEM/FO1Ad	PEM	N	1.43	1.43
7	12.7	WRAPP-9202	Lake	7120004	PEMC	PEM	N	0.63	0.63
7	12.9	WRAPP-9204	Lake	7120004	PFO1A	PFO	N	0.85	0.85
7	13	WRAPP-9206	Lake	7120004	PEMAf	PEM	N	0.08	0.08
7	13	WRAPP-9207	Lake	7120004	PEMC	PEM	N	0.84	0.84
7	12.9	WRAPP-9208	Lake	7120004	PEM/SS1Cd	PEM	N	20.56	6.68
7	13.1	WRAPP-9209	Lake	7120004	PEMF	PEM	N	2.49	2.49
7	13.1	WRAPP-9210	Lake	7120004	PFO1A	PFO	N	1.34	1.34
7	14	WRAPP-9211	Lake	7120004	PEMAf	PEM	N	0.13	0.13

Attachment B - Table 7-1
Corridor 7 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
7	14.1	WRAPP-9212	Lake	7120004	PEMAf	PEM	N	0.26	0.26
7	14.1	WRAPP-9215	Lake	7120004	PEMC	PEM	N	1.07	0.16
7	14.3	WRAPP-9216	Lake	7120004	PEMA	PEM	N	3.04	3.04
7	14.3	WRAPP-9220	Lake	7120004	PEMAf	PEM	N	0.48	0.48
7	14.5	WRAPP-9222	Lake	7120004	PEMCf	PEM	N	0.35	0.35
7	14.4	WRAPP-9223	Lake	7120004	PEM/SS1A	PEM	N	0.54	0.54
7	14.6	WRAPP-9225	Lake	7120004	PEMAf	PEM	N	0.51	0.51
7	14.4	WRAPP-9226	Lake	7120004	PEMC	PEM	N	0.88	0.48
7	14.6	WRAPP-9227	Lake	7120004	PEMCf	PEM	N	1.66	1.66
7	14.5	WRAPP-9228	Lake	7120004	PEMAf	PEM	N	0.15	0.15
7	14.6	WRAPP-9230	Lake	7120004	PEMA	PEM	N	0.08	0.08
7	14.7	WRAPP-9234	Lake	7120004	PEMAd	PEM	N	0.07	0.07
7	14.9	WRAPP-9237	Lake	7120004	PEMAf	PEM	N	0.11	0.11
7	15	WRAPP-9238	Lake	7120004	PEMCd	PEM	N	4.87	4.81
7	15	WRAPP-9239	Lake	7120004	PEMCx	PEM	N	0.08	0.08
7	15.3	WRAPP-9241	Lake	7120004	PEMCd	PEM	N	0.91	0.91
7	15.3	WRAPP-9243	Lake	7120004	PFO1C	PFO	N	0.50	0.50
7	15.3	WRAPP-9247	Lake	7120004	PEMA	PEM	N	1.20	1.20
7	15.4	WRAPP-9250	Lake	7120004	PEMA	PEM	N	0.17	0.17
7	15.3	WRAPP-9251	Lake	7120004	PEM/UBFd	PEM	N	0.48	0.48
7	15.4	WRAPP-9252	Lake	7120004	PEM/SS1A	PEM	N	0.88	0.65
7	15.4	WRAPP-9253	Lake	7120004	PUBGx	PEM	N	0.54	0.54
7	15.5	WRAPP-9255	Lake	7120004	PEM/UBF	PEM	N	1.19	1.19
7	15.6	WRAPP-9257	Lake	7120004	PEMC	PEM	N	0.27	0.27
7	15.6	WRAPP-9260	Lake	7120004	PUBGx	PEM	N	2.96	2.96
7	16	WRAPP-9310	Lake	7120004	PEMA	PEM	N	0.18	0.18
7	16	WRAPP-9312	Lake	7120004	PEMCd	PEM	N	0.03	0.03
7	16	WRAPP-9313	Lake	7120004	PEMCx	PEM	N	0.46	0.46
7	15.9	WRAPP-9332	Lake	7120004	PEMCd	PEM	N	4.83	1.04
7	15.3	WRAPP-9380	Lake	7120004	PEM/FO1A	PEM	N	0.57	0.21
7	15.3	WRAPP-9381	Lake	7120004	PFO1A	PFO	N	0.15	0.15
7	15.9	WRAPP-9382	Lake	7120004	PUBGx	PEM	N	0.30	0.30
7	16	WRAPP-9383	Lake	7120004	PEMFd	PEM	N	0.99	0.99
7	15	WRAPP-9389	Lake	7120004	PEMAf	PEM	N	0.84	0.84
7	14.8	WRAPP-9390	Lake	7120004	PEMAd	PEM	N	1.08	1.08
7	15.1	WRAPP-9391	Lake	7120004	PEMC	PEM	N	0.34	0.34
7	15	WRAPP-9392	Lake	7120004	PEMA	PEM	N	0.38	0.38
7	14.3	WRAPP-9393	Lake	7120004	PEMCf	PEM	N	0.17	0.17
7	14.4	WRAPP-9394	Lake	7120004	PEMAf	PEM	N	0.03	0.03
7	13.1	WRAPP-9477	Lake	7120004	PEMC	PEM	N	0.58	0.58
7	13.1	WRAPP-9478	Lake	7120004	PEMCx	PEM	N	0.36	0.36
7	13.1	WRAPP-9479	Lake	7120004	PEM/UBFx	PEM	N	0.51	0.51
7	13.2	WRAPP-9480	Lake	7120004	PUBGx	PEM	N	0.14	0.14
7	13.5	WRAPP-9481	Lake	7120004	PUBGx	PEM	N	0.14	0.14
7	13.4	WRAPP-9482	Lake	7120004	PEMF	PEM	N	2.81	2.81
7	13.4	WRAPP-9483	Lake	7120004	PUBGx	PEM	N	0.10	0.10
7	13.5	WRAPP-9485	Lake	7120004	PUBGx	PEM	N	0.15	0.15
7	13.5	WRAPP-9486	Lake	7120004	PEMF	PEM	N	1.04	1.04
7	13.7	WRAPP-9487	Lake	7120004	PFO1Ad	PFO	N	0.32	0.32
7	13	WRAPP-9490	Lake	7120004	PUBGx	PEM	N	0.00	0.00
7	1.3	WRAPP-95	Lake	7120004	PFO1C	PFO	Y	0.71	0.71
7	16.3	WRAPP-9912	Lake	7120004	PEMFd	PEM	N	2.25	2.25
7	16.4	WRAPP-9913	Lake	7120004	PUBGx	PEM	N	0.01	0.01
7	16.4	WRAPP-9914	Lake	7120004	PFO1C	PFO	N	0.90	0.51
7	16.4	WRAPP-9915	Lake	7120004	PEMC	PEM	N	2.24	2.24
7	16.4	WRAPP-9929	Lake	7120004	PEMC	PEM	N	0.72	0.20
7	16.4	WRAPP-9930	Lake	7120004	PFO1A	PFO	N	0.67	0.52
7	16.4	WRAPP-9931	Lake	7120004	PFO1A	PFO	N	0.92	0.11
7	16.4	WRAPP-9932	Lake	7120004	PEM/FO1C	PEM	N	0.51	0.39
7	16.4	WRAPP-9933	Lake	7120004	PUBGx	PEM	N	0.63	0.63
7	16.4	WRAPP-9934	Lake	7120004	PEMCd	PEM	N	0.29	0.29
7	16.4	WRAPP-9935	Lake	7120004	PFO1A	PFO	N	0.89	0.89
7	16.4	WRAPP-9936	Lake	7120004	PEM/FO1Cd	PEM	N	0.74	0.74
7	16.4	WRAPP-9937	Lake	7120004	PUBF	PEM	N	0.01	0.01
7	16.1	WRAPP-9938	Lake	7120004	R4SBCx	PEM	N	0.35	0.09
7	16.4	WRAPP-9941	Lake	7120004	PEMAf	PEM	N	0.79	0.79
7	16.3	WRAPP-9954	Lake	7120004	PEMAf	PEM	Y	0.95	0.06
7	2.6	WRAPP-WRAPP1	Lake	7120004	PEMA	PEM	Y	0.75	0.75
TOTAL									**553.05**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 7-2
Corridor 7 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
7	0	9194	Lake	7120004	Unnamed Creek	1
7	1.1	8641	Lake	7120004	South Branch Buffalo Creek	0
7	2.2	13640	Lake, Cook	7120004	Buffalo Creek Reservoir Tributary	1
7	2.7	8461	Lake	7120004	Buffalo Creek	1
7	3.1	9130	Lake, Cook	7120004	Buffalo Creek	1
7	3.2	9107	Lake	7120004	Twin Grove Tributary	0
7	5.1	8218	Lake	7120004	West Branch Aptakisic Creek	0
7	5.1	8247	Lake	7120004	Twin Orchard Tributary	0
7	5.7	7892	Lake	7120004	Kildeer Creek	1
7	7.3	6981	Lake	7120004	Indian Creek	1
7	7.5	7111	Lake	7120004	Unnamed Trib to Indian Creek 1	1
7	7.7	7048	Lake	7120004	Unnamed Trib to Indian Creek 2	0
7	8.1	6909	Lake	7120004	Indian Valley Golf Club Pond 5	0
7	8.4	6282	Lake	7120004	Diamond Lake Drain	1
7	13.7	5158	Lake	7120004	Unnamed Trib to Bull Creek	0
7	14.7	4756	Lake	7120004	Countryside Landfill South Ditch	0
7	14.8	4691	Lake	7120004	Countryside Landfill South Ditch	0
7	16	4330	Lake	7120004	Countryside Landfill North Ditch	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 7-3
Corridor 7 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
7	1.2	AIOW - 12	Lake	7120004	Pond		0.61	0.61
7	15.2	AIOW - 9	Lake	7120004	Pond		0.87	0.87
7	0.7	LR-10214	Cook	7120004	Pond		0.78	0.78
7	1.7	LR-10215	Cook	7120004	Pond		0.50	0.50
7	1.6	LR-10219	Cook	7120004	Pond		0.11	0.11
7	1.6	LR-10221	Cook	7120004	Pond		0.48	0.48
7	1.3	LR-10224	Cook	7120004	Pond		0.55	0.55
7	1.5	LR-10227	Cook	7120004	Pond		0.11	0.11
7	2.3	LR-12377	Cook	7120004	Lake	LAKE TERRAMERE	7.12	3.83
7	1.7	LR-13964	Lake	7120004	Pond		0.75	0.75
7	0.5	LR-16415	Cook	7120004	Pond		1.38	1.38
7	0	LR-16562	Cook	7120004	Pond		0.33	0.33
7	1.6	LR-16682	Cook	7120004	Pond		0.30	0.30
7	1.6	LR-16684	Cook	7120004	Pond		0.22	0.22
7	1.5	LR-16686	Cook	7120004	Pond		0.13	0.13
7	1.4	LR-17072	Cook	7120004	Pond		0.52	0.52
7	1.6	LR-17124	Cook	7120004	Pond		0.03	0.03
7	0	LR-18558	Cook	7120004	Pond		0.15	0.15
7	0	LR-18559	Cook	7120004	Pond		0.18	0.14
7	16.4	LR-4160	Lake	7120004	Pond	Hidden Ponds Pond 2	0.10	0.10
7	16.4	LR-4164	Lake	7120004	Pond	Mapleview Pond 1	0.51	0.51
7	16.4	LR-4166	Lake	7120004	Pond	Hidden Ponds Pond 3	0.46	0.46
7	16.4	LR-4167	Lake	7120004	Pond	Mapleview Pond 2	0.18	0.00
7	16.4	LR-4172	Lake	7120004	Pond	Hidden Ponds Pond 4	0.39	0.39
7	16.4	LR-4201	Lake	7120004	Pond		1.32	0.95
7	16.4	LR-4220	Lake	7120004	Pond	Hidden Ponds Pond 5	0.32	0.32
7	16.4	LR-4229	Lake	7120004	Detention Basin		0.03	0.03
7	16.4	LR-4237	Lake	7120004	Pond	Hidden Ponds Pond 6	0.24	0.24
7	16.4	LR-4244	Lake	7120004	Pond	Phil-Mar Pond	0.17	0.17
7	16.3	LR-4272	Lake	7120004	Detention Basin		1.62	1.62
7	16.3	LR-4273	Lake	7120004	Pond		0.64	0.64
7	16.2	LR-4295	Lake	7120004	Pond		0.06	0.06
7	16.2	LR-4302	Lake	7120004	Detention Basin		0.31	0.31
7	16.2	LR-4313	Lake	7120004	Pond		0.10	0.10
7	16	LR-4352	Lake	7120004	Pond		0.05	0.05
7	16	LR-4353	Lake	7120004	Pond		0.03	0.03
7	16	LR-4364	Lake	7120004	Pond		0.50	0.50
7	15.9	LR-4378	Lake	7120004	Lake	Countryside Landfill Lake 2	11.77	11.77
7	15.6	LR-4418	Lake	7120004	Pond	Countryside Landfill Pond 18	4.61	4.61
7	15.6	LR-4455	Lake	7120004	Pond		0.54	0.54
7	15.5	LR-4484	Lake	7120004	Pond		0.24	0.24
7	15.4	LR-4531	Lake	7120004	Pond	Countryside Landfill Pond 16	0.44	0.44
7	15.4	LR-4535	Lake	7120004	Pond	Countryside Landfill Pond 17	0.16	0.16
7	15.4	LR-4540	Lake	7120004	Pond	Countryside Landfill Pond 15	0.60	0.60
7	15.3	LR-4572	Lake	7120004	Pond	Countryside Landfill Pond 14	0.25	0.25
7	15.2	LR-4592	Lake	7120004	Pond	Countryside Landfill Pond 13	0.40	0.40
7	15.1	LR-4629	Lake	7120004	Pond	Countryside Landfill Pond 7	0.04	0.04
7	15.1	LR-4635	Lake	7120004	Pond	Countryside Landfill Pond 8	0.01	0.01
7	15	LR-4656	Lake	7120004	Pond	Countryside Landfill Pond 12	0.52	0.52
7	15	LR-4674	Lake	7120004	Pond	Countryside Landfill Pond 9	0.03	0.03
7	14.9	LR-4682	Lake	7120004	Pond		0.04	0.04
7	14.8	LR-4717	Lake	7120004	Detention Basin		1.33	1.33
7	14.7	LR-4744	Lake	7120004	Pond	Countryside Landfill Pond 11	2.68	2.68
7	14.6	LR-4797	Lake	7120004	Pond	Countryside Landfill Pond 10	0.14	0.06
7	14.4	LR-4830	Lake	7120004	Pond		0.00	0.00
7	14.3	LR-4893	Lake	7120004	Pond		0.36	0.36
7	14.3	LR-4927	Lake	7120004	Pond		0.65	0.65
7	13.7	LR-5087	Lake	7120004	Pond		0.04	0.04
7	13.7	LR-5090	Lake	7120004	Pond		0.01	0.01
7	13.7	LR-5106	Lake	7120004	Pond		0.57	0.57
7	13.6	LR-5169	Lake	7120004	Pond		0.03	0.03
7	13.5	LR-5204	Lake	7120006	Pond		0.61	0.45
7	13.5	LR-5224	Lake	7120004	Pond		0.19	0.19
7	13.5	LR-5242	Lake	7120004	Pond		0.02	0.02

Attachment B - Table 7-3
Corridor 7 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
7	13.5	LR-5253	Lake	7120004	Pond		0.21	0.21
7	13.5	LR-5255	Lake	7120004	Pond		0.06	0.06
7	13.5	LR-5257	Lake	7120004	Pond		0.01	0.01
7	13.3	LR-5259	Lake	7120006	Pond		0.37	0.25
7	13.4	LR-5263	Lake	7120004	Pond		0.01	0.01
7	13.4	LR-5278	Lake	7120004	Pond		0.51	0.51
7	13.2	LR-5291	Lake	7120006	Pond		0.43	0.43
7	13.2	LR-5316	Lake	7120006	Pond	LCHD Animal Control Pond	0.21	0.21
7	13.1	LR-5319	Lake	7120006	Lake		7.16	2.98
7	13.2	LR-5336	Lake	7120004	Pond	Town and Country Homes Pond 6	0.21	0.21
7	13.1	LR-5375	Lake	7120004	Pond	Town and Country Homes Pond 5	0.08	0.08
7	13	LR-5393	Lake	7120004	Pond	Town and Country Homes Pond 4	0.03	0.03
7	13	LR-5413	Lake	7120004	Pond		0.35	0.17
7	13	LR-5417	Lake	7120004	Pond	Woodlands Pond 1	0.20	0.20
7	13	LR-5427	Lake	7120004	Detention Basin	Woodlands Park Pond 1	0.33	0.33
7	12.8	LR-5455	Lake	7120006	Pond	Mundelein Crossings Pond 2	0.61	0.58
7	12.9	LR-5458	Lake	7120004	Pond	Woodlands Park Pond 2	0.42	0.25
7	12.8	LR-5477	Lake	7120004	Detention Basin	Woodlands Park Pond 3	1.36	0.93
7	12.7	LR-5502	Lake	7120004	Detention Basin	Woodlands Park Pond 5	0.20	0.14
7	12.6	LR-5514	Lake	7120004	Pond	Mundelein Crossings Pond 3	0.25	0.25
7	8.6	LR-6577	Lake	7120004	Detention Basin	Patriots Plaza Pond	0.33	0.33
7	8.6	LR-6581	Lake	7120004	Detention Basin	Oak Creek Plaza Pond 2	0.89	0.89
7	8.4	LR-6805	Lake	7120004	Pond	Indian Valley Golf Club Pond 1	1.16	1.16
7	8.1	LR-6905	Lake	7120004	Pond	Indian Valley Golf Club Pond 2	0.52	0.52
7	8	LR-6926	Lake	7120004	Pond	Indian Valley Golf Club Pond 3	0.45	0.45
7	8	LR-6945	Lake	7120004	Pond	Indian Valley Golf Club Pond 4	0.16	0.16
7	7.9	LR-6984	Lake	7120004	Pond	Grosse Pointe Village Pond 3	0.34	0.34
7	7.9	LR-6989	Lake	7120004	Detention Basin	Grosse Pointe Village Pond 4	2.78	2.78
7	7.8	LR-7018	Lake	7120004	Pond	Stockbridge Wetland Pond	0.01	0.01
7	7.6	LR-7056	Lake	7120004	Pond	Olde Grove Farms Pond 1	2.56	2.56
7	7.5	LR-7107	Lake	7120004	Pond	Olde Grove Farms Pond 2	0.02	0.02
7	7.5	LR-7113	Lake	7120004	Pond	Olde Grove Farms Pond 3	0.11	0.11
7	7.5	LR-7119	Lake	7120004	Pond	Townhomes of Olde Grove Pond 1	1.62	1.62
7	7.5	LR-7131	Lake	7120004	Detention Basin	Townhomes of Olde Grove Pond 2	0.49	0.49
7	7.4	LR-7154	Lake	7120004	Pond	Old Gridley Farm PUD Pond 1	0.16	0.16
7	7.4	LR-7174	Lake	7120004	Detention Basin	Old Gridley Farm PUD Pond 2	0.62	0.62
7	7.1	LR-7297	Lake	7120004	Pond		0.05	0.05
7	7.1	LR-7310	Lake	7120004	Pond		0.23	0.23
7	7	LR-7345	Lake	7120004	Pond	Gridley Park Pond	0.13	0.13
7	7.1	LR-7349	Lake	7120004	Pond	Gridley Cemetery Pond	1.30	0.72
7	6.9	LR-7360	Lake	7120004	Pond	Old Gridley Farm PUD Pond 6	0.61	0.61
7	6.9	LR-7366	Lake	7120004	Pond	Old Gridley Farm PUD Pond 7	0.28	0.28
7	6.8	LR-7396	Lake	7120004	Pond		0.36	0.36
7	6.9	LR-7403	Lake	7120004	Pond	Preserve at Long Grove Pond 2	1.66	0.49
7	6.8	LR-7427	Lake	7120004	Pond	Preserve at Long Grove Pond 3	0.47	0.47
7	6.6	LR-7488	Lake	7120004	Pond	Preserve at Long Grove Pond 1	1.21	1.21
7	6.5	LR-7495	Lake	7120004	Pond	Oak Hills Pond 1	0.06	0.06
7	6.4	LR-7553	Lake	7120004	Pond	Oak Hills Pond 2	0.07	0.07
7	6.3	LR-7615	Lake	7120004	Pond	Royal Melbourne Golf Course Pond 11	1.50	1.50
7	6.3	LR-7630	Lake	7120004	Lake	Oak Hills Lake	10.77	6.89
7	6.1	LR-7712	Lake	7120004	Pond	Royal Melbourne Golf Course Pond 10	1.04	0.57
7	6	LR-7743	Lake	7120004	Pond	Royal Melbourne Golf Course Pond 12	1.95	1.95
7	6	LR-7775	Lake	7120004	Pond	Promontory Pointe at Oak Hills Pond 1	0.49	0.49
7	5.9	LR-7789	Lake	7120004	Pond	Promontory Pointe at Oak Hills Pond 2	0.39	0.39
7	5.6	LR-7859	Lake	7120004	Lake	Longview Meadows Lake	11.62	0.35
7	5.7	LR-7941	Lake	7120004	Pond	Oak Hills Pond 4	0.06	0.06
7	5.5	LR-8017	Lake	7120004	Pond	Skycrest Estates Pond 1	2.97	2.97
7	5.4	LR-8086	Lake	7120004	Pond	Congregation Beth Judea Pond	0.21	0.21
7	5.2	LR-8152	Lake	7120004	Pond	Skycrest Estates Pond 2	1.63	1.52
7	5.3	LR-8178	Lake	7120004	Pond	Skycrest Estates Pond 3	0.28	0.28
7	5.2	LR-8209	Lake	7120004	Pond	Briarcrest Pond 5	0.12	0.12
7	5.2	LR-8226	Lake	7120004	Pond		0.28	0.28
7	5.2	LR-8227	Lake	7120004	Pond	Twin Orchard Country Club Pond 9	0.12	0.12
7	5.1	LR-8282	Lake	7120004	Pond	Twin Orchard Country Club Pond 7	2.53	0.31

Attachment B- Table 7-3
Corridor 7 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
7	5	LR-8292	Lake	7120004	Pond	Twin Orchard Country Club Pond 10	0.21	0.21
7	5	LR-8308	Lake	7120004	Pond	Ballybunion Golf Pond	0.13	0.13
7	4.9	LR-8360	Lake	7120004	Pond	Lakes of Long Grove Pond 3	0.08	0.08
7	4.9	LR-8369	Lake	7120004	Pond	Lakes of Long Grove Pond 4	4.32	4.32
7	4.8	LR-8441	Lake	7120004	Pond	Lakes of Long Grove Pond 5	2.19	0.11
7	4.7	LR-8472	Lake	7120004	Pond		0.27	0.27
7	4.6	LR-8476	Lake	7120004	Pond	Fairfield Village - Long Grove Pond	1.71	1.71
7	4.7	LR-8481	Lake	7120004	Pond		0.03	0.03
7	2.3	LR-8490	Lake	7120004	Pond	Clemetsen Pond 3	0.11	0.08
7	2.2	LR-8509	Lake	7120004	Pond	Clemetsen Pond 4	0.18	0.18
7	2.9	LR-8596	Lake	7120004	Pond	Crossings Pond 2	0.17	0.17
7	2	LR-8604	Lake	7120004	Detention Basin	Miller Farm Pond 1	0.75	0.75
7	1.8	LR-8607	Lake	7120004	Pond	Victorian Oak Estates Pond 2	0.65	0.65
7	2.9	LR-8618	Lake	7120004	Pond	Crossings Pond 3	0.02	0.02
7	4.2	LR-8627	Lake	7120004	Detention Basin	LaSalle Bank Professional Center Pond	0.20	0.20
7	2.3	LR-8628	Lake	7120004	Pond		0.49	0.49
7	4.1	LR-8645	Lake	7120004	Detention Basin	Spoerlein Farm Pond	0.54	0.54
7	3	LR-8655	Lake	7120004	Pond	Crossings Pond 1	2.14	2.14
7	2.9	LR-8658	Lake	7120004	Pond	Bridgewater Farm Park Pond	0.58	0.58
7	1.8	LR-8667	Lake	7120004	Pond	Miller Farm Pond 2	0.02	0.02
7	1.8	LR-8696	Lake	7120004	Pond	Victorian Oak Estates Pond 3	0.48	0.48
7	4	LR-8718	Lake	7120004	Detention Basin	Concord Place Pond	0.50	0.50
7	2	LR-8721	Lake	7120004	Detention Basin	Country Club Woods Pond	0.73	0.73
7	1.1	LR-8726	Lake	7120004	Pond		0.40	0.40
7	1.5	LR-8771	Lake	7120004	Pond	Whispering Pine Farm Pond	0.02	0.02
7	1.3	LR-8780	Lake	7120004	Pond	Greenland Pond	0.41	0.41
7	1.7	LR-8802	Lake	7120004	Lake	Yankee Lake	6.77	6.77
7	1.4	LR-8854	Lake	7120004	Pond	Maple Hill Nursing Center Pond	0.07	0.07
7	0.9	LR-8898	Lake	7120004	Pond	Wyncrest of Long Grove Pond 1	1.20	1.20
7	0.9	LR-8899	Lake	7120004	Pond	Wyncrest of Long Grove Pond 2	0.58	0.58
7	0.9	LR-8917	Lake	7120004	Pond	Wyncrest of Long Grove Pond 3	0.04	0.04
7	0.8	LR-8974	Lake	7120004	Pond		0.04	0.04
7	0.7	LR-9003	Lake	7120004	Pond		0.30	0.08
7	0.7	LR-9012	Lake	7120004	Pond		0.09	0.09
7	0.7	LR-9015	Lake	7120004	Pond		0.99	0.99
7	0.7	LR-9027	Lake	7120004	Pond		0.03	0.03
7	0.5	LR-9091	Lake	7120004	Lake		7.96	2.42
7	0.4	LR-9096	Lake	7120004	Pond		0.38	0.38
7	3.1	LR-9121	Lake	7120004	Pond	LCFPD Pond	1.25	1.25
7	0.4	LR-9135	Lake	7120004	Pond		0.10	0.10
7	2.2	LR-9136	Lake	7120004	Lake	Buffalo Creek Reservoir	32.76	26.50
7	3.1	LR-9151	Lake	7120004	Pond	Lexington Glen Pond	0.35	0.35
7	0.3	LR-9153	Lake	7120004	Pond		1.01	1.01
7	0.4	LR-9164	Lake	7120004	Pond		0.03	0.03
7	0.4	LR-9197	Lake	7120004	Pond		0.15	0.15
7	0	LR-9198	Lake	7120004	Pond		1.11	1.11
7	0.3	LR-9199	Lake	7120004	Pond		0.12	0.12
7	0.2	LR-9203	Lake	7120004	Pond		0.26	0.26
7	0.2	LR-9217	Lake	7120004	Pond	Shanske Terrace Pond	0.20	0.20
7	3	LR-9224	Lake	7120004	Pond	Buffalo Grove Business Park Pond 2	0.52	0.52
7	1.6	LR-9229	Lake	7120004	Pond	LCFPD Pond	0.89	0.89
7	0.1	LR-9241	Lake	7120004	Pond		0.37	0.37
7	0.2	LR-9242	Lake	7120004	Pond		1.11	1.11
7	0.1	LR-9244	Lake	7120004	Pond		0.16	0.16
7	0.4	LR-9248	Lake	7120004	Pond		2.52	2.52
7	0	LR-9257	Lake	7120004	Pond		0.27	0.27
7	0.1	LR-9260	Lake	7120004	Pond		0.01	0.01
7	0.3	LR-9271	Lake, Cook	7120004	Lake		23.16	23.16
TOTAL								**175.02**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 8-1
Corridor 8 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
8	4.9	ADID-1813	Lake	7120004	PEM	PEM	N	3.38	1.93
8	3	ADID-1814	Lake	7120004	PEMF	PEM	N	3.88	0.27
8	1.2	AI-69	Cook	7120006	PEM	PEM	N	0.00	0.00
8	4.9	AI-71	Lake, Cook	7120004	PEM	PEM	N	0.00	0.00
8	4.6	NWI-12822	Cook	7120004	PEM	PEM	Y	136.43	41.65
8	4.8	NWI-12836	Cook	7120004	PEM	PEM	Y	5.75	4.37
8	4.3	NWI-12867	Cook	7120004	PEM	PEM	Y	1.61	0.72
8	4.3	WRAPP-100	Lake	7120004	PUBGx	PEM	N	0.05	0.05
8	4.7	WRAPP-103	Lake	7120004	PEM/FO1Cd	PEM	N	1.76	1.76
8	3.3	WRAPP-106	Lake	7120004	PEM/FO1C	PEM	N	0.90	0.90
8	4.9	WRAPP-110	Lake	7120004	PUBGx	PEM	N	0.03	0.03
8	2.3	WRAPP-113	Lake	7120004	PUBHx	PEM	N	0.04	0.01
8	4.9	WRAPP-118	Lake	7120004	L1UBHh	PEM	N	0.03	0.01
8	2.1	WRAPP-12251	Lake	7120004	PUBHx	PEM	N	0.04	0.04
8	2.8	WRAPP-12259	Lake	7120004	PFO1Cd	PFO	N	0.47	0.05
8	2.9	WRAPP-12262	Lake	7120004	L2AB/UBG	PEM	N	0.04	0.00
8	2.9	WRAPP-12277	Lake	7120004	PUBGx	PEM	N	0.03	0.03
8	4.3	WRAPP-12285	Lake	7120004	PUBGx	PEM	Y	0.00	0.00
8	4.2	WRAPP-12286	Lake	7120004	PEMC	PEM	Y	5.84	5.84
8	4.8	WRAPP-12299	Lake	7120004	PEMCx	PEM	N	0.66	0.66
8	4.9	WRAPP-12302	Lake	7120004	PEMFd	PEM	N	2.65	2.40
8	4.9	WRAPP-12304	Lake	7120004	PUBHx	PEM	N	0.02	0.02
8	4.7	WRAPP-12324	Lake	7120004	PEM/FO1Cd	PEM	N	1.50	1.50
8	4.9	WRAPP-12325	Lake	7120004	PFO1A	PFO	N	1.10	0.10
8	4.9	WRAPP-12329	Lake	7120004	PEMFd	PEM	N	7.83	4.37
8	4.9	WRAPP-12330	Lake	7120004	PFO1A	PFO	N	4.03	2.76
8	1.4	WRAPP-16802	Lake	7120006	L1UBHh	PEM	N	0.60	0.01
8	0.6	WRAPP-16807	Lake	7120006	PUBGx	PEM	N	0.15	0.15
8	1.8	WRAPP-16808	Lake	7120006	PEM/FO1A	PEM	N	0.41	0.41
8	1.8	WRAPP-16810	Lake	7120006	PUBGx	PEM	N	0.01	0.01
8	0	WRAPP-16812	Lake	7120006	PEM/SS1Cx	PEM	N	0.23	0.03
8	1.2	WRAPP-18966	Lake	7120006	R2UBHx	PEM	N	0.06	0.06
8	1.1	WRAPP-19413	Lake	7120006	PSS1Ad	PSS	N	0.17	0.15
8	1.1	WRAPP-19414	Lake	7120006	PSS1Ad	PSS	N	0.20	0.17
8	1.9	WRAPP-19415	Lake	7120006	PUBGx	PEM	N	0.00	0.00
8	1.9	WRAPP-19416	Lake	7120006	PEMC	PEM	N	0.35	0.35
8	1.2	WRAPP-22123	Lake	7120006	PSS1Ad	PSS	N	0.25	0.25
8	1.2	WRAPP-22124	Lake	7120006	PSS1Ad	PSS	N	0.36	0.36
8	3.2	WRAPP-74	Lake	7120004	PFO1A	PFO	N	0.29	0.29
8	3	WRAPP-76	Lake	7120004	PEM/FO1C	PEM	N	0.86	0.86
8	2	WRAPP-77	Lake	7120004	PEMC	PEM	N	0.19	0.19
8	4.3	WRAPP-78	Lake	7120004	PEMC	PEM	Y	0.66	0.66
8	2.2	WRAPP-79	Lake	7120004	PUBFx	PEM	N	0.00	0.00
8	4.1	WRAPP-80	Lake	7120004	PUBGx	PEM	N	0.13	0.13
8	4.6	WRAPP-82	Lake	7120004	PUBGx	PEM	N	0.00	0.00
8	4.3	WRAPP-85	Lake	7120004	PUBGx	PEM	Y	0.00	0.00
8	4.9	WRAPP-86	Lake	7120004	PUBGx	PEM	N	0.01	0.01
8	3.5	WRAPP-87	Lake	7120004	PEMCx	PEM	N	0.38	0.38
8	3.2	WRAPP-88	Lake	7120004	PUBGx	PEM	N	0.02	0.02
8	4.7	WRAPP-89	Lake	7120004	PEMA	PEM	N	0.02	0.02
8	3.4	WRAPP-91	Lake	7120004	PUBGx	PEM	N	0.00	0.00
8	4.2	WRAPP-94	Lake	7120004	PUBGx	PEM	N	0.00	0.00
8	4.4	WRAPP-96	Lake	7120004	PUBGx	PEM	Y	0.19	0.19
8	2.9	WRAPP-97	Lake	7120004	PEM/FO1C	PEM	N	2.05	2.05
8	3.3	WRAPP-98	Lake	7120004	PFO1C	PFO	N	0.66	0.66
8	3.8	WRAPP-99	Lake	7120004	PEMC	PEM	N	9.54	9.54
TOTAL									**86.42**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 8-2
Corridor 8 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
8	1.2	9178	Lake, Cook	7120006	Lake Louise Tributary	1
8	1.3	15936	Cook	7120006	Unnamed Trib to Lake Louise	0
8	4.9	9194	Lake	7120004	Unnamed Creek	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 8-3
Corridor 8 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
8	2	LR-10212	Cook	7120004	Pond		0.32	0.32
8	1.9	LR-10213	Cook	7120004	Pond		1.83	1.83
8	2.9	LR-10217	Cook	7120004	Pond		0.16	0.16
8	3.1	LR-10218	Cook	7120004	Pond		0.34	0.34
8	2.2	LR-10220	Cook	7120004	Pond		1.09	1.09
8	1.7	LR-10222	Cook	7120006	Pond		1.97	1.97
8	2.5	LR-10226	Cook	7120004	Pond		0.31	0.31
8	2.4	LR-13937	Cook	7120004	Pond		0.01	0.01
8	2.1	LR-15410	Cook	7120004	Pond		0.86	0.86
8	2.1	LR-15411	Cook	7120004	Pond		0.38	0.38
8	1.2	LR-15923	Cook	7120006	Pond		1.19	1.19
8	2.5	LR-16470	Cook	7120004	Pond		0.09	0.09
8	4.9	LR-16562	Cook	7120004	Pond		0.33	0.33
8	3.2	LR-16578	Cook	7120004	Pond		0.13	0.13
8	2.4	LR-16865	Cook	7120004	Pond		5.37	5.37
8	2.9	LR-18024	Lake	7120004	Pond		0.11	0.11
8	3.2	LR-18025	Lake	7120004	Pond		0.75	0.75
8	3.3	LR-18026	Lake	7120004	Pond		0.42	0.42
8	3.3	LR-18027	Lake	7120004	Pond		0.13	0.13
8	4.9	LR-18558	Cook	7120004	Pond		0.15	0.15
8	4.8	LR-18559	Cook	7120004	Pond		0.18	0.18
8	4.8	LR-18560	Cook	7120004	Pond		0.06	0.06
8	1.4	LR-9060	Lake	7120006	Lake	Lake Louise	39.52	0.07
8	2.9	LR-9100	Lake	7120004	Lake	Dover Pond	20.07	0.36
8	2.3	LR-9174	Lake	7120004	Pond	Oak Ridge Pond	1.06	0.59
8	1.9	LR-9193	Lake	7120006	Detention Basin	Shires Deer Chase Pond	0.43	0.43
8	4.9	LR-9198	Lake	7120004	Pond		1.11	1.11
8	2	LR-9211	Lake	7120006	Detention Basin	Robinson Fields Pond	0.43	0.43
8	0.6	LR-9214	Lake	7120006	Detention Basin		1.22	1.22
8	4.1	LR-9215	Lake	7120004	Pond		0.05	0.05
8	4.1	LR-9222	Lake	7120004	Pond		0.17	0.17
8	4.3	LR-9227	Lake	7120004	Pond	Motorola - Deer Park Pond 1	0.50	0.50
8	1.9	LR-9228	Lake	7120006	Pond		0.38	0.38
8	4.4	LR-9237	Lake	7120004	Pond	Motorola - Deer Park Pond 2	3.88	3.88
8	1.9	LR-9238	Lake	7120006	Pond		0.16	0.16
8	1.8	LR-9240	Lake	7120006	Pond		0.06	0.06
8	4.9	LR-9241	Lake	7120004	Pond		0.37	0.37
8	2.9	LR-9243	Lake	7120004	Pond	Mehans Deer Park Pond 1	0.10	0.10
8	0.7	LR-9245	Lake	7120006	Detention Basin	Eastwood Pond	0.76	0.76
8	4.7	LR-9246	Lake	7120004	Pond		0.02	0.02
8	3.9	LR-9247	Lake	7120004	Detention Basin	Deer Park Office Center Pond 2	0.99	0.99
8	3.8	LR-9250	Lake	7120004	Detention Basin	Deer Park Office Center Pond 1	1.19	1.19
8	3.4	LR-9251	Lake	7120004	Pond	Deer Valley Highlands Pond 2	0.11	0.11
8	4.7	LR-9252	Lake	7120004	Pond	Motorola - Deer Park Pond 3	0.08	0.08
8	4	LR-9253	Lake	7120004	Pond	Deer Park Office Center Pond 3	0.62	0.62
8	3.2	LR-9254	Lake	7120004	Pond	Hartz Farm Pond	0.76	0.76
8	4.7	LR-9256	Lake	7120004	Pond		0.03	0.03
8	4.9	LR-9257	Lake	7120004	Pond		0.27	0.27
8	4.3	LR-9261	Lake	7120004	Pond	Deer Park Office Center Pond 8	0.21	0.21
8	4.5	LR-9264	Lake	7120004	Detention Basin	Motorola - Deer Park Pond 5	5.30	5.30
8	4.7	LR-9267	Lake	7120004	Detention Basin	Motorola - Deer Park Pond 6	1.66	1.66
8	4.9	LR-9271	Lake, Cook	7120004	Lake		23.16	1.40
8	2.2	LR-9272	Lake	7120004	Pond	Park Hill Countryside Estates Pond 2	0.02	0.02
8	2.1	LR-9275	Lake	7120004	Pond	Park Hill Countryside Estates Pond 1	0.95	0.95
8	4.3	LR-9276	Lake	7120004	Pond	Deer Park Office Center Pond 7	0.28	0.28
8	4.3	LR-9279	Lake	7120004	Pond	Motorola - Deer Park Pond 4	0.07	0.07
8	2.9	LR-9281	Lake	7120004	Pond	Mehans Deer Park Pond 2	0.22	0.22
8	3.4	LR-9282	Lake	7120004	Detention Basin	Deer Valley Highlands Pond 1	0.49	0.49
8	4.2	LR-9313	Lake	7120004	Pond	Deer Park Office Center Pond 6	0.84	0.84
8	4.1	LR-9343	Lake	7120004	Detention Basin	Deer Park Office Center Pond 4	2.09	2.09
8	4.1	LR-9344	Lake	7120004	Pond	Deer Park Office Center Pond 5	0.62	0.62
TOTAL								**45.04**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 9-1
Corridor 9 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
9	12.2	ADID-1772	Lake	7120006	PUBF	PEM	N	39.73	7.04
9	9.8	ADID-1786	Lake	7120006	PUBHx	PEM	Y	127.90	2.45
9	9.1	ADID-1787	Lake	7120006	PEMFd	PEM	N	20.70	0.81
9	10.6	ADID-1801	Lake	7120006	PEMA	PEM	Y	10.82	4.52
9	8.2	ADID-1804	Lake	7120006	PUBHx	PEM	N	15.03	1.66
9	1.2	AI-100	Cook	7120006	PEM	PEM	N	0.77	0.77
9	2	AI-110	Cook	7120006	PEM	PEM	N	0.09	0.09
9	1.5	AI-111	Cook	7120006	PEM	PEM	N	0.00	0.00
9	0.3	AI-113	Cook	7120006	PEM	PEM	N	0.38	0.38
9	1.8	AI-114	Cook	7120006	PEM	PEM	N	0.05	0.05
9	1.8	AI-115	Cook	7120006	PEM	PEM	N	0.07	0.07
9	0.3	AI-116	Cook	7120006	PEM	PEM	N	0.00	0.00
9	1.5	AI-2	Cook	7120006	PEM	PEM	N	0.85	0.85
9	3.7	AI-20	Cook	7120006	PEM	PEM	Y	1.16	1.16
9	1.2	AI-25	Cook	7120006	PEM	PEM	N	0.40	0.40
9	1.2	AI-26	Cook	7120006	PEM	PEM	N	0.11	0.11
9	1.5	AI-27	Cook	7120006	PEM	PEM	N	0.23	0.23
9	2.3	AI-28	Cook	7120006	PEM	PEM	Y	0.03	0.03
9	2.3	AI-29	Cook	7120006	PEM	PEM	N	0.02	0.02
9	3.5	AI-30	Cook	7120006	PEM	PEM	N	0.19	0.19
9	3.6	AI-31	Cook	7120006	PEM	PEM	N	0.40	0.40
9	3.6	AI-33	Cook	7120006	PEM	PEM	Y	0.46	0.46
9	4.8	AI-34	Cook	7120006	PEM	PEM	N	0.08	0.08
9	4.9	AI-35	Cook	7120006	PEM	PEM	N	0.17	0.17
9	5.2	AI-36	Cook	7120006	PEM	PEM	N	0.06	0.06
9	7	AI-37	Lake	7120006	PEM	PEM	N	0.01	0.01
9	6.9	AI-38	Lake	7120006	PEM	PEM	N	0.00	0.00
9	12.6	AI-39	Lake	7120006	PEM	PEM	N	0.16	0.16
9	5.2	AI-52	Cook	7120006	PEM	PEM	N	0.53	0.53
9	5.2	AI-56	Cook	7120006	PEM	PEM	N	0.48	0.48
9	3.1	AI-67	Cook	7120006	PEM	PEM	N	0.45	0.45
9	2.7	AI-70	Cook	7120006	PEM	PEM	N	0.27	0.27
9	1.3	AI-72	Cook	7120006	PEM	PEM	N	0.37	0.37
9	1.4	AI-8	Cook	7120006	PEM	PEM	N	0.35	0.35
9	3.7	AI-94	Cook	7120006	PEM	PEM	Y	0.14	0.14
9	5.2	NHD-10165	Cook	7120006	PEM	PEM	N	0.33	0.33
9	5.2	NHD-524	Cook	7120006	PEM	PEM	N	0.21	0.21
9	5.1	NWI-13262	Cook	7120006	PEM	PEM	N	8.43	7.80
9	4.9	NWI-13354	Cook	7120006	PEM	PEM	N	1.52	1.52
9	3.9	NWI-13735	Cook	7120006	PEM	PEM	Y	13.98	13.05
9	3.9	NWI-13754	Cook	7120006	PEM	PEM	Y	2.06	0.56
9	3.9	NWI-13755	Cook	7120006	PEM	PEM	Y	1.29	1.12
9	3.4	NWI-14052	Cook	7120006	PEM	PEM	Y	3.94	0.05
9	3.4	NWI-14061	Cook	7120006	PEM	PEM	Y	26.03	0.80
9	3.2	NWI-14152	Cook	7120006	PEM	PEM	N	0.40	0.40
9	3.1	NWI-14203	Cook	7120006	PEM	PEM	Y	0.17	0.17
9	3.1	NWI-14217	Cook	7120006	PEM	PEM	N	2.96	2.96
9	2.9	NWI-14272	Cook	7120006	PEM	PEM	N	0.96	0.96
9	2.9	NWI-14289	Cook	7120006	PEM	PEM	N	0.95	0.95
9	2.8	NWI-14317	Cook	7120006	PEM	PEM	Y	1.12	1.12
9	2.7	NWI-14347	Cook	7120006	PEM	PEM	Y	1.95	1.95
9	2.6	NWI-14438	Cook	7120006	PEM	PEM	N	0.11	0.11
9	2.5	NWI-14470	Cook	7120006	PEM	PEM	N	0.09	0.09
9	2.3	NWI-14525	Cook	7120006	PEM	PEM	N	5.27	5.26
9	2.2	NWI-14568	Cook	7120006	PEM	PEM	N	0.04	0.04
9	1.8	NWI-14618	Cook	7120006	PEM	PEM	N	13.61	11.46
9	2	NWI-14630	Cook	7120006	PEM	PEM	N	0.78	0.78
9	1.9	NWI-14682	Cook	7120006	PEM	PEM	N	2.49	2.49
9	1.8	NWI-14694	Cook	7120006	PEM	PEM	N	5.65	5.65
9	1.8	NWI-14703	Cook	7120006	PEM	PEM	N	1.74	1.74

Attachment B- Table 9-1
Corridor 9 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
9	1.8	NWI-14708	Cook	7120006	PEM	PEM	N	1.33	1.33
9	1.8	NWI-14715	Cook	7120006	PEM	PEM	N	1.55	1.55
9	1.5	NWI-14776	Cook	7120006	PEM	PEM	N	59.40	15.78
9	1.5	NWI-14788	Cook	7120006	PEM	PEM	N	3.76	3.76
9	1.6	NWI-14790	Cook	7120006	PEM	PEM	N	0.21	0.21
9	1.2	NWI-14822	Cook	7120006	PEM	PEM	N	3.37	3.37
9	1.4	NWI-14824	Cook	7120006	PEM	PEM	N	0.07	0.07
9	1.2	NWI-14914	Cook	7120006	PEM	PEM	N	1.79	1.79
9	0.2	NWI-15174	Cook	7120006	PEM	PEM	N	0.38	0.38
9	9.8	WRAPP-16680	Lake	7120006	PEM/SS1A	PEM	Y	2.31	0.89
9	12.8	WRAPP-16693	Lake	7120006	PFO1A	PFO	N	0.28	0.19
9	9.1	WRAPP-16704	Lake	7120006	PEMF	PEM	N	4.87	0.94
9	6.4	WRAPP-16756	Lake	7120006	PUBHh	PEM	N	0.04	0.04
9	6.5	WRAPP-16757	Lake	7120006	PEMAd	PEM	N	0.07	0.07
9	6.6	WRAPP-16758	Lake	7120006	PSS1Ad	PSS	N	0.03	0.03
9	6.7	WRAPP-16762	Lake	7120006	PFO1Ad	PFO	N	1.79	0.05
9	10.1	WRAPP-16769	Lake	7120006	PFO1A	PFO	N	1.50	1.50
9	10.3	WRAPP-16772	Lake	7120006	R4SBCx	PEM	N	0.13	0.13
9	10.4	WRAPP-16773	Lake	7120006	PABFx	PEM	N	0.06	0.06
9	6.3	WRAPP-16812	Lake	7120006	PEM/SS1Cx	PEM	N	0.23	0.23
9	6.9	WRAPP-16849	Lake	7120006	R4SBCx	PEM	N	0.06	0.01
9	7	WRAPP-16853	Lake	7120006	PUBGx	PEM	N	0.56	0.56
9	7.1	WRAPP-16864	Lake	7120006	PEMAx	PEM	N	0.25	0.25
9	7.1	WRAPP-16871	Lake	7120006	PEMC	PEM	N	0.05	0.05
9	7.2	WRAPP-16881	Lake	7120006	PEMAd	PEM	N	0.66	0.66
9	7.2	WRAPP-16882	Lake	7120006	PUBHx	PEM	N	0.06	0.06
9	7.2	WRAPP-16884	Lake	7120006	PFO1A	PFO	N	0.18	0.18
9	7.3	WRAPP-16891	Lake	7120006	PUBFx	PEM	N	0.02	0.02
9	7.3	WRAPP-16893	Lake	7120006	PUBGx	PEM	N	0.10	0.10
9	7.3	WRAPP-16895	Lake	7120006	PUBHx	PEM	N	0.05	0.05
9	7.4	WRAPP-16896	Lake	7120006	PUBGx	PEM	N	0.02	0.02
9	7.6	WRAPP-16921	Lake	7120006	PUBFx	PEM	N	0.00	0.00
9	7.6	WRAPP-16925	Lake	7120006	PEMCd	PEM	N	1.37	1.37
9	7.6	WRAPP-16940	Lake	7120006	PEMF	PEM	N	0.68	0.68
9	7.8	WRAPP-16955	Lake	7120006	PEMC	PEM	N	0.55	0.55
9	7.9	WRAPP-16974	Lake	7120006	PUBHx	PEM	N	0.13	0.13
9	7.8	WRAPP-16975	Lake	7120006	PEMA	PEM	N	1.55	1.55
9	8	WRAPP-16980	Lake	7120006	PUBGx	PEM	N	0.03	0.03
9	8.1	WRAPP-16989	Lake	7120006	PUBGx	PEM	N	0.01	0.01
9	8.2	WRAPP-17007	Lake	7120006	PEMC	PEM	N	4.76	4.76
9	8.5	WRAPP-17023	Lake	7120006	PFO1A	PFO	N	0.27	0.27
9	8.4	WRAPP-17026	Lake	7120006	PUBHx	PEM	N	0.01	0.01
9	8.5	WRAPP-17028	Lake	7120006	PEM/FO1C	PEM	N	0.16	0.16
9	8.5	WRAPP-17031	Lake	7120006	PEMC	PEM	N	3.43	3.43
9	8.5	WRAPP-17037	Lake	7120006	PUBGx	PEM	N	0.31	0.31
9	8.8	WRAPP-17074	Lake	7120006	PUBHx	PEM	N	0.04	0.04
9	9	WRAPP-17079	Lake	7120006	PFO1A	PFO	N	1.23	1.23
9	8.9	WRAPP-17086	Lake	7120006	PEMA	PEM	N	8.89	8.89
9	9	WRAPP-17096	Lake	7120006	PEMCd	PEM	N	1.16	0.16
9	9.1	WRAPP-17102	Lake	7120006	PUBHx	PEM	N	0.05	0.05
9	9.2	WRAPP-17105	Lake	7120006	PFO1Ad	PFO	N	0.02	0.02
9	9.4	WRAPP-17115	Lake	7120006	PFO1A	PFO	N	0.15	0.15
9	9.5	WRAPP-17116	Lake	7120006	PEMFx	PEM	N	0.00	0.00
9	9.5	WRAPP-17121	Lake	7120006	PUBGx	PEM	N	0.01	0.01
9	9.7	WRAPP-17134	Lake	7120006	PUBHx	PEM	N	0.03	0.03
9	9.6	WRAPP-17137	Lake	7120006	PUBGx	PEM	N	0.01	0.01
9	9.7	WRAPP-17139	Lake	7120006	PUBHx	PEM	N	0.01	0.01
9	10.2	WRAPP-17168	Lake	7120006	PUBHx	PEM	N	0.02	0.02
9	10.3	WRAPP-17174	Lake	7120006	PFO1C	PFO	N	0.01	0.01
9	10.3	WRAPP-17177	Lake	7120006	PUBHx	PEM	N	0.00	0.00

Attachment B- Table 9-1
Corridor 9 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
9	10.1	WRAPP-17198	Lake	7120006	PFO1C	PFO	Y	1.22	1.22
9	10.4	WRAPP-17216	Lake	7120006	PUBGx	PEM	N	0.05	0.05
9	10.7	WRAPP-17246	Lake	7120006	PUBGx	PEM	N	0.01	0.01
9	10.8	WRAPP-17253	Lake	7120006	PUBGx	PEM	N	0.14	0.14
9	11.5	WRAPP-17300	Lake	7120006	PUBHx	PEM	N	0.02	0.01
9	11.3	WRAPP-17314	Lake	7120006	PEMF	PEM	N	1.23	0.20
9	11.5	WRAPP-17320	Lake	7120006	R4SBCx	PEM	Y	0.22	0.22
9	11.6	WRAPP-17321	Lake	7120006	PUBGx	PEM	N	0.03	0.03
9	11.9	WRAPP-17360	Lake	7120006	PEMC	PEM	N	0.23	0.23
9	12	WRAPP-17371	Lake	7120006	PUBGx	PEM	N	0.13	0.13
9	12.1	WRAPP-17375	Lake	7120006	PFO1Ad	PFO	N	0.22	0.22
9	12.1	WRAPP-17378	Lake	7120006	PUBGx	PEM	N	0.12	0.12
9	12.5	WRAPP-17414	Lake	7120006	PEM/FO1C	PEM	N	2.80	1.35
9	12.5	WRAPP-17417	Lake	7120006	PFO1C	PFO	N	0.30	0.30
9	12.6	WRAPP-17434	Lake	7120006	PEM/SS1C	PEM	N	6.22	5.55
9	12.8	WRAPP-17439	Lake	7120006	PFO1As	PFO	N	0.10	0.10
9	12.8	WRAPP-17445	Lake	7120006	PUBF	PEM	N	0.11	0.06
9	12.9	WRAPP-17446	Lake	7120006	PEM/UBFx	PEM	N	0.01	0.01
9	12.9	WRAPP-17452	Lake	7120006	PUBFx	PEM	N	0.02	0.02
9	13.1	WRAPP-17460	Lake	7120006	PUBHx	PEM	N	0.04	0.04
9	13	WRAPP-17463	Lake	7120006	PEMCx	PEM	N	0.10	0.10
9	13	WRAPP-17465	Lake	7120006	PEM/UBFx	PEM	N	0.44	0.08
9	13.2	WRAPP-17466	Lake	7120006	PEMF	PEM	N	2.43	2.43
9	13.1	WRAPP-17475	Lake	7120006	PEM/UBGx	PEM	N	0.01	0.01
9	13.2	WRAPP-17489	Lake	7120006	PUBHx	PEM	N	2.93	1.06
9	13.2	WRAPP-17499	Lake	7120006	PUBHx	PEM	N	0.11	0.10
9	6.4	WRAPP-18967	Lake	7120006	R2UBHx	PEM	N	4.76	0.00
9	6.5	WRAPP-18969	Lake	7120006	R2UBHx	PFO	Y	1.00	0.31
9	9.9	WRAPP-18980	Lake	7120006	R4SBC	PFO	Y	0.40	0.35
9	10.1	WRAPP-18982	Lake	7120006	R2UBH	PFO	Y	1.22	0.48
9	12.2	WRAPP-18987	Lake	7120006	R2UBHx	PEM	N	0.37	0.32
9	8.9	WRAPP-19240	Lake	7120006	PUBHx	PEM	N	0.08	0.08
9	9.1	WRAPP-19243	Lake	7120006	L2ABHh	PEM	N	0.08	0.00
9	12.8	WRAPP-21155	Lake	7120006	L1AB/UBHh	PEM	N	0.44	0.36
9	12.8	WRAPP-21156	Lake	7120006	PUBHx	PEM	N	0.01	0.01
9	12.8	WRAPP-21157	Lake	7120006	PUBHx	PEM	N	0.24	0.24
9	12.8	WRAPP-21158	Lake	7120006	PEM/FO1C	PEM	N	1.78	1.78
9	12.8	WRAPP-21159	Lake	7120006	PUBGx	PEM	N	0.17	0.17
9	12.9	WRAPP-21160	Lake	7120006	PEM/FO1C	PEM	N	3.42	3.04
9	13.2	WRAPP-21163	Lake	7120006	PEMF	PEM	N	3.77	3.77
9	13	WRAPP-21164	Lake	7120006	PEMCx	PEM	N	0.62	0.52
9	13.2	WRAPP-21168	Lake	7120006	PUBF	PEM	N	0.12	0.12
9	13.1	WRAPP-21173	Lake	7120006	PEM/UBFx	PEM	N	0.04	0.04
9	13.1	WRAPP-21174	Lake	7120006	PEM/FO1Cd	PEM	N	2.57	2.57
9	12.9	WRAPP-21175	Lake	7120006	PFO1C	PFO	N	0.40	0.40
9	12.7	WRAPP-21176	Lake	7120006	PEMC	PEM	N	0.59	0.59
9	12.6	WRAPP-21177	Lake	7120006	PFO1A	PFO	N	0.52	0.52
9	12.5	WRAPP-21178	Lake	7120006	PEM/FO1A	PEM	N	0.29	0.29
9	13.2	WRAPP-21179	Lake	7120006	PAB/UBF	PEM	N	0.45	0.45
9	11.8	WRAPP-21215	Lake	7120006	PUBHx	PEM	N	0.03	0.03
9	11.8	WRAPP-21217	Lake	7120006	PEMF	PEM	N	9.33	3.51
9	12.3	WRAPP-21227	Lake	7120006	PEMFs	PEM	N	0.18	0.04
9	11.3	WRAPP-21237	Lake	7120006	PFO1C	PFO	N	1.05	0.01
9	11.6	WRAPP-21249	Lake	7120006	PFO1Ad	PFO	N	2.20	2.06
9	12.2	WRAPP-21250	Lake	7120006	PFO1Ad	PFO	N	0.12	0.11
9	12.1	WRAPP-21251	Lake	7120006	PUBHx	PEM	N	0.13	0.13
9	12.2	WRAPP-21252	Lake	7120006	R4SBCx	PEM	N	0.05	0.05
9	12.4	WRAPP-21255	Lake	7120006	R4SBCx	PEM	N	0.05	0.05
9	12.3	WRAPP-21258	Lake	7120006	L2ABHx	PEM	N	0.70	0.33
9	12.4	WRAPP-21259	Lake	7120006	PUBHx	PEM	N	0.07	0.07

Attachment B - Table 9-1
Corridor 9 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
9	12.5	WRAPP-21263	Lake	7120006	PEM/FO1C	PEM	N	0.27	0.27
9	12.5	WRAPP-21264	Lake	7120006	PEM/FO1C	PEM	N	0.26	0.26
9	12.2	WRAPP-21265	Lake	7120006	PEMCd	PEM	N	34.90	1.45
9	12.3	WRAPP-21267	Lake	7120006	PFO1A	PFO	N	0.08	0.04
9	12.2	WRAPP-21268	Lake	7120006	PEM/FO1A	PEM	N	0.30	0.30
9	12.2	WRAPP-21270	Lake	7120006	PFO1Ad	PFO	N	0.05	0.05
9	12.2	WRAPP-21271	Lake	7120006	PFO1Ad	PFO	N	0.06	0.06
9	12.2	WRAPP-21272	Lake	7120006	PFO1Ad	PFO	N	0.03	0.03
9	12.4	WRAPP-21273	Lake	7120006	PEMAd	PEM	N	3.46	3.46
9	12.2	WRAPP-21274	Lake	7120006	PEMFd	PEM	N	22.29	6.25
9	12.3	WRAPP-21275	Lake	7120006	PEMFd	PEM	N	0.84	0.84
9	11.4	WRAPP-21278	Lake	7120006	PFO1C	PFO	Y	0.17	0.17
9	11.5	WRAPP-21279	Lake	7120006	PEM/UBFx	PEM	N	0.08	0.08
9	11.5	WRAPP-21280	Lake	7120006	R4SBCx	PEM	Y	1.41	1.41
9	11.5	WRAPP-21281	Lake	7120006	R4SBCx	PEM	Y	1.02	1.02
9	11.7	WRAPP-21285	Lake	7120006	L2UBHh	PEM	N	2.39	0.55
9	11.9	WRAPP-21286	Lake	7120006	PFO1A	PFO	N	0.13	0.13
9	11.6	WRAPP-21287	Lake	7120006	PEM/SS1Cd	PEM	N	0.17	0.17
9	10.9	WRAPP-21381	Lake	7120006	PUBHx	PEM	N	0.01	0.01
9	10.6	WRAPP-21382	Lake	7120006	PUBHx	PEM	Y	0.02	0.02
9	11.2	WRAPP-21383	Lake	7120006	PUBHx	PEM	N	0.05	0.05
9	11.2	WRAPP-21386	Lake	7120006	PFO1A	PFO	N	0.31	0.31
9	11.2	WRAPP-21387	Lake	7120006	R4SBC	PEM	N	0.07	0.07
9	11.5	WRAPP-21388	Lake	7120006	PUBHx	PEM	N	0.01	0.01
9	11.2	WRAPP-21389	Lake	7120006	PUBGx	PEM	N	0.05	0.05
9	11.2	WRAPP-21390	Lake	7120006	PFO1C	PFO	N	0.12	0.12
9	10.5	WRAPP-21393	Lake	7120006	L2USJ	PEM	N	0.10	0.09
9	11.2	WRAPP-21394	Lake	7120006	R4SBC	PEM	N	0.61	0.59
9	11.2	WRAPP-21395	Lake	7120006	R4SBC	PEM	Y	0.89	0.52
9	11.3	WRAPP-21396	Lake	7120006	PFO1Ad	PFO	N	0.10	0.10
9	11.2	WRAPP-21397	Lake	7120006	PEM/FO1C	PEM	N	0.66	0.66
9	10.6	WRAPP-21409	Lake	7120006	PUBHx	PEM	Y	0.03	0.03
9	11.1	WRAPP-21410	Lake	7120006	PUBHx	PEM	Y	0.07	0.05
9	10.9	WRAPP-21411	Lake	7120006	PEM/SS1D	PEM	Y	53.93	49.78
9	10.4	WRAPP-21412	Lake	7120006	PUBHx	PEM	N	0.02	0.00
9	10.4	WRAPP-21419	Lake	7120006	R4SBCx	PEM	N	0.17	0.01
9	10.5	WRAPP-21420	Lake	7120006	R4SBCx	PEM	N	6.59	0.23
9	11.1	WRAPP-21434	Lake	7120006	PSS1A	PSS	Y	0.44	0.44
9	10.3	WRAPP-21439	Lake	7120006	PEM/FO1C	PEM	N	1.06	0.51
9	10.2	WRAPP-21441	Lake	7120006	PUBGx	PEM	N	0.01	0.00
9	10.4	WRAPP-21443	Lake	7120006	PUBHx	PEM	N	0.00	0.00
9	10.3	WRAPP-21444	Lake	7120006	PUBHx	PEM	N	0.04	0.01
9	10.3	WRAPP-21451	Lake	7120006	R4SBCx	PEM	N	0.04	0.04
9	10.1	WRAPP-21452	Lake	7120006	PEM/FO1A	PEM	Y	2.14	2.14
9	10.1	WRAPP-21453	Lake	7120006	PFO1A	PFO	N	0.91	0.91
9	10.2	WRAPP-21454	Lake	7120006	R4SBCx	PEM	N	1.08	1.08
9	9.9	WRAPP-21455	Lake	7120006	PFO1A	PFO	Y	0.03	0.03
9	9.9	WRAPP-21456	Lake	7120006	PFO1A	PFO	Y	0.03	0.03
9	9.9	WRAPP-21457	Lake	7120006	PFO1A	PFO	N	0.33	0.28
9	9.9	WRAPP-21458	Lake	7120006	PFO1A	PFO	N	0.39	0.33
9	10.3	WRAPP-21493	Lake	7120006	PFO1Ad	PFO	Y	7.03	0.71
9	10.3	WRAPP-21494	Lake	7120006	PFO1A	PFO	N	1.22	1.22
9	10.3	WRAPP-21495	Lake	7120006	R4SBCx	PEM	N	2.71	2.41
9	10.2	WRAPP-21496	Lake	7120006	PFO1A	PFO	N	0.63	0.63
9	10.4	WRAPP-21498	Lake	7120006	R4SBCx	PEM	Y	3.82	0.03
9	9.5	WRAPP-21503	Lake	7120006	R4SBA	PEM	N	0.05	0.05
9	9.6	WRAPP-21504	Lake	7120006	R4SBA	PEM	N	0.03	0.03
9	9.5	WRAPP-21505	Lake	7120006	R4SBA	PEM	N	0.37	0.37
9	9.7	WRAPP-21506	Lake	7120006	PEM/SS1C	PEM	Y	22.21	21.38
9	9.8	WRAPP-21507	Lake	7120006	PSS1A	PSS	Y	0.69	0.69

Attachment B- Table 9-1
Corridor 9 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
9	9.8	WRAPP-21508	Lake	7120006	PEMF	PEM	Y	10.08	4.01
9	10	WRAPP-21509	Lake	7120006	PEMF	PEM	Y	17.54	5.58
9	9.9	WRAPP-21510	Lake	7120006	PEMF	PEM	Y	1.60	1.60
9	10.1	WRAPP-21514	Lake	7120006	PEMA	PEM	Y	6.88	6.88
9	10.1	WRAPP-21515	Lake	7120006	PFO1A	PFO	Y	2.91	2.03
9	8.8	WRAPP-21652	Lake	7120006	PEM/SS1C	PEM	N	2.25	2.25
9	9.3	WRAPP-21658	Lake	7120006	PFO1A	PFO	N	0.58	0.02
9	8.9	WRAPP-21665	Lake	7120006	PEMFd	PEM	N	0.11	0.04
9	8.8	WRAPP-21666	Lake	7120006	PFO1Ad	PFO	N	3.80	2.15
9	8.7	WRAPP-21687	Lake	7120006	PFO1A	PFO	N	1.19	1.19
9	8.8	WRAPP-21688	Lake	7120006	PEM/FO1C	PEM	N	0.89	0.89
9	8.3	WRAPP-21695	Lake	7120006	PEM/UBF	PEM	N	28.05	27.99
9	8.5	WRAPP-21700	Lake	7120006	PEMCd	PEM	N	21.46	0.04
9	9	WRAPP-21702	Lake	7120006	PFO1Cd	PFO	N	0.94	0.84
9	8.9	WRAPP-21703	Lake	7120006	PEMA	PEM	N	0.26	0.26
9	8.9	WRAPP-21704	Lake	7120006	PEMCd	PEM	N	1.25	1.25
9	8.9	WRAPP-21705	Lake	7120006	PEMAd	PEM	N	1.20	1.20
9	8.7	WRAPP-21706	Lake	7120006	PFO1A	PFO	N	0.58	0.58
9	8.3	WRAPP-21707	Lake	7120006	PUBF	PEM	N	0.07	0.07
9	8.2	WRAPP-21708	Lake	7120006	PEM/UBF	PEM	N	1.05	1.05
9	8.3	WRAPP-21727	Lake	7120006	PEMF	PEM	N	3.39	3.31
9	8.3	WRAPP-21728	Lake	7120006	PUBF	PEM	N	1.95	0.12
9	8.2	WRAPP-21729	Lake	7120006	PFO1C	PFO	N	0.52	0.52
9	7.1	WRAPP-21734	Lake	7120006	PFO1C	PFO	N	1.24	1.24
9	7.4	WRAPP-21737	Lake	7120006	PUBHx	PEM	N	0.01	0.01
9	7.4	WRAPP-21738	Lake	7120006	PUBGx	PEM	N	0.03	0.03
9	7.5	WRAPP-21739	Lake	7120006	PUBHx	PEM	N	0.03	0.03
9	7.7	WRAPP-21740	Lake	7120006	PUBHh	PEM	N	1.70	1.70
9	7.7	WRAPP-21741	Lake	7120006	PUBGx	PEM	N	0.09	0.09
9	7.9	WRAPP-21744	Lake	7120006	PEMC	PEM	N	11.40	4.89
9	8	WRAPP-21745	Lake	7120006	PEM/FO1C	PEM	N	1.09	1.09
9	8.1	WRAPP-21746	Lake	7120006	PEM/FO1C	PEM	N	1.75	1.75
9	8	WRAPP-21751	Lake	7120006	PFO1A	PFO	N	0.63	0.44
9	8	WRAPP-21752	Lake	7120006	PEMF	PEM	N	1.45	0.49
9	7.9	WRAPP-21753	Lake	7120006	PFO1A	PFO	N	1.18	1.18
9	7.7	WRAPP-21754	Lake	7120006	PFO1A	PFO	N	2.65	0.06
9	7.2	WRAPP-21758	Lake	7120006	PEMF	PEM	N	0.22	0.22
9	7.2	WRAPP-21759	Lake	7120006	PEMAd	PEM	N	0.80	0.80
9	8.1	WRAPP-21760	Lake	7120006	PEMF	PEM	N	1.01	1.01
9	7.8	WRAPP-21765	Lake	7120006	PFO1A	PFO	N	2.72	2.72
9	7.8	WRAPP-21766	Lake	7120006	PFO1A	PFO	N	0.63	0.63
9	7.6	WRAPP-21767	Lake	7120006	PEMCd	PEM	N	0.35	0.35
9	7.5	WRAPP-21768	Lake	7120006	PUBHx	PEM	N	0.01	0.01
9	7.5	WRAPP-21769	Lake	7120006	PEM/FO1Cd	PEM	N	0.77	0.77
9	7.3	WRAPP-21770	Lake	7120006	PFO1Ad	PFO	N	0.36	0.36
9	7.4	WRAPP-21771	Lake	7120006	PUBGx	PEM	N	0.02	0.02
9	7.4	WRAPP-21779	Lake	7120006	PEMC	PEM	N	14.70	0.03
9	6.5	WRAPP-21997	Lake	7120006	PEMAd	PEM	N	0.37	0.37
9	6.4	WRAPP-22022	Lake	7120006	PEMCx	PEM	N	0.48	0.48
9	6.3	WRAPP-22025	Lake	7120006	PEMCx	PEM	N	0.20	0.11
9	6.6	WRAPP-22035	Lake	7120006	PFO1Ad	PFO	N	0.22	0.22
9	7.1	WRAPP-22036	Lake	7120006	PEMAx	PEM	N	0.12	0.12
9	7	WRAPP-22037	Lake	7120006	PEMCd	PEM	N	0.15	0.15
9	6.9	WRAPP-22038	Lake	7120006	PFO1C	PFO	N	0.54	0.54
9	6.9	WRAPP-22039	Lake	7120006	R4SBCx	PEM	N	2.45	2.44
9	6.4	WRAPP-22041	Lake	7120006	PEM/FO1A	PEM	N	0.25	0.25
9	6.4	WRAPP-22042	Lake	7120006	PEM/FO1A	PEM	N	0.25	0.25
9	6.5	WRAPP-22043	Lake	7120006	PEMAd	PEM	N	0.38	0.38
9	6.5	WRAPP-22044	Lake	7120006	PEM/SS1Ad	PEM	N	0.05	0.05
9	6.5	WRAPP-22045	Lake	7120006	PSS1Ad	PSS	N	0.22	0.22

Attachment B - Table 9-1
Corridor 9 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
9	6.5	WRAPP-22046	Lake	7120006	PSS1Ad	PSS	N	0.20	0.20
9	6.6	WRAPP-22047	Lake	7120006	PSS1Ad	PSS	N	0.04	0.04
9	9.9	WRAPP-22102	Lake	7120006	PEM/SS1C	PEM	Y	20.16	1.37
9	12.9	WRAPP-22191	Lake	7120006	PEM/UBFx	PEM	N	0.32	0.32
9	13.1	WRAPP-22192	Lake	7120006	PEM/FO1Cd	PEM	N	7.55	0.86
9	6.7	WRAPP-22250	Lake	7120006	PFO1Ad	PFO	N	0.43	0.07
TOTAL									**376.10**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 9-2
Corridor 9 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
9	0	13948	Cook	7120006	Unnamed Tributary 1	0
9	0.4	9418	Cook	7120006	Unnamed Tributary 2	0
9	1.8	16953	Cook	7120006	Poplar Creek	1
9	2.3	9410	Cook	7120006	Unnamed Trib to Poplar Creek	0
9	3	16953	Cook	7120006	Poplar Creek	1
9	3.9	14092	Cook	7120006	Unnamed Tributary 3	0
9	6.5	9299	Lake	7120006	East Branch Flint Creek	1
9	8.9	7948	Lake	7120006	Binzel Pond Tributary	0
9	9.9	7493	Lake	7120006	Honey Lake Drain	1
9	10.1	9308	Lake	7120006	North Branch Flint Creek	1
9	12.2	6614	Lake	7120006	Fox Run of Barrington Lake	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 9-3
Corridor 9 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
9	2.2	AIOW - 6	Cook	7120006	Pond		0.45	0.45
9	4.6	LR-10020	Cook	7120006	Pond		0.09	0.09
9	2.3	LR-10036	Cook	7120006	Pond		1.18	1.18
9	2.2	LR-10037	Cook	7120006	Lake		9.47	8.40
9	2.3	LR-10041	Cook	7120006	Pond		0.37	0.37
9	2.2	LR-10046	Cook	7120006	Pond		0.35	0.35
9	2.2	LR-10049	Cook	7120006	Pond		0.80	0.80
9	2.1	LR-10055	Cook	7120006	Pond		0.07	0.07
9	2.1	LR-10057	Cook	7120006	Pond		0.06	0.06
9	5.2	LR-10300	Cook	7120006	Pond		0.24	0.24
9	5.1	LR-10307	Cook	7120006	Pond		0.13	0.13
9	5	LR-10313	Cook	7120006	Pond		0.62	0.62
9	4.9	LR-10327	Cook	7120006	Pond		0.27	0.27
9	4.9	LR-10332	Cook	7120006	Pond		2.80	2.80
9	4.6	LR-10348	Cook	7120006	Pond		0.20	0.20
9	4.3	LR-10377	Cook	7120006	Pond		0.17	0.17
9	4.2	LR-10385	Cook	7120006	Pond		1.51	1.51
9	3.4	LR-10446	Cook	7120006	Pond		0.83	0.26
9	3.3	LR-10454	Cook	7120006	Pond		3.13	3.13
9	3.4	LR-10455	Cook	7120006	Pond		0.19	0.19
9	3.3	LR-10462	Cook	7120006	Pond		0.18	0.18
9	3.2	LR-10470	Cook	7120006	Pond		0.48	0.20
9	3.2	LR-10471	Cook	7120006	Pond		0.21	0.21
9	2.5	LR-10521	Cook	7120006	Pond		0.64	0.64
9	2	LR-10540	Cook	7120006	Pond		0.11	0.11
9	1.6	LR-10565	Cook	7120006	Pond		0.93	0.20
9	1.5	LR-10572	Cook	7120006	Pond		0.19	0.12
9	1.2	LR-10576	Cook	7120006	Pond		5.15	2.27
9	1.4	LR-10580	Cook	7120006	Pond		0.77	0.77
9	0.9	LR-10587	Cook	7120006	Pond		0.74	0.74
9	0.8	LR-10648	Cook	7120006	Pond		2.89	2.48
9	0.6	LR-10676	Cook	7120006	Pond		3.80	3.80
9	0.4	LR-10682	Cook	7120006	Pond		0.21	0.21
9	0.4	LR-10696	Cook	7120006	Pond		0.11	0.11
9	0.3	LR-10697	Cook	7120006	Pond		0.43	0.43
9	0.2	LR-10702	Cook	7120006	Pond		3.02	3.02
9	2	LR-13983	Cook	7120006	Pond		0.64	0.64
9	4.5	LR-14065	Cook	7120006	Pond		0.34	0.34
9	4.3	LR-14066	Cook	7120006	Pond		0.16	0.16
9	4.4	LR-14067	Cook	7120006	Pond		1.22	1.22
9	4	LR-14068	Cook	7120006	Pond		1.99	1.99
9	4.1	LR-14069	Cook	7120006	Pond		1.53	1.53
9	5.2	LR-14099	Cook	7120006	Pond		0.11	0.11
9	0.9	LR-14118	Cook	7120006	Pond		0.53	0.53
9	0.6	LR-14148	Cook	7120006	Pond		2.18	2.18
9	0.6	LR-14153	Cook	7120006	Pond		1.43	1.43
9	1.9	LR-15073	Cook	7120006	Pond		3.97	3.97
9	2	LR-15075	Cook	7120006	Pond		2.91	2.06
9	1.7	LR-15428	Cook	7120006	Lake	Lake Rose	10.50	0.03
9	0.2	LR-15476	Cook	7120006	Pond		2.92	2.92
9	2.5	LR-15621	Cook	7120006	Pond		1.25	1.25
9	4	LR-15885	Cook	7120006	Lake		6.89	5.32
9	3.9	LR-15912	Cook	7120006	Lake		15.86	12.26
9	3.4	LR-18616	Cook	7120006	Pond		1.48	1.48
9	2.9	LR-18663	Cook	7120006	Pond		0.75	0.75
9	1.3	LR-18708	Cook	7120006	Pond		0.43	0.43
9	1.3	LR-18709	Cook	7120006	Pond		0.17	0.17
9	1.3	LR-18710	Cook	7120006	Pond		0.36	0.36
9	1.6	LR-18711	Cook	7120006	Pond		0.80	0.80
9	1.5	LR-18712	Cook	7120006	Pond		0.00	0.00
9	1.5	LR-18713	Cook	7120006	Pond		0.00	0.00
9	13.2	LR-6138	Lake	7120006	Detention Basin	Wauconda Health Care Pond 2	0.49	0.16
9	13.2	LR-6156	Lake	7120006	Pond	Schirmer Pond	0.84	0.55
9	13.1	LR-6200	Lake	7120006	Pond		0.97	0.04
9	13.2	LR-6218	Lake	7120006	Pond		0.04	0.04
9	13.1	LR-6232	Lake	7120006	Pond		0.13	0.13
9	13.1	LR-6244	Lake	7120006	Pond		0.10	0.10
9	13.1	LR-6252	Lake	7120006	Pond		0.43	0.43

Attachment B - Table 9-3
Corridor 9 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
9	13	LR-6265	Lake	7120006	Pond	Oak Grove Pond 1	0.49	0.10
9	13.2	LR-6270	Lake	7120006	Pond	Carney Pond 1	0.26	0.26
9	12.9	LR-6280	Lake	7120006	Pond	Oak Grove Pond 2	0.11	0.01
9	13.2	LR-6281	Lake	7120006	Pond		0.10	0.10
9	13.1	LR-6291	Lake	7120006	Pond	Carney Pond 2	0.40	0.40
9	12.9	LR-6299	Lake	7120006	Pond	Oak Grove Pond 3	0.08	0.08
9	12.9	LR-6309	Lake	7120006	Pond	Oak Grove Pond 4	0.01	0.01
9	12.9	LR-6327	Lake	7120006	Pond	Oak Grove Pond 5	0.53	0.53
9	12.8	LR-6340	Lake	7120006	Pond		1.18	1.18
9	12.9	LR-6362	Lake	7120006	Pond		0.14	0.14
9	12.8	LR-6365	Lake	7120006	Pond	Lakewood Acres Pond 1	0.49	0.29
9	12.8	LR-6388	Lake	7120006	Lake	Lake Fairview	20.33	13.90
9	12.8	LR-6400	Lake	7120006	Pond	Lakewood Acres Pond 2	2.30	2.30
9	12.8	LR-6405	Lake	7120006	Pond		0.56	0.56
9	12.7	LR-6444	Lake	7120006	Pond		0.01	0.01
9	12.5	LR-6488	Lake	7120006	Pond		0.27	0.27
9	12.5	LR-6499	Lake	7120006	Pond		0.44	0.44
9	12.2	LR-6543	Lake	7120006	Lake	Fox Run of Barrington Lake	9.55	2.73
9	12.4	LR-6545	Lake	7120006	Pond		1.91	1.91
9	12.2	LR-6602	Lake	7120006	Pond	Davlins Pond	3.16	2.75
9	12.2	LR-6618	Lake	7120006	Detention Basin	Barrington Oaks Estates Pond 1	0.23	0.23
9	11.7	LR-6653	Lake	7120006	Lake	Tower Lake	67.15	4.52
9	12.1	LR-6674	Lake	7120006	Pond	Barrington Oaks Estates Pond 2	0.23	0.23
9	12.1	LR-6676	Lake	7120006	Pond	Gorden Lewis Park Pond	0.64	0.64
9	12	LR-6711	Lake	7120006	Pond	Barrington Oaks Estates Pond 3	0.55	0.55
9	11.8	LR-6741	Lake	7120006	Pond	Heritage Trails - Barrington Pond 3	2.01	0.78
9	11.8	LR-6778	Lake	7120006	Pond	Indian Hills Pond	0.45	0.45
9	11.6	LR-6894	Lake	7120006	Pond		0.75	0.75
9	11.5	LR-6906	Lake	7120006	Pond		0.06	0.06
9	11.4	LR-6938	Lake	7120006	Pond		0.18	0.18
9	11.5	LR-6948	Lake	7120006	Pond	Lake Barrington Shores Condominium Pond 1	0.57	0.57
9	11.5	LR-6969	Lake	7120006	Pond	Lake Barrington Shores Country Club Pond 1	0.34	0.23
9	11.4	LR-6972	Lake	7120006	Lake	Lake Barrington	90.76	22.83
9	11.2	LR-6995	Lake	7120006	Pond	Barrington Country Squire Estates Pond 1	0.45	0.45
9	11.1	LR-7044	Lake	7120006	Pond	Barrington Country Squire Estates Pond 2	3.83	3.35
9	10.9	LR-7121	Lake	7120006	Pond	Grandview Estates Pond 1	0.75	0.75
9	10.8	LR-7167	Lake	7120006	Pond	Lake Barrington Shores Condominium Pond 5	1.55	1.55
9	10.7	LR-7209	Lake	7120006	Pond	Lake Barrington Community Homeowners Pond	0.03	0.03
9	10.6	LR-7241	Lake	7120006	Pond	Grandview Estates Pond 2	0.27	0.27
9	10.6	LR-7255	Lake	7120006	Pond	Grandview Estates Pond 3	0.26	0.26
9	10.5	LR-7328	Lake	7120006	Detention Basin	North Barrington School Pond	0.46	0.46
9	10.4	LR-7336	Lake	7120006	Pond	Lake Barrington Community Homeowners Pond	0.76	0.76
9	10.4	LR-7355	Lake	7120006	Pond	Grandview Estates Pond 4	2.35	0.84
9	10.4	LR-7374	Lake	7120006	Pond	Biltmore Country Estates Pond 6	0.44	0.44
9	10.4	LR-7379	Lake	7120006	Detention Basin	Biltmore Country Estates Pond 5	0.19	0.19
9	10.3	LR-7421	Lake	7120006	Pond	Biltmore Country Estates Pond 1	0.43	0.00
9	10.3	LR-7430	Lake	7120006	Pond	Biltmore Country Estates Pond 2	0.66	0.45
9	9.9	LR-7436	Lake	7120006	Lake	Grassy Lake	41.38	32.48
9	10.3	LR-7439	Lake	7120006	Pond	Biltmore Country Estates Pond 9	0.04	0.04
9	10.2	LR-7460	Lake	7120006	Pond	Biltmore Country Estates Pond 10	0.14	0.14
9	10.2	LR-7471	Lake	7120006	Pond	Biltmore Country Estates Pond 11	0.09	0.07
9	10.2	LR-7478	Lake	7120006	Detention Basin	Biltmore Country Estates Pond 12	0.32	0.32
9	9.7	LR-7580	Lake	7120006	Pond	Biltmore Country Club Pond 2	0.20	0.20
9	9.1	LR-7593	Lake	7120006	Lake	Honey Lake	65.48	1.08
9	9.6	LR-7595	Lake	7120006	Pond	Biltmore Country Club Pond 3	0.31	0.31
9	9.7	LR-7608	Lake	7120006	Pond	Biltmore Country Club Pond 1	0.79	0.79
9	9.5	LR-7662	Lake	7120006	Pond		0.02	0.02
9	9.5	LR-7697	Lake	7120006	Pond	Signal Hill Pond 2	0.03	0.03
9	9.2	LR-7781	Lake	7120006	Pond	Biltmore Country Club Pond 4	0.01	0.01
9	9.1	LR-7788	Lake	7120006	Pond	Biltmore Country Estates Pond 15	0.22	0.22
9	8.9	LR-7877	Lake	7120006	Pond	Binzel Pond	2.56	2.56
9	8.9	LR-7962	Lake	7120006	Pond	Oaks and Pond Pond 2	0.23	0.00
9	8.8	LR-8000	Lake	7120006	Pond		0.97	0.97
9	8.5	LR-8158	Lake	7120006	Pond	Haverton on the Pond Pond 1	0.82	0.82
9	8.4	LR-8197	Lake	7120006	Pond	Haverton on the Pond Pond 2	1.24	1.24
9	8.4	LR-8210	Lake	7120006	Pond	Haverton on the Pond Pond 3	0.01	0.01
9	8.3	LR-8261	Lake	7120006	Pond	Haverton on the Pond Pond 4	0.07	0.07
9	8.1	LR-8371	Lake	7120006	Pond		0.15	0.15

Attachment B - Table 9-3
Corridor 9 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
9	8	LR-8398	Lake	7120006	Pond		0.39	0.39
9	8	LR-8405	Lake	7120006	Pond	Rolling Meadows - Barrington Pond 1	0.89	0.89
9	8	LR-8428	Lake	7120006	Pond	Rolling Meadows - Barrington Pond 2	0.09	0.09
9	8	LR-8438	Lake	7120006	Pond	Rolling Meadows - Barrington Pond 3	0.52	0.52
9	7.9	LR-8448	Lake	7120006	Pond		0.42	0.42
9	7.7	LR-8535	Lake	7120006	Pond	Rolling Meadows - Barrington Pond 4	0.41	0.41
9	7.7	LR-8558	Lake	7120006	Pond	Rolling Meadows - Barrington Pond 5	1.87	1.87
9	7.7	LR-8572	Lake	7120006	Pond		0.17	0.17
9	7.6	LR-8606	Lake	7120006	Pond	Northern Hills of Barrington Pond 1	0.10	0.10
9	7.5	LR-8648	Lake	7120006	Pond	Northern Hills of Barrington Pond 3	0.68	0.68
9	7.5	LR-8650	Lake	7120006	Pond	Northern Hills of Barrington Pond 2	0.13	0.13
9	7.4	LR-8674	Lake	7120006	Pond	Northern Hills of Barrington Pond 4	0.05	0.05
9	7.4	LR-8680	Lake	7120006	Pond	Northern Hills of Barrington Pond 5	0.13	0.13
9	7.4	LR-8693	Lake	7120006	Pond	Northern Hills of Barrington Pond 6	0.28	0.28
9	7.4	LR-8708	Lake	7120006	Pond	Northern Hills of Barrington Pond 7	0.05	0.05
9	7.3	LR-8732	Lake	7120006	Pond	Northern Hills of Barrington Pond 8	0.03	0.03
9	7.3	LR-8744	Lake	7120006	Pond	Northern Hills of Barrington Pond 9	1.30	1.30
9	7.3	LR-8750	Lake	7120006	Pond	Northern Hills of Barrington Pond 10	0.08	0.08
9	7.1	LR-8797	Lake	7120006	Pond	Fairhaven Estates of Barrington Pond 2	0.67	0.67
9	7.1	LR-8816	Lake	7120006	Detention Basin	Carriage Trail Pond	0.62	0.62
9	6.3	LR-9208	Lake	7120006	Pond		0.23	0.19
9	1.6	LR-9562	Cook	7120006	Pond		0.39	0.39
9	1.8	LR-9575	Cook	7120006	Pond		0.67	0.67
TOTAL								**201.66**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	1	ADID-1708	Lake	7120006	PEM/SS1As	PEM	Y	49.64	0.17
11	4	ADID-1711	Lake	7120006	PSS1Cs	PSS	Y	10.07	0.55
11	6.7	ADID-1713	Lake	7120004	PEM	PEM	Y	0.87	0.50
11	1.9	ADID-1717	Lake	7120006	PEM	PEM	N	0.26	0.16
11	2.2	ADID-1718	Lake	7120006	PFO1A	PFO	Y	0.97	0.63
11	3.7	ADID-1719	Lake	7120006	PEM	PEM	Y	1.67	0.75
11	3.6	ADID-1720	Lake	7120006	PEM	PEM	N	1.94	1.94
11	12.2	ADID-1729	Lake	7120004	PUBHx	PEM	Y	51.83	5.99
11	10.5	ADID-2135	Lake	7120004	PEM	PEM	N	0.76	0.76
11	2.9	AI-101	Lake	7120006	PEM	PEM	N	0.06	0.06
11	2.9	AI-102	Lake	7120006	PUBFx	PEM	N	2.68	2.68
11	5.7	AI-16	Lake	7120006	PEM	PEM	N	0.31	0.31
11	4.9	AI-43	Lake	7120006	PEM	PEM	N	0.25	0.25
11	1.6	AI-46	Lake	7120006	PEM	PEM	N	0.17	0.17
11	1.6	AI-47	Lake	7120006	PEM	PEM	N	0.12	0.12
11	1.7	AI-48	Lake	7120006	PEM	PEM	N	0.06	0.06
11	1.7	AI-5	Lake	7120006	PEM	PEM	N	0.19	0.19
11	1	AI-80	Lake	7120006	PEM	PEM	N	0.11	0.11
11	1.9	AI-83	Lake	7120006	PEM	PEM	N	0.07	0.07
11	2.9	AI-84	Lake	7120006	PEM	PEM	N	0.04	0.04
11	2.9	AI-85	Lake	7120006	PEM	PEM	N	0.24	0.24
11	3	AI-86	Lake	7120006	PEM	PEM	N	1.00	1.00
11	4.9	AI-87	Lake	7120006	PEM	PEM	N	0.10	0.10
11	8.9	AI-88	Lake	7120004	PEM	PEM	N	0.11	0.11
11	1.1	AI-9	Lake	7120006	PEM	PEM	N	0.00	0.00
11	1.2	AI-91	Lake	7120006	PEM	PEM	N	0.01	0.01
11	3	AI-99	Lake	7120006	PEM	PEM	N	4.20	4.20
11	12.5	WRAPP-10017	Lake, Cook	7120004	R2UBHx	PFO	Y	94.94	5.29
11	12.5	WRAPP-12365	Lake	7120004	PFO1Cd	PFO	Y	22.14	4.22
11	10.5	WRAPP-15880	Lake	7120004	PFO1A	PFO	Y	0.53	0.53
11	10.6	WRAPP-15881	Lake	7120004	R4SBC	PFO	Y	0.31	0.31
11	12.2	WRAPP-15882	Lake	7120004	PFO1A	PFO	Y	0.18	0.18
11	9.6	WRAPP-16056	Lake	7120004	PEMC	PEM	N	0.42	0.42
11	10.2	WRAPP-16155	Lake	7120004	PFO1Ad	PFO	N	0.66	0.63
11	12.1	WRAPP-16158	Lake	7120004	PFO1Ad	PFO	Y	0.17	0.17
11	12.1	WRAPP-16159	Lake	7120004	PFO1Ad	PFO	Y	0.14	0.14
11	12.3	WRAPP-16160	Lake	7120004	PEMC	PEM	N	0.15	0.15
11	12.2	WRAPP-16161	Lake	7120004	PFO1C	PFO	Y	1.10	1.10
11	13.5	WRAPP-16509	Lake	7120004	PFO1C	PFO	N	0.11	0.11
11	10.6	WRAPP-16510	Lake	7120004	PFO1C	PFO	Y	0.86	0.46
11	10.5	WRAPP-16511	Lake	7120004	PEMC	PEM	Y	1.68	1.68
11	12.4	WRAPP-16512	Lake	7120004	PEMFx	PEM	N	6.15	4.16
11	7.3	WRAPP-16523	Lake	7120004	R2UBHx	PEM	N	5.63	0.13
11	7.4	WRAPP-16525	Lake	7120004	PFO1Ad	PFO	N	0.14	0.04
11	8.2	WRAPP-16528	Lake	7120004	PUBGx	PEM	N	0.00	0.00
11	8	WRAPP-16529	Lake	7120004	PUBGx	PEM	N	0.00	0.00
11	8	WRAPP-16530	Lake	7120004	PUBGx	PEM	N	0.05	0.05
11	0.4	WRAPP-18060	Lake	7120006	PEMCf	PEM	N	1.42	0.49
11	0.8	WRAPP-18073	Lake	7120006	PEMF	PEM	N	1.66	1.47
11	1.1	WRAPP-18083	Lake	7120006	PAB/EMF	PEM	N	10.85	1.32
11	0.7	WRAPP-18092	Lake	7120006	PEM/UBFx	PEM	N	0.76	0.76
11	0.6	WRAPP-18094	Lake	7120006	PEMC	PEM	N	0.72	0.72
11	0.8	WRAPP-18097	Lake	7120006	PEMCx	PEM	N	0.28	0.28
11	0.4	WRAPP-18103	Lake	7120006	PUBGx	PEM	N	0.01	0.01
11	0.7	WRAPP-18105	Lake	7120006	PEMCd	PEM	N	0.75	0.75
11	0.6	WRAPP-18108	Lake	7120006	PEMC	PEM	N	0.25	0.25
11	3.6	WRAPP-18225	Lake	7120006	PEMCd	PEM	Y	3.80	3.80
11	1.3	WRAPP-18249	Lake	7120006	PEMC	PEM	N	0.43	0.43
11	1.8	WRAPP-18258	Lake	7120006	PSS1C	PSS	N	2.30	2.30

Attachment B - Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	1.2	WRAPP-18259	Lake	7120006	PEMCf	PEM	N	3.25	3.25
11	1.6	WRAPP-18260	Lake	7120006	PEMC	PEM	N	0.78	0.78
11	1.1	WRAPP-18262	Lake	7120006	PEMAf	PEM	N	0.25	0.25
11	1.7	WRAPP-18267	Lake	7120006	PEMC	PEM	N	0.18	0.18
11	1.8	WRAPP-18271	Lake	7120006	PEMA	PEM	N	0.26	0.26
11	1.6	WRAPP-18277	Lake	7120006	PEMC	PEM	N	1.79	1.79
11	1.3	WRAPP-18278	Lake	7120006	PEMCf	PEM	N	1.37	1.37
11	1.8	WRAPP-18280	Lake	7120006	PEMCf	PEM	N	0.49	0.49
11	2.3	WRAPP-18288	Lake	7120006	PEMF	PEM	Y	13.18	13.18
11	2.4	WRAPP-18294	Lake	7120006	R4SBCx	PEM	N	0.37	0.37
11	3.1	WRAPP-18297	Lake	7120006	PEMC	PEM	N	4.40	3.01
11	2.2	WRAPP-18308	Lake	7120006	PFO1A	PFO	N	0.92	0.82
11	2.1	WRAPP-18314	Lake	7120006	PEM/FO1C	PEM	N	1.03	0.16
11	3.1	WRAPP-18316	Lake	7120006	PUBGx	PEM	N	0.05	0.05
11	3.4	WRAPP-18323	Lake	7120006	PEMC	PEM	N	9.26	3.89
11	1.8	WRAPP-18326	Lake	7120006	PEMF	PEM	N	22.62	0.23
11	2.9	WRAPP-18333	Lake	7120006	PUBFx	PEM	N	0.17	0.17
11	2.5	WRAPP-18336	Lake	7120006	PEMAf	PEM	N	0.33	0.11
11	2.8	WRAPP-18341	Lake	7120006	PUBGx	PEM	N	1.55	1.55
11	3.7	WRAPP-18345	Lake	7120006	PEMCf	PEM	N	1.39	1.39
11	6.6	WRAPP-18346	Lake	7120006	PEMC	PEM	N	0.41	0.00
11	3.9	WRAPP-18347	Lake	7120006	PUBGx	PEM	N	0.03	0.03
11	3.8	WRAPP-18350	Lake	7120006	PUBGx	PEM	N	0.01	0.01
11	3.6	WRAPP-18358	Lake	7120006	PEMC	PEM	N	3.69	3.69
11	6.4	WRAPP-18373	Lake	7120006	PEM/SS1Cd	PEM	N	0.75	0.75
11	6.4	WRAPP-18379	Lake	7120006	PUBGx	PEM	N	0.02	0.02
11	6.6	WRAPP-18382	Lake	7120004	PFO1C	PFO	N	0.07	0.07
11	3.5	WRAPP-18383	Lake	7120006	PUBGx	PEM	N	0.20	0.20
11	6.3	WRAPP-18388	Lake	7120006	PEM/SS1Cd	PEM	N	0.74	0.74
11	6.2	WRAPP-18389	Lake	7120006	PEM/SS1Cd	PEM	N	0.68	0.49
11	6.1	WRAPP-18401	Lake	7120006	PEM/FO1C	PEM	N	2.73	0.20
11	4.8	WRAPP-18406	Lake	7120006	PEMAf	PEM	N	0.41	0.41
11	6.2	WRAPP-18411	Lake	7120006	PFO1/SS1C	PFO	N	0.54	0.54
11	4.5	WRAPP-18418	Lake	7120006	PEMA	PEM	N	0.16	0.16
11	6.2	WRAPP-18422	Lake	7120006	PEM/UBF	PEM	N	1.11	1.11
11	5.1	WRAPP-18423	Lake	7120006	PEMCd	PEM	N	37.49	11.61
11	5.7	WRAPP-18425	Lake	7120006	PUBGx	PEM	N	0.07	0.07
11	5.2	WRAPP-18438	Lake	7120006	PEM/FO1A	PEM	N	0.69	0.69
11	6	WRAPP-18440	Lake	7120006	PUBHx	PEM	N	0.01	0.01
11	5.2	WRAPP-18445	Lake	7120006	PFO1Cd	PFO	N	0.31	0.31
11	5.4	WRAPP-18446	Lake	7120006	PEMC	PEM	N	14.99	14.99
11	5.7	WRAPP-18447	Lake	7120006	PUBGx	PEM	N	0.12	0.12
11	5.4	WRAPP-18451	Lake	7120006	PUBGx	PEM	N	0.07	0.07
11	5.8	WRAPP-18454	Lake	7120006	PEMC	PEM	N	0.15	0.15
11	6.1	WRAPP-18458	Lake	7120006	PEMC	PEM	N	4.39	4.39
11	5	WRAPP-18465	Lake	7120006	PEMCx	PEM	N	0.55	0.55
11	5.4	WRAPP-18466	Lake	7120006	PEMC	PEM	N	0.99	0.99
11	5.3	WRAPP-18470	Lake	7120006	PEMCd	PEM	N	0.37	0.37
11	5.9	WRAPP-18471	Lake	7120006	PUBGx	PEM	N	1.01	1.01
11	5.4	WRAPP-18473	Lake	7120006	PEMCd	PEM	N	0.46	0.46
11	5.6	WRAPP-18474	Lake	7120006	PEMC	PEM	N	0.76	0.76
11	5.8	WRAPP-18475	Lake	7120006	PEM/UBGx	PEM	N	1.66	1.66
11	5.6	WRAPP-18485	Lake	7120006	PEMA	PEM	N	0.16	0.16
11	5.5	WRAPP-18493	Lake	7120006	PEMC	PEM	N	0.15	0.01
11	5.6	WRAPP-18501	Lake	7120006	PEMF	PEM	N	1.91	0.49
11	5.1	WRAPP-18504	Lake	7120006	PEMC	PEM	N	4.35	4.35
11	0.4	WRAPP-18953	Lake	7120006	PEMC	PEM	N	14.46	2.86
11	0.9	WRAPP-18954	Lake	7120006	PEMCf	PEM	N	0.91	0.91
11	0.7	WRAPP-18958	Lake	7120006	PEMCd	PEM	N	2.72	2.72

Attachment B - Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	2	WRAPP-18965	Lake	7120006	PEMC	PEM	Y	8.61	3.58
11	4.8	WRAPP-18997	Lake	7120006	R2UBHx	PFO	Y	3.54	0.22
11	5.9	WRAPP-19104	Lake	7120006	PEMC	PEM	N	11.53	11.53
11	5.9	WRAPP-19105	Lake	7120006	PEMC	PEM	N	0.67	0.67
11	5.8	WRAPP-19106	Lake	7120006	PEMC	PEM	N	0.01	0.01
11	6	WRAPP-19116	Lake	7120006	PEM/SS1C	PEM	N	6.53	6.53
11	6.6	WRAPP-19118	Lake	7120006	PUBGx	PEM	N	0.00	0.00
11	6.3	WRAPP-19119	Lake	7120006	PEMA	PEM	N	0.45	0.45
11	6.3	WRAPP-19120	Lake	7120006	PFO1C	PFO	N	0.41	0.20
11	6.5	WRAPP-19121	Lake	7120006	PEM/SS1Cd	PEM	N	1.20	1.20
11	6.5	WRAPP-19122	Lake	7120006	PEMF	PEM	N	1.90	1.50
11	6.5	WRAPP-19123	Lake	7120006	PFO1Cd	PFO	N	0.87	0.11
11	6.6	WRAPP-19127	Lake	7120006	PEMC	PEM	N	0.07	0.07
11	4.8	WRAPP-19865	Lake	7120006	PEM/FO1Ad	PEM	N	3.33	1.36
11	4.8	WRAPP-19874	Lake	7120006	PEM/FO1Ad	PEM	Y	3.95	1.89
11	4	WRAPP-19878	Lake	7120006	PEM/UBF	PEM	N	9.02	2.42
11	3.9	WRAPP-19883	Lake	7120006	PEMFd	PEM	Y	29.38	9.40
11	3.7	WRAPP-19884	Lake	7120006	PUBGx	PEM	N	0.09	0.09
11	3.9	WRAPP-19886	Lake	7120006	PEMCd	PEM	N	0.62	0.62
11	4.6	WRAPP-19889	Lake	7120006	PUBGx	PEM	N	3.44	1.85
11	3.9	WRAPP-19890	Lake	7120006	PEMF	PEM	Y	1.35	1.35
11	4	WRAPP-19893	Lake	7120006	PEMC	PEM	Y	1.31	1.31
11	3.9	WRAPP-19894	Lake	7120006	PEMC	PEM	Y	7.55	2.14
11	3.5	WRAPP-19896	Lake	7120006	PEMC	PEM	N	3.87	0.37
11	3.6	WRAPP-19897	Lake	7120006	L1UBHx	PEM	Y	0.73	0.73
11	3.7	WRAPP-19898	Lake	7120006	L1UBHx	PEM	Y	0.32	0.16
11	3.7	WRAPP-19906	Lake	7120006	PEMCd	PEM	N	2.13	2.13
11	3.1	WRAPP-19908	Lake	7120006	PEMA	PEM	N	0.19	0.19
11	4.6	WRAPP-19935	Lake	7120006	PFO1Cd	PFO	N	1.68	1.29
11	4.8	WRAPP-19964	Lake	7120006	PFO1Ad	PFO	N	1.90	1.46
11	4.8	WRAPP-19967	Lake	7120006	PFO1A	PFO	N	0.62	0.62
11	5.3	WRAPP-19968	Lake	7120006	PEM/SS1Cd	PEM	N	3.30	1.79
11	5.1	WRAPP-19973	Lake	7120006	PUBGx	PEM	N	3.26	1.46
11	5.1	WRAPP-19974	Lake	7120006	PFO1C	PFO	N	2.37	2.37
11	5	WRAPP-19975	Lake	7120006	PUBFx	PEM	N	0.14	0.14
11	5	WRAPP-19976	Lake	7120006	PEMAf	PEM	N	0.53	0.53
11	5.2	WRAPP-19977	Lake	7120006	PEMC	PEM	N	2.39	2.39
11	5.6	WRAPP-19978	Lake	7120006	PUBGx	PEM	N	0.34	0.34
11	5.6	WRAPP-19979	Lake	7120006	PEMCx	PEM	N	0.70	0.70
11	0.6	WRAPP-20577	Lake	7120006	PEM/SS1Cd	PEM	N	3.76	3.73
11	0.6	WRAPP-20582	Lake	7120006	PEM/UBFx	PEM	N	0.03	0.03
11	1	WRAPP-20602	Lake	7120006	PEM/FO1C	PEM	Y	3.42	0.04
11	1.8	WRAPP-20612	Lake	7120006	PEMC	PEM	N	0.61	0.61
11	1.7	WRAPP-20613	Lake	7120006	PEMAf	PEM	N	0.08	0.08
11	1.9	WRAPP-20614	Lake	7120006	PEM/SS1Cd	PEM	N	1.61	1.08
11	2.5	WRAPP-20615	Lake	7120006	PEM/UBF	PEM	N	0.61	0.61
11	2.6	WRAPP-20623	Lake	7120006	PEMA	PEM	N	0.66	0.66
11	1.2	WRAPP-20633	Lake	7120006	PUBGx	PEM	N	2.32	2.19
11	1.1	WRAPP-20634	Lake	7120006	PUBGx	PEM	N	0.97	0.97
11	1.7	WRAPP-20635	Lake	7120006	PUBGx	PEM	N	2.02	2.02
11	1.9	WRAPP-20636	Lake	7120006	PEMA	PEM	N	0.24	0.24
11	1.7	WRAPP-20637	Lake	7120006	PUBGx	PEM	N	14.52	4.19
11	1.7	WRAPP-20638	Lake	7120006	PEMFx	PEM	N	3.79	0.39
11	1.9	WRAPP-20639	Lake	7120006	PEMC	PEM	Y	0.25	0.25
11	2.2	WRAPP-20648	Lake	7120006	PEM/FO1C	PEM	Y	2.58	2.58
11	0.8	WRAPP-20670	Lake	7120006	PEMCx	PEM	N	0.32	0.32
11	0.4	WRAPP-20671	Lake	7120006	PEMC	PEM	N	0.52	0.52
11	0.4	WRAPP-20675	Lake	7120006	PSS1C	PSS	N	4.09	3.90
11	4.6	WRAPP-22058	Lake	7120006	PEMC	PEM	N	0.35	0.35

Attachment B - Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	1.9	WRAPP-22066	Lake	7120006	PEM/FO1C	PEM	Y	0.70	0.70
11	7.8	WRAPP-2874	Lake	7120004	PEMAf	PEM	N	0.16	0.11
11	6.8	WRAPP-2878	Lake	7120004	PEMCx	PEM	N	2.85	0.02
11	7.9	WRAPP-2884	Lake	7120004	PEMCx	PEM	N	0.02	0.02
11	6.8	WRAPP-2885	Lake	7120004	PEMCx	PEM	N	0.96	0.75
11	8.3	WRAPP-2886	Lake	7120004	PEMA	PEM	N	0.14	0.14
11	7.7	WRAPP-2887	Lake	7120004	PUBGx	PEM	N	0.03	0.03
11	6.7	WRAPP-2890	Lake	7120004	PEMF	PEM	N	6.88	0.87
11	9.6	WRAPP-2892	Lake	7120004	PEMC	PEM	Y	1.54	0.17
11	8.6	WRAPP-2893	Lake	7120004	PEMC	PEM	N	1.89	1.88
11	9	WRAPP-2895	Lake	7120004	PEM/FO1C	PEM	N	0.45	0.45
11	7.2	WRAPP-2896	Lake	7120004	PFO1Ad	PFO	N	0.71	0.71
11	9.5	WRAPP-2897	Lake	7120004	PEMAf	PEM	N	0.24	0.24
11	8.5	WRAPP-2898	Lake	7120004	PEMF	PEM	N	1.04	1.04
11	9.2	WRAPP-2899	Lake	7120004	PEMAf	PEM	N	0.17	0.17
11	9	WRAPP-2901	Lake	7120004	PEMCx	PEM	N	0.00	0.00
11	8.1	WRAPP-2902	Lake	7120004	PEMC	PEM	N	3.45	3.45
11	9.6	WRAPP-2903	Lake	7120004	PEMC	PEM	Y	3.41	3.41
11	8.2	WRAPP-2904	Lake	7120004	PUBF	PEM	N	0.02	0.02
11	8	WRAPP-2905	Lake	7120004	PEM/SS1C	PEM	N	0.75	0.75
11	7.8	WRAPP-2906	Lake	7120004	PEMF	PEM	N	0.21	0.21
11	9.4	WRAPP-2907	Lake	7120004	PEM/SS1Fd	PEM	N	5.10	5.10
11	7.9	WRAPP-2908	Lake	7120004	PEMF	PEM	N	3.05	3.05
11	8.2	WRAPP-2909	Lake	7120004	PEMC	PEM	N	0.35	0.35
11	10	WRAPP-2910	Lake	7120004	PEMB	PEM	Y	0.16	0.16
11	9.7	WRAPP-2912	Lake	7120004	PEMA	PEM	N	0.00	0.00
11	7.5	WRAPP-2913	Lake	7120004	PEMF	PEM	N	12.45	10.97
11	8.6	WRAPP-2914	Lake	7120004	PUBGx	PEM	N	0.02	0.02
11	9	WRAPP-2915	Lake	7120004	PUBGx	PEM	N	0.04	0.04
11	7.9	WRAPP-2917	Lake	7120004	PUBGx	PEM	N	0.02	0.01
11	9.2	WRAPP-2920	Lake	7120004	PUBGx	PEM	N	0.04	0.04
11	9.7	WRAPP-2921	Lake	7120004	PUBGx	PEM	N	0.03	0.03
11	9.1	WRAPP-2922	Lake	7120004	PUBGx	PEM	N	0.97	0.97
11	8.6	WRAPP-2923	Lake	7120004	PEMA	PEM	N	0.47	0.47
11	10.1	WRAPP-2924	Lake	7120004	PUBGx	PEM	N	0.27	0.27
11	10.2	WRAPP-2925	Lake	7120004	PEM/UBGh	PEM	N	0.42	0.42
11	8.3	WRAPP-2928	Lake	7120004	PEM/SS1C	PEM	N	12.96	5.98
11	7.4	WRAPP-2930	Lake	7120004	PEM/FO1Cd	PEM	N	16.51	1.12
11	12.4	WRAPP-4446	Lake	7120004	PFO1C	PFO	Y	1.59	1.59
11	10.6	WRAPP-4447	Lake	7120004	R4SBC	PFO	Y	0.15	0.15
11	10.5	WRAPP-4448	Lake	7120004	PFO1A	PFO	Y	1.80	1.64
11	10.3	WRAPP-4449	Lake	7120004	PUBHx	PEM	Y	0.50	0.50
11	10.3	WRAPP-4450	Lake	7120004	PEMA	PEM	Y	0.14	0.14
11	12	WRAPP-4538	Lake	7120004	PSS1Ad	PSS	Y	0.21	0.21
11	10.1	WRAPP-4539	Lake	7120004	PEM/FO1Cd	PEM	N	4.76	4.76
11	10.9	WRAPP-4560	Lake	7120004	PSS1Cd	PSS	Y	0.32	0.32
11	10.9	WRAPP-4561	Lake	7120004	PFO1Cd	PFO	Y	2.62	2.62
11	11.9	WRAPP-4583	Lake	7120004	PUBHh	PEM	Y	0.09	0.09
11	12.5	WRAPP-4602	Lake	7120004	PUBGx	PEM	N	0.06	0.05
11	12.5	WRAPP-4604	Lake	7120004	PFO1A	PFO	N	0.44	0.44
11	12.5	WRAPP-4607	Lake	7120004	PFO1A	PFO	Y	0.45	0.01
11	12.5	WRAPP-4611	Lake	7120004	PEM/SS1A	PEM	Y	0.17	0.08
11	12.5	WRAPP-4612	Lake	7120004	PEMC	PEM	Y	0.15	0.15
11	12.5	WRAPP-4613	Lake	7120004	PEMA	PEM	Y	0.19	0.19
11	12.5	WRAPP-4614	Lake	7120004	PEM/FO1C	PEM	Y	6.18	6.18
11	12.5	WRAPP-4622	Lake	7120004	PEMA	PEM	Y	0.33	0.33
11	12.5	WRAPP-4623	Lake	7120004	PUBGx	PEM	Y	0.03	0.03
11	12.5	WRAPP-4626	Lake	7120004	PUBHx	PEM	Y	0.05	0.05
11	12.4	WRAPP-4642	Lake	7120004	PUBHx	PEM	Y	0.06	0.06

Attachment B- Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	12.2	WRAPP-4643	Lake	7120004	PFO1Ad	PFO	N	1.39	0.31
11	12.4	WRAPP-4646	Lake	7120004	PEMC	PEM	Y	0.91	0.91
11	12.2	WRAPP-4648	Lake	7120004	PEM/FO1Cd	PEM	N	1.31	1.31
11	12.3	WRAPP-4650	Lake	7120004	PUBGx	PEM	Y	0.03	0.03
11	12.1	WRAPP-4655	Lake	7120004	PFO1Cd	PFO	Y	0.73	0.73
11	12.2	WRAPP-4656	Lake	7120004	PUBHx	PEM	N	0.01	0.01
11	12	WRAPP-4661	Lake	7120004	PFO1C	PFO	N	2.13	2.13
11	10.5	WRAPP-4666	Lake	7120004	PSS1A	PSS	Y	0.45	0.45
11	10.7	WRAPP-4667	Lake	7120004	PUBGx	PEM	Y	0.05	0.05
11	11.9	WRAPP-4669	Lake	7120004	PEM/SS1C	PEM	N	0.72	0.72
11	12	WRAPP-4670	Lake	7120004	PFO1A	PFO	N	1.48	1.42
11	10.6	WRAPP-4673	Lake	7120004	PEMCd	PEM	N	0.48	0.48
11	11.7	WRAPP-4674	Lake	7120004	PEMCx	PEM	N	0.07	0.07
11	11.6	WRAPP-4675	Lake	7120004	PEMAf	PEM	N	1.58	1.58
11	11.7	WRAPP-4678	Lake	7120004	PEM/FO1C	PEM	N	0.72	0.72
11	10.5	WRAPP-4679	Lake	7120004	PUBGx	PEM	N	0.04	0.04
11	11.7	WRAPP-4680	Lake	7120004	PEM/FO1C	PEM	N	1.20	1.20
11	11.7	WRAPP-4681	Lake	7120004	PUBHx	PEM	N	0.04	0.04
11	10.4	WRAPP-4682	Lake	7120004	PUBGx	PEM	N	0.00	0.00
11	11.6	WRAPP-4683	Lake	7120004	PUBGx	PEM	N	0.05	0.05
11	10.4	WRAPP-4684	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	12.5	WRAPP-4686	Lake	7120004	PEM/SS1Cd	PEM	Y	9.00	0.16
11	12.7	WRAPP-4687	Lake	7120004	PUBGh	PEM	N	0.00	0.00
11	10.5	WRAPP-4689	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	10.5	WRAPP-4691	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	10.3	WRAPP-4693	Lake	7120004	PUBGx	PEM	N	0.17	0.17
11	11.6	WRAPP-4695	Lake	7120004	PFO1A	PFO	N	1.26	1.18
11	11.2	WRAPP-4696	Lake	7120004	PUBFx	PEM	N	0.00	0.00
11	13.7	WRAPP-4697	Lake	7120004	PFO1A	PFO	N	1.59	0.01
11	11.6	WRAPP-4698	Lake	7120004	PUBGx	PEM	N	0.00	0.00
11	13.8	WRAPP-4699	Lake	7120004	PEM/FO1C	PEM	N	0.77	0.54
11	11.5	WRAPP-4700	Lake	7120004	PUBGx	PEM	N	0.00	0.00
11	11.3	WRAPP-4701	Lake	7120004	PEM/SS1C	PEM	N	5.78	5.78
11	10.5	WRAPP-4702	Lake	7120004	PEMF	PEM	Y	19.08	19.08
11	11.7	WRAPP-4704	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	13.8	WRAPP-4705	Lake	7120004	PUBHx	PEM	N	0.01	0.01
11	11.9	WRAPP-4706	Lake	7120004	PUBGx	PEM	N	0.00	0.00
11	11.5	WRAPP-4707	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	11.8	WRAPP-4708	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	11.6	WRAPP-4709	Lake	7120004	PUBGx	PEM	N	0.00	0.00
11	13.9	WRAPP-4710	Lake	7120004	PFO1Cd	PFO	N	0.41	0.41
11	12.8	WRAPP-4711	Lake	7120004	PEMC	PEM	N	0.90	0.90
11	13.9	WRAPP-4712	Lake	7120004	PFO1/UBF	PFO	N	0.42	0.42
11	12.1	WRAPP-4713	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	13.9	WRAPP-4714	Lake	7120004	PFO1A	PFO	N	0.71	0.71
11	11.6	WRAPP-4715	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	14	WRAPP-4718	Lake	7120004	PEMCd	PEM	N	0.55	0.44
11	12.9	WRAPP-4719	Lake	7120004	PEM/FO1C	PEM	Y	0.48	0.48
11	14	WRAPP-4720	Lake	7120004	PEMA	PEM	N	0.41	0.41
11	12.7	WRAPP-4721	Lake	7120004	PUBGh	PEM	Y	0.00	0.00
11	14	WRAPP-4722	Lake	7120004	PFO1A	PFO	N	0.71	0.71
11	10.4	WRAPP-4723	Lake	7120004	PEMC	PEM	N	21.76	13.02
11	12.1	WRAPP-4724	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	12.2	WRAPP-4725	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	11.9	WRAPP-4727	Lake	7120004	PUBGx	PEM	N	0.01	0.00
11	12.2	WRAPP-4728	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	13.5	WRAPP-4733	Lake	7120004	PEMAf	PEM	N	0.26	0.26
11	14	WRAPP-4738	Lake	7120004	PEM/SS1Cd	PEM	N	0.56	0.43
11	14	WRAPP-4741	Lake	7120004	PEMCd	PEM	N	0.15	0.15

Attachment B - Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	10.1	WRAPP-4778	Lake	7120004	PFO1A	PFO	N	0.12	0.12
11	10.2	WRAPP-4782	Lake	7120004	PSS1A	PSS	N	1.12	1.12
11	10.3	WRAPP-4784	Lake	7120004	PEMAx	PEM	N	1.06	0.97
11	10.1	WRAPP-4791	Lake	7120004	PEMAf	PEM	N	2.13	0.40
11	10.1	WRAPP-4796	Lake	7120004	PEMAf	PEM	N	0.67	0.67
11	12.4	WRAPP-5981	Lake	7120004	PEMCd	PEM	Y	38.21	22.00
11	12	WRAPP-6338	Lake	7120004	R2UBHx	PEM	Y	0.07	0.07
11	12.3	WRAPP-6951	Lake	7120004	PFO1C	PFO	Y	0.88	0.88
11	12.4	WRAPP-6953	Lake	7120004	PFO1C	PFO	Y	0.33	0.33
11	10.5	WRAPP-6954	Lake	7120004	PFO1C	PFO	Y	1.59	1.59
11	10.3	WRAPP-6957	Lake	7120004	PFO1C	PFO	Y	6.51	0.65
11	10.1	WRAPP-8649	Lake	7120004	PUBHh	PEM	N	1.81	1.81
11	10.1	WRAPP-8650	Lake	7120004	R2UBHx	PEM	N	0.49	0.05
11	10.3	WRAPP-8653	Lake	7120004	R2UBHx	PFO	Y	0.08	0.05
11	10.3	WRAPP-8656	Lake	7120004	PFO1Cd	PFO	Y	0.32	0.07
11	10.5	WRAPP-8657	Lake	7120004	PFO1A	PFO	Y	1.37	1.21
11	10.3	WRAPP-8658	Lake	7120004	PEM/FO1C	PEM	Y	1.82	0.01
11	10.3	WRAPP-8661	Lake	7120004	PEMA	PEM	N	0.30	0.30
11	10.1	WRAPP-8662	Lake	7120004	PEMCd	PEM	N	11.43	10.49
11	10.1	WRAPP-8663	Lake	7120004	PFO1A	PFO	N	1.94	1.94
11	11.6	WRAPP-8755	Lake	7120004	PFO1C	PFO	N	0.32	0.32
11	13.6	WRAPP-8756	Lake	7120004	PFO1Ad	PFO	N	0.60	0.60
11	13.9	WRAPP-8757	Lake	7120004	PFO1C	PFO	N	0.10	0.10
11	14	WRAPP-8758	Lake	7120004	PAB/UBF	PEM	N	0.00	0.00
11	14	WRAPP-8759	Lake	7120004	PEM/FO1F	PEM	N	3.34	1.98
11	10.2	WRAPP-8761	Lake	7120004	PFO1Ad	PFO	N	1.78	1.77
11	12.8	WRAPP-8763	Lake	7120004	PFO1C	PFO	Y	0.79	0.79
11	10.1	WRAPP-8765	Lake	7120004	R2UBHx	PFO	Y	0.46	0.31
11	12.2	WRAPP-8766	Lake	7120004	PEM/FO1C	PEM	Y	0.90	0.90
11	12.2	WRAPP-8767	Lake	7120004	PUBGx	PEM	Y	0.09	0.09
11	10.3	WRAPP-8770	Lake	7120004	PFO1Ad	PFO	Y	0.39	0.10
11	10.3	WRAPP-8771	Lake	7120004	PFO1Ad	PFO	Y	0.33	0.01
11	10.3	WRAPP-8773	Lake	7120004	L2UBHx	PEM	Y	0.66	0.52
11	12.4	WRAPP-8776	Lake	7120004	PFO1C	PFO	Y	1.73	1.73
11	12.4	WRAPP-8777	Lake	7120004	PFO1A	PFO	Y	3.40	3.33
11	12.3	WRAPP-8778	Lake	7120004	PFO1C	PFO	Y	1.20	1.20
11	12.4	WRAPP-8779	Lake	7120004	PFO1A	PFO	Y	0.30	0.30
11	12.4	WRAPP-8780	Lake	7120004	PEMC	PEM	N	0.60	0.60
11	12.5	WRAPP-8781	Lake	7120004	PFO1C	PFO	Y	0.53	0.53
11	12.4	WRAPP-8782	Lake	7120004	PEMA	PEM	Y	1.01	1.01
11	12.4	WRAPP-8783	Lake	7120004	PEMC	PEM	Y	0.37	0.37
11	12.3	WRAPP-8784	Lake	7120004	PSS1Cx	PSS	N	0.52	0.52
11	12.3	WRAPP-8785	Lake	7120004	PFO1C	PFO	Y	1.59	1.59
11	12.1	WRAPP-8786	Lake	7120004	PFO1C	PFO	N	0.12	0.12
11	12.2	WRAPP-8787	Lake	7120004	PFO1C	PFO	Y	0.28	0.28
11	12.2	WRAPP-8788	Lake	7120004	PEM/FO1C	PEM	Y	1.71	1.71
11	12.3	WRAPP-8789	Lake	7120004	PFO1A	PFO	Y	2.38	2.38
11	12.3	WRAPP-8790	Lake	7120004	PFO1C	PFO	Y	0.08	0.08
11	12.3	WRAPP-8791	Lake	7120004	PFO1C	PFO	Y	0.22	0.22
11	12.4	WRAPP-8792	Lake	7120004	PFO1A	PFO	Y	0.55	0.55
11	12.3	WRAPP-8793	Lake	7120004	PFO1A	PFO	Y	0.68	0.68
11	12.3	WRAPP-8794	Lake	7120004	PEMA	PEM	Y	0.92	0.92
11	10.7	WRAPP-8795	Lake	7120004	PFO1C	PFO	Y	4.69	4.14
11	12.5	WRAPP-8796	Lake	7120004	PUBGh	PEM	Y	0.11	0.11
11	11.1	WRAPP-8797	Lake	7120004	R4SBC	PFO	Y	0.16	0.16
11	10.6	WRAPP-8798	Lake	7120004	PFO1A	PFO	Y	9.61	6.18
11	10.5	WRAPP-8799	Lake	7120004	R4SBC	PFO	Y	2.15	2.15
11	12.4	WRAPP-8800	Lake	7120004	R4SBC	PFO	Y	0.10	0.10
11	12.4	WRAPP-8801	Lake	7120004	R4SBC	PFO	Y	1.38	1.38

Attachment B - Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	12.3	WRAPP-8802	Lake	7120004	PEMC	PEM	Y	0.50	0.50
11	12.3	WRAPP-8803	Lake	7120004	PFO1C	PFO	Y	0.54	0.54
11	12.3	WRAPP-8804	Lake	7120004	PEMC	PEM	Y	0.77	0.77
11	12.3	WRAPP-8805	Lake	7120004	PFO1A	PFO	Y	0.28	0.28
11	12.3	WRAPP-8806	Lake	7120004	PEMA	PEM	Y	1.15	1.15
11	12.3	WRAPP-8807	Lake	7120004	PFO1A	PFO	Y	0.44	0.44
11	12.3	WRAPP-8808	Lake	7120004	PEMC	PEM	Y	0.30	0.30
11	12.5	WRAPP-8809	Lake	7120004	PFO1A	PFO	Y	0.54	0.54
11	12.7	WRAPP-8810	Lake	7120004	PFO1C	PFO	Y	2.10	2.10
11	12.6	WRAPP-8811	Lake	7120004	PFO1A	PFO	Y	0.96	0.96
11	12.6	WRAPP-8812	Lake	7120004	PFO1C	PFO	Y	2.93	2.60
11	10.6	WRAPP-8813	Lake	7120004	PFO1C	PFO	Y	1.53	1.53
11	12.6	WRAPP-8814	Lake	7120004	PEM/FO1C	PEM	Y	0.95	0.25
11	12.7	WRAPP-8815	Lake	7120004	PEMA	PEM	Y	1.14	0.21
11	10.5	WRAPP-8816	Lake	7120004	PEM/FO1Cd	PEM	Y	1.13	1.13
11	10.6	WRAPP-8817	Lake	7120004	R4SBC	PFO	Y	0.50	0.50
11	10.7	WRAPP-8818	Lake	7120004	R4SBC	PFO	Y	3.73	1.02
11	11.1	WRAPP-8819	Lake	7120004	R4SBC	PFO	Y	1.10	1.10
11	10.9	WRAPP-8820	Lake	7120004	PEM/FO1C	PEM	Y	1.92	1.92
11	11.1	WRAPP-8821	Lake	7120004	R4SBC	PFO	Y	0.25	0.25
11	11.1	WRAPP-8822	Lake	7120004	R4SBC	PFO	Y	0.47	0.47
11	12.7	WRAPP-8823	Lake	7120004	PFO1A	PFO	Y	0.34	0.34
11	12.6	WRAPP-8824	Lake	7120004	R4SBCx	PEM	N	0.08	0.08
11	12.3	WRAPP-8827	Lake	7120004	PFO1C	PFO	Y	3.01	3.01
11	11.9	WRAPP-9708	Lake	7120004	PSS1Ad	PSS	Y	0.03	0.03
11	11.9	WRAPP-9709	Lake	7120004	PSS1Ad	PSS	Y	0.02	0.02
11	11.9	WRAPP-9710	Lake	7120004	PEMAd	PEM	N	0.00	0.00
11	11.9	WRAPP-9711	Lake	7120004	PEMAd	PEM	Y	0.01	0.01
11	11.9	WRAPP-9712	Lake	7120004	PSS1Ad	PSS	Y	0.08	0.08
11	11.9	WRAPP-9713	Lake	7120004	PSS1Ad	PSS	Y	0.14	0.14
11	12	WRAPP-9714	Lake	7120004	PSS1Ad	PSS	Y	0.13	0.13
11	11.7	WRAPP-9717	Lake	7120004	PEM/SS1Ad	PEM	N	0.21	0.00
11	9.8	WRAPP-9746	Lake	7120004	L2ABHh	PEM	N	0.17	0.01
11	10.1	WRAPP-9756	Lake	7120004	PAB/FO5F	PEM	Y	6.36	6.24
11	10.1	WRAPP-9757	Lake	7120004	PEMF	PEM	Y	20.37	12.37
11	9	WRAPP-9762	Lake	7120004	PEMAd	PEM	N	0.51	0.51
11	9.1	WRAPP-9764	Lake	7120004	PEM/FO1C	PEM	N	2.62	0.45
11	9.3	WRAPP-9765	Lake	7120004	PEMC	PEM	N	8.04	5.71
11	9.4	WRAPP-9766	Lake	7120004	PEMCd	PEM	N	6.26	6.26
11	9.7	WRAPP-9767	Lake	7120004	PEMC	PEM	Y	0.71	0.71
11	9.8	WRAPP-9768	Lake	7120004	PEMA	PEM	N	0.16	0.16
11	9.8	WRAPP-9769	Lake	7120004	PFO1C	PFO	N	0.18	0.18
11	9.8	WRAPP-9770	Lake	7120004	PSS1A	PSS	Y	0.25	0.25
11	9.9	WRAPP-9771	Lake	7120004	PEMA	PEM	Y	2.44	2.44
11	11.1	WRAPP-9806	Lake	7120004	PUBGx	PEM	Y	0.00	0.00
11	10.4	WRAPP-9809	Lake	7120004	PEMAd	PEM	N	0.10	0.10
11	11.3	WRAPP-9825	Lake	7120004	PUBGx	PEM	Y	0.01	0.01
11	11.1	WRAPP-9826	Lake	7120004	PEMCd	PEM	Y	30.85	30.85
11	12.3	WRAPP-9831	Lake	7120004	PFO1C	PFO	Y	2.26	0.49
11	12.7	WRAPP-9856	Lake	7120004	PFO1A	PFO	N	0.60	0.49
11	12.4	WRAPP-9865	Lake	7120004	PFO1A	PFO	Y	0.89	0.20
11	12.5	WRAPP-9871	Lake	7120004	PEMC	PEM	Y	0.51	0.51
11	12.5	WRAPP-9872	Lake	7120004	R4SBCx	PEM	Y	0.89	0.19
11	12.2	WRAPP-9873	Lake	7120004	PFO1A	PFO	Y	22.21	9.97
11	12.3	WRAPP-9874	Lake	7120004	PEMA	PEM	Y	1.44	1.44
11	12.4	WRAPP-9875	Lake	7120004	PFO1A	PFO	Y	0.68	0.68
11	7.4	WRAPP-9899	Lake	7120004	PFO1Cd	PFO	N	5.51	5.51
11	7.4	WRAPP-9901	Lake	7120004	PEM/FO1As	PEM	N	1.36	0.37
11	6.7	WRAPP-9907	Lake	7120004	L2UBHh	PEM	Y	0.28	0.14

Attachment B- Table 11-1
Corridor 11 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
11	7.6	WRAPP-9913	Lake	7120004	PUBGx	PEM	N	0.01	0.01
11	7.5	WRAPP-9914	Lake	7120004	PFO1C	PFO	N	0.90	0.90
11	7.6	WRAPP-9915	Lake	7120004	PEMC	PEM	N	2.24	2.24
11	7.3	WRAPP-9916	Lake	7120004	PEM/FO1Ad	PEM	N	0.96	0.87
11	7.3	WRAPP-9917	Lake	7120004	PFO1As	PFO	N	1.95	1.95
11	7.5	WRAPP-9918	Lake	7120004	PEM/FO1Cd	PEM	N	1.34	1.34
11	7.6	WRAPP-9919	Lake	7120004	PEMC	PEM	N	1.55	1.55
11	7.7	WRAPP-9920	Lake	7120004	PEM/SS1C	PEM	N	0.69	0.69
11	7.9	WRAPP-9921	Lake	7120004	PEMCx	PEM	N	0.02	0.02
11	7.3	WRAPP-9922	Lake	7120004	PFO1Ad	PFO	N	0.50	0.50
11	7.2	WRAPP-9924	Lake	7120004	PSS1Ad	PSS	N	0.79	0.30
11	7.2	WRAPP-9926	Lake	7120004	PFO1Ad	PFO	N	0.57	0.20
11	7.5	WRAPP-9929	Lake	7120004	PEMC	PEM	N	0.72	0.72
11	7.5	WRAPP-9930	Lake	7120004	PFO1A	PFO	N	0.67	0.67
11	7.5	WRAPP-9931	Lake	7120004	PFO1A	PFO	N	0.92	0.92
11	7.5	WRAPP-9932	Lake	7120004	PEM/FO1C	PEM	N	0.51	0.51
11	7.6	WRAPP-9933	Lake	7120004	PUBGx	PEM	N	0.63	0.63
11	7.6	WRAPP-9934	Lake	7120004	PEMCd	PEM	N	0.29	0.29
11	7.6	WRAPP-9935	Lake	7120004	PFO1A	PFO	N	0.89	0.89
11	7.5	WRAPP-9936	Lake	7120004	PEM/FO1Cd	PEM	N	0.74	0.42
11	7.9	WRAPP-9941	Lake	7120004	PEMAf	PEM	N	0.79	0.11
11	7.9	WRAPP-9942	Lake	7120004	PEMAf	PEM	N	0.45	0.15
11	7.9	WRAPP-9943	Lake	7120004	PEMC	PEM	N	0.60	0.60
11	8.7	WRAPP-9947	Lake	7120004	PABF	PEM	N	0.04	0.04
11	8.7	WRAPP-9948	Lake	7120004	PEM/SS1C	PEM	N	0.63	0.63
11	8.2	WRAPP-9949	Lake	7120004	PEMF	PEM	N	0.78	0.78
11	12.5	WRAPP-9975	Lake	7120004	PEMC	PEM	N	2.74	0.56
TOTAL									**567.91**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 11-2
Corridor 11 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
11	4.8	9333	Lake	7120006	Squaw Creek	1
11	7.3	3909	Lake	7120004	Avon-Fremont Drainage Ditch	1
11	10.1	3401	Lake	7120004	Stoneroller Creek	0
11	12	3910	Lake	7120004	Sherman Corners Creek	1
11	12.4	9315	Lake	7120004	Des Plaines River	1
11	10.3	3573	Lake	7120004	Unnamed Trib to Des Plaines River	0
11	10.6	9315	Lake	7120004	Des Plaines River	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 11-3
Corridor 11 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	WaterbodyType	Waterbody Name	Total Acres	Acres Within Analysis Area
11	8.5	AIOW - 2	Lake	7120004	Detention Basin		0.84	0.84
11	8.8	AIOW - 3	Lake	7120004	Detention Basin		0.55	0.55
11	8.5	AIOW - 4	Lake	7120004	Detention Basin		0.46	0.46
11	10.1	LR-3517	Lake	7120004	Pond		3.83	3.83
11	10.3	LR-3552	Lake	7120004	Pond	Woodlake Pond 1	0.53	0.53
11	10.1	LR-3553	Lake	7120004	Pond		0.16	0.16
11	10.3	LR-3565	Lake	7120004	Detention Basin	Woodlake Pond 2	1.08	1.08
11	10.3	LR-3603	Lake	7120004	Pond	LCFPD Pond	2.18	2.18
11	9.8	LR-3620	Lake	7120004	Lake	Gages Lake	142.96	1.45
11	10.3	LR-3633	Lake	7120004	Lake	Lake Carina	23.32	17.46
11	5.6	LR-3816	Lake	7120006	Pond	Cranberry Lake Subdivision Pond 6	0.49	0.21
11	5.3	LR-3829	Lake	7120006	Detention Basin	Cranberry Lake Subdivision Pond 4	1.91	0.04
11	5.5	LR-3833	Lake	7120006	Detention Basin	Cranberry Lake Subdivision Pond 5	0.71	0.71
11	13.9	LR-3841	Lake	7120004	Detention Basin	Providence Oaks Pond	2.48	2.48
11	12.2	LR-3847	Lake	7120004	Pond	Spinney Run Pond 2	0.02	0.02
11	11.9	LR-3852	Lake	7120004	Pond	Heather Ridge Pond 1	0.32	0.00
11	5.8	LR-3859	Lake	7120006	Detention Basin	Misty Hill Farm Pond 4	4.80	4.80
11	12.2	LR-3862	Lake	7120004	Pond	Heather Ridge Pond 14	0.08	0.08
11	5.5	LR-3863	Lake	7120006	Detention Basin	Cranberry Lake Subdivision Pond 7	3.70	3.70
11	5.7	LR-3867	Lake	7120006	Pond	Misty Hill Farm Pond 3	1.62	1.62
11	5.6	LR-3868	Lake	7120006	Pond	Misty Hill Farm Pond 2	0.07	0.07
11	12.1	LR-3869	Lake	7120004	Pond	Heather Ridge Pond 15	0.08	0.08
11	11.8	LR-3870	Lake	7120004	Pond	Heather Ridge Golf Club Pond 5	0.54	0.45
11	5.1	LR-3875	Lake	7120006	Pond	Demeyer Pond	3.81	3.81
11	11.9	LR-3879	Lake	7120004	Pond	Heather Ridge Golf Club Pond 6	1.66	1.66
11	11.3	LR-3882	Lake	7120004	Detention Basin	Cambridge at Gurnee Pond	0.95	0.11
11	6.8	LR-3883	Lake	7120004	Lake	Grays Lake	79.80	50.03
11	12.8	LR-3885	Lake	7120004	Pond	LCFPD Pond	0.09	0.09
11	12.7	LR-3886	Lake	7120004	Pond	LCFPD Pond	0.58	0.58
11	13.8	LR-3890	Lake	7120004	Detention Basin	Bayberry Pond 1	0.99	0.99
11	5.8	LR-3891	Lake	7120006	Pond	Misty Hill Farm Pond 5	0.89	0.89
11	11.6	LR-3892	Lake	7120004	Pond	Heather Ridge Pond 23	0.11	0.11
11	14	LR-3894	Lake	7120004	Pond	North Woods Pond 5	0.80	0.80
11	12.4	LR-3896	Lake	7120004	Pond		0.17	0.17
11	12.1	LR-3897	Lake	7120004	Pond		0.03	0.03
11	5.4	LR-3901	Lake	7120006	Detention Basin	Hainesville Pond	0.25	0.25
11	5.8	LR-3911	Lake	7120006	Pond	Misty Hill Farm Pond 6	0.21	0.21
11	13.9	LR-3912	Lake	7120004	Pond	North Woods Pond 6	0.13	0.13
11	5.4	LR-3915	Lake	7120006	Pond		0.41	0.41
11	5.7	LR-3921	Lake	7120006	Detention Basin	Hines Lumber Company Pond	1.76	1.76
11	11.6	LR-3922	Lake	7120004	Pond	Heather Ridge Pond 19	0.09	0.09
11	11.8	LR-3926	Lake	7120004	Pond	Heather Ridge Pond 17	0.16	0.16
11	11.5	LR-3927	Lake	7120004	Pond	Heather Ridge Pond 22	0.23	0.23
11	13.7	LR-3929	Lake	7120004	Detention Basin	Bayberry Pond 2	0.84	0.84
11	11.9	LR-3930	Lake	7120004	Pond	Heather Ridge Pond 16	0.05	0.05
11	13.8	LR-3932	Lake	7120004	Pond	Bayberry Pond 3	0.41	0.41
11	14	LR-3939	Lake	7120004	Pond	North Woods Pond 7	0.84	0.45
11	11.7	LR-3940	Lake	7120004	Pond	Heather Ridge Pond 18	0.14	0.14
11	13.7	LR-3942	Lake	7120004	Detention Basin	Diversity Park Pond	0.40	0.40
11	12.2	LR-3947	Lake	7120004	Pond	LCFPD Pond	2.07	2.07
11	11.5	LR-3950	Lake	7120004	Pond	Heather Ridge Pond 21	0.09	0.09
11	11.6	LR-3953	Lake	7120004	Pond	Heather Ridge Pond 20	0.08	0.08
11	13.8	LR-3958	Lake	7120004	Detention Basin	Bayberry Pond 4	0.27	0.09
11	11.2	LR-3959	Lake	7120004	Pond		0.03	0.03
11	10.7	LR-3960	Lake	7120004	Pond	Woodland Meadows Pond 4	0.17	0.17
11	6	LR-3963	Lake	7120006	Pond		1.93	1.93
11	10.3	LR-3967	Lake	7120004	Pond	Greenfields Pond 1	0.05	0.05
11	10.3	LR-3968	Lake	7120004	Pond	Greenfields Pond 2	0.21	0.21
11	10.5	LR-3970	Lake	7120004	Pond	Greenfields Pond 3	0.04	0.04
11	10.2	LR-3971	Lake	7120004	Pond	Twin Lakes Pond 2	0.40	0.40
11	10.1	LR-3972	Lake	7120004	Pond	Twin Lakes Pond 1	0.49	0.49
11	12.5	LR-3973	Lake	7120004	Pond		1.70	1.70
11	4.5	LR-3974	Lake	7120006	Detention Basin	Bright Meadows Pond 2	2.11	2.11
11	5.7	LR-3985	Lake	7120006	Detention Basin	Prairieview School Pond	1.31	1.31
11	10.5	LR-3987	Lake	7120004	Pond	Greenfields Pond 4	0.07	0.07

Attachment B - Table 11-3
Corridor 11 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	WaterbodyType	Waterbody Name	Total Acres	Acres Within Analysis Area
11	5.7	LR-3991	Lake	7120006	Pond		0.09	0.09
11	6.1	LR-3993	Lake	7120006	Detention Basin	Lord of Glory Lutheran Church Pond	1.16	1.16
11	12.7	LR-3996	Lake	7120004	Pond		0.44	0.44
11	4	LR-3999	Lake	7120006	Pond	Round Lake Marsh South	0.33	0.19
11	10.4	LR-4000	Lake	7120004	Pond	Greenfields Pond 5	0.09	0.09
11	3.7	LR-4001	Lake	7120006	Lake	Schaul Country North Lake	7.17	3.29
11	9.7	LR-4002	Lake	7120004	Pond	Savanna Ridge Apartments Pond 1	0.26	0.26
11	9.2	LR-4003	Lake	7120004	Pond	Country Faire Pond 1	1.60	1.60
11	9.1	LR-4005	Lake	7120004	Pond	Country Faire Pond 2	0.73	0.73
11	3.9	LR-4006	Lake	7120006	Pond	Round Lake Marsh South	0.26	0.01
11	3.8	LR-4007	Lake	7120006	Pond	Round Lake Marsh South	0.39	0.01
11	11.6	LR-4008	Lake	7120004	Pond		0.80	0.80
11	10.4	LR-4009	Lake	7120004	Pond	Greenfields Pond 6	0.07	0.07
11	11.7	LR-4012	Lake	7120004	Pond	Coventry Woods Pond 1	0.42	0.42
11	10.5	LR-4014	Lake	7120004	Pond	Greenfields Pond 7	0.10	0.10
11	4.1	LR-4016	Lake	7120006	Detention Basin	Bright Meadows Pond 3	2.00	2.00
11	7.9	LR-4020	Lake	7120004	Pond		0.19	0.02
11	9	LR-4023	Lake	7120004	Pond		0.41	0.41
11	11.7	LR-4024	Lake	7120004	Pond	Coventry Woods Pond 2	0.09	0.09
11	8.6	LR-4029	Lake	7120004	Pond		0.30	0.30
11	8.6	LR-4030	Lake	7120004	Pond		0.03	0.03
11	8.2	LR-4031	Lake	7120004	Pond	Center Street Square Pond 1	0.01	0.01
11	3.9	LR-4032	Lake	7120006	Pond	Round Lake Marsh South	0.41	0.41
11	9.6	LR-4035	Lake	7120004	Pond	Savanna Ridge Apartments Pond 2	0.06	0.06
11	8.9	LR-4037	Lake	7120004	Detention Basin	Aldworth Pond	0.47	0.47
11	8.2	LR-4044	Lake	7120004	Pond	Center Street Square Pond 2	0.19	0.19
11	3.9	LR-4047	Lake	7120006	Pond	LCFPD Pond	0.92	0.92
11	10.1	LR-4050	Lake	7120004	Lake	LCFPD Pond	25.13	15.51
11	9.8	LR-4051	Lake	7120004	Pond		0.01	0.01
11	4.4	LR-4056	Lake	7120006	Pond	Rosing Brothers Pond 1	0.01	0.01
11	3.6	LR-4057	Lake	7120006	Lake	Schaul Country South Lake	6.09	6.09
11	11.3	LR-4063	Lake	7120004	Pond	Reserve at the Merit Club Pond 4	1.11	1.11
11	11	LR-4064	Lake	7120004	Pond	Reserve at the Merit Club Pond 3	1.16	1.16
11	4.5	LR-4065	Lake	7120006	Pond	Rosing Brothers Pond 2	0.06	0.06
11	6.3	LR-4072	Lake	7120006	Pond		0.20	0.20
11	4.4	LR-4073	Lake	7120006	Detention Basin	Madrona Village Pond 1	4.62	4.62
11	7.9	LR-4075	Lake	7120004	Pond	G2 Industrial Courts Pond	0.11	0.11
11	6.3	LR-4076	Lake	7120006	Pond		0.08	0.08
11	3.5	LR-4077	Lake	7120006	Pond		0.17	0.17
11	8	LR-4078	Lake	7120004	Pond	Center Street Square Pond 3	0.33	0.33
11	6.6	LR-4079	Lake	7120004	Pond		0.22	0.22
11	9.4	LR-4080	Lake	7120004	Pond		3.11	3.11
11	7.8	LR-4081	Lake	7120004	Pond		0.80	0.80
11	6.4	LR-4082	Lake	7120006	Pond		0.15	0.15
11	8.2	LR-4083	Lake	7120004	Pond	Canterbury Park Pond 1	2.16	2.16
11	8.1	LR-4087	Lake	7120004	Pond	Center Street Square Pond 4	0.03	0.03
11	6.4	LR-4088	Lake	7120006	Pond		0.18	0.18
11	7.7	LR-4089	Lake	7120004	Pond		0.05	0.05
11	8	LR-4091	Lake	7120004	Pond	Center Street Square Pond 5	0.21	0.21
11	10.7	LR-4098	Lake	7120004	Pond	Reserve at the Merit Club Pond 2	2.93	2.93
11	9	LR-4103	Lake	7120004	Pond		0.03	0.03
11	3.5	LR-4104	Lake	7120006	Pond	LCFPD Pond	0.04	0.04
11	8.3	LR-4107	Lake	7120004	Detention Basin	Canterbury Park Pond 2	1.19	1.19
11	8.1	LR-4108	Lake	7120004	Detention Basin	Canterbury Estates Pond 2	2.10	2.10
11	9.4	LR-4120	Lake	7120004	Pond		0.25	0.25
11	6.7	LR-4123	Lake	7120006	Pond	Allegheny Road Subdivision Pond	0.75	0.75
11	8.5	LR-4127	Lake	7120004	Pond	Lake Forest Hospital - Grayslake Pond 1	0.61	0.61
11	7.5	LR-4131	Lake	7120004	Pond		0.04	0.04
11	7.3	LR-4136	Lake	7120004	Detention Basin	Eastlake Farm Park Pond	0.49	0.49
11	4.2	LR-4137	Lake	7120006	Detention Basin	Madrona Village Pond 2	4.30	2.24
11	3.7	LR-4138	Lake	7120006	Pond		0.85	0.85
11	9	LR-4139	Lake	7120004	Pond		0.05	0.05
11	3.8	LR-4141	Lake	7120006	Pond		0.06	0.06
11	8.7	LR-4142	Lake	7120004	Pond	Lake Forest Hospital - Grayslake Pond 2	1.01	1.01
11	7.5	LR-4147	Lake	7120004	Detention Basin	Hidden Ponds Pond 1	0.37	0.37

Attachment B- Table 11-3
Corridor 11 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	WaterbodyType	Waterbody Name	Total Acres	Acres Within Analysis Area
11	3.8	LR-4150	Lake	7120006	Pond		0.52	0.52
11	3.9	LR-4151	Lake	7120006	Pond		0.63	0.63
11	8	LR-4152	Lake	7120004	Detention Basin	Canterbury Estates Pond 1	0.48	0.48
11	7.5	LR-4160	Lake	7120004	Pond	Hidden Ponds Pond 2	0.10	0.10
11	3.8	LR-4161	Lake	7120006	Pond		0.18	0.18
11	7.7	LR-4164	Lake	7120004	Pond	Mapleview Pond 1	0.51	0.51
11	12.2	LR-4165	Lake	7120004	Pond	Windwood Pond 5	0.43	0.43
11	7.6	LR-4166	Lake	7120004	Pond	Hidden Ponds Pond 3	0.46	0.46
11	7.9	LR-4167	Lake	7120004	Pond	Mapleview Pond 2	0.18	0.18
11	7.6	LR-4172	Lake	7120004	Pond	Hidden Ponds Pond 4	0.39	0.39
11	2.8	LR-4175	Lake	7120006	Pond		0.20	0.20
11	12.3	LR-4176	Lake	7120004	Pond	Windwood Pond 6	0.16	0.00
11	7.9	LR-4201	Lake	7120004	Pond		1.32	0.59
11	12.1	LR-4206	Lake	7120004	Pond	Saint Demetrios Greek Church Pond	0.09	0.09
11	12.3	LR-4215	Lake	7120004	Pond	Windwood Pond 7	0.98	0.98
11	2.9	LR-4219	Lake	7120006	Pond		0.01	0.01
11	7.6	LR-4220	Lake	7120004	Pond	Hidden Ponds Pond 5	0.32	0.32
11	12.4	LR-4222	Lake	7120004	Pond	Windwood Pond 8	0.18	0.18
11	3.1	LR-4224	Lake	7120006	Pond		0.69	0.69
11	3.5	LR-4228	Lake	7120006	Pond		0.84	0.34
11	7.7	LR-4229	Lake	7120004	Detention Basin		0.03	0.03
11	2.2	LR-4241	Lake	7120006	Detention Basin	Baxter Healthcare - Round Lake Pond 1	0.93	0.93
11	12.4	LR-4252	Lake	7120004	Pond	Rudd Farm Site Pond 1	0.97	0.97
11	12.5	LR-4288	Lake	7120004	Pond	Rudd Farm Site Pond 2	1.05	1.05
11	12.5	LR-4290	Lake	7120004	Pond	Windwood Pond 9	1.24	1.24
11	12.5	LR-4318	Lake	7120004	Pond		0.17	0.17
11	2	LR-4348	Lake	7120006	Lake	Sargent Marsh	21.87	11.50
11	12.5	LR-4358	Lake	7120004	Pond	Regency Woods Pond	0.79	0.71
11	0.6	LR-4387	Lake	7120006	Pond		0.13	0.13
11	0.5	LR-4413	Lake	7120006	Detention Basin		0.60	0.60
11	0.4	LR-4422	Lake	7120006	Pond		1.09	1.09
11	0.8	LR-4429	Lake	7120006	Pond	Volo Commerce Center Pond 3	0.40	0.40
11	0.7	LR-4433	Lake	7120006	Pond	Volo Commerce Center Pond 2	0.47	0.47
11	0.7	LR-4437	Lake	7120006	Pond	Volo Commerce Center Pond 1	3.28	3.28
11	1.1	LR-4449	Lake	7120006	Detention Basin	Volo Commerce Center Pond 5	0.80	0.80
11	0.8	LR-4463	Lake	7120006	Pond	Volo Commerce Center Pond 4	3.59	3.52
TOTAL								**216.11**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 13-1
Corridor 13 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
13	1.6	ADID-1733	Lake	7120006	PSS1A	PSS	Y	36.17	5.96
13	1.8	ADID-1734	Lake	7120006	PEM	PEM	Y	0.33	0.33
13	1.6	ADID-1747	Lake	7120006	PEM/SS1C	PEM	Y	38.51	4.17
13	1.2	ADID-1749	Lake	7120006	PEMC	PEM	Y	0.11	0.01
13	2.6	ADID-1754	Lake	7120006	R4SBCx	PFO	Y	46.85	10.42
13	3.8	ADID-1756	Lake	7120006	PFO1Ad	PFO	Y	32.26	3.14
13	2.5	ADID-2089	Lake	7120006	PFO1C	PFO	Y	37.69	4.73
13	6.4	AI-10	Lake	7120006	PEM	PEM	N	0.00	0.00
13	4.9	AI-3	Lake	7120006	PEM	PEM	N	0.53	0.53
13	4.8	AI-6	Lake	7120006	PEM	PEM	N	0.23	0.23
13	4.8	AI-7	Lake	7120006	PEM	PEM	N	0.18	0.18
13	4.9	AI-89	Lake	7120006	<Null>	PEM	N	0.21	0.21
13	3.2	AI-95	Lake	7120006	PEM	PEM	Y	0.01	0.01
13	6.5	WRAPP-16554	Lake	7120004	PUBGx	PEM	N	1.47	1.15
13	1.6	WRAPP-16685	Lake	7120006	PEMCd	PEM	Y	9.74	9.74
13	4	WRAPP-16695	Lake	7120006	PEMFh	PEM	Y	12.47	9.85
13	3	WRAPP-16713	Lake	7120006	PEMF	PEM	Y	3.63	0.68
13	0.5	WRAPP-16782	Lake	7120006	PEMAd	PEM	N	0.06	0.06
13	0.5	WRAPP-16783	Lake	7120006	R2UBHx	PEM	N	1.40	0.07
13	1.6	WRAPP-16784	Lake	7120006	L2UBHh	PEM	Y	2.45	0.30
13	0.5	WRAPP-16785	Lake	7120006	PEMCx	PEM	N	0.02	0.02
13	0.7	WRAPP-17499	Lake	7120006	PUBHx	PEM	N	0.11	0.11
13	0.9	WRAPP-17505	Lake	7120006	PEMCx	PEM	N	0.00	0.00
13	1	WRAPP-17509	Lake	7120006	PEM/SS1Cd	PEM	N	0.93	0.93
13	0	WRAPP-17512	Lake	7120006	PUBGx	PEM	N	0.01	0.01
13	0.5	WRAPP-17515	Lake	7120006	PEMCx	PEM	N	0.05	0.05
13	0	WRAPP-17519	Lake	7120006	PFO1F	PFO	N	0.05	0.05
13	0.5	WRAPP-17523	Lake	7120006	PEMFx	PEM	N	0.04	0.04
13	0.5	WRAPP-17524	Lake	7120006	PEMCx	PEM	N	0.02	0.02
13	3	WRAPP-17526	Lake	7120006	PUBGx	PEM	Y	0.02	0.01
13	0	WRAPP-17527	Lake	7120006	PEMFd	PEM	Y	8.35	1.27
13	3.8	WRAPP-17528	Lake	7120006	PFO1C	PFO	Y	0.03	0.03
13	3.7	WRAPP-17529	Lake	7120006	PEMC	PEM	Y	0.21	0.21
13	3	WRAPP-17535	Lake	7120006	L1UBHx	PEM	Y	0.07	0.07
13	3.6	WRAPP-17536	Lake	7120006	PEM/FO1Cd	PEM	Y	3.65	3.65
13	0.5	WRAPP-17537	Lake	7120006	PEMCx	PEM	N	0.02	0.02
13	3.8	WRAPP-17540	Lake	7120006	PEM/FO1Fd	PEM	Y	0.22	0.22
13	3.1	WRAPP-17541	Lake	7120006	PUBHx	PEM	Y	0.12	0.12
13	3.6	WRAPP-17543	Lake	7120006	PEM/FO1Cd	PEM	Y	2.14	2.14
13	3.8	WRAPP-17544	Lake	7120006	PEMF	PEM	Y	1.04	1.04
13	2.6	WRAPP-17545	Lake	7120006	PFO1A	PFO	N	0.44	0.44
13	4.1	WRAPP-17546	Lake	7120006	PUBHx	PEM	N	0.03	0.03
13	3	WRAPP-17548	Lake	7120006	PUBGx	PEM	Y	0.00	0.00
13	4.4	WRAPP-17549	Lake	7120006	PEMAdf	PEM	N	1.31	1.30
13	3	WRAPP-17554	Lake	7120006	PEMF	PEM	Y	1.42	1.42
13	4	WRAPP-17555	Lake	7120006	L2UBHh	PEM	Y	0.76	0.74
13	4.4	WRAPP-17558	Lake	7120006	PEMAf	PEM	N	0.20	0.20
13	3.6	WRAPP-17561	Lake	7120006	PFO1C	PFO	Y	0.90	0.90
13	4.3	WRAPP-17568	Lake	7120006	PEMA	PEM	N	0.23	0.23
13	4.5	WRAPP-17569	Lake	7120006	PEM/FO1C	PEM	Y	0.25	0.25
13	4.4	WRAPP-17571	Lake	7120006	PEMC	PEM	Y	1.66	1.66
13	4.6	WRAPP-17572	Lake	7120006	PUBF	PEM	N	4.84	4.74
13	4.6	WRAPP-17575	Lake	7120006	PEMCx	PEM	N	0.23	0.23
13	4.6	WRAPP-17577	Lake	7120006	PEMCx	PEM	N	0.03	0.03
13	0.5	WRAPP-17581	Lake	7120006	PEMF	PEM	Y	8.69	8.64
13	2.7	WRAPP-17584	Lake	7120006	PEM/SS1C	PEM	Y	8.62	5.46
13	4.8	WRAPP-17592	Lake	7120006	PEMC	PEM	N	4.81	4.81
13	0.7	WRAPP-17594	Lake	7120006	PEMF	PEM	Y	0.54	0.54
13	5.1	WRAPP-17602	Lake	7120006	PEMCd	PEM	N	0.99	0.64
13	4.7	WRAPP-17603	Lake	7120006	PEM/FO1Fd	PEM	N	11.30	11.04
13	4.9	WRAPP-17604	Lake	7120006	PEMC	PEM	N	4.39	4.39

Attachment B - Table 13-1
Corridor 13 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
13	5.1	WRAPP-17605	Lake	7120006	PEMAf	PEM	N	0.15	0.15
13	5.5	WRAPP-17609	Lake	7120006	PEMC	PEM	N	2.03	1.50
13	4.7	WRAPP-17611	Lake	7120006	PEMCf	PEM	N	2.19	1.69
13	0.8	WRAPP-17612	Lake	7120006	PUBGx	PEM	Y	0.01	0.01
13	5	WRAPP-17617	Lake	7120006	PEM/SS1C	PEM	N	0.88	0.88
13	5.6	WRAPP-17621	Lake	7120006	PEMCd	PEM	N	2.23	2.23
13	4.9	WRAPP-17622	Lake	7120006	PEM/SS1Cd	PEM	N	2.73	2.73
13	5.6	WRAPP-17625	Lake	7120006	PUBKx	PEM	N	0.13	0.09
13	5.1	WRAPP-17628	Lake	7120006	PEMC	PEM	N	1.24	1.24
13	5.7	WRAPP-17630	Lake	7120006	PEMCf	PEM	N	0.79	0.79
13	5.2	WRAPP-17633	Lake	7120006	PEM/SS1C	PEM	N	1.99	1.99
13	5.7	WRAPP-17636	Lake	7120006	PUBKx	PEM	N	0.06	0.06
13	5.2	WRAPP-17638	Lake	7120006	PEM/FO1A	PEM	N	0.40	0.40
13	5.7	WRAPP-17639	Lake	7120006	PUBGx	PEM	N	0.03	0.03
13	1.2	WRAPP-17643	Lake	7120006	PEMA	PEM	Y	0.19	0.19
13	5.7	WRAPP-17645	Lake	7120006	PFO1C	PFO	N	0.76	0.76
13	1.2	WRAPP-17649	Lake	7120006	PSS1C	PSS	Y	1.25	1.25
13	5.1	WRAPP-17651	Lake	7120006	PEMF	PEM	N	5.51	1.50
13	5.7	WRAPP-17652	Lake	7120006	PUBGx	PEM	N	0.00	0.00
13	5.7	WRAPP-17656	Lake	7120006	PUBFx	PEM	N	0.00	0.00
13	1.3	WRAPP-17670	Lake	7120006	PEMA	PEM	Y	1.05	0.03
13	6	WRAPP-17675	Lake	7120006	PUBGx	PEM	N	0.00	0.00
13	1.4	WRAPP-17676	Lake	7120006	PEMA	PEM	Y	0.27	0.27
13	1.4	WRAPP-17677	Lake	7120006	PUBGx	PEM	Y	0.01	0.01
13	1.5	WRAPP-17685	Lake	7120006	PEM/FO1Cd	PEM	N	0.92	0.06
13	1.6	WRAPP-17690	Lake	7120006	PEMFx	PEM	N	0.01	0.01
13	6.2	WRAPP-17702	Lake	7120006	PUBGx	PEM	N	0.02	0.02
13	1.8	WRAPP-17712	Lake	7120006	L2UBHh	PEM	Y	0.09	0.09
13	1.9	WRAPP-17717	Lake	7120006	PEMF	PEM	Y	0.98	0.98
13	2	WRAPP-17719	Lake	7120006	PEMC	PEM	Y	1.54	1.54
13	1.7	WRAPP-17721	Lake	7120006	PEMF	PEM	Y	1.03	1.03
13	1.8	WRAPP-17728	Lake	7120006	PFO1C	PFO	N	0.37	0.37
13	1.8	WRAPP-17729	Lake	7120006	PEM/FO1C	PEM	N	0.15	0.15
13	1.7	WRAPP-17739	Lake	7120006	PEMC	PEM	N	3.01	0.45
13	2.1	WRAPP-17742	Lake	7120006	PEMC	PEM	Y	1.93	1.93
13	2.1	WRAPP-17749	Lake	7120006	PEMC	PEM	Y	2.43	2.43
13	2.2	WRAPP-17761	Lake	7120006	PFO1A	PFO	Y	0.27	0.27
13	1.9	WRAPP-17762	Lake	7120006	L1UBHh	PEM	N	0.40	0.24
13	2.2	WRAPP-17765	Lake	7120006	PEM/FO1C	PEM	N	1.67	1.67
13	2.3	WRAPP-17783	Lake	7120006	L1UBHh	PEM	N	0.09	0.09
13	2.5	WRAPP-17798	Lake	7120006	PUBGx	PEM	N	0.01	0.01
13	2.5	WRAPP-17843	Lake	7120006	PEMC	PEM	N	1.56	0.36
13	2.5	WRAPP-17865	Lake	7120006	PABGh	PEM	N	0.02	0.02
13	4.2	WRAPP-18115	Lake	7120006	PUBGx	PEM	Y	0.06	0.05
13	0.5	WRAPP-18993	Lake	7120006	R2UBHx	PEM	N	0.14	0.14
13	6.6	WRAPP-19081	Lake	7120006	PEMC	PEM	N	10.35	9.24
13	1	WRAPP-19152	Lake	7120006	L2UBH	PEM	Y	0.01	0.01
13	1.3	WRAPP-19154	Lake	7120006	PEMC	PEM	Y	1.44	1.44
13	1.3	WRAPP-19155	Lake	7120006	PUBG	PEM	Y	0.74	0.74
13	3.8	WRAPP-19181	Lake	7120006	PEMA	PEM	Y	1.29	1.19
13	4.5	WRAPP-19196	Lake	7120006	PEMF	PEM	Y	13.02	12.82
13	4.4	WRAPP-19197	Lake	7120006	PFO1Cd	PFO	Y	5.35	5.35
13	4.5	WRAPP-19198	Lake	7120006	PFO1Cd	PFO	N	0.39	0.39
13	4.6	WRAPP-19199	Lake	7120006	PFO1C	PFO	N	0.15	0.15
13	4.4	WRAPP-19200	Lake	7120006	PEM/FO1C	PEM	Y	1.46	1.46
13	4.9	WRAPP-19201	Lake	7120006	PFO1Ad	PFO	N	0.53	0.53
13	4.9	WRAPP-19202	Lake	7120006	PEMCf	PEM	N	0.11	0.11
13	4.8	WRAPP-19204	Lake	7120006	PEMC	PEM	N	0.29	0.00
13	4.5	WRAPP-19212	Lake	7120006	PEMC	PEM	Y	2.37	0.70
13	4.6	WRAPP-19213	Lake	7120006	PEMC	PEM	Y	0.32	0.32
13	3.9	WRAPP-19215	Lake	7120006	PFO1C	PFO	Y	1.55	0.04

Attachment B - Table 13-1
Corridor 13 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
13	5.3	WRAPP-19253	Lake	7120006	PEMCd	PEM	N	32.28	3.20
13	2.9	WRAPP-19563	Lake	7120006	PUBGx	PEM	Y	0.01	0.01
13	3	WRAPP-19564	Lake	7120006	PUBGx	PEM	Y	0.07	0.07
13	3	WRAPP-19565	Lake	7120006	PEM/FO1C	PEM	Y	0.81	0.81
13	0.7	WRAPP-19566	Lake	7120006	PEMC	PEM	Y	1.44	1.44
13	0.8	WRAPP-19567	Lake	7120006	PEMC	PEM	Y	0.45	0.45
13	2.5	WRAPP-19568	Lake	7120006	PUBF	PEM	Y	0.00	0.00
13	2.4	WRAPP-19570	Lake	7120006	PUBF	PEM	Y	0.06	0.06
13	2.5	WRAPP-19572	Lake	7120006	PEMF	PEM	Y	56.95	11.17
13	1.1	WRAPP-19573	Lake	7120006	PEM/SS1Ad	PEM	Y	7.32	1.82
13	2.8	WRAPP-19576	Lake	7120006	PEM/UBFx	PEM	Y	1.24	1.24
13	2.7	WRAPP-19577	Lake	7120006	PEM/FO1C	PEM	Y	1.23	1.23
13	0	WRAPP-19580	Lake	7120006	PFO1Cd	PFO	N	0.26	0.26
13	3.4	WRAPP-19581	Lake	7120006	PEMF	PEM	Y	6.43	1.70
13	3.8	WRAPP-19583	Lake	7120006	PEMF	PEM	Y	33.08	32.96
13	0	WRAPP-19584	Lake	7120006	PFO1A	PFO	N	0.07	0.07
13	3.7	WRAPP-19597	Lake	7120006	PFO1C	PFO	Y	0.06	0.06
13	3.6	WRAPP-19599	Lake	7120006	PEMF	PEM	Y	1.44	1.05
13	3.6	WRAPP-19602	Lake	7120006	PFO1A	PFO	Y	0.85	0.85
13	5.7	WRAPP-19603	Lake	7120006	PEMA	PEM	N	0.27	0.27
13	6.4	WRAPP-19604	Lake	7120006	PAB/UBF	PEM	Y	5.57	5.57
13	6.2	WRAPP-19606	Lake	7120006	PUBGx	PEM	N	0.05	0.05
13	6.1	WRAPP-19607	Lake	7120006	PUBFd	PEM	N	0.01	0.01
13	6.2	WRAPP-19608	Lake	7120006	PUBGx	PEM	N	0.01	0.00
13	6.2	WRAPP-19609	Lake	7120006	PEMCd	PEM	N	6.02	4.13
13	6.1	WRAPP-19613	Lake	7120006	PEMAd	PEM	N	0.04	0.04
13	5.7	WRAPP-19614	Lake	7120006	PUBGx	PEM	N	0.20	0.19
13	5.6	WRAPP-19615	Lake	7120006	PUBFx	PEM	N	0.02	0.02
13	5.6	WRAPP-19616	Lake	7120006	PEM/SS1C	PEM	N	0.06	0.00
13	5.5	WRAPP-19617	Lake	7120006	PEM/SS1A	PEM	N	2.19	2.19
13	6.2	WRAPP-19618	Lake	7120006	PEM/SS1C	PEM	N	0.65	0.65
13	5	WRAPP-19619	Lake	7120006	PAB/UBF	PEM	N	0.32	0.32
13	5	WRAPP-19620	Lake	7120006	PAB/UBF	PEM	N	0.20	0.20
13	5.3	WRAPP-19629	Lake	7120006	PEM/FO1A	PEM	N	0.13	0.13
13	5.4	WRAPP-19630	Lake	7120006	PEMC	PEM	N	5.32	4.87
13	5.3	WRAPP-19631	Lake	7120006	PUBGx	PEM	N	0.00	0.00
13	5.2	WRAPP-19632	Lake	7120006	PUBGx	PEM	N	0.00	0.00
13	5.2	WRAPP-19633	Lake	7120006	PEMCd	PEM	N	7.96	7.96
13	5.4	WRAPP-19634	Lake	7120006	PEMCd	PEM	N	5.50	5.50
13	1.9	WRAPP-19659	Lake	7120006	PEMC	PEM	Y	12.95	0.04
13	1.2	WRAPP-19665	Lake	7120006	PEMC	PEM	Y	7.37	1.62
13	0.9	WRAPP-19667	Lake	7120006	PEMC	PEM	Y	0.05	0.01
13	1.6	WRAPP-19674	Lake	7120006	PUBGx	PEM	Y	0.21	0.21
13	1.6	WRAPP-19675	Lake	7120006	PUBHx	PEM	Y	0.03	0.03
13	1.6	WRAPP-19676	Lake	7120006	PUBFd	PEM	Y	0.04	0.02
13	1.6	WRAPP-19677	Lake	7120006	PEM/FO1Cd	PEM	Y	26.46	6.08
13	1.8	WRAPP-19678	Lake	7120006	PEM/SS1A	PEM	Y	3.71	3.71
13	1.6	WRAPP-19693	Lake	7120006	PFO1Ad	PFO	N	0.88	0.39
13	1.6	WRAPP-19694	Lake	7120006	PEM/FO1Cd	PEM	Y	5.06	5.06
13	1.6	WRAPP-19695	Lake	7120006	PEMCd	PEM	Y	0.04	0.04
13	1.7	WRAPP-19696	Lake	7120006	PEM/UBFx	PEM	N	0.12	0.12
13	1.8	WRAPP-19697	Lake	7120006	PEMC	PEM	N	0.36	0.36
13	1.2	WRAPP-19698	Lake	7120006	PEMA	PEM	Y	2.51	2.51
13	2.5	WRAPP-19702	Lake	7120006	L2UBHx	PEM	N	0.04	0.01
13	2.4	WRAPP-19703	Lake	7120006	PFO1C	PFO	N	4.28	4.25
13	2.5	WRAPP-19705	Lake	7120006	PUBGx	PEM	N	1.20	1.20
13	2.5	WRAPP-19708	Lake	7120006	PUBHx	PEM	N	0.07	0.03
13	2.5	WRAPP-19709	Lake	7120006	PEMC	PEM	N	9.27	0.31
13	2.5	WRAPP-19718	Lake	7120006	PEM/FO1Ad	PEM	N	1.14	0.49
13	2.4	WRAPP-19719	Lake	7120006	PEM/UBF	PEM	N	0.09	0.09
13	2.4	WRAPP-19720	Lake	7120006	PEMF	PEM	N	3.30	3.30

Attachment B- Table 13-1
Corridor 13 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
13	2.5	WRAPP-19721	Lake	7120006	PEM/SS1C	PEM	N	1.98	1.05
13	2.5	WRAPP-19722	Lake	7120006	PEM/SS1C	PEM	N	1.17	1.17
13	2.2	WRAPP-19723	Lake	7120006	PEM/SS1C	PEM	N	4.23	3.93
13	2.5	WRAPP-19724	Lake	7120006	PEM/SS1C	PEM	N	3.86	3.13
13	2.3	WRAPP-19725	Lake	7120006	PEM/FO1A	PEM	N	0.51	0.51
13	2.1	WRAPP-19726	Lake	7120006	PEMC	PEM	Y	1.53	1.53
13	2.2	WRAPP-19729	Lake	7120006	PEMA	PEM	Y	0.44	0.44
13	2.1	WRAPP-19730	Lake	7120006	PEMC	PEM	Y	1.21	1.21
13	2.5	WRAPP-19733	Lake	7120006	PEM/FO1A	PEM	N	0.43	0.43
13	2.5	WRAPP-19734	Lake	7120006	R4SBA	PEM	N	0.09	0.09
13	2.5	WRAPP-19735	Lake	7120006	PEMA	PEM	N	0.88	0.88
13	1.5	WRAPP-20982	Lake	7120006	L2USJ	PEM	Y	0.01	0.01
13	1.6	WRAPP-20983	Lake	7120006	PEMA	PEM	Y	0.02	0.02
13	1.4	WRAPP-20984	Lake	7120006	L2USJ	PEM	Y	0.11	0.11
13	1.3	WRAPP-20985	Lake	7120006	L2USJ	PEM	Y	0.24	0.24
13	1.9	WRAPP-20997	Lake	7120006	PEM/FO1A	PEM	Y	0.17	0.17
13	1.9	WRAPP-20998	Lake	7120006	PEMCx	PEM	N	0.12	0.12
13	1.8	WRAPP-21000	Lake	7120006	L2USJ	PEM	Y	0.04	0.04
13	1.3	WRAPP-21002	Lake	7120006	PEMCx	PEM	N	0.09	0.09
13	2.6	WRAPP-21014	Lake	7120006	PEMC	PEM	Y	153.96	49.34
13	0.5	WRAPP-21017	Lake	7120006	PEMAd	PEM	N	0.16	0.16
13	0.5	WRAPP-21018	Lake	7120006	R2UBHx	PEM	N	0.22	0.22
13	0.5	WRAPP-21022	Lake	7120006	R2UBHx	PEM	N	1.67	1.55
13	0.5	WRAPP-21023	Lake	7120006	R2UBHx	PEM	N	0.87	0.86
13	0.8	WRAPP-21163	Lake	7120006	PEMF	PEM	N	3.77	1.21
13	1	WRAPP-21165	Lake	7120006	PUBGx	PEM	N	0.79	0.79
13	1	WRAPP-21166	Lake	7120006	PUBGx	PEM	N	0.11	0.11
13	0.8	WRAPP-21167	Lake	7120006	PUBHx	PEM	N	0.02	0.02
13	4.7	WRAPP-22089	Lake	7120006	PEMF	PEM	N	1.35	1.35
13	2.5	WRAPP-22154	Lake	7120006	PUBGx	PEM	N	2.46	2.46
13	3.2	WRAPP-22158	Lake	7120006	PUBGx	PEM	Y	1.75	1.75
13	0.5	WRAPP-22159	Lake	7120006	PEM/UBFx	PEM	Y	0.82	0.82
13	0.5	WRAPP-22160	Lake	7120006	PEMC	PEM	Y	0.30	0.30
13	4.6	WRAPP-22193	Lake	7120006	PEMFx	PEM	N	1.25	0.06
13	6.4	WRAPP-22196	Lake	7120006	PUBGx	PEM	N	0.54	0.54
13	6.3	WRAPP-22197	Lake	7120006	PEM/UBFx	PEM	N	1.69	0.00
13	6.3	WRAPP-22198	Lake	7120006	PUBGx	PEM	N	0.29	0.29
13	6.2	WRAPP-22199	Lake	7120006	PEMCx	PEM	Y	0.25	0.25
13	6	WRAPP-22200	Lake	7120006	PUBGx	PEM	N	0.50	0.50
13	5.9	WRAPP-22201	Lake	7120006	PEMCx	PEM	N	0.08	0.08
13	5.8	WRAPP-22202	Lake	7120006	PUBGx	PEM	N	0.62	0.62
13	5.8	WRAPP-22203	Lake	7120006	PUBGx	PEM	N	1.95	1.95
13	5.7	WRAPP-22206	Lake	7120006	PUBGx	PEM	N	0.25	0.25
13	6.5	WRAPP-9188	Lake	7120004	PUBGx	PEM	N	0.00	0.00
13	6.6	WRAPP-9190	Lake	7120004	PEMFd	PEM	N	9.03	0.03
13	6.7	WRAPP-9197	Lake	7120004	PEM/SS1Ad	PEM	N	0.09	0.09
13	6.7	WRAPP-9201	Lake	7120004	PEM/FO1Ad	PEM	N	1.43	1.43
13	6.7	WRAPP-9202	Lake	7120004	PEMC	PEM	N	0.63	0.63
13	6.5	WRAPP-9497	Lake	7120004	PEMCx	PEM	N	0.08	0.08
TOTAL									**377.03**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 13-2
Corridor 13 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
13	0.5	5950	Lake	7120006	Slocum Creek	0
13	6.2	5527	Lake	7120006	Unnamed Trib to Pond	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 13-3
Corridor 13 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
13	2.5	LR-5004	Lake	7120006	Pond	Gamewood Farm Pond North	2.82	2.02
13	2.5	LR-5043	Lake	7120006	Pond		0.03	0.03
13	2.5	LR-5063	Lake	7120006	Pond	Gamewood Farm Pond South	3.58	3.58
13	2.5	LR-5085	Lake	7120006	Pond		0.02	0.02
13	2.5	LR-5108	Lake	7120006	Lake	Russel Lake	8.42	4.26
13	2.5	LR-5135	Lake	7120006	Pond		0.76	0.76
13	2.5	LR-5187	Lake	7120006	Pond		0.24	0.24
13	2.3	LR-5228	Lake	7120006	Lake	Oak Lake	10.29	10.29
13	2.3	LR-5264	Lake	7120006	Pond		0.08	0.08
13	2.3	LR-5268	Lake	7120006	Pond		0.06	0.06
13	1.6	LR-5311	Lake	7120006	Lake	Lake Napa Suwe	85.28	0.67
13	1.9	LR-5318	Lake	7120006	Lake	Lake Fairfield	18.34	10.36
13	1.7	LR-5418	Lake	7120006	Pond		0.30	0.30
13	1.8	LR-5445	Lake	7120006	Lake	Drummond Lake	21.03	21.03
13	1.7	LR-5457	Lake	7120006	Pond	Apple Country Pond 3	0.03	0.03
13	1.6	LR-5476	Lake	7120006	Detention Basin	Apple Country Pond 4	0.17	0.17
13	6.2	LR-5483	Lake	7120006	Pond		0.64	0.28
13	1.6	LR-5487	Lake	7120006	Pond	LCFPD Pond	2.00	2.00
13	1.6	LR-5495	Lake	7120006	Pond	LCFPD Pond	0.19	0.19
13	6.1	LR-5503	Lake	7120006	Pond		0.14	0.14
13	6.2	LR-5505	Lake	7120006	Pond		1.45	1.45
13	6.7	LR-5514	Lake	7120004	Pond	Mundelein Crossings Pond 3	0.25	0.25
13	6.2	LR-5520	Lake	7120006	Pond		1.97	1.97
13	1.6	LR-5521	Lake	7120006	Pond	Apple Country Pond 5	0.14	0.14
13	1.4	LR-5550	Lake	7120006	Pond	LCFPD Pond	0.05	0.05
13	5.7	LR-5554	Lake	7120006	Pond	Thorngate Country Club Pond 13	0.85	0.38
13	6	LR-5556	Lake	7120006	Pond		0.12	0.12
13	1.2	LR-5560	Lake	7120006	Lake	Summer Hill Estates Lake	53.95	16.88
13	5.7	LR-5583	Lake	7120006	Pond	Thorngate Country Club Pond 14	0.16	0.16
13	5.7	LR-5590	Lake	7120006	Pond	Thorngate Country Club Pond 15	1.68	1.68
13	5.2	LR-5592	Lake	7120006	Pond		0.12	0.00
13	5.3	LR-5598	Lake	7120006	Pond		0.26	0.26
13	6.3	LR-5603	Lake	7120006	Lake	Grand Dominion Lake	10.03	10.03
13	5.7	LR-5608	Lake	7120006	Pond		0.02	0.02
13	5.6	LR-5614	Lake	7120006	Pond		0.04	0.04
13	5.6	LR-5615	Lake	7120006	Pond		0.48	0.48
13	5.4	LR-5628	Lake	7120006	Pond		0.38	0.38
13	1.2	LR-5630	Lake	7120006	Pond	LCFPD Pond	0.20	0.20
13	6.5	LR-5631	Lake	7120004	Pond		0.05	0.05
13	1.6	LR-5635	Lake	7120006	Lake	Bangs Lake	307.56	83.45
13	6.5	LR-5662	Lake	7120004	Detention Basin	Ivanhoe - Mundelein Pond 1	1.72	0.55
13	5.7	LR-5666	Lake	7120006	Pond		0.29	0.29
13	5.7	LR-5670	Lake	7120006	Pond		1.09	1.09
13	5.2	LR-5689	Lake	7120006	Pond		1.13	1.13
13	5.6	LR-5693	Lake	7120006	Pond		2.36	1.87
13	0.8	LR-5719	Lake	7120006	Pond	Summer Hill Estates Pond	1.72	1.72
13	2.5	LR-5733	Lake	7120006	Lake	Broberg Marsh	39.50	8.07
13	5	LR-5741	Lake	7120006	Pond		0.42	0.42
13	0.7	LR-5742	Lake	7120006	Pond	LCFPD Pond	0.15	0.15
13	4.1	LR-5744	Lake	7120006	Pond	Four Winds Golf Club Pond 5	3.02	2.95
13	5	LR-5750	Lake	7120006	Pond		0.98	0.98
13	4.9	LR-5752	Lake	7120006	Pond		0.20	0.20
13	4.7	LR-5798	Lake	7120006	Pond		0.66	0.66
13	0.5	LR-5802	Lake	7120006	Pond	LCFPD Pond	2.01	2.01
13	4.6	LR-5807	Lake	7120006	Pond		0.09	0.09
13	4.6	LR-5813	Lake	7120006	Pond		0.19	0.19
13	0.5	LR-5818	Lake	7120006	Pond	LCFPD Pond	0.08	0.08
13	0.5	LR-5819	Lake	7120006	Pond	LCFPD Pond	0.62	0.62
13	3.6	LR-5832	Lake	7120006	Pond	LCFPD Pond	0.22	0.22
13	3.5	LR-5835	Lake	7120006	Pond	LCFPD Pond	0.03	0.03
13	4.6	LR-5840	Lake	7120006	Pond	Countryside Glen of Hawthorn Woods Pond 1	0.68	0.68
13	4	LR-5866	Lake	7120006	Lake	Davis Lake	34.23	31.90
13	2	LR-5877	Lake	7120006	Detention Basin	Lakepointe Pond	0.32	0.32
13	4.1	LR-5889	Lake	7120006	Pond		0.29	0.29
13	3	LR-5891	Lake	7120006	Pond	North Pond	0.89	0.89
13	3	LR-5910	Lake	7120006	Pond	South Pond	0.83	0.83
13	3.1	LR-5919	Lake	7120006	Pond	Banana Lake	4.88	4.88
13	2.9	LR-5927	Lake	7120006	Pond	Lake Wood Pond 1	0.45	0.45

Attachment B- Table 13-3
Corridor 13 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
13	3	LR-5936	Lake	7120006	Pond	Lake Wood Pond 2	0.34	0.34
13	0.5	LR-5945	Lake	7120006	Detention Basin		0.19	0.19
13	0.5	LR-5953	Lake	7120006	Detention Basin	Country Ridge Pond 3	0.72	0.72
13	3	LR-5967	Lake	7120006	Lake	Taylor Lake	6.34	4.70
13	3.8	LR-5996	Lake	7120006	Pond	LCFPD Pond	0.17	0.16
13	3	LR-6007	Lake	7120006	Pond	LCFPD Pond	0.41	0.07
13	0	LR-6022	Lake	7120006	Pond	Barnswallow Estates Pond 1	0.02	0.02
13	0.5	LR-6036	Lake	7120006	Pond		0.06	0.06
13	0.5	LR-6041	Lake	7120006	Pond	Wauconda Crossings Pond 1	0.30	0.30
13	0	LR-6048	Lake	7120006	Pond	Barnswallow Estates Pond 2	0.16	0.16
13	0.7	LR-6051	Lake	7120006	Detention Basin		0.11	0.11
13	0.5	LR-6054	Lake	7120006	Pond		0.08	0.08
13	0.5	LR-6058	Lake	7120006	Detention Basin	Wauconda Crossings Pond 2	0.11	0.11
13	0	LR-6076	Lake	7120006	Pond	Barnswallow Estates Pond 3	1.02	1.02
13	0.6	LR-6083	Lake	7120006	Detention Basin		0.41	0.41
13	0.8	LR-6115	Lake	7120006	Detention Basin	Wauconda Health Care Pond 1	0.05	0.05
13	0.9	LR-6125	Lake	7120006	Pond	Village of Wauconda Pond 2	0.02	0.02
13	0.9	LR-6129	Lake	7120006	Pond	Village of Wauconda Pond 1	0.00	0.00
13	1	LR-6137	Lake	7120006	Detention Basin		0.34	0.34
13	0.8	LR-6138	Lake	7120006	Detention Basin	Wauconda Health Care Pond 2	0.49	0.49
13	0.8	LR-6155	Lake	7120006	Pond		0.11	0.11
13	0.7	LR-6156	Lake	7120006	Pond	Schirmer Pond	0.84	0.84
TOTAL								**248.37**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 14-1
Corridor 14 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
14	1.3	ADID-1685	Lake	7120006	PEMFd	PEM	N	73.82	5.20
14	2.6	ADID-1686	Lake	7120006	PEM/UBF	PEM	Y	33.93	0.38
14	3.5	ADID-1687	Lake	7120006	PEM	PEM	N	0.48	0.43
14	3.7	ADID-1688	Lake	7120006	PEM	PEM	N	0.99	0.50
14	5.1	AI-40	Lake	7120006	PEM	PEM	N	0.03	0.03
14	5.8	AI-41	Lake	7120006	PEM	PEM	N	0.04	0.04
14	6	AI-44	Lake	7120006	PEM	PEM	N	0.35	0.35
14	6	AI-49	Lake	7120006	PEM	PEM	N	0.76	0.76
14	4.9	AI-62	Lake	7120006	PEM	PEM	N	0.01	0.01
14	5.2	AI-68	Lake	7120006	PEM	PEM	N	0.00	0.00
14	0.6	AI-98	Lake	7120006	PEM	PEM	N	0.01	0.01
14	2.1	WRAPP-18205	Lake	7120006	PUBHh	PEM	N	0.06	0.06
14	1.7	WRAPP-18207	Lake	7120006	PEMC	PEM	N	0.41	0.41
14	1	WRAPP-18208	Lake	7120006	PEMFd	PEM	N	0.31	0.31
14	2.9	WRAPP-18209	Lake	7120006	PFO1Ad	PFO	N	0.73	0.73
14	1.4	WRAPP-18210	Lake	7120006	PEM/FO1Fd	PEM	N	4.93	4.93
14	1.5	WRAPP-18211	Lake	7120006	PEMFd	PEM	N	1.84	1.84
14	0.6	WRAPP-18212	Lake	7120006	PEM/SS1Cd	PEM	N	7.68	7.68
14	0.7	WRAPP-18213	Lake	7120006	PEM/SS1Cd	PEM	N	0.38	0.38
14	1.4	WRAPP-18215	Lake	7120006	PEMFh	PEM	N	0.09	0.09
14	1.3	WRAPP-18216	Lake	7120006	PFO1C	PFO	N	2.01	2.01
14	1.3	WRAPP-18217	Lake	7120006	PEMF	PEM	N	1.01	0.75
14	1.2	WRAPP-18218	Lake	7120006	PEMFd	PEM	N	1.87	1.27
14	1.6	WRAPP-18220	Lake	7120006	PEMFd	PEM	N	33.79	26.00
14	0.7	WRAPP-18221	Lake	7120006	PEMFd	PEM	N	62.69	28.85
14	1.7	WRAPP-18227	Lake	7120006	PEMF	PEM	N	4.29	4.29
14	2.8	WRAPP-18246	Lake	7120006	PEM/SS1A	PEM	Y	0.07	0.07
14	0	WRAPP-18698	Lake	7120006	PEM/FO1A	PEM	N	0.44	0.44
14	6	WRAPP-18699	Lake	7120006	PUBGx	PEM	N	0.06	0.04
14	0.2	WRAPP-18700	Lake	7120006	PEMF	PEM	N	1.61	0.36
14	3.8	WRAPP-18702	Lake	7120006	PEM/FO1C	PEM	N	3.49	1.28
14	4.1	WRAPP-18703	Lake	7120006	R4SBCx	PEM	N	0.10	0.10
14	4.2	WRAPP-18704	Lake	7120006	PUBGx	PEM	N	0.00	0.00
14	5.9	WRAPP-18706	Lake	7120006	PUBGx	PEM	N	0.04	0.04
14	4.9	WRAPP-18707	Lake	7120006	PUBGx	PEM	N	0.01	0.01
14	2.1	WRAPP-18709	Lake	7120006	PFO1A	PFO	N	0.23	0.23
14	3.2	WRAPP-18710	Lake	7120006	PFO1C	PFO	N	0.80	0.80
14	5.8	WRAPP-18712	Lake	7120006	PEM/UBFx	PEM	N	0.77	0.77
14	3.5	WRAPP-18713	Lake	7120006	PUBGx	PEM	N	0.04	0.04
14	3.1	WRAPP-18717	Lake	7120006	PFO1C	PFO	N	0.72	0.72
14	4.4	WRAPP-18720	Lake	7120006	PEMFd	PEM	N	25.73	18.47
14	2.5	WRAPP-18722	Lake	7120006	PFO1A	PFO	Y	0.80	0.80
14	3	WRAPP-18723	Lake	7120006	PUBGx	PEM	Y	0.03	0.03
14	3.6	WRAPP-18727	Lake	7120006	PEM/SS1A	PEM	N	0.48	0.48
14	2.4	WRAPP-18729	Lake	7120006	PFO1C	PFO	Y	0.24	0.24
14	1	WRAPP-18730	Lake	7120006	PEMCd	PEM	N	0.66	0.66
14	2.1	WRAPP-18732	Lake	7120006	PUBGx	PEM	N	0.02	0.01
14	3.1	WRAPP-18737	Lake	7120006	PUBGx	PEM	Y	0.03	0.03
14	2.8	WRAPP-18739	Lake	7120006	PFO1C	PFO	Y	0.02	0.02
14	3.6	WRAPP-18742	Lake	7120006	PUBGx	PEM	N	0.01	0.01
14	3.1	WRAPP-18748	Lake	7120006	PFO1B	PFO	Y	1.49	1.08
14	0.7	WRAPP-18763	Lake	7120006	PEMFd	PEM	N	1.04	0.59
14	3.5	WRAPP-18786	Lake	7120006	PAB/UBGx	PEM	N	0.00	0.00
14	0.7	WRAPP-18787	Lake	7120006	PEMC	PEM	N	11.52	1.16
14	1.4	WRAPP-18925	Lake	7120006	PEM/FO1Fd	PEM	N	0.39	0.39
14	1.3	WRAPP-18926	Lake	7120006	PEMF	PEM	N	4.73	4.73
14	1.7	WRAPP-18927	Lake	7120006	R2UBHx	PEM	N	2.97	1.22

Attachment B - Table 14-1
Corridor 14 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
14	4.3	WRAPP-19017	Lake	7120006	R2UBHx	PEM	N	0.39	0.27
14	2.9	WRAPP-19018	Lake	7120006	R2UBHx	PFO	Y	1.11	0.31
14	3	WRAPP-19019	Lake	7120006	PEM/FO1Cd	PEM	Y	6.20	6.20
14	6	WRAPP-19069	Lake	7120006	PEMA	PEM	N	0.93	0.93
14	6	WRAPP-19071	Lake	7120006	PEM/SS1Cd	PEM	N	0.75	0.01
14	5.9	WRAPP-19910	Lake	7120006	PUBGx	PEM	N	0.01	0.01
14	5.2	WRAPP-19912	Lake	7120006	PEMC	PEM	N	13.11	5.84
14	5.2	WRAPP-19917	Lake	7120006	PSS1A	PSS	N	0.36	0.28
14	3.7	WRAPP-20050	Lake	7120006	PEMCd	PEM	N	5.36	5.36
14	3.7	WRAPP-20052	Lake	7120006	PEMF	PEM	N	8.16	1.03
14	3.5	WRAPP-20053	Lake	7120006	L2UBH	PEM	N	0.63	0.35
14	2.7	WRAPP-20056	Lake	7120006	PEMA	PEM	Y	0.24	0.24
14	2.2	WRAPP-20061	Lake	7120006	PFO1A	PFO	N	0.02	0.02
14	2.8	WRAPP-20062	Lake	7120006	PEMA	PEM	Y	0.03	0.03
14	2.9	WRAPP-20063	Lake	7120006	PEM/FO1A	PEM	Y	0.03	0.00
14	2.7	WRAPP-20065	Lake	7120006	L2UBHh	PEM	Y	1.43	0.29
14	3.5	WRAPP-20066	Lake	7120006	PEMC	PEM	N	6.76	3.05
14	3.5	WRAPP-20068	Lake	7120006	PEMC	PEM	N	0.09	0.09
14	3.5	WRAPP-20069	Lake	7120006	PFO1C	PFO	N	0.53	0.53
14	3.7	WRAPP-20070	Lake	7120006	PEMFx	PEM	N	0.05	0.05
14	3.8	WRAPP-20071	Lake	7120006	PEMCx	PEM	N	0.13	0.13
14	2.9	WRAPP-20072	Lake	7120006	PFO1Cd	PFO	Y	0.82	0.82
14	2.8	WRAPP-20073	Lake	7120006	PFO1C	PFO	Y	4.74	4.74
14	3.1	WRAPP-20074	Lake	7120006	PFO1A	PFO	Y	1.23	0.78
14	3.1	WRAPP-20075	Lake	7120006	PFO1A	PFO	Y	0.60	0.54
14	3.1	WRAPP-20076	Lake	7120006	PEMCx	PEM	Y	0.04	0.04
14	3	WRAPP-20077	Lake	7120006	PEM/FO1C	PEM	Y	0.14	0.14
14	3	WRAPP-20078	Lake	7120006	PEM/FO1C	PEM	Y	0.11	0.11
14	3.1	WRAPP-20079	Lake	7120006	PUBGx	PEM	Y	0.05	0.05
14	3.1	WRAPP-20080	Lake	7120006	PUBGx	PEM	N	0.06	0.06
14	3.7	WRAPP-20082	Lake	7120006	PUBF	PEM	N	0.06	0.06
14	3.6	WRAPP-20083	Lake	7120006	PAB/EMF	PEM	N	0.00	0.00
14	3.7	WRAPP-20084	Lake	7120006	PAB/UBGx	PEM	N	0.02	0.02
14	3.7	WRAPP-20085	Lake	7120006	PFO1A	PFO	N	0.31	0.31
14	3.7	WRAPP-20086	Lake	7120006	PEMCx	PEM	N	0.13	0.13
14	3.7	WRAPP-20087	Lake	7120006	PEMF	PEM	N	2.44	2.44
14	3.8	WRAPP-20088	Lake	7120006	PFO1C	PFO	N	0.35	0.35
14	4.3	WRAPP-20091	Lake	7120006	PEM/FO1A	PEM	N	0.16	0.10
14	4.3	WRAPP-20092	Lake	7120006	PEMCd	PEM	N	0.08	0.08
14	4.3	WRAPP-20093	Lake	7120006	PEMCd	PEM	N	0.06	0.06
14	4.3	WRAPP-20094	Lake	7120006	PEM/FO1A	PEM	N	0.10	0.08
14	4.2	WRAPP-20098	Lake	7120006	PFO1A	PFO	N	0.31	0.31
14	4.3	WRAPP-20099	Lake	7120006	PEMCx	PEM	N	2.97	2.97
14	4.4	WRAPP-20100	Lake	7120006	PABF	PEM	N	0.35	0.35
14	4.4	WRAPP-20101	Lake	7120006	PABF	PEM	N	0.44	0.44
14	0.5	WRAPP-20245	Lake	7120006	PEMCx	PEM	N	0.03	0.03
14	0.7	WRAPP-20253	Lake	7120006	PUBGx	PEM	N	0.55	0.55
14	0.6	WRAPP-20254	Lake	7120006	PABF	PEM	N	0.10	0.10
14	2.8	WRAPP-20276	Lake	7120006	PFO1C	PFO	Y	0.02	0.02
14	2.7	WRAPP-20281	Lake	7120006	PEM/FO1Cd	PEM	Y	29.15	10.44
14	2.7	WRAPP-20288	Lake	7120006	PSS1C	PSS	Y	0.17	0.17
14	2.9	WRAPP-20289	Lake	7120006	PEMCd	PEM	Y	3.84	3.84
14	3	WRAPP-20290	Lake	7120006	PFO1A	PFO	Y	1.99	1.99
14	3	WRAPP-20291	Lake	7120006	PFO1A	PFO	Y	0.91	0.91
14	2.7	WRAPP-20292	Lake	7120006	PEM/SS1Cd	PEM	Y	6.18	6.18
14	2.3	WRAPP-20293	Lake	7120006	PFO1C	PFO	Y	0.05	0.05
14	2.3	WRAPP-20294	Lake	7120006	PFO1C	PFO	Y	0.32	0.32

Attachment B - Table 14-1
Corridor 14 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
14	2.9	WRAPP-20296	Lake	7120006	PEM/FO1A	PEM	N	0.04	0.04
14	2.9	WRAPP-20297	Lake	7120006	PEMCd	PEM	N	0.19	0.19
14	3	WRAPP-20298	Lake	7120006	PEM/SS1Cd	PEM	N	0.22	0.22
14	3	WRAPP-20299	Lake	7120006	PFO1Ad	PFO	N	0.05	0.05
14	1.9	WRAPP-20300	Lake	7120006	PFO1C	PFO	N	0.24	0.24
14	1.4	WRAPP-20304	Lake	7120006	PFO1Cd	PFO	N	1.63	1.63
14	1.3	WRAPP-20305	Lake	7120006	PFO1C	PFO	N	0.17	0.17
14	1.5	WRAPP-20306	Lake	7120006	PEMC	PEM	N	0.02	0.02
14	1.5	WRAPP-20307	Lake	7120006	R2UBHx	PEM	N	0.04	0.04
14	1.5	WRAPP-20308	Lake	7120006	PEMCd	PEM	N	0.12	0.12
14	1.5	WRAPP-20309	Lake	7120006	PEMFd	PEM	N	18.60	17.86
14	1.6	WRAPP-20310	Lake	7120006	PEMCx	PEM	N	0.04	0.04
14	1.7	WRAPP-20311	Lake	7120006	PEMAd	PEM	N	0.25	0.25
14	1.8	WRAPP-20312	Lake	7120006	PFO1A	PFO	N	0.30	0.30
14	1.8	WRAPP-20314	Lake	7120006	PFO1A	PFO	N	1.81	1.81
14	1.7	WRAPP-20331	Lake	7120006	PFO1C	PFO	N	0.84	0.84
14	1.6	WRAPP-20332	Lake	7120006	PFO1C	PFO	N	0.51	0.37
14	1.7	WRAPP-20333	Lake	7120006	PFO1C	PFO	N	0.49	0.49
14	1.6	WRAPP-20336	Lake	7120006	PEM/FO1A	PEM	N	0.30	0.01
14	1.3	WRAPP-20337	Lake	7120006	PFO1Cd	PFO	N	4.12	4.12
14	1.3	WRAPP-20338	Lake	7120006	PEM/FO1Cd	PEM	N	1.07	1.07
14	0.4	WRAPP-20343	Lake	7120006	PEMCx	PEM	N	3.03	0.60
14	1.1	WRAPP-20348	Lake	7120006	PEMC	PEM	N	0.17	0.17
14	1	WRAPP-20349	Lake	7120006	PEMFd	PEM	N	12.32	12.32
14	0.6	WRAPP-20350	Lake	7120006	PEMCd	PEM	N	0.34	0.34
14	0.5	WRAPP-20351	Lake	7120006	PEMCx	PEM	N	0.01	0.01
14	0.6	WRAPP-20352	Lake	7120006	PEMCx	PEM	N	0.05	0.05
14	0.5	WRAPP-20353	Lake	7120006	PEMCx	PEM	N	2.13	2.13
14	0.4	WRAPP-20354	Lake	7120006	PEMC	PEM	N	0.90	0.01
14	1.5	WRAPP-20376	Lake	7120006	PEMFd	PEM	N	42.68	9.64
14	5.2	WRAPP-22142	Lake	7120006	PUBGx	PEM	N	0.42	0.42
14	5.2	WRAPP-22143	Lake	7120006	PUBGx	PEM	N	0.07	0.07
14	6	WRAPP-3119	Lake	7120004	PUBGx	PEM	N	0.03	0.03
14	6	WRAPP-3122	Lake	7120004	PEMFd	PEM	Y	14.53	0.00
14	6	WRAPP-3126	Lake	7120004	PUBGx	PEM	N	0.01	0.01
14	6	WRAPP-3130	Lake	7120004	PUBGx	PEM	N	0.17	0.17
TOTAL									**242.57**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 14-2
Corridor 14 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
14	1.5	2952	Lake	7120006	Duck Lake Drain	1
14	1.6	2607	Lake	7120006	Squaw Creek	1
14	2.9	2873	Lake	7120006	Eagle Creek	1
14	4.3	2999	Lake	7120006	Indian Hill Pond Drain	0
14	4.3	3001	Lake	7120006	Indian Hill Creek	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 14-3
Corridor 14 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
14	5.9	AIOW - 13	Lake	7120006	Pond	Gateway Park Pond 2	1.20	1.20
14	6	AIOW - 14	Lake	7120006	Pond	Hooks Lake Park Pond 4	1.43	1.43
14	3.5	LR-2723	Lake	7120006	Lake	Fairfield Marsh North	34.87	11.82
14	1.1	LR-2793	Lake	7120006	Pond	Fox Lake Fire Department Station 2 Pond	1.42	1.42
14	0.7	LR-2818	Lake	7120006	Pond		0.38	0.38
14	2.8	LR-2820	Lake	7120006	Pond	LCFPD Pond	0.16	0.16
14	3.1	LR-2831	Lake	7120006	Pond		0.05	0.05
14	2.8	LR-2832	Lake	7120006	Pond	LCFPD Pond	0.21	0.21
14	0.8	LR-2835	Lake	7120006	Detention Basin	Rainier Woods Pond	0.61	0.61
14	3.1	LR-2836	Lake	7120006	Pond	Al Hanson Pond 1	0.75	0.75
14	0.7	LR-2860	Lake	7120006	Pond		1.36	1.36
14	3	LR-2861	Lake	7120006	Pond	Al Hanson Pond 3	0.24	0.24
14	0.6	LR-2867	Lake	7120006	Pond		0.68	0.68
14	2.1	LR-2869	Lake	7120006	Pond	Woodland Pond	1.11	0.27
14	0.6	LR-2871	Lake	7120006	Pond		0.21	0.21
14	3.1	LR-2874	Lake	7120006	Pond	Al Hanson Pond 2	0.17	0.17
14	2.4	LR-2880	Lake	7120006	Pond	LCFPD Pond	0.16	0.16
14	0.4	LR-2887	Lake	7120006	Lake	Duck Lake	111.31	32.60
14	2.8	LR-2897	Lake	7120006	Pond	LCFPD Pond	0.09	0.09
14	3.5	LR-2898	Lake	7120006	Pond		0.57	0.57
14	0.5	LR-2902	Lake	7120006	Pond	Foxridge Pond 2	0.18	0.18
14	3.7	LR-2905	Lake	7120006	Pond	Shag Bark Nature Preserve Pond	0.78	0.78
14	3	LR-2906	Lake	7120006	Pond		0.10	0.10
14	4.6	LR-2917	Lake	7120006	Detention Basin	Cedar Villas Pond	1.54	0.10
14	6	LR-2927	Lake	7120006	Detention Basin	Hooks Lake Park Pond 2	0.22	0.09
14	6	LR-2932	Lake	7120006	Detention Basin	Hooks Lake Park Pond 3	0.31	0.02
14	6	LR-2934	Lake	7120004	Pond		0.26	0.26
14	3.6	LR-2940	Lake	7120006	Pond	Bramor Hills Pond 2	0.31	0.31
14	6	LR-2941	Lake	7120004	Pond	Bosco Pond	0.07	0.07
14	2.7	LR-2942	Lake	7120006	Pond	LCFPD Pond	0.07	0.07
14	2.3	LR-2948	Lake	7120006	Pond	LCFPD Pond	0.02	0.02
14	3.5	LR-2955	Lake	7120006	Pond	Bramor Hills Pond 1	0.39	0.39
14	2.3	LR-2958	Lake	7120006	Pond	LCFPD Pond	0.13	0.13
14	0.4	LR-2959	Lake	7120006	Pond	Foxridge Pond 4	0.05	0.05
14	6	LR-2964	Lake	7120004	Pond		0.06	0.06
14	5.8	LR-2971	Lake	7120006	Pond	Peggy Colleen Pond	0.17	0.17
14	0.3	LR-2973	Lake	7120006	Pond	Foxridge Pond 5	0.08	0.08
14	1.6	LR-2977	Lake	7120006	Pond	Lindenhurst Subdivision Pond	0.09	0.09
14	2.7	LR-2978	Lake	7120006	Lake	Long Lake	390.83	45.87
14	4.3	LR-2983	Lake	7120006	Pond	Round Lake Beach - Indian Hill Pond	4.32	4.32
14	4.5	LR-2988	Lake	7120006	Detention Basin	Rollins Center Pond	0.68	0.68
14	2	LR-2997	Lake	7120006	Detention Basin		0.81	0.81
14	4.7	LR-3009	Lake	7120006	Detention Basin	Norstates Bank - Round Lake Beach Pond	1.20	1.20
14	5.8	LR-3011	Lake	7120006	Detention Basin	Rollins Crossing Pond	1.34	1.34
14	2.1	LR-3012	Lake	7120006	Pond		0.41	0.41
14	4.9	LR-3018	Lake	7120006	Pond	Aldi Pond	0.21	0.21
14	5.9	LR-3038	Lake	7120006	Pond	Gateway Park Pond 1	0.23	0.23
14	4.2	LR-3059	Lake	7120006	Detention Basin	Sunset Park Pond	1.19	1.19
14	6	LR-3088	Lake	7120006	Pond	Round Lake Country Club Pond 3	0.72	0.47
TOTAL								**114.07**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 15-1
Corridor 15 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
15	2	ADID-1648	Lake	7120004	PEM/SS1Cd	PEM	Y	27.09	2.19
15	4.2	ADID-1725	Lake	7120004	PEM/FO1Cd	PEM	Y	78.76	14.39
15	3.9	ADID-1739	Lake	7120004	PEM/FO1Ad	PEM	N	6.75	0.30
15	4.3	ADID-1740	Lake	7120004	PEM/FO1A	PEM	Y	15.90	3.81
15	1.7	AI-90	Lake	7120004	PEM	PEM	N	0.12	0.12
15	4.8	WRAPP-10017	Lake, Cook	7120004	R2UBHx	PFO	Y	94.94	0.07
15	4.2	WRAPP-15917	Lake	7120004	PFO1Cd	PFO	N	4.31	3.11
15	4.3	WRAPP-15918	Lake	7120004	PEM/FO1Cd	PEM	N	0.43	0.43
15	4.4	WRAPP-16176	Lake	7120004	PFO1A	PFO	Y	0.11	0.11
15	4.3	WRAPP-16182	Lake	7120004	R2UBHx	PEM	N	0.78	0.09
15	4.4	WRAPP-16186	Lake	7120004	PFO1Cd	PFO	Y	0.91	0.91
15	4.4	WRAPP-16187	Lake	7120004	PEM/FO1C	PEM	N	0.11	0.11
15	4.3	WRAPP-16188	Lake	7120004	PEM/FO1Cd	PEM	N	0.76	0.76
15	4.3	WRAPP-16193	Lake	7120004	PSS1/FO1A	PSS	N	0.15	0.15
15	2	WRAPP-16194	Lake	7120004	PEM/FO1C	PEM	N	0.94	0.93
15	2.1	WRAPP-16195	Lake	7120004	PEMA	PEM	N	2.88	2.88
15	1.1	WRAPP-8846	Lake	7120004	PEM/SS1Ad	PEM	N	0.33	0.33
15	1.1	WRAPP-8847	Lake	7120004	PEM/SS1Ad	PEM	N	0.36	0.36
15	1.1	WRAPP-8848	Lake	7120004	PFO1Ad	PFO	N	1.11	1.11
15	1.1	WRAPP-8853	Lake	7120004	PFO1C	PFO	N	0.07	0.03
15	1.1	WRAPP-8857	Lake	7120004	PUBF	PEM	N	0.50	0.50
15	1.4	WRAPP-8860	Lake	7120004	PEMAd	PEM	N	0.11	0.11
15	1.2	WRAPP-8862	Lake	7120004	PFO1A	PFO	N	13.66	13.66
15	2.2	WRAPP-8874	Lake	7120004	PEMA	PEM	N	0.32	0.32
15	2.3	WRAPP-8882	Lake	7120004	PEMCx	PEM	N	0.55	0.55
15	2.6	WRAPP-8889	Lake	7120004	PUBGx	PEM	N	0.06	0.00
15	2.6	WRAPP-8891	Lake	7120004	PUBGx	PEM	N	0.03	0.03
15	2.6	WRAPP-8895	Lake	7120004	PUBGx	PEM	N	0.23	0.23
15	2.7	WRAPP-8899	Lake	7120004	PSS1Ad	PSS	N	0.71	0.71
15	2.9	WRAPP-8908	Lake	7120004	PFO1C	PFO	N	2.09	2.08
15	2.9	WRAPP-8909	Lake	7120004	PUBGx	PEM	N	0.01	0.01
15	2.9	WRAPP-8911	Lake	7120004	PUBGx	PEM	N	0.02	0.02
15	3	WRAPP-8921	Lake	7120004	PUBGx	PEM	N	0.04	0.04
15	3.3	WRAPP-8936	Lake	7120004	PFO1C	PFO	N	1.08	1.08
15	3.4	WRAPP-8938	Lake	7120004	PEMCd	PEM	N	0.35	0.35
15	3.8	WRAPP-8939	Lake	7120004	PEMA	PEM	N	0.23	0.23
15	3.4	WRAPP-8943	Lake	7120004	PEM/SS1Cd	PEM	N	0.88	0.87
15	3.5	WRAPP-8945	Lake	7120004	PEMA	PEM	N	0.92	0.43
15	3.6	WRAPP-8946	Lake	7120004	PEM/SS1Cd	PEM	N	0.93	0.93
15	3.7	WRAPP-8955	Lake	7120004	PUBGx	PEM	N	0.07	0.07
15	3.7	WRAPP-8956	Lake	7120004	PEM/FO1C	PEM	N	0.21	0.21
15	3.8	WRAPP-8959	Lake	7120004	PUBGx	PEM	N	0.10	0.10
15	4.4	WRAPP-8997	Lake	7120004	PFO1A	PFO	N	9.09	0.50
15	4.3	WRAPP-8999	Lake	7120004	PFO1Cd	PFO	N	7.40	6.57
15	2	WRAPP-9000	Lake	7120004	L2AB/UBHh	PEM	Y	0.55	0.09
15	1.5	WRAPP-9002	Lake	7120004	PFO1C	PFO	N	4.12	4.12
15	4.7	WRAPP-9016	Lake	7120004	PEMCx	PEM	N	0.49	0.49
15	4.5	WRAPP-9018	Lake	7120004	PFO1A	PFO	N	0.91	0.91
15	4.4	WRAPP-9020	Lake	7120004	PUBGx	PEM	N	0.01	0.01
15	4.6	WRAPP-9021	Lake	7120004	PEMAx	PEM	N	0.04	0.01
15	2.1	WRAPP-9027	Lake	7120004	PFO1A	PFO	N	0.70	0.70
15	2.3	WRAPP-9029	Lake	7120004	PEMC	PEM	N	0.32	0.32
15	3.4	WRAPP-9031	Lake	7120004	PEM/FO1Ad	PEM	N	1.06	0.45
15	2.1	WRAPP-9043	Lake	7120004	R2UBHx	PEM	N	0.24	0.24
15	4.4	WRAPP-9045	Lake	7120004	R2UBH	PEM	Y	0.77	0.39
15	2.2	WRAPP-9046	Lake	7120004	R2UBH	PEM	N	1.70	0.17
15	4.5	WRAPP-9047	Lake	7120004	R2UBHx	PFO	Y	0.52	0.07
15	4.8	WRAPP-9048	Lake	7120004	PFO1A	PFO	Y	2.72	0.50
15	3.6	WRAPP-9130	Lake	7120004	PEM/FO1As	PEM	N	5.80	0.30

Attachment B - Table 15-1
Corridor 15 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
15	3.6	WRAPP-9131	Lake	7120004	PEM/FO1Cd	PEM	N	3.41	3.41
15	3.6	WRAPP-9132	Lake	7120004	PEM/FO1Cf	PEM	N	2.33	1.58
15	3.7	WRAPP-9133	Lake	7120004	PEM/FO1C	PEM	N	6.66	4.04
15	3.6	WRAPP-9135	Lake	7120004	PEMFd	PEM	N	8.48	5.82
15	3.6	WRAPP-9137	Lake	7120004	PEM/FO1C	PEM	N	2.71	0.04
15	3.6	WRAPP-9140	Lake	7120004	R4SBCx	PEM	N	0.06	0.06
15	3.6	WRAPP-9141	Lake	7120004	PUBGx	PEM	N	0.01	0.01
15	4.2	WRAPP-9148	Lake	7120004	PEM/FO1Cd	PEM	N	4.32	0.27
15	4	WRAPP-9149	Lake	7120004	PFO1Ad	PFO	N	6.50	2.96
15	3.9	WRAPP-9153	Lake	7120004	PEMA	PEM	N	7.33	1.12
15	3.9	WRAPP-9157	Lake	7120004	PSS1/FO1A	PSS	N	9.29	0.76
15	4.2	WRAPP-9159	Lake	7120004	PFO1A	PFO	N	3.70	3.70
15	4.4	WRAPP-9160	Lake	7120004	PFO1Ad	PFO	N	2.13	2.13
15	4.4	WRAPP-9161	Lake	7120004	PFO1Cd	PFO	N	1.39	1.39
15	4.5	WRAPP-9162	Lake	7120004	PUBGx	PEM	N	0.07	0.07
15	4.5	WRAPP-9163	Lake	7120004	PUBGh	PEM	N	0.03	0.03
15	4.5	WRAPP-9164	Lake	7120004	PEM/FO1C	PEM	N	0.23	0.23
15	4.5	WRAPP-9165	Lake	7120004	PFO1C	PFO	N	0.93	0.56
15	4.4	WRAPP-9167	Lake	7120004	PEM/FO1C	PEM	N	2.97	2.45
15	4.5	WRAPP-9169	Lake	7120004	PFO1C	PFO	N	0.41	0.17
15	4.4	WRAPP-9173	Lake	7120004	PEM/FO1C	PEM	N	0.72	0.72
15	4.3	WRAPP-9174	Lake	7120004	PEM/FO1C	PEM	N	0.32	0.32
15	4.4	WRAPP-9175	Lake	7120004	PFO1A	PFO	N	0.42	0.42
15	4.4	WRAPP-9176	Lake	7120004	PEM/FO1C	PEM	N	0.61	0.61
15	4.3	WRAPP-9177	Lake	7120004	PEM/FO1C	PEM	N	0.24	0.24
15	4.7	WRAPP-9178	Lake	7120004	PFO1C	PFO	Y	0.47	0.47
15	1	WRAPP-9185	Lake	7120004	PEMA	PEM	N	0.30	0.30
15	1	WRAPP-9186	Lake	7120004	PEMA	PEM	N	0.36	0.36
15	1	WRAPP-9192	Lake	7120004	PSS1As	PSS	N	1.58	1.58
15	0.8	WRAPP-9193	Lake	7120004	PEM/FO1C	PEM	N	5.04	5.04
15	4.8	WRAPP-9268	Lake	7120004	PEMC	PEM	Y	7.85	7.85
15	4.8	WRAPP-9269	Lake	7120004	PEMC	PEM	Y	0.81	0.16
15	4.8	WRAPP-9294	Lake	7120004	PUB1Ax	PEM	N	0.00	0.00
15	4.8	WRAPP-9296	Lake	7120004	PEMCx	PEM	N	0.00	0.00
15	4.8	WRAPP-9300	Lake	7120004	PEMB	PEM	Y	2.82	2.82
15	1.2	WRAPP-9324	Lake	7120004	PUBHx	PEM	N	0.14	0.01
15	4.8	WRAPP-9340	Lake	7120004	PFO1A	PFO	Y	4.36	0.20
15	4.8	WRAPP-9395	Lake	7120004	PEMA	PEM	Y	1.23	1.23
15	4.8	WRAPP-9398	Lake	7120004	PFO1A	PFO	Y	0.29	0.29
15	4.8	WRAPP-9399	Lake	7120004	PEMC	PEM	Y	1.68	1.48
15	4.8	WRAPP-9402	Lake	7120004	PEM/FO1C	PEM	Y	2.44	0.00
15	2.1	WRAPP-9443	Lake	7120004	PFO1C	PFO	N	0.06	0.06
15	2.1	WRAPP-9444	Lake	7120004	PFO1C	PFO	N	0.18	0.18
15	2	WRAPP-9445	Lake	7120004	PFO1A	PFO	N	1.16	1.16
15	2.1	WRAPP-9446	Lake	7120004	PFO1Ad	PFO	N	4.07	4.07
15	2	WRAPP-9447	Lake	7120004	PEMF	PEM	N	6.80	6.80
15	1.9	WRAPP-9448	Lake	7120004	PEMC	PEM	N	0.36	0.36
15	2.1	WRAPP-9451	Lake	7120004	PFO1/EMA	PFO	N	0.77	0.77
15	2.1	WRAPP-9452	Lake	7120004	PFO1Cd	PFO	N	0.21	0.21
15	2.6	WRAPP-9453	Lake	7120004	PEMA	PEM	N	0.08	0.08
15	0.2	WRAPP-9515	Lake	7120004	PFO1A	PFO	N	2.25	0.35
15	0.3	WRAPP-9518	Lake	7120004	PFO1A	PFO	N	0.08	0.04
15	0.3	WRAPP-9519	Lake	7120004	R4SBA	PEM	N	0.09	0.09
15	0.3	WRAPP-9520	Lake	7120004	R4SBA	PEM	N	0.03	0.01
15	0.2	WRAPP-9522	Lake	7120004	PFO1A	PFO	N	1.48	0.27
15	2.1	WRAPP-9525	Lake	7120004	PFO1Ad	PFO	N	1.88	1.88
15	2.1	WRAPP-9526	Lake	7120004	PFO1Ad	PFO	N	0.51	0.51
15	2.1	WRAPP-9527	Lake	7120004	PFO1A	PFO	N	0.13	0.13
15	2.1	WRAPP-9528	Lake	7120004	PFO1C	PFO	N	0.06	0.06

Attachment B - Table 15-1
Corridor 15 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
15	2.1	WRAPP-9529	Lake	7120004	PFO1C	PFO	N	0.12	0.12
15	1.8	WRAPP-9530	Lake	7120004	PFO1Ad	PFO	N	0.28	0.02
TOTAL									**142.63**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 15-2
Corridor 15 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
15	2.1	4594	Lake	7120004	Bull Creek	1
15	3.6	4798	Lake	7120004	West Branch Bull Creek Tributary	0
15	4.3	4658	Lake	7120004	West Branch Bull Creek	0
15	4.4	4594	Lake	7120004	Bull Creek	1
15	4.8	9315	Lake	7120004	Des Plaines River	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 15-3
Corridor 15 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
15	4.6	AIOW - 1	Lake	7120004	Detention Basin		0.30	0.30
15	4.7	AIOW - 5	Lake	7120004	Detention Basin		0.32	0.32
15	3.8	LR-4719	Lake	7120004	Pond	Timber Creek Pond 1	0.74	0.74
15	4.5	LR-4726	Lake	7120004	Pond	Bull Creek Pond	1.57	1.57
15	4.4	LR-4728	Lake	7120004	Pond		0.51	0.51
15	4.1	LR-4733	Lake	7120004	Detention Basin		0.79	0.79
15	3.7	LR-4736	Lake	7120004	Pond	Timber Creek Pond 2	0.73	0.73
15	4.5	LR-4753	Lake	7120004	Pond		0.14	0.14
15	4.2	LR-4757	Lake	7120004	Detention Basin	Deepwoods Pond 1	0.37	0.37
15	3.6	LR-4761	Lake	7120004	Pond	Timber Creek Pond 3	0.51	0.51
15	4.2	LR-4767	Lake	7120004	Detention Basin	Deepwoods Pond 2	0.13	0.13
15	4.8	LR-4783	Lake	7120004	Detention Basin		0.07	0.07
15	4.8	LR-4806	Lake	7120004	Detention Basin	Augie Landing Pond 1	0.19	0.19
15	4.8	LR-4809	Lake	7120004	Detention Basin	Augie Landing Pond 2	0.06	0.06
15	4.1	LR-4812	Lake	7120004	Detention Basin	Wineberry Pond 2	0.70	0.70
15	3.9	LR-4822	Lake	7120004	Detention Basin	Wineberry Pond 1	1.63	1.63
15	3.6	LR-4835	Lake	7120004	Pond		0.03	0.03
15	4.4	LR-4837	Lake	7120004	Pond		0.48	0.48
15	3.8	LR-4857	Lake	7120004	Detention Basin	Interlaken Valley Pond	1.67	1.67
15	3.4	LR-4876	Lake	7120004	Pond		0.07	0.07
15	4.8	LR-4884	Lake	7120004	Detention Basin	Adler Park West Condominium Pond	0.04	0.04
15	4.2	LR-4890	Lake	7120004	Detention Basin	Katie Pond	0.26	0.19
15	3.4	LR-4894	Lake	7120004	Detention Basin	Interlaken Meadows Pond 1	1.12	1.06
15	3.3	LR-4914	Lake	7120004	Detention Basin	Interlaken Meadows Pond 2	1.06	1.06
15	3	LR-4998	Lake	7120004	Pond	Concord at Interlaken Pond	2.01	2.01
15	2.9	LR-5059	Lake	7120004	Pond	Interlaken Ridge Pond 2	0.64	0.64
15	2.9	LR-5070	Lake	7120004	Pond	Interlaken Ridge Pond 1	0.22	0.22
15	2.9	LR-5103	Lake	7120004	Pond	Pine Meadow Golf Club Pond 7	0.44	0.44
15	2	LR-5190	Lake	7120004	Lake	Butler Lake	56.49	0.96
15	2.6	LR-5229	Lake	7120004	Pond	Pine Meadow Golf Club Pond 4	0.49	0.49
15	2.6	LR-5245	Lake	7120004	Pond	Pine Meadow Golf Club Pond 3	0.05	0.05
15	2.6	LR-5272	Lake	7120004	Lake	Pine Meadow Golf Club Lake	8.18	1.05
15	2.2	LR-5404	Lake	7120004	Lake	Saint Mary Lake	108.05	2.29
15	2.1	LR-5438	Lake	7120004	Pond		0.04	0.04
15	1.8	LR-5471	Lake	7120004	Detention Basin	Dymond Pond	0.05	0.05
15	1.1	LR-5525	Lake	7120004	Pond	Kenlock Park Subdivision Pond 3	1.13	1.13
15	1.1	LR-5538	Lake	7120004	Pond	Kenlock Park Subdivision Pond 2	0.13	0.10
15	1.2	LR-5649	Lake	7120004	Pond	Canterbury Circle Pond	4.56	0.29
15	0.3	LR-5683	Lake	7120004	Pond		0.03	0.03
15	0.9	LR-5706	Lake	7120004	Detention Basin	Carmel High School Pond	0.68	0.13
TOTAL								**23.28**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	16.6	ADID-1759	Lake	7120004	PEM	PEM	N	9.19	6.13
16	15.3	ADID-1778	Lake	7120004	PEMCd	PEM	N	24.31	4.83
16	12.2	ADID-1789	Lake	7120004	PEM	PEM	Y	8.08	4.05
16	11.9	ADID-1806	Lake	7120004	PUBGx	PEM	Y	37.48	6.71
16	9.5	ADID-1812	Lake	7120004	PEM	PEM	Y	2.34	0.67
16	10.4	ADID-1817	Lake	7120004	PUBHh	PEM	N	37.06	7.20
16	14.3	ADID-2684	Lake	7120004	PFO1C	PFO	Y	43.68	7.18
16	14.7	ADID-2685	Lake	7120004	PFO	PFO	N	0.42	0.40
16	15.1	ADID-2686	Lake	7120004	PFO	PFO	N	0.42	0.42
16	14.8	ADID-2687	Lake	7120004	PFO	PFO	N	3.43	2.88
16	12.2	ADID-2699	Lake	7120004	PFO	PFO	N	0.01	0.01
16	19.5	AI-1	Lake	7120004	PEM	PEM	N	1.30	1.30
16	9.3	AI-103	Lake	7120004	PEM	PEM	N	1.17	0.15
16	21.3	AI-107	Lake	7120004	PEM	PEM	N	3.04	3.04
16	9	AI-23	Lake	7120004	PEM	PEM	Y	0.00	0.00
16	20.9	AI-50	Lake	7120004	PEM	PEM	N	3.50	3.50
16	9.4	AI-51	Lake	7120004	PEM	PEM	N	0.01	0.01
16	21.2	AI-53	Lake	7120004	PEM	PEM	N	0.77	0.77
16	9.3	NHD-10576	Lake	7120004	<Null>	PEM	N	0.73	0.08
16	16.7	WRAPP-1003	Lake	7120004	PUBGx	PEM	N	0.02	0.02
16	9	WRAPP-101	Lake	7120004	PFO1C	PFO	Y	0.43	0.43
16	16.2	WRAPP-10412	Lake	7120004	PUBGx	PEM	N	0.04	0.01
16	16.3	WRAPP-10413	Lake	7120004	PEMC	PEM	N	5.84	5.84
16	16.3	WRAPP-10414	Lake	7120004	L2UBH	PEM	N	0.03	0.03
16	16.6	WRAPP-10415	Lake	7120004	PEMCd	PEM	N	11.93	10.77
16	16.3	WRAPP-10418	Lake	7120004	R4SBCx	PEM	N	0.16	0.15
16	16.6	WRAPP-10419	Lake	7120004	PEMCx	PEM	N	3.70	3.70
16	16.4	WRAPP-10420	Lake	7120004	PEMAx	PEM	N	2.19	2.19
16	16.4	WRAPP-10421	Lake	7120004	PSS1A	PSS	N	1.53	1.53
16	16.4	WRAPP-10422	Lake	7120004	PEM/SS1As	PEM	N	2.69	1.51
16	16.3	WRAPP-10426	Lake	7120004	PUBGx	PEM	N	0.04	0.04
16	16.7	WRAPP-10431	Lake	7120004	PUBGx	PEM	N	0.00	0.00
16	16.7	WRAPP-10432	Lake	7120004	PEMA	PEM	N	0.17	0.17
16	16.8	WRAPP-10435	Lake	7120004	PUBGx	PEM	N	0.02	0.02
16	16.2	WRAPP-10439	Lake	7120004	PEMC	PEM	N	4.75	4.72
16	16.1	WRAPP-10442	Lake	7120004	PEM/FO1Cd	PEM	Y	4.27	2.18
16	16.2	WRAPP-10482	Lake	7120004	PFO5/UBF	PFO	Y	2.79	2.54
16	16.1	WRAPP-10485	Lake	7120004	R4SBCx	PEM	N	0.47	0.21
16	16.3	WRAPP-10486	Lake	7120004	R4SBCx	PEM	N	0.86	0.75
16	16.2	WRAPP-10487	Lake	7120004	R4SBCx	PEM	N	0.23	0.20
16	16.3	WRAPP-10488	Lake	7120004	R4SBCx	PEM	N	2.17	0.93
16	9	WRAPP-105	Lake	7120004	PEM/FO1C	PEM	Y	0.81	0.01
16	15.3	WRAPP-10631	Lake	7120004	PEMFd	PEM	N	17.47	7.89
16	16	WRAPP-10633	Lake	7120004	PEMAs	PEM	N	0.24	0.24
16	15.9	WRAPP-10634	Lake	7120004	PUBGx	PEM	N	0.20	0.20
16	15.9	WRAPP-10636	Lake	7120004	PUBGx	PEM	N	0.02	0.02
16	15.9	WRAPP-10637	Lake	7120004	PFO1A	PFO	N	0.51	0.51
16	15.8	WRAPP-10638	Lake	7120004	PEMC	PEM	N	1.36	1.36
16	15.8	WRAPP-10639	Lake	7120004	PFO1C	PFO	N	0.48	0.48
16	15.7	WRAPP-10640	Lake	7120004	PEMCd	PEM	N	1.76	1.76
16	15.4	WRAPP-10650	Lake	7120004	PEMFd	PEM	N	1.88	0.12
16	15.3	WRAPP-10652	Lake	7120004	PEM/FO1Cd	PEM	N	5.73	3.51
16	15.4	WRAPP-10654	Lake	7120004	PEM/FO1A	PEM	N	1.21	1.21
16	15.1	WRAPP-10655	Lake	7120004	PFO1Cd	PFO	N	0.86	0.86
16	15.3	WRAPP-10656	Lake	7120004	PEM/FO1Cd	PEM	N	4.77	4.77
16	15.4	WRAPP-10657	Lake	7120004	PEMC	PEM	N	1.89	1.89
16	15.3	WRAPP-10658	Lake	7120004	PFO1Cd	PFO	N	1.12	1.12
16	15.3	WRAPP-10659	Lake	7120004	PFO1Cd	PFO	N	1.25	1.25
16	15.9	WRAPP-10660	Lake	7120004	PEMCd	PEM	N	1.69	1.69

Attachment B- Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	15.8	WRAPP-10662	Lake	7120004	R4SBCx	PEM	N	2.00	0.94
16	15.8	WRAPP-10664	Lake	7120004	R4SBCx	PEM	N	1.50	0.82
16	15.8	WRAPP-10665	Lake	7120004	PEMAf	PEM	N	0.22	0.03
16	15.2	WRAPP-10666	Lake	7120004	PEMC	PEM	N	4.03	1.22
16	9	WRAPP-107	Lake	7120004	PEM/FO1C	PEM	Y	1.90	1.86
16	9.3	WRAPP-109	Lake	7120004	PEM/FO1A	PEM	N	0.80	0.80
16	18.7	WRAPP-10989	Lake	7120004	PEMA	PEM	N	1.07	1.07
16	10.6	WRAPP-10990	Lake	7120004	PUBHx	PEM	N	0.23	0.23
16	10.7	WRAPP-10991	Lake	7120004	PUBGx	PEM	N	0.08	0.08
16	10.9	WRAPP-10995	Lake	7120004	PEMC	PEM	N	1.21	1.21
16	10.4	WRAPP-10996	Lake	7120004	PUBGx	PEM	N	0.01	0.01
16	10.8	WRAPP-10997	Lake	7120004	PUBGh	PEM	N	0.05	0.04
16	10.8	WRAPP-11000	Lake	7120004	PEMCd	PEM	N	6.98	2.51
16	10.8	WRAPP-11001	Lake	7120004	PSS1Cd	PSS	N	0.54	0.03
16	10.7	WRAPP-11003	Lake	7120004	PEMF	PEM	N	1.39	1.39
16	10.7	WRAPP-11004	Lake	7120004	PFO1C	PFO	N	6.48	6.48
16	10.6	WRAPP-11005	Lake	7120004	PFO1A	PFO	N	0.24	0.24
16	10.3	WRAPP-11006	Lake	7120004	PEM/FO1C	PEM	N	1.01	1.01
16	10.4	WRAPP-11007	Lake	7120004	PEMCd	PEM	N	6.12	6.12
16	10.5	WRAPP-11008	Lake	7120004	PEM/FO1Cd	PEM	N	20.24	20.24
16	10.5	WRAPP-11009	Lake	7120004	PSS1As	PSS	N	2.41	2.41
16	10.3	WRAPP-11010	Lake	7120004	PFO1A	PFO	N	0.17	0.17
16	10.3	WRAPP-11011	Lake	7120004	PFO1C	PFO	N	0.36	0.36
16	10.2	WRAPP-11012	Lake	7120004	PFO1A	PFO	N	0.53	0.53
16	9.5	WRAPP-115	Lake	7120004	PEM/UBFx	PEM	N	0.29	0.29
16	9.5	WRAPP-116	Lake	7120004	PEM/SS1C	PEM	Y	0.93	0.93
16	10.8	WRAPP-11603	Lake	7120004	PSS1Cd	PSS	N	0.20	0.18
16	14.3	WRAPP-11712	Lake	7120004	PUBHb	PEM	Y	6.30	5.29
16	14.2	WRAPP-11722	Lake	7120004	R2UBHx	PEM	N	0.09	0.09
16	15.1	WRAPP-11726	Lake	7120004	PFO1Cd	PFO	N	0.18	0.18
16	15.1	WRAPP-11727	Lake	7120004	PFO1Ad	PFO	N	0.28	0.28
16	15.1	WRAPP-11728	Lake	7120004	PFO1Ad	PFO	N	0.25	0.25
16	14.7	WRAPP-11729	Lake	7120004	PEMCx	PEM	N	0.83	0.83
16	14.9	WRAPP-11734	Lake	7120004	PFO1Ad	PFO	N	2.27	1.62
16	14.9	WRAPP-11735	Lake	7120004	PFO1Ad	PFO	N	1.77	1.07
16	14.8	WRAPP-11736	Lake	7120004	PUBGx	PEM	N	0.06	0.06
16	14.7	WRAPP-11737	Lake	7120004	PUBGx	PEM	N	0.00	0.00
16	14.2	WRAPP-11739	Lake	7120004	PUBGx	PEM	N	0.05	0.05
16	14.3	WRAPP-11740	Lake	7120004	PEMFd	PEM	Y	12.03	12.03
16	14.3	WRAPP-11741	Lake	7120004	PEMFd	PEM	Y	6.30	5.92
16	14.4	WRAPP-11753	Lake	7120004	R2UBH	PEM	N	0.01	0.00
16	14.2	WRAPP-11754	Lake	7120004	PUBFx	PEM	N	0.02	0.02
16	14.2	WRAPP-11755	Lake	7120004	PEMFd	PEM	Y	17.54	16.48
16	14.4	WRAPP-11762	Lake	7120004	PFO1Ad	PFO	Y	2.92	2.92
16	14.4	WRAPP-11763	Lake	7120004	PFO1Ad	PFO	Y	2.75	2.75
16	14.4	WRAPP-11765	Lake	7120004	PFO1Ad	PFO	N	1.31	0.83
16	14.1	WRAPP-11768	Lake	7120004	PEMC	PEM	N	2.42	2.42
16	14.1	WRAPP-11769	Lake	7120004	PSS1Ad	PSS	N	0.72	0.72
16	14.3	WRAPP-11770	Lake	7120004	PEM/FO1Ad	PEM	N	0.21	0.21
16	14.3	WRAPP-11771	Lake	7120004	PEM/FO1Cd	PEM	N	1.74	1.74
16	13.5	WRAPP-11849	Lake	7120004	PEMAx	PEM	N	1.27	1.18
16	13.4	WRAPP-11850	Lake	7120004	PEMCd	PEM	N	0.15	0.15
16	13.5	WRAPP-11851	Lake	7120004	PUBGx	PEM	N	0.06	0.06
16	13.8	WRAPP-11853	Lake	7120004	PSS1A	PSS	N	0.86	0.86
16	13.8	WRAPP-11854	Lake	7120004	PUBHh	PEM	N	0.13	0.05
16	13.9	WRAPP-11856	Lake	7120004	PEMCd	PEM	N	6.46	6.46
16	13.5	WRAPP-11860	Lake	7120004	PSS1Ad	PSS	N	0.10	0.01
16	13.5	WRAPP-11861	Lake	7120004	PSS1Ad	PSS	N	0.14	0.01
16	13.7	WRAPP-11862	Lake	7120004	PEM/FO1Cd	PEM	N	3.21	3.21

Attachment B - Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	13.7	WRAPP-11863	Lake	7120004	PEM/FO1Cd	PEM	N	1.80	0.46
16	13.7	WRAPP-11864	Lake	7120004	PEM/FO1Cd	PEM	N	0.30	0.20
16	13.6	WRAPP-11865	Lake	7120004	PFO1Ad	PFO	N	0.73	0.73
16	13.7	WRAPP-11866	Lake	7120004	PEMAx	PEM	N	0.51	0.51
16	13.2	WRAPP-11875	Lake	7120004	PEMC	PEM	N	11.47	2.11
16	12.2	WRAPP-11914	Lake	7120004	PEMFd	PEM	Y	28.41	14.12
16	12.9	WRAPP-11922	Lake	7120004	PEM/SS1Cd	PEM	N	27.51	0.45
16	12.2	WRAPP-11950	Lake	7120004	PUBGx	PEM	N	0.00	0.00
16	12.2	WRAPP-11951	Lake	7120004	PAB4F	PEM	N	0.04	0.04
16	12.4	WRAPP-11953	Lake	7120004	PEMC	PEM	N	4.50	2.58
16	12.3	WRAPP-11954	Lake	7120004	PEM/SS1C	PEM	N	2.52	2.52
16	12.5	WRAPP-11963	Lake	7120004	PFO1A	PFO	N	0.05	0.05
16	12.6	WRAPP-11964	Lake	7120004	L1UBHh	PEM	N	0.21	0.13
16	12.8	WRAPP-11965	Lake	7120004	PFO1A	PFO	N	1.22	1.22
16	12.7	WRAPP-11976	Lake	7120004	PEM/UBF	PEM	N	0.32	0.32
16	12.7	WRAPP-11977	Lake	7120004	PEMC	PEM	N	0.80	0.80
16	12.6	WRAPP-11978	Lake	7120004	PEM/UBF	PEM	N	0.53	0.53
16	12.6	WRAPP-11979	Lake	7120004	PEM/UBF	PEM	N	0.45	0.45
16	12.4	WRAPP-11980	Lake	7120004	PEMC	PEM	N	0.15	0.15
16	9.4	WRAPP-120	Lake	7120004	PEMA	PEM	N	0.86	0.86
16	11.8	WRAPP-12024	Lake	7120004	PUBF	PEM	Y	0.00	0.00
16	12.1	WRAPP-12025	Lake	7120004	PUBGx	PEM	N	0.08	0.08
16	12.1	WRAPP-12027	Lake	7120004	PUBGx	PEM	N	0.00	0.00
16	11.9	WRAPP-12029	Lake	7120004	PEMFd	PEM	Y	30.40	7.49
16	11.3	WRAPP-12033	Lake	7120004	PEMC	PEM	Y	7.17	7.17
16	11.3	WRAPP-12034	Lake	7120004	PUBGx	PEM	N	0.10	0.10
16	11.5	WRAPP-12035	Lake	7120004	R4SBCx	PEM	N	0.27	0.27
16	11.9	WRAPP-12037	Lake	7120004	PFO1C	PFO	Y	7.90	6.71
16	12	WRAPP-12040	Lake	7120004	PEMFd	PEM	Y	6.50	4.00
16	11.9	WRAPP-12041	Lake	7120004	PFO1A	PFO	Y	4.85	2.66
16	11.9	WRAPP-12045	Lake	7120004	PFO1A	PFO	Y	3.93	1.65
16	11.9	WRAPP-12046	Lake	7120004	R2UBHx	PFO	Y	1.77	0.18
16	11.8	WRAPP-12047	Lake	7120004	PFO1C	PFO	Y	0.08	0.08
16	11.7	WRAPP-12056	Lake	7120004	PEMCd	PEM	N	0.64	0.64
16	12.1	WRAPP-12057	Lake	7120004	PUBGx	PEM	N	2.22	2.22
16	11.3	WRAPP-12058	Lake	7120004	PEMC	PEM	N	0.88	0.88
16	11.9	WRAPP-12059	Lake	7120004	PFO1C	PFO	Y	1.80	1.80
16	11.6	WRAPP-12074	Lake	7120004	PEMAx	PEM	N	0.15	0.15
16	10.8	WRAPP-12113	Lake	7120004	PEMFd	PEM	N	7.84	0.25
16	10.9	WRAPP-12127	Lake	7120004	PFO1A	PFO	N	0.13	0.09
16	11.1	WRAPP-12129	Lake	7120004	R4SBCx	PEM	N	0.01	0.00
16	11.2	WRAPP-12139	Lake	7120004	PUBGx	PEM	N	0.16	0.16
16	11.1	WRAPP-12140	Lake	7120004	PEM/SS1A	PEM	N	0.15	0.15
16	11.1	WRAPP-12141	Lake	7120004	PEM/SS1Ad	PEM	N	1.36	1.36
16	11.1	WRAPP-12142	Lake	7120004	PFO1Ad	PFO	N	0.49	0.43
16	11.1	WRAPP-12143	Lake	7120004	PFO1Ad	PFO	N	0.16	0.14
16	10.8	WRAPP-12146	Lake	7120004	PFO1A	PFO	N	0.92	0.29
16	10.9	WRAPP-12147	Lake	7120004	PEM/SS1C	PEM	N	0.37	0.37
16	10.8	WRAPP-12148	Lake	7120004	R4SBA	PEM	N	0.06	0.06
16	10.8	WRAPP-12149	Lake	7120004	PFO1A	PFO	N	1.05	1.05
16	10.8	WRAPP-12150	Lake	7120004	PFO1A	PFO	N	1.11	1.11
16	10.8	WRAPP-12151	Lake	7120004	PFO1A	PFO	N	0.04	0.04
16	10.4	WRAPP-12161	Lake	7120004	PUBGx	PEM	N	0.00	0.00
16	10.2	WRAPP-12162	Lake	7120004	PFO1Ad	PFO	N	0.78	0.78
16	10.3	WRAPP-12163	Lake	7120004	PFO1A	PFO	N	0.10	0.10
16	10.6	WRAPP-12171	Lake	7120004	PEM/FO1Ad	PEM	N	1.48	1.48
16	10.7	WRAPP-12176	Lake	7120004	PEM/FO1A	PEM	N	1.45	0.12
16	9.5	WRAPP-123	Lake	7120004	PEM/SS1Cd	PEM	N	3.15	3.15
16	9.6	WRAPP-12309	Lake	7120004	PUBGx	PEM	Y	0.08	0.02

Attachment B- Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	9.6	WRAPP-12310	Lake	7120004	PEM/FO1Fd	PEM	Y	14.30	11.61
16	9.7	WRAPP-12313	Lake	7120004	L1UBHx	PEM	N	0.20	0.00
16	9.8	WRAPP-12315	Lake	7120004	PEMF	PEM	N	6.28	6.28
16	9.8	WRAPP-12335	Lake	7120004	PEMA	PEM	N	0.47	0.47
16	9.8	WRAPP-12336	Lake	7120004	PEM/FO1C	PEM	N	1.02	1.02
16	9.7	WRAPP-12337	Lake	7120004	PFO1A	PFO	N	0.09	0.09
16	9.8	WRAPP-12338	Lake	7120004	PEM/UBF	PEM	N	0.32	0.32
16	9.8	WRAPP-12339	Lake	7120004	PUBGx	PEM	N	0.06	0.06
16	9.7	WRAPP-12340	Lake	7120004	PEMC	PEM	N	5.02	5.02
16	9.8	WRAPP-12341	Lake	7120004	PFO1A	PFO	N	1.24	1.24
16	9.9	WRAPP-12342	Lake	7120004	PEMC	PEM	N	12.49	11.28
16	9.5	WRAPP-12345	Lake	7120004	PEM/FO1F	PEM	N	0.60	0.60
16	9.7	WRAPP-12352	Lake	7120004	PEM/FO1C	PEM	N	2.39	0.63
16	9.2	WRAPP-12355	Lake	7120004	PSS1A	PSS	N	0.44	0.44
16	9.1	WRAPP-12356	Lake	7120004	PEM/FO1C	PEM	N	1.02	0.00
16	9.2	WRAPP-12360	Lake	7120004	PFO1C	PFO	N	3.26	1.33
16	9	WRAPP-12363	Lake	7120004	PEMAf	PEM	Y	2.30	1.41
16	9.5	WRAPP-126	Lake	7120004	PEMA	PEM	N	0.30	0.30
16	9.6	WRAPP-127	Lake	7120004	PUBGx	PEM	Y	0.24	0.24
16	9.5	WRAPP-141	Lake	7120004	PUBHx	PEM	N	0.00	0.00
16	9.6	WRAPP-156	Lake	7120004	PEMC	PEM	N	1.18	0.00
16	20.3	WRAPP-15854	Lake	7120004	PUBHx	PEM	N	0.87	0.64
16	17.5	WRAPP-15992	Lake	7120004	R4SBCx	PEM	N	0.20	0.06
16	17.6	WRAPP-15993	Lake	7120004	R4SBCx	PEM	N	0.27	0.27
16	21.6	WRAPP-15999	Lake	7120004	PEMAd	PEM	N	1.63	1.63
16	10.3	WRAPP-16	Lake	7120004	PFO1Ad	PFO	N	0.23	0.23
16	9.8	WRAPP-160	Lake	7120004	PEM/UBF	PEM	N	0.22	0.22
16	21.6	WRAPP-16000	Lake	7120004	PEMCd	PEM	N	6.59	6.59
16	20.5	WRAPP-16001	Lake	7120004	R2UBHx	PEM	N	31.74	27.90
16	15.3	WRAPP-16242	Lake	7120004	R2UBHx	PEM	Y	1.33	1.01
16	10.7	WRAPP-16265	Lake	7120004	PEMCd	PEM	N	1.14	1.14
16	10.6	WRAPP-16266	Lake	7120004	PEM/FO1Cd	PEM	N	7.96	7.96
16	10.3	WRAPP-16268	Lake	7120004	PFO1A	PFO	N	0.99	0.99
16	9.9	WRAPP-163	Lake	7120004	PEMAf	PEM	N	0.13	0.13
16	9.9	WRAPP-164	Lake	7120004	PEM/SS1C	PEM	N	3.90	0.67
16	22	WRAPP-16523	Lake	7120004	R2UBHx	PEM	N	5.63	0.11
16	21.6	WRAPP-16524	Lake	7120004	R4SBCx	PEM	N	4.71	1.84
16	20	WRAPP-16538	Lake	7120004	PEMCx	PEM	N	0.40	0.37
16	19.7	WRAPP-16544	Lake	7120004	PEM/UBFx	PEM	N	3.43	2.25
16	18.4	WRAPP-16549	Lake	7120004	PUBGx	PEM	N	0.44	0.44
16	18.5	WRAPP-16550	Lake	7120004	PUBGx	PEM	N	0.58	0.55
16	16.3	WRAPP-16557	Lake	7120004	PFO1A	PFO	N	0.16	0.16
16	16.3	WRAPP-16558	Lake	7120004	PFO1A	PFO	N	0.14	0.14
16	12.2	WRAPP-16625	Lake	7120004	PEMFx	PEM	N	0.43	0.20
16	12.6	WRAPP-16628	Lake	7120004	PUBGx	PEM	N	0.39	0.39
16	11.6	WRAPP-16653	Lake	7120004	PEM/SS1Cd	PEM	Y	0.06	0.05
16	9.4	WRAPP-16673	Lake	7120004	PUBGx	PEM	N	1.97	1.90
16	10.3	WRAPP-17	Lake	7120004	PFO1A	PFO	N	1.46	1.46
16	10	WRAPP-173	Lake	7120004	PEMAf	PEM	N	0.24	0.24
16	9.9	WRAPP-186	Lake	7120004	PEMC	PEM	N	5.65	5.65
16	10.1	WRAPP-199	Lake	7120004	PFO1A	PFO	N	0.95	0.95
16	10.1	WRAPP-205	Lake	7120004	PEM/FO1A	PEM	N	0.36	0.36
16	10.1	WRAPP-209	Lake	7120004	PEMC	PEM	N	3.43	3.43
16	10.3	WRAPP-233	Lake	7120004	R4SBAx	PEM	N	0.15	0.15
16	10.5	WRAPP-242	Lake	7120004	PUBGx	PEM	N	0.01	0.01
16	10.5	WRAPP-246	Lake	7120004	PUBGx	PEM	N	0.01	0.01
16	10.8	WRAPP-272	Lake	7120004	PFO1C	PFO	N	0.04	0.04
16	10.8	WRAPP-273	Lake	7120004	PFO1C	PFO	N	0.02	0.00
16	10.9	WRAPP-281	Lake	7120004	PEM/FO1A	PEM	N	0.80	0.80

Attachment B - Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	10.9	WRAPP-283	Lake	7120004	PAB4/UBGx	PEM	N	0.32	0.32
16	21.4	WRAPP-2848	Lake	7120004	PEMCf	PEM	N	0.95	0.95
16	21.4	WRAPP-2849	Lake	7120004	PEMCf	PEM	N	1.40	1.40
16	21.5	WRAPP-2850	Lake	7120004	PEMA	PEM	N	0.73	0.00
16	21.7	WRAPP-2864	Lake	7120004	PEMC	PEM	N	1.89	0.87
16	21.7	WRAPP-2865	Lake	7120004	PUBGx	PEM	N	0.01	0.01
16	21.7	WRAPP-2881	Lake	7120004	PEMCd	PEM	N	1.54	1.54
16	22	WRAPP-2896	Lake	7120004	PFO1Ad	PFO	N	0.71	0.71
16	22	WRAPP-2930	Lake	7120004	PEM/FO1Cd	PEM	N	16.51	0.01
16	11	WRAPP-306	Lake	7120004	PFO1A	PFO	N	1.05	1.05
16	13.6	WRAPP-31	Lake	7120004	PEM/FO1Cd	PEM	N	5.81	5.81
16	11.1	WRAPP-313	Lake	7120004	PEMC	PEM	N	9.78	9.32
16	11.2	WRAPP-329	Lake	7120004	PFO1C	PFO	N	0.09	0.09
16	13.6	WRAPP-33	Lake	7120004	R4SBCx	PEM	N	0.30	0.26
16	11.2	WRAPP-332	Lake	7120004	PEM/FO1A	PEM	N	1.83	1.83
16	11.2	WRAPP-333	Lake	7120004	PEM/FO1C	PEM	Y	0.75	0.75
16	11.2	WRAPP-346	Lake	7120004	PEMAx	PEM	N	0.61	0.61
16	11.3	WRAPP-350	Lake	7120004	PUBFh	PEM	N	0.02	0.02
16	11.3	WRAPP-356	Lake	7120004	PEMAd	PEM	N	1.18	1.18
16	11.2	WRAPP-363	Lake	7120004	PUBGx	PEM	N	0.07	0.07
16	11.4	WRAPP-366	Lake	7120004	PEMC	PEM	N	0.91	0.91
16	11.4	WRAPP-368	Lake	7120004	PEMA	PEM	N	0.42	0.42
16	14.7	WRAPP-37	Lake	7120004	PEMCx	PEM	N	0.84	0.84
16	11.4	WRAPP-383	Lake	7120004	PEMAs	PEM	N	0.02	0.02
16	15.3	WRAPP-39	Lake	7120004	PFO1C	PFO	N	0.42	0.42
16	11.6	WRAPP-390	Lake	7120004	PUBGx	PEM	N	0.15	0.15
16	11.6	WRAPP-397	Lake	7120004	PEMA	PEM	N	0.99	0.99
16	11.6	WRAPP-399	Lake	7120004	PEM/FO1C	PEM	N	2.26	2.26
16	11.7	WRAPP-410	Lake	7120004	PUBGx	PEM	N	0.22	0.22
16	11.6	WRAPP-413	Lake	7120004	R4SBCx	PEM	N	0.25	0.25
16	11.8	WRAPP-419	Lake	7120004	PEM/FO1Cd	PEM	N	0.33	0.33
16	11.8	WRAPP-426	Lake	7120004	PEM/SS1C	PEM	N	0.45	0.45
16	11.9	WRAPP-434	Lake	7120004	L2UBH	PEM	Y	0.53	0.03
16	12.1	WRAPP-448	Lake	7120004	PEMC	PEM	N	0.65	0.65
16	12.1	WRAPP-456	Lake	7120004	PUBHh	PEM	Y	0.36	0.36
16	12.2	WRAPP-459	Lake	7120004	PFO1C	PFO	Y	0.69	0.27
16	12.2	WRAPP-467	Lake	7120004	PEMC	PEM	N	0.09	0.03
16	12.4	WRAPP-503	Lake	7120004	PEMC	PEM	N	1.68	1.68
16	12.4	WRAPP-504	Lake	7120004	PUBGx	PEM	N	1.38	1.38
16	12.6	WRAPP-520	Lake	7120004	PEMF	PEM	N	0.38	0.38
16	12.6	WRAPP-521	Lake	7120004	PFO5F	PFO	N	0.42	0.42
16	12.6	WRAPP-541	Lake	7120004	PFO1A	PFO	N	1.42	1.42
16	12.6	WRAPP-543	Lake	7120004	PSS1C	PSS	N	0.40	0.40
16	12.7	WRAPP-558	Lake	7120004	PEMAf	PEM	N	1.02	1.02
16	12.8	WRAPP-569	Lake	7120004	PUBFx	PEM	N	0.23	0.23
16	12.9	WRAPP-584	Lake	7120004	PEMA	PEM	N	0.66	0.66
16	12.9	WRAPP-589	Lake	7120004	PEM/FO1C	PEM	N	0.89	0.89
16	13	WRAPP-595	Lake	7120004	PEM/SS1C	PEM	N	1.19	1.19
16	13	WRAPP-604	Lake	7120004	PFO1C	PFO	N	0.68	0.68
16	13.2	WRAPP-616	Lake	7120004	PEMCx	PEM	N	0.76	0.76
16	10.3	WRAPP-6257	Lake	7120004	R2UBHx	PEM	N	0.23	0.23
16	10.6	WRAPP-6260	Lake	7120004	R2UBHx	PEM	N	2.01	1.76
16	12	WRAPP-6264	Lake	7120004	PAB4/UBF	PEM	N	0.01	0.01
16	13.2	WRAPP-627	Lake	7120004	PEMAd	PEM	N	0.57	0.57
16	13.5	WRAPP-6273	Lake	7120004	R4SBCx	PEM	N	0.39	0.02
16	13.6	WRAPP-6275	Lake	7120004	PUBGx	PEM	N	0.07	0.07
16	15.3	WRAPP-6280	Lake	7120004	R4SBCx	PEM	N	0.09	0.09
16	10.3	WRAPP-66	Lake	7120004	PUBHx	PEM	N	0.03	0.03
16	13.4	WRAPP-669	Lake	7120004	PEMC	PEM	N	4.36	0.26

Attachment B - Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	10.3	WRAPP-67	Lake	7120004	PUBHx	PEM	N	0.15	0.01
16	13.4	WRAPP-671	Lake	7120004	PEM/SS1C	PEM	N	3.38	3.38
16	13.5	WRAPP-71	Lake	7120004	PEMAx	PEM	N	1.17	1.17
16	14.4	WRAPP-73	Lake	7120004	PUBHh	PEM	N	0.24	0.24
16	13.9	WRAPP-740	Lake	7120004	PUBHx	PEM	N	0.24	0.24
16	14.1	WRAPP-743	Lake	7120004	PSS1Ad	PSS	N	0.35	0.35
16	14.4	WRAPP-759	Lake	7120004	PEM/UBFx	PEM	N	0.03	0.03
16	14.4	WRAPP-766	Lake	7120004	PEMAx	PEM	N	0.36	0.36
16	14.6	WRAPP-774	Lake	7120004	PEM/SS1A	PEM	N	0.88	0.88
16	14.8	WRAPP-799	Lake	7120004	PEMC	PEM	N	1.50	1.50
16	14.8	WRAPP-803	Lake	7120004	PEMCf	PEM	N	5.47	4.46
16	15.1	WRAPP-820	Lake	7120004	PEMC	PEM	N	3.83	0.03
16	15	WRAPP-832	Lake	7120004	PEM/SS1C	PEM	N	3.54	3.54
16	15.1	WRAPP-834	Lake	7120004	PEMCd	PEM	N	0.29	0.29
16	15.1	WRAPP-843	Lake	7120004	PEM/SS1Ad	PEM	N	0.68	0.68
16	15.1	WRAPP-846	Lake	7120004	PEMCf	PEM	N	0.17	0.17
16	15.1	WRAPP-850	Lake	7120004	PEMCf	PEM	N	0.40	0.40
16	15.1	WRAPP-851	Lake	7120004	PEMCd	PEM	N	1.52	1.52
16	15.1	WRAPP-852	Lake	7120004	PEMAd	PEM	N	0.72	0.72
16	15.2	WRAPP-858	Lake	7120004	PEM/FO1A	PEM	N	0.29	0.29
16	15.2	WRAPP-860	Lake	7120004	PEMCf	PEM	N	1.05	0.15
16	15.2	WRAPP-866	Lake	7120004	PEM/FO1C	PEM	N	0.62	0.62
16	15.2	WRAPP-874	Lake	7120004	PEMC	PEM	N	3.86	1.32
16	18.4	WRAPP-8837	Lake	7120004	PFO1A	PFO	N	0.65	0.65
16	18.5	WRAPP-8838	Lake	7120004	PFO1A	PFO	N	2.35	2.35
16	17.7	WRAPP-8849	Lake	7120004	PEMAf	PEM	N	1.79	1.79
16	17.7	WRAPP-8852	Lake	7120004	PEMAf	PEM	N	1.02	1.02
16	17.8	WRAPP-8855	Lake	7120004	PEMAf	PEM	N	1.13	1.13
16	17.8	WRAPP-8856	Lake	7120004	PEMF	PEM	N	3.04	3.04
16	18	WRAPP-8861	Lake	7120004	PEM/SS1A	PEM	N	0.58	0.58
16	18	WRAPP-8865	Lake	7120004	PEM/SS1Ad	PEM	N	1.13	1.13
16	18	WRAPP-8870	Lake	7120004	PEM/SS1Af	PEM	N	0.36	0.36
16	18.1	WRAPP-8871	Lake	7120004	PEMAx	PEM	N	0.12	0.12
16	18.1	WRAPP-8872	Lake	7120004	PEM/FO1C	PEM	N	1.76	0.76
16	18.3	WRAPP-8875	Lake	7120004	PEM/FO1C	PEM	N	0.81	0.81
16	18.3	WRAPP-8876	Lake	7120004	PEM/SS1C	PEM	N	4.29	4.29
16	18.3	WRAPP-8877	Lake	7120004	PUBGx	PEM	N	0.06	0.03
16	18.8	WRAPP-8906	Lake	7120004	PUBGx	PEM	N	0.11	0.07
16	18.7	WRAPP-8913	Lake	7120004	PEMCd	PEM	N	105.13	48.57
16	19	WRAPP-8916	Lake	7120004	PEMA	PEM	N	0.28	0.18
16	19.1	WRAPP-8917	Lake	7120004	PEMA	PEM	N	0.67	0.30
16	19.1	WRAPP-8922	Lake	7120004	PEMAf	PEM	N	0.31	0.31
16	19.2	WRAPP-8924	Lake	7120004	PEMAf	PEM	N	0.17	0.17
16	19.3	WRAPP-8927	Lake	7120004	PFO1A	PFO	N	0.26	0.26
16	19.3	WRAPP-8928	Lake	7120004	PEMC	PEM	N	0.86	0.86
16	19.3	WRAPP-8929	Lake	7120004	PEMC	PEM	N	1.01	1.01
16	19.3	WRAPP-8933	Lake	7120004	PEMCf	PEM	N	2.47	2.47
16	15.3	WRAPP-894	Lake	7120004	PEMC	PEM	N	1.86	1.86
16	19.5	WRAPP-8940	Lake	7120004	PEMCf	PEM	N	1.78	1.78
16	15.4	WRAPP-895	Lake	7120004	PEMC	PEM	N	3.42	1.79
16	19.8	WRAPP-8962	Lake	7120004	PEMCd	PEM	N	0.89	0.89
16	20.2	WRAPP-8965	Lake	7120004	PEM/SS1Ad	PEM	N	1.02	1.02
16	15.5	WRAPP-899	Lake	7120004	PEM/FO1C	PEM	N	1.21	1.21
16	15.5	WRAPP-902	Lake	7120004	PEM/SS1A	PEM	N	1.28	0.37
16	18.5	WRAPP-9039	Lake	7120004	R2UBH	PEM	N	0.34	0.00
16	18.4	WRAPP-9040	Lake	7120004	R2UBHx	PEM	N	0.22	0.22
16	15.5	WRAPP-911	Lake	7120004	PEM/FO1C	PEM	N	2.53	2.53
16	15.6	WRAPP-914	Lake	7120004	PUBGx	PEM	N	0.36	0.01
16	15.6	WRAPP-915	Lake	7120004	PEMC	PEM	N	0.81	0.81

Attachment B- Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	15.6	WRAPP-916	Lake	7120004	PFO1A	PFO	N	0.11	0.11
16	17.7	WRAPP-9195	Lake	7120004	R4SBAx	PEM	N	0.16	0.16
16	17.7	WRAPP-9196	Lake	7120004	R4SBAx	PEM	N	0.01	0.01
16	19.3	WRAPP-9211	Lake	7120004	PEMAf	PEM	N	0.13	0.13
16	19.3	WRAPP-9212	Lake	7120004	PEMAf	PEM	N	0.26	0.26
16	19.4	WRAPP-9215	Lake	7120004	PEMC	PEM	N	1.07	0.70
16	19.5	WRAPP-9216	Lake	7120004	PEMA	PEM	N	3.04	3.04
16	19.7	WRAPP-9220	Lake	7120004	PEMAf	PEM	N	0.48	0.48
16	19.7	WRAPP-9222	Lake	7120004	PEMCf	PEM	N	0.35	0.35
16	19.8	WRAPP-9223	Lake	7120004	PEM/SS1A	PEM	N	0.54	0.54
16	19.7	WRAPP-9225	Lake	7120004	PEMAf	PEM	N	0.51	0.51
16	19.9	WRAPP-9226	Lake	7120004	PEMC	PEM	N	0.88	0.02
16	19.7	WRAPP-9227	Lake	7120004	PEMCf	PEM	N	1.66	1.66
16	19.8	WRAPP-9228	Lake	7120004	PEMAf	PEM	N	0.15	0.15
16	19.8	WRAPP-9230	Lake	7120004	PEMA	PEM	N	0.08	0.08
16	19.7	WRAPP-9231	Lake	7120004	PEMAf	PEM	N	0.11	0.11
16	19.9	WRAPP-9234	Lake	7120004	PEMAd	PEM	N	0.07	0.07
16	20.1	WRAPP-9237	Lake	7120004	PEMAf	PEM	N	0.11	0.11
16	20.2	WRAPP-9238	Lake	7120004	PEMCd	PEM	N	4.87	4.87
16	20.2	WRAPP-9239	Lake	7120004	PEMCx	PEM	N	0.08	0.08
16	15.7	WRAPP-924	Lake	7120004	PEM/FO1C	PEM	N	0.37	0.37
16	20.4	WRAPP-9241	Lake	7120004	PEMCd	PEM	N	0.91	0.90
16	20.5	WRAPP-9247	Lake	7120004	PEMA	PEM	N	1.20	1.20
16	20.5	WRAPP-9253	Lake	7120004	PUBGx	PEM	N	0.54	0.01
16	20.6	WRAPP-9255	Lake	7120004	PEM/UBF	PEM	N	1.19	0.33
16	20.8	WRAPP-9257	Lake	7120004	PEMC	PEM	N	0.27	0.27
16	15.6	WRAPP-926	Lake	7120004	PEM/FO1C	PEM	N	3.69	2.86
16	20.7	WRAPP-9260	Lake	7120004	PUBGx	PEM	N	2.96	0.32
16	21.1	WRAPP-9262	Lake	7120004	PEMAd	PEM	N	0.25	0.25
16	15.7	WRAPP-927	Lake	7120004	PFO1A	PFO	N	0.19	0.19
16	21.1	WRAPP-9325	Lake	7120004	PEMCd	PEM	N	0.87	0.87
16	21.1	WRAPP-9326	Lake	7120004	PEM/UBF	PEM	N	0.56	0.24
16	21.2	WRAPP-9328	Lake	7120004	PEMAf	PEM	N	0.76	0.76
16	15.7	WRAPP-934	Lake	7120004	PFO1C	PFO	N	0.37	0.35
16	15.8	WRAPP-936	Lake	7120004	PFO1C	PFO	N	4.67	4.67
16	15.8	WRAPP-938	Lake	7120004	PEMAf	PEM	N	3.37	3.37
16	20.3	WRAPP-9384	Lake	7120004	PEMCd	PEM	N	5.48	1.48
16	20.8	WRAPP-9385	Lake	7120004	PEMAd	PEM	N	4.12	4.12
16	21	WRAPP-9386	Lake	7120004	PEMAd	PEM	N	1.72	1.72
16	20.2	WRAPP-9389	Lake	7120004	PEMAf	PEM	N	0.84	0.84
16	20.1	WRAPP-9390	Lake	7120004	PEMAd	PEM	N	1.08	1.08
16	20.3	WRAPP-9391	Lake	7120004	PEMC	PEM	N	0.34	0.34
16	20.2	WRAPP-9392	Lake	7120004	PEMA	PEM	N	0.38	0.38
16	19.4	WRAPP-9393	Lake	7120004	PEMCf	PEM	N	0.17	0.17
16	19.5	WRAPP-9394	Lake	7120004	PEMAf	PEM	N	0.03	0.03
16	15.8	WRAPP-943	Lake	7120004	R4SBCx	PEM	N	0.36	0.10
16	18.5	WRAPP-9473	Lake	7120004	PFO1A	PFO	N	0.16	0.04
16	18.4	WRAPP-9474	Lake	7120004	PUBGh	PEM	N	0.10	0.10
16	18.4	WRAPP-9475	Lake	7120004	PFO1A	PFO	N	0.59	0.59
16	19	WRAPP-9488	Lake	7120004	PEMA	PEM	N	0.93	0.93
16	18.8	WRAPP-9489	Lake	7120004	PEMAf	PEM	N	0.65	0.65
16	16.1	WRAPP-949	Lake	7120004	PEMA	PEM	N	0.25	0.25
16	18.1	WRAPP-9494	Lake	7120004	PUBGx	PEM	N	0.03	0.00
16	17.8	WRAPP-9495	Lake	7120004	PEMAs	PEM	N	0.05	0.05
16	17.5	WRAPP-9499	Lake	7120004	PEMAd	PEM	N	0.30	0.06
16	9	WRAPP-95	Lake	7120004	PFO1C	PFO	Y	0.71	0.71
16	17.6	WRAPP-9500	Lake	7120004	R4SBCx	PEM	N	0.56	0.23
16	17.5	WRAPP-9501	Lake	7120004	PUBGx	PEM	N	0.11	0.11
16	17.6	WRAPP-9502	Lake	7120004	R4SBCx	PEM	N	0.51	0.51

Attachment B - Table 16-1
Corridor 16 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
16	17.5	WRAPP-9503	Lake	7120004	R4SBCx	PEM	N	0.09	0.09
16	17.6	WRAPP-9504	Lake	7120004	PEMC	PEM	N	0.24	0.24
16	17.6	WRAPP-9505	Lake	7120004	PEM/FO1C	PEM	N	2.03	2.03
16	17.6	WRAPP-9506	Lake	7120004	PFO1Ad	PFO	N	1.24	1.24
16	17.8	WRAPP-9507	Lake	7120004	PEMCx	PEM	N	0.00	0.00
16	17.5	WRAPP-9510	Lake	7120004	PEMAx	PEM	N	0.02	0.02
16	17.8	WRAPP-9512	Lake	7120004	L2UBHh	PEM	Y	0.19	0.03
16	16.2	WRAPP-952	Lake	7120004	PEM/FO1Cx	PEM	N	0.33	0.33
16	16.4	WRAPP-969	Lake	7120004	PEMA	PEM	N	0.64	0.64
16	16.4	WRAPP-970	Lake	7120004	PABF	PEM	N	0.02	0.02
16	16.4	WRAPP-971	Lake	7120004	PEMA	PEM	N	0.32	0.32
16	16.4	WRAPP-973	Lake	7120004	PEMAd	PEM	N	0.19	0.19
16	16.4	WRAPP-976	Lake	7120004	PFO1Cd	PFO	N	0.31	0.31
16	16.5	WRAPP-981	Lake	7120004	PUBFx	PEM	N	0.04	0.04
16	16.5	WRAPP-983	Lake	7120004	PEMA	PEM	N	0.32	0.32
16	22	WRAPP-9899	Lake	7120004	PFO1Cd	PFO	N	5.51	5.15
16	16.6	WRAPP-990	Lake	7120004	PSS1A	PSS	N	0.40	0.40
16	21.5	WRAPP-9912	Lake	7120004	PEMFd	PEM	N	2.25	0.04
16	22	WRAPP-9916	Lake	7120004	PEM/FO1Ad	PEM	N	0.96	0.76
16	22	WRAPP-9917	Lake	7120004	PFO1As	PFO	N	1.95	1.95
16	22	WRAPP-9918	Lake	7120004	PEM/FO1Cd	PEM	N	1.34	0.25
16	22	WRAPP-9922	Lake	7120004	PFO1Ad	PFO	N	0.50	0.50
16	21.7	WRAPP-9923	Lake	7120004	PEM/FO1Ad	PEM	N	1.05	1.05
16	21.7	WRAPP-9924	Lake	7120004	PSS1Ad	PSS	N	0.79	0.79
16	21.7	WRAPP-9925	Lake	7120004	PEMCd	PEM	N	0.39	0.39
16	21.7	WRAPP-9926	Lake	7120004	PFO1Ad	PFO	N	0.57	0.57
16	21.6	WRAPP-9927	Lake	7120004	PFO1Ad	PFO	N	0.08	0.08
16	21.6	WRAPP-9928	Lake	7120004	PFO1Ad	PFO	N	0.55	0.55
16	21.9	WRAPP-9929	Lake	7120004	PEMC	PEM	N	0.72	0.37
16	21.9	WRAPP-9930	Lake	7120004	PFO1A	PFO	N	0.67	0.05
16	21.9	WRAPP-9931	Lake	7120004	PFO1A	PFO	N	0.92	0.09
16	21.8	WRAPP-9932	Lake	7120004	PEM/FO1C	PEM	N	0.51	0.51
16	21.7	WRAPP-9936	Lake	7120004	PEM/FO1Cd	PEM	N	0.74	0.18
16	21.7	WRAPP-9937	Lake	7120004	PUBF	PEM	N	0.01	0.01
16	21.6	WRAPP-9938	Lake	7120004	R4SBCx	PEM	N	0.35	0.28
16	21.5	WRAPP-9939	Lake	7120004	PEMCd	PEM	N	3.68	3.68
16	16.6	WRAPP-994	Lake	7120004	PEM/SS1A	PEM	N	1.49	1.49
16	21.7	WRAPP-9940	Lake	7120004	PEM/FO1Ad	PEM	N	1.27	1.27
16	21.7	WRAPP-9959	Lake	7120004	R2UBHx	PEM	N	0.24	0.12
16	21	WRAPP-9960	Lake	7120004	PEMCd	PEM	N	66.76	17.73
TOTAL									**669.59**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 16-2
Corridor 16 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
16	9	13941	Cook	7120004	Unnamed Trib to Pond	0
16	10.3	8641	Lake	7120004	South Branch Buffalo Creek	1
16	10.6	8525	Lake	7120004	Buffalo Creek	1
16	11.1	8383	Lake	7120004	Albert Lake Tributary	0
16	11.9	7892	Lake	7120004	Kildeer Creek	1
16	13.6	7086	Lake	7120004	Forest Lake Drain	1
16	14.2	6886	Lake	7120004	West Branch Indian Creek	1
16	15.3	9334	Lake	7120004	Indian Creek	1
16	15.3	6481	Lake	7120004	Unnamed Trib to Indian Creek	0
16	17.5	5623	Lake	7120004	Unnamed Trib	0
16	18.4	5102	Lake	7120004	Bull Creek	0
16	18.5	5288	Lake	7120004	Unnamed Trib to Bull Creek 1	0
16	18.5	5301	Lake	7120004	Unnamed Trib to Bull Creek 2	0
16	18.6	5220	Lake	7120004	Unnamed Trib to Bull Creek 3	0
16	18.8	5149	Lake	7120004	Unnamed Trib to Bull Creek 4	0
16	19.8	4691	Lake	7120004	Countryside Landfill South Ditch	1
16	20	4691	Lake	7120004	Countryside Landfill South Ditch	1
16	21.5	4298	Lake	7120004	Countryside Landfill North Ditch	0
16	22	4145	Lake	7120004	Avon-Fremont Drainage Ditch	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 16-3
Corridor 16 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
16	19.3	AIOW - 11	Lake	7120004	Detention Basin		2.05	2.05
16	18.2	AIOW - 8	Lake	7120004	Detention Basin		0.71	0.71
16	20.4	AIOW - 9	Lake	7120004	Pond		0.87	0.87
16	9.1	LR-10214	Cook	7120004	Pond		0.78	0.78
16	9	LR-10224	Cook	7120004	Pond		0.55	0.55
16	9	LR-10227	Cook	7120004	Pond		0.11	0.11
16	9	LR-10228	Cook	7120004	Pond		0.09	0.09
16	9	LR-10230	Cook	7120004	Pond		0.21	0.21
16	9	LR-10234	Cook	7120004	Pond		0.12	0.12
16	9	LR-10237	Cook	7120004	Pond		0.07	0.07
16	9	LR-10247	Cook	7120004	Pond		1.42	1.24
16	9	LR-10248	Cook	7120004	Pond		0.03	0.03
16	9	LR-10255	Cook	7120004	Pond		0.12	0.12
16	9	LR-10258	Cook	7120004	Pond		0.04	0.04
16	9	LR-10259	Cook	7120004	Pond		0.09	0.09
16	9	LR-10260	Cook	7120004	Pond		0.04	0.04
16	9	LR-10261	Cook	7120004	Pond		0.10	0.10
16	9	LR-14855	Cook	7120004	Pond		0.10	0.06
16	9	LR-16032	Cook	7120004	Pond		0.11	0.11
16	9	LR-16099	Cook	7120004	Pond		4.73	2.90
16	9	LR-17072	Cook	7120004	Pond		0.52	0.52
16	22	LR-4131	Lake	7120004	Pond		0.04	0.04
16	22	LR-4136	Lake	7120004	Detention Basin	Eastlake Farm Park Pond	0.49	0.49
16	21.9	LR-4147	Lake	7120004	Detention Basin	Hidden Ponds Pond 1	0.37	0.27
16	21.8	LR-4218	Lake	7120004	Detention Basin	Lake Vista - Grayslake Pond	0.10	0.10
16	21.7	LR-4237	Lake	7120004	Pond	Hidden Ponds Pond 6	0.24	0.19
16	21.7	LR-4244	Lake	7120004	Pond	Phil-Mar Pond	0.17	0.17
16	21.7	LR-4245	Lake	7120004	Detention Basin	Grayslake Rail Station Pond 1	0.98	0.98
16	21.7	LR-4246	Lake	7120004	Detention Basin	Grayslake Rail Station Pond 2	0.20	0.20
16	21.1	LR-4400	Lake	7120004	Pond		1.85	0.54
16	21.1	LR-4404	Lake	7120004	Pond		0.42	0.42
16	20.7	LR-4418	Lake	7120004	Pond	Countryside Landfill Pond 18	4.61	0.09
16	21	LR-4441	Lake	7120004	Pond		0.62	0.59
16	20.8	LR-4455	Lake	7120004	Pond		0.54	0.54
16	21	LR-4470	Lake	7120004	Pond		0.18	0.18
16	20.6	LR-4484	Lake	7120004	Pond		0.24	0.01
16	20.9	LR-4485	Lake	7120004	Pond		2.06	0.33
16	20.8	LR-4517	Lake	7120004	Pond		0.24	0.14
16	20.4	LR-4572	Lake	7120004	Pond	Countryside Landfill Pond 14	0.25	0.25
16	20.3	LR-4592	Lake	7120004	Pond	Countryside Landfill Pond 13	0.40	0.40
16	20.4	LR-4649	Lake	7120004	Pond		0.52	0.44
16	20.2	LR-4656	Lake	7120004	Pond	Countryside Landfill Pond 12	0.52	0.52
16	20	LR-4674	Lake	7120004	Pond	Countryside Landfill Pond 9	0.03	0.03
16	20.1	LR-4682	Lake	7120004	Pond		0.04	0.04
16	20.1	LR-4717	Lake	7120004	Detention Basin		1.33	1.33
16	19.8	LR-4744	Lake	7120004	Pond	Countryside Landfill Pond 11	2.68	2.68
16	19.7	LR-4797	Lake	7120004	Pond	Countryside Landfill Pond 10	0.14	0.14
16	19.9	LR-4830	Lake	7120004	Pond		0.00	0.00
16	19.4	LR-4893	Lake	7120004	Pond		0.36	0.36
16	19.3	LR-4927	Lake	7120004	Pond		0.65	0.65
16	18.8	LR-5100	Lake	7120004	Pond	Asbury Park Pond 1	3.34	3.26
16	18.7	LR-5193	Lake	7120004	Detention Basin	Asbury Park Pond 2	0.82	0.16
16	18.6	LR-5233	Lake	7120004	Detention Basin	Cambridge Country North Pond	1.05	0.17
16	18.6	LR-5282	Lake	7120004	Pond	Longmeadow Park Pond 5	0.02	0.00
16	18.6	LR-5285	Lake	7120004	Pond	Longmeadow Park Pond 4	0.03	0.00
16	18.5	LR-5321	Lake	7120004	Pond	Hampton Reserve Pond	0.49	0.49
16	18.3	LR-5362	Lake	7120004	Pond	Longmeadow Park Pond 1	0.89	0.11
16	18.2	LR-5415	Lake	7120004	Detention Basin	Town and Country Homes Pond 1	2.29	2.29
16	18.1	LR-5426	Lake	7120004	Detention Basin	Town and Country Homes Pond 2	2.00	2.00
16	17.8	LR-5439	Lake	7120004	Lake	Loch Lomond	75.83	0.51
16	18.1	LR-5452	Lake	7120004	Pond		0.33	0.18
16	18	LR-5466	Lake	7120004	Detention Basin	Fremont Public Library Pond	1.94	1.06
16	17.9	LR-5481	Lake	7120004	Detention Basin	Town and Country Homes Pond 3	0.66	0.66
16	17.8	LR-5529	Lake	7120004	Pond	Ivanhoe Terrace Pond	0.06	0.06
16	17.8	LR-5533	Lake	7120004	Detention Basin	Mundelein Fire Department Station 1 Pond 1	0.55	0.55
16	17.8	LR-5537	Lake	7120004	Pond	Mundelein Fire Department Station 1 Pond 2	0.59	0.59
16	17.8	LR-5547	Lake	7120004	Detention Basin	Mundelein Fire Department Station 1 Pond 3	0.16	0.16

Attachment B - Table 16-3
Corridor 16 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
16	17.8	LR-5551	Lake	7120004	Pond	Mundelein Fire Department Station 1 Pond 4	0.37	0.37
16	17.8	LR-5563	Lake	7120004	Detention Basin	Mundelein Fire Department Station 1 Pond 5	0.29	0.29
16	17.5	LR-5632	Lake	7120004	Pond	Leo Leathers Park Pond 1	3.77	3.77
16	17.5	LR-5650	Lake	7120004	Detention Basin		0.32	0.32
16	17.5	LR-5664	Lake	7120004	Pond	Leo Leathers Park Pond 2	0.02	0.02
16	17.4	LR-5697	Lake	7120004	Detention Basin	Mundelein High School Pond	0.36	0.36
16	17.2	LR-5768	Lake	7120004	Detention Basin	Carl Sandburg Middle School Pond	0.29	0.29
16	16.8	LR-5843	Lake	7120004	Pond	Countryside D	0.87	0.86
16	16.7	LR-5863	Lake	7120004	Detention Basin	Cambridge Country Park Pond	6.22	6.22
16	16.7	LR-5878	Lake	7120004	Pond	Countryside F	0.21	0.21
16	16.7	LR-5899	Lake	7120004	Pond	Countryside C	1.22	1.22
16	16.6	LR-5948	Lake	7120004	Detention Basin	Apple Country Park Pond	0.34	0.34
16	16.3	LR-5964	Lake	7120004	Lake	Wilderness Park Lake	11.95	11.20
16	16.5	LR-5975	Lake	7120004	Pond		0.15	0.15
16	16.4	LR-6002	Lake	7120004	Pond	LCFPD Pond	0.47	0.47
16	16.3	LR-6030	Lake	7120004	Pond	Orchard View Park Pond 1	0.90	0.90
16	16.3	LR-6050	Lake	7120004	Pond	Countryside I	0.52	0.52
16	16.3	LR-6064	Lake	7120004	Detention Basin	Beckett Crossing Pond 1	0.71	0.71
16	16.2	LR-6069	Lake	7120004	Lake	LCFPD Pond	44.42	26.86
16	16.2	LR-6078	Lake	7120004	Pond	Orchard View Park Pond 2	0.18	0.18
16	16.2	LR-6090	Lake	7120004	Detention Basin	Beckett Crossing Pond 2	0.42	0.42
16	16.2	LR-6092	Lake	7120004	Pond	Wilderness Park - South Pond	1.04	0.03
16	16.2	LR-6110	Lake	7120004	Detention Basin	Cambridge Countryside Commercial Pond	0.84	0.62
16	15.9	LR-6174	Lake	7120004	Pond	Wortham Park Pond	3.74	3.74
16	16	LR-6199	Lake	7120004	Detention Basin	Mundelein Meadows Pond	2.60	2.33
16	15.9	LR-6221	Lake	7120004	Pond		0.22	0.22
16	15.9	LR-6233	Lake	7120004	Pond	Countryside Highlands Pond 1	0.12	0.12
16	15.8	LR-6266	Lake	7120004	Pond	Countryside Highlands Pond 2	0.04	0.04
16	15.7	LR-6317	Lake	7120004	Pond		0.11	0.11
16	15.5	LR-6410	Lake	7120004	Pond		0.74	0.74
16	15.3	LR-6474	Lake	7120004	Pond	Indian Creek Club Pond 6	0.12	0.12
16	15.2	LR-6496	Lake	7120004	Detention Basin		1.60	1.60
16	15.2	LR-6526	Lake	7120004	Pond		0.73	0.00
16	15	LR-6596	Lake	7120004	Pond		0.03	0.03
16	14.7	LR-6716	Lake	7120004	Pond		0.02	0.02
16	14.4	LR-6866	Lake	7120004	Pond		1.50	1.50
16	14.4	LR-6870	Lake	7120004	Pond	Tiffany Estates of Hawthorn Woods Pond	0.43	0.43
16	14.4	LR-6901	Lake	7120004	Pond		0.21	0.21
16	14.3	LR-6913	Lake	7120004	Pond		2.34	2.34
16	14.2	LR-6939	Lake	7120004	Pond		0.54	0.54
16	14.2	LR-6956	Lake	7120004	Pond		0.85	0.85
16	13.9	LR-7038	Lake	7120004	Pond	Rambling Hills Pond 1	2.76	2.76
16	13.8	LR-7062	Lake	7120004	Pond		3.23	0.51
16	13.8	LR-7093	Lake	7120004	Detention Basin	Hawthorn Grove Pond 1	0.94	0.65
16	13.7	LR-7145	Lake	7120004	Pond	Rambling Hills Pond 2	0.02	0.02
16	13.7	LR-7146	Lake	7120004	Detention Basin	Hawthorn Grove Pond 2	2.06	0.66
16	13.6	LR-7172	Lake	7120004	Pond	Thornberry Creek Pond 1	1.40	1.40
16	13.4	LR-7220	Lake	7120004	Pond	Thornberry Creek Pond 2	1.27	1.27
16	13.4	LR-7264	Lake	7120004	Detention Basin	Hawthorn Grove Pond 4	0.61	0.56
16	13.3	LR-7307	Lake	7120004	Detention Basin	Hawthorn Grove Pond 5	1.61	1.61
16	12.8	LR-7522	Lake	7120004	Pond	Long Meadow Farms Pond	0.76	0.76
16	12.7	LR-7538	Lake	7120004	Pond		0.20	0.20
16	12.6	LR-7592	Lake	7120004	Lake	Kemper Lake 2	27.89	10.55
16	12.6	LR-7600	Lake	7120004	Pond		0.65	0.65
16	12.6	LR-7618	Lake	7120004	Pond		0.24	0.24
16	12.2	LR-7780	Lake	7120004	Pond		0.79	0.79
16	12.2	LR-7792	Lake	7120004	Pond		0.32	0.32
16	12.1	LR-7825	Lake	7120004	Pond	LCFPD Pond	3.18	3.17
16	12.1	LR-7845	Lake	7120004	Pond	Central Slough Pond 1	0.20	0.20
16	12.1	LR-7848	Lake	7120004	Pond	Central Slough Pond 2	0.24	0.24
16	12.1	LR-7849	Lake	7120004	Pond	Central Slough Pond 3	1.38	1.38
16	12.1	LR-7854	Lake	7120004	Pond		0.09	0.09
16	11.9	LR-7891	Lake	7120004	Lake	Central Slough Lake	32.10	12.15
16	11.9	LR-7949	Lake	7120004	Pond		0.09	0.09
16	11.8	LR-8027	Lake	7120004	Pond	Central Slough Pond 4	0.18	0.00
16	11.7	LR-8097	Lake	7120004	Pond	Glenstone Pond 1	0.42	0.42
16	11.6	LR-8177	Lake	7120004	Pond	Glenstone Pond 2	1.17	1.17

Attachment B - Table 16-3
Corridor 16 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
16	11.3	LR-8235	Lake	7120004	Pond	Glenstone Pond 3	1.46	1.46
16	11.3	LR-8302	Lake	7120004	Pond	Beaver Creek Estates Pond 3	0.16	0.16
16	11.2	LR-8320	Lake	7120004	Pond	Glenstone Pond 4	1.01	1.01
16	11.2	LR-8373	Lake	7120004	Pond	Deerwood Estates Pond	2.32	2.32
16	10.9	LR-8424	Lake	7120004	Lake	Albert Lake	18.20	5.94
16	10.7	LR-8469	Lake	7120004	Lake	Mardan Oaks Pond 1	14.14	1.76
16	10.9	LR-8499	Lake	7120004	Pond	State of Illinois Dept of Public Works Pond	0.53	0.53
16	10.8	LR-8546	Lake	7120004	Pond	Tall Oaks Pond 6	0.12	0.02
16	10.8	LR-8554	Lake	7120004	Pond	Spring Valley Pond 1	0.07	0.07
16	10.7	LR-8559	Lake	7120004	Pond	Spring Valley Pond 2	0.49	0.49
16	10.7	LR-8573	Lake	7120004	Pond	Spring Valley Pond 3	0.71	0.71
16	10.6	LR-8582	Lake	7120004	Pond	Hidden Valley Lake	4.53	4.53
16	10.6	LR-8590	Lake	7120004	Pond	North Branch Buffalo Creek Pond	1.78	1.78
16	10.5	LR-8681	Lake	7120004	Pond	Bennington Pond 2	0.06	0.06
16	10.5	LR-8691	Lake	7120004	Pond	Bennington Pond 1	0.06	0.06
16	10.3	LR-8725	Lake	7120004	Pond	Bennington Pond 3	1.77	0.00
16	10.4	LR-8726	Lake	7120004	Pond		0.40	0.40
16	10.4	LR-8731	Lake	7120004	Pond	Bennington Pond 4	0.15	0.15
16	10.3	LR-8772	Lake	7120004	Pond	Bennington Pond 5	0.37	0.37
16	9.9	LR-8899	Lake	7120004	Pond	Wyncrest of Long Grove Pond 2	0.58	0.05
16	9.8	LR-8974	Lake	7120004	Pond		0.04	0.04
16	9.7	LR-9003	Lake	7120004	Pond		0.30	0.04
16	9.8	LR-9012	Lake	7120004	Pond		0.09	0.09
16	9.8	LR-9015	Lake	7120004	Pond		0.99	0.99
16	9.8	LR-9027	Lake	7120004	Pond		0.03	0.03
16	9.8	LR-9052	Lake	7120004	Pond		0.06	0.01
16	9.5	LR-9072	Lake	7120004	Pond		0.55	0.55
16	9.7	LR-9091	Lake	7120004	Lake		7.96	0.33
16	9.6	LR-9096	Lake	7120004	Pond		0.38	0.38
16	9.4	LR-9135	Lake	7120004	Pond		0.10	0.10
16	9.2	LR-9141	Lake	7120004	Pond	Penny Farm Pond	0.36	0.36
16	9.6	LR-9153	Lake	7120004	Pond		1.01	0.63
16	9.5	LR-9164	Lake	7120004	Pond		0.03	0.03
16	9.2	LR-9177	Lake	7120004	Pond	Lloyd Pond	0.01	0.01
16	9.4	LR-9199	Lake	7120004	Pond		0.12	0.12
16	9.4	LR-9217	Lake	7120004	Pond	Shanske Terrace Pond	0.20	0.13
16	9.3	LR-9242	Lake	7120004	Pond		1.11	1.11
TOTAL								**175.15**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 17-1
Corridor 17 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
17	9.5	ADID-1812	Lake	7120004	PEM	PEM	Y	2.34	0.41
17	10.8	ADID-1817	Lake	7120004	PUBHh	PEM	N	37.06	8.39
17	9.4	AI-51	Lake	7120004	PEM	PEM	N	0.01	0.00
17	9.4	WRAPP-109	Lake	7120004	PEM/FO1A	PEM	N	0.80	0.80
17	10.6	WRAPP-10990	Lake	7120004	PUBHx	PEM	N	0.23	0.23
17	10.7	WRAPP-10991	Lake	7120004	PUBGx	PEM	N	0.08	0.08
17	10.8	WRAPP-10992	Lake	7120004	PSS1C	PSS	N	0.72	0.72
17	10.8	WRAPP-10994	Lake	7120004	PUBHx	PEM	N	0.18	0.18
17	10.9	WRAPP-10995	Lake	7120004	PEMC	PEM	N	1.21	1.21
17	10.3	WRAPP-10996	Lake	7120004	PUBGx	PEM	N	0.01	0.01
17	10.8	WRAPP-10997	Lake	7120004	PUBGh	PEM	N	0.05	0.05
17	10.7	WRAPP-10999	Lake	7120004	PSS1C	PSS	N	1.94	1.94
17	10.8	WRAPP-11000	Lake	7120004	PEMCd	PEM	N	6.98	6.98
17	10.7	WRAPP-11001	Lake	7120004	PSS1Cd	PSS	N	0.54	0.54
17	10.3	WRAPP-11006	Lake	7120004	PEM/FO1C	PEM	N	1.01	1.01
17	10.3	WRAPP-11007	Lake	7120004	PEMCd	PEM	N	6.12	4.80
17	10.4	WRAPP-11008	Lake	7120004	PEM/FO1Cd	PEM	N	20.24	20.24
17	10.6	WRAPP-11009	Lake	7120004	PSS1As	PSS	N	2.41	2.41
17	10.3	WRAPP-11010	Lake	7120004	PFO1A	PFO	N	0.17	0.17
17	10.2	WRAPP-11011	Lake	7120004	PFO1C	PFO	N	0.36	0.09
17	10.2	WRAPP-11012	Lake	7120004	PFO1A	PFO	N	0.53	0.53
17	9.5	WRAPP-115	Lake	7120004	PEM/UBFx	PEM	N	0.29	0.29
17	9.5	WRAPP-116	Lake	7120004	PEM/SS1C	PEM	Y	0.93	0.93
17	10.8	WRAPP-11603	Lake	7120004	PSS1Cd	PSS	N	0.20	0.20
17	9.5	WRAPP-120	Lake	7120004	PEMA	PEM	N	0.86	0.86
17	11.3	WRAPP-12033	Lake	7120004	PEMC	PEM	Y	7.17	7.17
17	11.3	WRAPP-12034	Lake	7120004	PUBGx	PEM	N	0.10	0.10
17	11.3	WRAPP-12035	Lake	7120004	R4SBCx	PEM	N	0.27	0.27
17	11.3	WRAPP-12058	Lake	7120004	PEMC	PEM	N	0.88	0.88
17	10.8	WRAPP-12105	Lake	7120004	PFO1Ad	PFO	N	8.38	0.16
17	10.7	WRAPP-12113	Lake	7120004	PEMFd	PEM	N	7.84	7.76
17	10.8	WRAPP-12114	Lake	7120004	PSS1As	PSS	N	0.31	0.31
17	10.2	WRAPP-12126	Lake	7120004	PFO1C	PFO	N	0.08	0.08
17	11.2	WRAPP-12139	Lake	7120004	PUBGx	PEM	N	0.16	0.16
17	11.2	WRAPP-12140	Lake	7120004	PEM/SS1A	PEM	N	0.15	0.10
17	11.2	WRAPP-12141	Lake	7120004	PEM/SS1Ad	PEM	N	1.36	1.20
17	11.2	WRAPP-12142	Lake	7120004	PFO1Ad	PFO	N	0.49	0.00
17	10.9	WRAPP-12150	Lake	7120004	PFO1A	PFO	N	1.11	0.00
17	10.7	WRAPP-12171	Lake	7120004	PEM/FO1Ad	PEM	N	1.48	1.48
17	9.5	WRAPP-123	Lake	7120004	PEM/SS1Cd	PEM	N	3.15	3.15
17	9.5	WRAPP-12309	Lake	7120004	PUBGx	PEM	Y	0.08	0.01
17	9.6	WRAPP-12310	Lake	7120004	PEM/FO1Fd	PEM	Y	14.30	7.74
17	9.8	WRAPP-12315	Lake	7120004	PEMF	PEM	N	6.28	6.28
17	10	WRAPP-12317	Lake	7120004	PUBKx	PEM	N	0.01	0.01
17	9.8	WRAPP-12335	Lake	7120004	PEMA	PEM	N	0.47	0.47
17	9.7	WRAPP-12336	Lake	7120004	PEM/FO1C	PEM	N	1.02	0.16
17	9.7	WRAPP-12337	Lake	7120004	PFO1A	PFO	N	0.09	0.09
17	9.7	WRAPP-12338	Lake	7120004	PEM/UBF	PEM	N	0.32	0.32
17	9.8	WRAPP-12339	Lake	7120004	PUBGx	PEM	N	0.06	0.06
17	9.8	WRAPP-12340	Lake	7120004	PEMC	PEM	N	5.02	5.02
17	9.8	WRAPP-12341	Lake	7120004	PFO1A	PFO	N	1.24	1.24
17	9.9	WRAPP-12342	Lake	7120004	PEMC	PEM	N	12.49	12.49
17	10	WRAPP-12343	Lake	7120004	PUBKx	PEM	N	0.01	0.01
17	9.6	WRAPP-12345	Lake	7120004	PEM/FO1F	PEM	N	0.60	0.60
17	9.8	WRAPP-12352	Lake	7120004	PEM/FO1C	PEM	N	2.39	2.39
17	9.9	WRAPP-12353	Lake	7120004	PEMC	PEM	N	1.18	0.84
17	9.9	WRAPP-12354	Lake	7120004	PEMAx	PEM	N	2.36	2.36

Attachment B - Table 17-1
Corridor 17 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
17	9.4	WRAPP-12355	Lake	7120004	PSS1A	PSS	N	0.44	0.44
17	9.4	WRAPP-12360	Lake	7120004	PFO1C	PFO	N	3.26	0.96
17	9.5	WRAPP-126	Lake	7120004	PEMA	PEM	N	0.30	0.30
17	9.6	WRAPP-127	Lake	7120004	PUBGx	PEM	Y	0.24	0.24
17	9.6	WRAPP-141	Lake	7120004	PUBHx	PEM	N	0.00	0.00
17	9.7	WRAPP-156	Lake	7120004	PEMC	PEM	N	1.18	1.10
17	9.8	WRAPP-160	Lake	7120004	PEM/UBF	PEM	N	0.22	0.22
17	10.7	WRAPP-16265	Lake	7120004	PEMCd	PEM	N	1.14	1.14
17	10.7	WRAPP-16266	Lake	7120004	PEM/FO1Cd	PEM	N	7.96	4.41
17	10.3	WRAPP-16268	Lake	7120004	PFO1A	PFO	N	0.99	0.02
17	9.4	WRAPP-16673	Lake	7120004	PUBGx	PEM	N	1.97	1.50
17	10.2	WRAPP-17	Lake	7120004	PFO1A	PFO	N	1.46	0.26
17	10	WRAPP-185	Lake	7120004	PFO1A	PFO	N	0.12	0.12
17	9.9	WRAPP-186	Lake	7120004	PEMC	PEM	N	5.65	5.56
17	10	WRAPP-191	Lake	7120004	PUBKx	PEM	N	0.03	0.03
17	10	WRAPP-199	Lake	7120004	PFO1A	PFO	N	0.95	0.21
17	10.1	WRAPP-209	Lake	7120004	PEMC	PEM	N	3.43	3.43
17	10.2	WRAPP-226	Lake	7120004	PEM/FO1C	PEM	N	3.42	3.00
17	10.8	WRAPP-272	Lake	7120004	PFO1C	PFO	N	0.04	0.04
17	10.9	WRAPP-281	Lake	7120004	PEM/FO1A	PEM	N	0.80	0.80
17	10.9	WRAPP-283	Lake	7120004	PAB4/UBGx	PEM	N	0.32	0.32
17	11.1	WRAPP-306	Lake	7120004	PFO1A	PFO	N	1.05	1.05
17	11	WRAPP-313	Lake	7120004	PEMC	PEM	N	9.78	9.78
17	10.9	WRAPP-319	Lake	7120004	PFO1Ad	PFO	N	0.48	0.12
17	11.3	WRAPP-329	Lake	7120004	PFO1C	PFO	N	0.09	0.09
17	11.2	WRAPP-332	Lake	7120004	PEM/FO1A	PEM	N	1.83	1.83
17	11.1	WRAPP-333	Lake	7120004	PEM/FO1C	PEM	Y	0.75	0.75
17	11.2	WRAPP-346	Lake	7120004	PEMAx	PEM	N	0.61	0.61
17	11.3	WRAPP-350	Lake	7120004	PUBFh	PEM	N	0.02	0.02
17	11.3	WRAPP-356	Lake	7120004	PEMAd	PEM	N	1.18	1.18
17	11.2	WRAPP-363	Lake	7120004	PUBGx	PEM	N	0.07	0.07
17	11.3	WRAPP-366	Lake	7120004	PEMC	PEM	N	0.91	0.91
17	11.3	WRAPP-368	Lake	7120004	PEMA	PEM	N	0.42	0.42
17	11.3	WRAPP-383	Lake	7120004	PEMAs	PEM	N	0.02	0.02
17	11.3	WRAPP-390	Lake	7120004	PUBGx	PEM	N	0.15	0.15
17	11.3	WRAPP-397	Lake	7120004	PEMA	PEM	N	0.99	0.88
17	11.3	WRAPP-399	Lake	7120004	PEM/FO1C	PEM	N	2.26	0.99
17	10.8	WRAPP-6254	Lake	7120004	R2UBHx	PFO	Y	1.95	0.04
17	10.3	WRAPP-6257	Lake	7120004	R2UBHx	PEM	N	0.23	0.14
17	10.8	WRAPP-6260	Lake	7120004	R2UBHx	PEM	N	1.67	1.09
TOTAL									**160.29**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 17-2
Corridor 17 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
17	10.3	8641	Lake	7120004	South Branch Buffalo Creek	0
17	10.7	8461	Lake	7120004	Buffalo Creek	1
17	11.2	8383	Lake	7120004	Albert Lake Tributary	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 17-3
Corridor 17 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
17	10.2	AIOW - 12	Lake	7120004	Pond		0.61	0.61
17	11.3	LR-8177	Lake	7120004	Pond	Glenstone Pond 2	1.17	1.17
17	11.3	LR-8235	Lake	7120004	Pond	Glenstone Pond 3	1.46	1.46
17	11.3	LR-8302	Lake	7120004	Pond	Beaver Creek Estates Pond 3	0.16	0.16
17	11.2	LR-8320	Lake	7120004	Pond	Glenstone Pond 4	1.01	1.01
17	11.2	LR-8373	Lake	7120004	Pond	Deerwood Estates Pond	2.32	2.32
17	10.8	LR-8469	Lake	7120004	Lake	Mardan Oaks Pond 1	14.14	14.14
17	10.9	LR-8499	Lake	7120004	Pond	State of Illinois Dept of Public Works Pond	0.53	0.53
17	10.8	LR-8554	Lake	7120004	Pond	Spring Valley Pond 1	0.07	0.07
17	10.7	LR-8559	Lake	7120004	Pond	Spring Valley Pond 2	0.49	0.49
17	10.7	LR-8573	Lake	7120004	Pond	Spring Valley Pond 3	0.71	0.71
17	10.6	LR-8582	Lake	7120004	Pond	Hidden Valley Lake	4.53	4.53
17	10.6	LR-8590	Lake	7120004	Pond	North Branch Buffalo Creek Pond	1.78	1.78
17	10.3	LR-8726	Lake	7120004	Pond		0.40	0.40
17	10.2	LR-8780	Lake	7120004	Pond	Greenland Pond	0.41	0.41
17	10	LR-8898	Lake	7120004	Pond	Wyncrest of Long Grove Pond 1	1.20	1.20
17	10	LR-8899	Lake	7120004	Pond	Wyncrest of Long Grove Pond 2	0.58	0.58
17	10	LR-8917	Lake	7120004	Pond	Wyncrest of Long Grove Pond 3	0.04	0.04
17	9.9	LR-8974	Lake	7120004	Pond		0.04	0.04
17	9.8	LR-9003	Lake	7120004	Pond		0.30	0.30
17	9.8	LR-9012	Lake	7120004	Pond		0.09	0.09
17	9.7	LR-9015	Lake	7120004	Pond		0.99	0.99
17	9.8	LR-9027	Lake	7120004	Pond		0.03	0.03
17	9.6	LR-9072	Lake	7120004	Pond		0.55	0.55
17	9.6	LR-9096	Lake	7120004	Pond		0.38	0.38
17	9.5	LR-9135	Lake	7120004	Pond		0.10	0.10
17	9.4	LR-9141	Lake	7120004	Pond	Penny Farm Pond	0.36	0.36
17	9.5	LR-9153	Lake	7120004	Pond		1.01	0.20
17	9.5	LR-9164	Lake	7120004	Pond		0.03	0.03
17	9.4	LR-9177	Lake	7120004	Pond	Lloyd Pond	0.01	0.01
17	9.5	LR-9199	Lake	7120004	Pond		0.12	0.12
17	9.4	LR-9217	Lake	7120004	Pond	Shanske Terrace Pond	0.20	0.06
17	9.4	LR-9242	Lake	7120004	Pond		1.11	0.11
TOTAL								**34.98**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 18-1
Corridor 18 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
18	15.7	ADID-1778	Lake	7120004	PEMCd	PEM	N	24.31	4.79
18	14.3	ADID-1803	Lake	7120004	PUBHx	PEM	N	20.07	3.09
18	14.4	ADID-2684	Lake	7120004	PFO1C	PFO	Y	43.68	3.10
18	14.9	ADID-2685	Lake	7120004	PFO	PFO	N	0.42	0.31
18	15.3	ADID-2686	Lake	7120004	PFO	PFO	N	0.42	0.17
18	15.2	ADID-2687	Lake	7120004	PFO	PFO	N	3.43	1.98
18	16.4	WRAPP-10413	Lake	7120004	PEMC	PEM	N	5.84	4.78
18	16.4	WRAPP-10418	Lake	7120004	R4SBCx	PEM	N	0.16	0.11
18	16.4	WRAPP-10426	Lake	7120004	PUBGx	PEM	N	0.04	0.04
18	16.4	WRAPP-10439	Lake	7120004	PEMC	PEM	N	4.75	4.68
18	16.4	WRAPP-10442	Lake	7120004	PEM/FO1Cd	PEM	Y	4.27	2.38
18	15.7	WRAPP-10481	Lake	7120004	R4SBCx	PEM	N	4.25	0.21
18	16.4	WRAPP-10482	Lake	7120004	PFO5/UBF	PFO	Y	2.79	2.41
18	16.4	WRAPP-10486	Lake	7120004	R4SBCx	PEM	N	0.86	0.71
18	16.4	WRAPP-10487	Lake	7120004	R4SBCx	PEM	N	0.23	0.05
18	16.4	WRAPP-10488	Lake	7120004	R4SBCx	PEM	N	2.17	0.85
18	15.8	WRAPP-10631	Lake	7120004	PEMFd	PEM	N	17.47	0.09
18	16.3	WRAPP-10633	Lake	7120004	PEMAs	PEM	N	0.24	0.24
18	16.3	WRAPP-10634	Lake	7120004	PUBGx	PEM	N	0.20	0.20
18	16.3	WRAPP-10636	Lake	7120004	PUBGx	PEM	N	0.02	0.02
18	16.2	WRAPP-10637	Lake	7120004	PFO1A	PFO	N	0.51	0.51
18	16.2	WRAPP-10638	Lake	7120004	PEMC	PEM	N	1.36	1.36
18	16.2	WRAPP-10639	Lake	7120004	PFO1C	PFO	N	0.48	0.48
18	16.1	WRAPP-10640	Lake	7120004	PEMCd	PEM	N	1.76	1.76
18	15.8	WRAPP-10652	Lake	7120004	PEM/FO1Cd	PEM	N	5.73	0.01
18	15.9	WRAPP-10654	Lake	7120004	PEM/FO1A	PEM	N	1.21	0.59
18	15.4	WRAPP-10655	Lake	7120004	PFO1Cd	PFO	N	0.86	0.49
18	15.8	WRAPP-10656	Lake	7120004	PEM/FO1Cd	PEM	N	4.77	4.77
18	15.8	WRAPP-10657	Lake	7120004	PEMC	PEM	N	1.89	1.89
18	15.8	WRAPP-10658	Lake	7120004	PFO1Cd	PFO	N	1.12	0.13
18	15.8	WRAPP-10659	Lake	7120004	PFO1Cd	PFO	N	1.25	0.03
18	16.3	WRAPP-10660	Lake	7120004	PEMCd	PEM	N	1.69	1.69
18	16.1	WRAPP-10662	Lake	7120004	R4SBCx	PEM	N	2.00	1.06
18	15.7	WRAPP-10663	Lake	7120004	PEMC	PEM	N	0.68	0.06
18	16.1	WRAPP-10664	Lake	7120004	R4SBCx	PEM	N	1.50	0.65
18	15.5	WRAPP-10666	Lake	7120004	PEMC	PEM	N	4.03	4.03
18	15.4	WRAPP-10667	Lake	7120004	PEMF	PEM	N	2.83	2.83
18	15.5	WRAPP-10668	Lake	7120004	PEM/FO1C	PEM	N	0.88	0.40
18	14.4	WRAPP-11712	Lake	7120004	PUBHb	PEM	Y	6.30	6.30
18	14.7	WRAPP-11713	Lake	7120004	PUBHx	PEM	N	0.14	0.14
18	14.7	WRAPP-11714	Lake	7120004	PEMA	PEM	N	1.19	1.19
18	14.7	WRAPP-11715	Lake	7120004	PEMC	PEM	N	1.20	1.20
18	14.2	WRAPP-11722	Lake	7120004	R2UBHx	PEM	N	0.09	0.06
18	15.3	WRAPP-11727	Lake	7120004	PFO1Ad	PFO	N	0.28	0.23
18	15.3	WRAPP-11728	Lake	7120004	PFO1Ad	PFO	N	0.25	0.08
18	14.8	WRAPP-11729	Lake	7120004	PEMCx	PEM	N	0.83	0.06
18	14.6	WRAPP-11730	Lake	7120004	PEM/FO1Ad	PEM	N	5.81	0.07
18	14.2	WRAPP-11731	Lake	7120004	PEMCd	PEM	N	7.77	0.91
18	14.3	WRAPP-11732	Lake	7120004	PUBF	PEM	N	0.00	0.00
18	15.2	WRAPP-11734	Lake	7120004	PFO1Ad	PFO	N	2.27	1.54
18	15.2	WRAPP-11735	Lake	7120004	PFO1Ad	PFO	N	1.77	1.35
18	14.4	WRAPP-11738	Lake	7120004	PEMC	PEM	Y	0.13	0.13
18	14.1	WRAPP-11739	Lake	7120004	PUBGx	PEM	N	0.05	0.05
18	14.3	WRAPP-11740	Lake	7120004	PEMFd	PEM	Y	12.03	8.07
18	14.4	WRAPP-11741	Lake	7120004	PEMFd	PEM	Y	6.30	6.30
18	14.5	WRAPP-11742	Lake	7120004	PEMCd	PEM	N	1.04	1.04
18	14.5	WRAPP-11743	Lake	7120004	PEMC	PEM	Y	1.56	1.56
18	14.5	WRAPP-11744	Lake	7120004	PEMC	PEM	Y	1.05	1.05
18	14.5	WRAPP-11745	Lake	7120004	PEM/FO1Cd	PEM	N	0.87	0.87

Attachment B - Table 18-1
Corridor 18 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
18	14.5	WRAPP-11746	Lake	7120004	PFO1Ad	PFO	N	0.43	0.43
18	14.8	WRAPP-11747	Lake	7120004	PFO1A	PFO	N	0.78	0.67
18	14.4	WRAPP-11755	Lake	7120004	PEMFd	PEM	Y	17.54	10.98
18	14.4	WRAPP-11762	Lake	7120004	PFO1Ad	PFO	Y	2.92	2.25
18	14.5	WRAPP-11763	Lake	7120004	PFO1Ad	PFO	Y	2.75	1.93
18	14	WRAPP-11768	Lake	7120004	PEMC	PEM	N	2.42	2.42
18	14.2	WRAPP-11770	Lake	7120004	PEM/FO1Ad	PEM	N	0.21	0.02
18	14.2	WRAPP-11771	Lake	7120004	PEM/FO1Cd	PEM	N	1.74	0.01
18	13.7	WRAPP-11849	Lake	7120004	PEMAx	PEM	N	1.27	1.18
18	13.7	WRAPP-11850	Lake	7120004	PEMCd	PEM	N	0.15	0.15
18	13.7	WRAPP-11851	Lake	7120004	PUBGx	PEM	N	0.06	0.06
18	13.8	WRAPP-11853	Lake	7120004	PSS1A	PSS	N	0.86	0.44
18	13.9	WRAPP-11856	Lake	7120004	PEMCd	PEM	N	6.46	6.18
18	13.7	WRAPP-11860	Lake	7120004	PSS1Ad	PSS	N	0.10	0.01
18	13.7	WRAPP-11861	Lake	7120004	PSS1Ad	PSS	N	0.14	0.01
18	13.8	WRAPP-11862	Lake	7120004	PEM/FO1Cd	PEM	N	3.21	3.21
18	13.8	WRAPP-11863	Lake	7120004	PEM/FO1Cd	PEM	N	1.80	1.43
18	13.8	WRAPP-11864	Lake	7120004	PEM/FO1Cd	PEM	N	0.30	0.30
18	13.7	WRAPP-11865	Lake	7120004	PFO1Ad	PFO	N	0.73	0.73
18	13.8	WRAPP-11866	Lake	7120004	PEMAx	PEM	N	0.51	0.51
18	13.7	WRAPP-11875	Lake	7120004	PEMC	PEM	N	11.47	1.84
18	14.3	WRAPP-11881	Lake	7120004	PUBHx	PEM	N	0.03	0.03
18	14.3	WRAPP-11882	Lake	7120004	PEMCd	PEM	N	10.56	5.85
18	14	WRAPP-11884	Lake	7120004	PFO1Ad	PFO	N	0.01	0.00
18	14	WRAPP-11886	Lake	7120004	PEM/FO1Cd	PEM	N	0.29	0.26
18	15	WRAPP-15834	Lake	7120004	PEMF	PEM	Y	22.30	22.30
18	14.6	WRAPP-15975	Lake	7120004	PFO1Ad	PFO	N	0.97	0.06
18	14.3	WRAPP-16242	Lake	7120004	R2UBHx	PEM	Y	1.33	0.40
18	13.7	WRAPP-31	Lake	7120004	PEM/FO1Cd	PEM	N	5.81	5.81
18	13.9	WRAPP-32	Lake	7120004	PEM/FO1Cd	PEM	N	1.20	0.00
18	13.7	WRAPP-33	Lake	7120004	R4SBCx	PEM	N	0.30	0.29
18	14.9	WRAPP-37	Lake	7120004	PEMCx	PEM	N	0.84	0.78
18	15.8	WRAPP-39	Lake	7120004	PFO1C	PFO	N	0.42	0.06
18	13.7	WRAPP-616	Lake	7120004	PEMCx	PEM	N	0.76	0.76
18	13.7	WRAPP-627	Lake	7120004	PEMAd	PEM	N	0.57	0.57
18	13.7	WRAPP-6273	Lake	7120004	R4SBCx	PEM	N	0.39	0.02
18	13.7	WRAPP-6275	Lake	7120004	PUBGx	PEM	N	0.07	0.07
18	14.4	WRAPP-6276	Lake	7120004	R2UBHx	PFO	Y	8.81	0.65
18	15.7	WRAPP-6280	Lake	7120004	R4SBCx	PEM	N	0.09	0.09
18	13.7	WRAPP-669	Lake	7120004	PEMC	PEM	N	4.36	0.26
18	13.7	WRAPP-671	Lake	7120004	PEM/SS1C	PEM	N	3.38	3.38
18	13.7	WRAPP-71	Lake	7120004	PEMAx	PEM	N	1.17	1.17
18	14.1	WRAPP-732	Lake	7120004	PEMAf	PEM	N	0.26	0.26
18	13.9	WRAPP-740	Lake	7120004	PUBHx	PEM	N	0.24	0.24
18	14.4	WRAPP-745	Lake	7120004	PEMA	PEM	N	0.11	0.09
18	14.7	WRAPP-777	Lake	7120004	PUBF	PEM	N	0.06	0.06
18	14.8	WRAPP-783	Lake	7120004	PSS1Ad	PSS	N	0.11	0.11
18	14.9	WRAPP-786	Lake	7120004	PEMAd	PEM	N	0.10	0.10
18	15.1	WRAPP-817	Lake	7120004	PEMC	PEM	N	3.16	2.74
18	15.3	WRAPP-840	Lake	7120004	PUBFx	PEM	N	0.01	0.01
18	15.4	WRAPP-874	Lake	7120004	PEMC	PEM	N	3.86	3.86
18	15.4	WRAPP-875	Lake	7120004	PEMA	PEM	N	0.64	0.61
18	15.4	WRAPP-879	Lake	7120004	PEMC	PEM	N	4.27	4.27
18	15.5	WRAPP-884	Lake	7120004	PEMCf	PEM	N	1.18	1.18
18	15.7	WRAPP-895	Lake	7120004	PEMC	PEM	N	3.42	3.42
18	15.8	WRAPP-899	Lake	7120004	PEM/FO1C	PEM	N	1.21	1.21
18	15.6	WRAPP-908	Lake	7120004	PEM/FO1Ad	PEM	N	2.02	1.13
18	15.9	WRAPP-911	Lake	7120004	PEM/FO1C	PEM	N	2.53	2.53
18	15.6	WRAPP-912	Lake	7120004	PEMC	PEM	N	0.35	0.35

Attachment B - Table 18-1
Corridor 18 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
18	16	WRAPP-915	Lake	7120004	PEMC	PEM	N	0.81	0.81
18	16	WRAPP-916	Lake	7120004	PFO1A	PFO	N	0.11	0.11
18	16	WRAPP-924	Lake	7120004	PEM/FO1C	PEM	N	0.37	0.37
18	15.9	WRAPP-926	Lake	7120004	PEM/FO1C	PEM	N	3.69	3.69
18	16	WRAPP-927	Lake	7120004	PFO1A	PFO	N	0.19	0.19
18	15.9	WRAPP-931	Lake	7120004	PEMA	PEM	N	0.13	0.13
18	16.2	WRAPP-934	Lake	7120004	PFO1C	PFO	N	0.37	0.37
18	16.2	WRAPP-936	Lake	7120004	PFO1C	PFO	N	4.67	4.67
18	16.1	WRAPP-938	Lake	7120004	PEMAf	PEM	N	3.37	3.37
18	16.1	WRAPP-943	Lake	7120004	R4SBCx	PEM	N	0.36	0.10
18	16.4	WRAPP-949	Lake	7120004	PEMA	PEM	N	0.25	0.25
18	16.4	WRAPP-952	Lake	7120004	PEM/FO1Cx	PEM	N	0.33	0.33
18	16.4	WRAPP-970	Lake	7120004	PABF	PEM	N	0.02	0.02
18	16.4	WRAPP-976	Lake	7120004	PFO1Cd	PFO	N	0.31	0.31
TOTAL									**199.68**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 18-2
Corridor 18 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
18	13.7	7086	Lake	7120004	Forest Lake Drain	1
18	14.2	6886	Lake	7120004	West Branch Indian Creek	0
18	14.4	6908	Lake	7120004	Indian Creek	1
18	15.7	6481	Lake	7120004	Unnamed Trib to Indian Creek	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 18-3
Corridor 18 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
18	16.4	LR-6002	Lake	7120004	Pond	LCFPD Pond	0.47	0.47
18	16.4	LR-6030	Lake	7120004	Pond	Orchard View Park Pond 1	0.90	0.88
18	16.4	LR-6050	Lake	7120004	Pond	Countryside I	0.52	0.52
18	16.4	LR-6069	Lake	7120004	Lake	LCFPD Pond	44.42	27.45
18	16.4	LR-6078	Lake	7120004	Pond	Orchard View Park Pond 2	0.18	0.18
18	16.4	LR-6110	Lake	7120004	Detention Basin	Cambridge Countryside Commercial Pond	0.84	0.27
18	16.3	LR-6174	Lake	7120004	Pond	Wortham Park Pond	3.74	3.74
18	16.3	LR-6199	Lake	7120004	Detention Basin	Mundelein Meadows Pond	2.60	0.27
18	16.3	LR-6221	Lake	7120004	Pond		0.22	0.22
18	16.3	LR-6233	Lake	7120004	Pond	Countryside Highlands Pond 1	0.12	0.12
18	16.2	LR-6266	Lake	7120004	Pond	Countryside Highlands Pond 2	0.04	0.04
18	16	LR-6317	Lake	7120004	Pond		0.11	0.11
18	15.9	LR-6410	Lake	7120004	Pond		0.74	0.74
18	15.5	LR-6435	Lake	7120004	Detention Basin	West Oak Middle School Pond	1.04	1.04
18	15.7	LR-6496	Lake	7120004	Detention Basin		1.60	1.20
18	15.3	LR-6566	Lake	7120004	Pond	Indian Trails Pond 5	0.03	0.03
18	14.8	LR-6753	Lake	7120004	Pond		0.08	0.08
18	14.7	LR-6794	Lake	7120004	Pond		1.48	1.48
18	14.7	LR-6809	Lake	7120004	Pond	Creekside of Long Grove Pond 1	3.33	3.33
18	14.4	LR-6901	Lake	7120004	Pond		0.21	0.21
18	14.3	LR-6913	Lake	7120004	Pond		2.34	2.34
18	14.2	LR-6956	Lake	7120004	Pond		0.85	0.85
18	14.3	LR-6976	Lake	7120004	Pond		0.94	0.94
18	14.3	LR-6997	Lake	7120004	Pond		0.83	0.83
18	14.2	LR-7024	Lake	7120004	Pond		0.18	0.18
18	13.9	LR-7038	Lake	7120004	Pond	Rambling Hills Pond 1	2.76	2.76
18	13.9	LR-7093	Lake	7120004	Detention Basin	Hawthorn Grove Pond 1	0.94	0.94
18	13.7	LR-7145	Lake	7120004	Pond	Rambling Hills Pond 2	0.02	0.02
18	13.7	LR-7146	Lake	7120004	Detention Basin	Hawthorn Grove Pond 2	2.06	0.85
18	13.7	LR-7172	Lake	7120004	Pond	Thornberry Creek Pond 1	1.40	1.40
18	13.7	LR-7220	Lake	7120004	Pond	Thornberry Creek Pond 2	1.27	1.27
18	13.7	LR-7264	Lake	7120004	Detention Basin	Hawthorn Grove Pond 4	0.61	0.56
18	13.7	LR-7307	Lake	7120004	Detention Basin	Hawthorn Grove Pond 5	1.61	1.61
TOTAL								**56.93**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 20-1
Corridor 20 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
20	14.2	ADID-1729	Lake	7120004	PUBHx	PEM	Y	51.83	1.79
20	11.1	ADID-2135	Lake	7120004	PEM	PEM	N	0.76	0.76
20	7.7	AI-107	Lake	7120004	PEM	PEM	N	3.04	3.04
20	7.7	AI-53	Lake	7120004	PEM	PEM	N	0.77	0.77
20	8.8	AI-60	Lake	7120004	PEM	PEM	N	0.40	0.40
20	9.4	AI-88	Lake	7120004	PEM	PEM	N	0.11	0.11
20	12.8	WRAPP-10017	Lake, Cook	7120004	R2UBHx	PFO	Y	94.94	5.45
20	13.5	WRAPP-15880	Lake	7120004	PFO1A	PFO	Y	0.53	0.53
20	13.7	WRAPP-15881	Lake	7120004	R4SBC	PFO	Y	0.31	0.31
20	12.8	WRAPP-15882	Lake	7120004	PFO1A	PFO	Y	0.18	0.18
20	7.7	WRAPP-15999	Lake	7120004	PEMAd	PEM	N	1.63	0.78
20	7.7	WRAPP-16000	Lake	7120004	PEMCd	PEM	N	6.59	2.70
20	14.2	WRAPP-16153	Lake	7120004	PFO1Cd	PFO	N	0.14	0.07
20	13.1	WRAPP-16155	Lake	7120004	PFO1Ad	PFO	N	0.66	0.66
20	12.6	WRAPP-16158	Lake	7120004	PFO1Ad	PFO	Y	0.17	0.17
20	12.6	WRAPP-16159	Lake	7120004	PFO1Ad	PFO	Y	0.14	0.14
20	12.9	WRAPP-16160	Lake	7120004	PEMC	PEM	N	0.15	0.15
20	12.8	WRAPP-16161	Lake	7120004	PFO1C	PFO	Y	1.10	1.10
20	14.1	WRAPP-16509	Lake	7120004	PFO1C	PFO	N	0.11	0.11
20	13.2	WRAPP-16510	Lake	7120004	PFO1C	PFO	Y	0.86	0.48
20	13.2	WRAPP-16511	Lake	7120004	PEMC	PEM	Y	1.68	1.68
20	12.9	WRAPP-16512	Lake	7120004	PEMFx	PEM	N	6.15	3.97
20	8	WRAPP-16524	Lake	7120004	R4SBCx	PEM	N	4.71	4.34
20	8.5	WRAPP-16526	Lake	7120004	PEMC	PEM	Y	0.23	0.23
20	9.5	WRAPP-16527	Lake	7120004	PFO1C	PFO	N	0.25	0.25
20	7.7	WRAPP-2848	Lake	7120004	PEMCf	PEM	N	0.95	0.95
20	7.8	WRAPP-2849	Lake	7120004	PEMCf	PEM	N	1.40	1.40
20	8.4	WRAPP-2853	Lake	7120004	PEMCf	PEM	Y	0.33	0.19
20	8.1	WRAPP-2855	Lake	7120004	PEMC	PEM	N	1.32	1.32
20	8.3	WRAPP-2856	Lake	7120004	PEMAf	PEM	N	0.22	0.22
20	8.2	WRAPP-2858	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	9.6	WRAPP-2862	Lake	7120004	PUBGx	PEM	N	0.03	0.01
20	8	WRAPP-2865	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	9.6	WRAPP-2866	Lake	7120004	PFO1A	PFO	N	2.04	2.04
20	8.5	WRAPP-2867	Lake	7120004	PEMCx	PEM	Y	0.34	0.34
20	8.7	WRAPP-2868	Lake	7120004	PEMCd	PEM	Y	0.49	0.49
20	8.5	WRAPP-2869	Lake	7120004	PEMCf	PEM	N	0.17	0.17
20	9.5	WRAPP-2870	Lake	7120004	PUBGx	PEM	N	0.08	0.08
20	10	WRAPP-2871	Lake	7120004	PFO1C	PFO	Y	0.32	0.32
20	8.7	WRAPP-2873	Lake	7120004	PUBFx	PEM	Y	0.06	0.06
20	8.3	WRAPP-2874	Lake	7120004	PEMAf	PEM	N	0.16	0.16
20	9.4	WRAPP-2875	Lake	7120004	PEMC	PEM	N	1.68	1.68
20	10	WRAPP-2876	Lake	7120004	PFO1A	PFO	N	0.09	0.09
20	9	WRAPP-2877	Lake	7120004	PUBGx	PEM	Y	0.17	0.17
20	9.4	WRAPP-2880	Lake	7120004	PEMC	PEM	N	0.34	0.34
20	7.7	WRAPP-2881	Lake	7120004	PEMCd	PEM	N	1.54	0.23
20	8.9	WRAPP-2882	Lake	7120004	PFO1A	PFO	Y	1.35	1.35
20	8.9	WRAPP-2883	Lake	7120004	PEMAf	PEM	Y	0.12	0.12
20	8.5	WRAPP-2884	Lake	7120004	PEMCx	PEM	N	0.02	0.02
20	8.8	WRAPP-2886	Lake	7120004	PEMA	PEM	N	0.14	0.14
20	8.4	WRAPP-2887	Lake	7120004	PUBGx	PEM	N	0.03	0.00
20	10.2	WRAPP-2889	Lake	7120004	PFO1A	PFO	Y	0.17	0.17
20	10.1	WRAPP-2892	Lake	7120004	PEMC	PEM	Y	1.54	1.54
20	9.1	WRAPP-2893	Lake	7120004	PEMC	PEM	N	1.89	1.89
20	9.6	WRAPP-2895	Lake	7120004	PEM/FO1C	PEM	N	0.45	0.45
20	10.1	WRAPP-2897	Lake	7120004	PEMAf	PEM	N	0.24	0.24
20	9.1	WRAPP-2898	Lake	7120004	PEMF	PEM	N	1.04	1.04
20	9.8	WRAPP-2899	Lake	7120004	PEMAf	PEM	N	0.17	0.17
20	9.5	WRAPP-2901	Lake	7120004	PEMCx	PEM	N	0.00	0.00
20	8.7	WRAPP-2902	Lake	7120004	PEMC	PEM	N	3.45	2.88
20	10.1	WRAPP-2903	Lake	7120004	PEMC	PEM	Y	3.41	3.41

Attachment B - Table 20-1
Corridor 20 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
20	8.8	WRAPP-2904	Lake	7120004	PUBF	PEM	N	0.02	0.01
20	9.8	WRAPP-2907	Lake	7120004	PEM/SS1Fd	PEM	N	5.10	5.10
20	10.5	WRAPP-2910	Lake	7120004	PEMB	PEM	Y	0.16	0.16
20	10.3	WRAPP-2912	Lake	7120004	PEMA	PEM	N	0.00	0.00
20	10.7	WRAPP-2924	Lake	7120004	PUBGx	PEM	N	0.27	0.27
20	10.7	WRAPP-2925	Lake	7120004	PEM/UBGh	PEM	N	0.42	0.42
20	12.9	WRAPP-4446	Lake	7120004	PFO1C	PFO	Y	1.59	1.59
20	13.7	WRAPP-4447	Lake	7120004	R4SBC	PFO	Y	0.15	0.15
20	13.6	WRAPP-4448	Lake	7120004	PFO1A	PFO	Y	1.80	1.80
20	13.4	WRAPP-4449	Lake	7120004	PUBHx	PEM	Y	0.50	0.50
20	13.5	WRAPP-4450	Lake	7120004	PEMA	PEM	Y	0.14	0.14
20	12.5	WRAPP-4538	Lake	7120004	PSS1Ad	PSS	Y	0.21	0.21
20	13.2	WRAPP-4539	Lake	7120004	PEM/FO1Cd	PEM	N	4.76	4.76
20	13.6	WRAPP-4560	Lake	7120004	PSS1Cd	PSS	Y	0.32	0.32
20	13.5	WRAPP-4561	Lake	7120004	PFO1Cd	PFO	Y	2.62	2.62
20	12.5	WRAPP-4583	Lake	7120004	PUBHh	PEM	Y	0.09	0.08
20	14.1	WRAPP-4611	Lake	7120004	PEM/SS1A	PEM	Y	0.17	0.05
20	14.2	WRAPP-4614	Lake	7120004	PEM/FO1C	PEM	Y	6.18	1.54
20	14.2	WRAPP-4622	Lake	7120004	PEMA	PEM	Y	0.33	0.02
20	14.2	WRAPP-4626	Lake	7120004	PUBHx	PEM	Y	0.05	0.05
20	14.2	WRAPP-4642	Lake	7120004	PUBHx	PEM	Y	0.06	0.06
20	13.9	WRAPP-4643	Lake	7120004	PFO1Ad	PFO	N	1.39	0.43
20	14.2	WRAPP-4646	Lake	7120004	PEMC	PEM	Y	0.91	0.91
20	14	WRAPP-4648	Lake	7120004	PEM/FO1Cd	PEM	N	1.31	1.31
20	14.2	WRAPP-4650	Lake	7120004	PUBGx	PEM	Y	0.03	0.03
20	14.1	WRAPP-4655	Lake	7120004	PFO1Cd	PFO	Y	0.73	0.73
20	14.2	WRAPP-4656	Lake	7120004	PUBHx	PEM	N	0.01	0.01
20	14	WRAPP-4661	Lake	7120004	PFO1C	PFO	N	2.13	2.13
20	11.1	WRAPP-4663	Lake	7120004	PEM/UBF	PEM	Y	0.19	0.02
20	11.1	WRAPP-4666	Lake	7120004	PSS1A	PSS	Y	0.45	0.45
20	11.3	WRAPP-4667	Lake	7120004	PUBGx	PEM	Y	0.05	0.05
20	14.2	WRAPP-4669	Lake	7120004	PEM/SS1C	PEM	N	0.72	0.72
20	14.2	WRAPP-4670	Lake	7120004	PFO1A	PFO	N	1.48	1.48
20	13.6	WRAPP-4672	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	11.1	WRAPP-4673	Lake	7120004	PEMCd	PEM	N	0.48	0.48
20	14.2	WRAPP-4674	Lake	7120004	PEMCx	PEM	N	0.07	0.07
20	13.8	WRAPP-4675	Lake	7120004	PEMAf	PEM	N	1.58	1.58
20	14.1	WRAPP-4678	Lake	7120004	PEM/FO1C	PEM	N	0.72	0.72
20	11.1	WRAPP-4679	Lake	7120004	PUBGx	PEM	N	0.04	0.04
20	12.3	WRAPP-4680	Lake	7120004	PEM/FO1C	PEM	N	1.20	1.20
20	14.1	WRAPP-4681	Lake	7120004	PUBHx	PEM	N	0.04	0.04
20	11	WRAPP-4682	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	12.1	WRAPP-4683	Lake	7120004	PUBGx	PEM	N	0.05	0.05
20	10.9	WRAPP-4684	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	13.3	WRAPP-4687	Lake	7120004	PUBGh	PEM	N	0.00	0.00
20	11	WRAPP-4689	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	11.1	WRAPP-4691	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	10.9	WRAPP-4693	Lake	7120004	PUBGx	PEM	N	0.17	0.17
20	14.2	WRAPP-4695	Lake	7120004	PFO1A	PFO	N	1.26	1.26
20	11.7	WRAPP-4696	Lake	7120004	PUBFx	PEM	N	0.00	0.00
20	14.2	WRAPP-4697	Lake	7120004	PFO1A	PFO	N	1.59	0.29
20	12.1	WRAPP-4698	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	14.2	WRAPP-4699	Lake	7120004	PEM/FO1C	PEM	N	0.77	0.68
20	12.1	WRAPP-4700	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	11.9	WRAPP-4701	Lake	7120004	PEM/SS1C	PEM	N	5.78	5.78
20	11.1	WRAPP-4702	Lake	7120004	PEMF	PEM	Y	19.08	19.08
20	12.3	WRAPP-4704	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	14.2	WRAPP-4705	Lake	7120004	PUBHx	PEM	N	0.01	0.01
20	12.4	WRAPP-4706	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	12.1	WRAPP-4707	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	12.4	WRAPP-4708	Lake	7120004	PUBGx	PEM	N	0.01	0.01

Attachment B - Table 20-1
Corridor 20 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
20	12.2	WRAPP-4709	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	14.2	WRAPP-4710	Lake	7120004	PFO1Cd	PFO	N	0.41	0.41
20	13.3	WRAPP-4711	Lake	7120004	PEMC	PEM	N	0.90	0.90
20	14.2	WRAPP-4712	Lake	7120004	PFO1/UBF	PFO	N	0.42	0.42
20	12.7	WRAPP-4713	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	14.2	WRAPP-4714	Lake	7120004	PFO1A	PFO	N	0.71	0.71
20	12.2	WRAPP-4715	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	14.2	WRAPP-4718	Lake	7120004	PEMCd	PEM	N	0.55	0.49
20	13.5	WRAPP-4719	Lake	7120004	PEM/FO1C	PEM	Y	0.48	0.48
20	14.2	WRAPP-4720	Lake	7120004	PEMA	PEM	N	0.41	0.41
20	13.3	WRAPP-4721	Lake	7120004	PUBGh	PEM	Y	0.00	0.00
20	14.2	WRAPP-4722	Lake	7120004	PFO1A	PFO	N	0.71	0.71
20	11	WRAPP-4723	Lake	7120004	PEMC	PEM	N	21.76	13.11
20	12.7	WRAPP-4724	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	12.7	WRAPP-4725	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	12.5	WRAPP-4727	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	12.8	WRAPP-4728	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	12.5	WRAPP-4730	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	12.8	WRAPP-4732	Lake	7120004	PEMCx	PEM	N	0.00	0.00
20	14	WRAPP-4733	Lake	7120004	PEMAf	PEM	N	0.26	0.26
20	12.7	WRAPP-4736	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	12.5	WRAPP-4737	Lake	7120004	PUBGx	PEM	N	0.00	0.00
20	14.2	WRAPP-4738	Lake	7120004	PEM/SS1Cd	PEM	N	0.56	0.56
20	14.2	WRAPP-4741	Lake	7120004	PEMCd	PEM	N	0.15	0.15
20	14.2	WRAPP-4742	Lake	7120004	PFO1C	PFO	N	2.06	2.06
20	13.1	WRAPP-4778	Lake	7120004	PFO1A	PFO	N	0.12	0.12
20	13.4	WRAPP-4782	Lake	7120004	PSS1A	PSS	N	1.12	1.12
20	13.4	WRAPP-4784	Lake	7120004	PEMAx	PEM	N	1.06	1.06
20	14.2	WRAPP-5981	Lake	7120004	PEMCd	PEM	Y	38.21	13.49
20	12.5	WRAPP-6338	Lake	7120004	R2UBHx	PEM	Y	0.07	0.07
20	12.9	WRAPP-6951	Lake	7120004	PFO1C	PFO	Y	0.88	0.88
20	12.9	WRAPP-6953	Lake	7120004	PFO1C	PFO	Y	0.33	0.33
20	13.3	WRAPP-6954	Lake	7120004	PFO1C	PFO	Y	1.59	1.59
20	13.6	WRAPP-6957	Lake	7120004	PFO1C	PFO	Y	6.51	1.06
20	13	WRAPP-8649	Lake	7120004	PUBHh	PEM	N	1.81	0.27
20	13.5	WRAPP-8653	Lake	7120004	R2UBHx	PFO	Y	0.08	0.07
20	13.6	WRAPP-8656	Lake	7120004	PFO1Cd	PFO	Y	0.32	0.28
20	13.4	WRAPP-8657	Lake	7120004	PFO1A	PFO	Y	1.37	1.33
20	13.6	WRAPP-8658	Lake	7120004	PEM/FO1C	PEM	Y	1.82	0.60
20	13.4	WRAPP-8661	Lake	7120004	PEMA	PEM	N	0.30	0.30
20	13.1	WRAPP-8662	Lake	7120004	PEMCd	PEM	N	11.43	0.30
20	14.2	WRAPP-8739	Lake	7120004	PFO1Cd	PFO	N	4.51	4.36
20	14.2	WRAPP-8742	Lake	7120004	R4SBCx	PEM	N	0.48	0.10
20	14.2	WRAPP-8750	Lake	7120004	PEMCx	PEM	N	0.00	0.00
20	14.1	WRAPP-8755	Lake	7120004	PFO1C	PFO	N	0.32	0.32
20	14.2	WRAPP-8756	Lake	7120004	PFO1Ad	PFO	N	0.60	0.60
20	14.2	WRAPP-8757	Lake	7120004	PFO1C	PFO	N	0.10	0.10
20	14.2	WRAPP-8758	Lake	7120004	PAB/UBF	PEM	N	0.00	0.00
20	14.2	WRAPP-8759	Lake	7120004	PEM/FO1F	PEM	N	3.34	2.10
20	13.1	WRAPP-8761	Lake	7120004	PFO1Ad	PFO	N	1.78	1.78
20	13.4	WRAPP-8763	Lake	7120004	PFO1C	PFO	Y	0.79	0.79
20	13.1	WRAPP-8765	Lake	7120004	R2UBHx	PFO	Y	0.46	0.39
20	12.7	WRAPP-8766	Lake	7120004	PEM/FO1C	PEM	Y	0.90	0.90
20	12.8	WRAPP-8767	Lake	7120004	PUBGx	PEM	Y	0.09	0.09
20	13.1	WRAPP-8770	Lake	7120004	PFO1Ad	PFO	Y	0.39	0.18
20	13.1	WRAPP-8771	Lake	7120004	PFO1Ad	PFO	Y	0.33	0.10
20	13.2	WRAPP-8773	Lake	7120004	L2UBHx	PEM	Y	0.66	0.55
20	13	WRAPP-8776	Lake	7120004	PFO1C	PFO	Y	1.73	1.73
20	13	WRAPP-8777	Lake	7120004	PFO1A	PFO	Y	3.40	3.33
20	12.9	WRAPP-8778	Lake	7120004	PFO1C	PFO	Y	1.20	1.20
20	12.9	WRAPP-8779	Lake	7120004	PFO1A	PFO	Y	0.30	0.30

Attachment B - Table 20-1
Corridor 20 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
20	13	WRAPP-8780	Lake	7120004	PEMC	PEM	N	0.60	0.60
20	13	WRAPP-8781	Lake	7120004	PFO1C	PFO	Y	0.53	0.53
20	13	WRAPP-8782	Lake	7120004	PEMA	PEM	Y	1.01	1.01
20	13	WRAPP-8783	Lake	7120004	PEMC	PEM	Y	0.37	0.37
20	12.8	WRAPP-8784	Lake	7120004	PSS1Cx	PSS	N	0.52	0.52
20	12.9	WRAPP-8785	Lake	7120004	PFO1C	PFO	Y	1.59	1.59
20	12.7	WRAPP-8786	Lake	7120004	PFO1C	PFO	N	0.12	0.12
20	12.8	WRAPP-8787	Lake	7120004	PFO1C	PFO	Y	0.28	0.28
20	12.8	WRAPP-8788	Lake	7120004	PEM/FO1C	PEM	Y	1.71	1.71
20	12.8	WRAPP-8789	Lake	7120004	PFO1A	PFO	Y	2.38	2.38
20	12.8	WRAPP-8790	Lake	7120004	PFO1C	PFO	Y	0.08	0.08
20	12.8	WRAPP-8791	Lake	7120004	PFO1C	PFO	Y	0.22	0.22
20	13	WRAPP-8792	Lake	7120004	PFO1A	PFO	Y	0.55	0.55
20	12.9	WRAPP-8793	Lake	7120004	PFO1A	PFO	Y	0.68	0.68
20	12.9	WRAPP-8794	Lake	7120004	PEMA	PEM	Y	0.92	0.92
20	13.6	WRAPP-8795	Lake	7120004	PFO1C	PFO	Y	4.69	4.69
20	13.1	WRAPP-8796	Lake	7120004	PUBGh	PEM	Y	0.11	0.11
20	13.7	WRAPP-8797	Lake	7120004	R4SBC	PFO	Y	0.16	0.16
20	13.2	WRAPP-8798	Lake	7120004	PFO1A	PFO	Y	9.61	6.60
20	13.5	WRAPP-8799	Lake	7120004	R4SBC	PFO	Y	2.15	2.15
20	13	WRAPP-8800	Lake	7120004	R4SBC	PFO	Y	0.10	0.10
20	12.9	WRAPP-8801	Lake	7120004	R4SBC	PFO	Y	1.38	1.38
20	12.9	WRAPP-8802	Lake	7120004	PEMC	PEM	Y	0.50	0.50
20	12.9	WRAPP-8803	Lake	7120004	PFO1C	PFO	Y	0.54	0.54
20	12.9	WRAPP-8804	Lake	7120004	PEMC	PEM	Y	0.77	0.77
20	12.9	WRAPP-8805	Lake	7120004	PFO1A	PFO	Y	0.28	0.28
20	12.9	WRAPP-8806	Lake	7120004	PEMA	PEM	Y	1.15	1.15
20	12.9	WRAPP-8807	Lake	7120004	PFO1A	PFO	Y	0.44	0.44
20	12.9	WRAPP-8808	Lake	7120004	PEMC	PEM	Y	0.30	0.30
20	13.1	WRAPP-8809	Lake	7120004	PFO1A	PFO	Y	0.54	0.54
20	13.2	WRAPP-8810	Lake	7120004	PFO1C	PFO	Y	2.10	2.10
20	13.2	WRAPP-8811	Lake	7120004	PFO1A	PFO	Y	0.96	0.96
20	13.2	WRAPP-8812	Lake	7120004	PFO1C	PFO	Y	2.93	2.56
20	13.3	WRAPP-8813	Lake	7120004	PFO1C	PFO	Y	1.53	1.53
20	13.2	WRAPP-8814	Lake	7120004	PEM/FO1C	PEM	Y	0.95	0.23
20	13.2	WRAPP-8815	Lake	7120004	PEMA	PEM	Y	1.14	0.28
20	13.5	WRAPP-8816	Lake	7120004	PEM/FO1Cd	PEM	Y	1.13	1.13
20	13.7	WRAPP-8817	Lake	7120004	R4SBC	PFO	Y	0.50	0.50
20	13.7	WRAPP-8818	Lake	7120004	R4SBC	PFO	Y	3.73	2.13
20	13.7	WRAPP-8819	Lake	7120004	R4SBC	PFO	Y	1.10	1.10
20	13.5	WRAPP-8820	Lake	7120004	PEM/FO1C	PEM	Y	1.92	1.92
20	13.6	WRAPP-8821	Lake	7120004	R4SBC	PFO	Y	0.25	0.25
20	13.7	WRAPP-8822	Lake	7120004	R4SBC	PFO	Y	0.47	0.47
20	13.3	WRAPP-8823	Lake	7120004	PFO1A	PFO	Y	0.34	0.34
20	13.2	WRAPP-8824	Lake	7120004	R4SBCx	PEM	N	0.08	0.08
20	12.9	WRAPP-8827	Lake	7120004	PFO1C	PFO	Y	3.01	3.01
20	7.9	WRAPP-9310	Lake	7120004	PEMA	PEM	N	0.18	0.18
20	7.7	WRAPP-9325	Lake	7120004	PEMCd	PEM	N	0.87	0.58
20	7.7	WRAPP-9328	Lake	7120004	PEMAf	PEM	N	0.76	0.76
20	7.9	WRAPP-9382	Lake	7120004	PUBGx	PEM	N	0.30	0.01
20	8	WRAPP-9383	Lake	7120004	PEMFd	PEM	N	0.99	0.68
20	12.5	WRAPP-9708	Lake	7120004	PSS1Ad	PSS	Y	0.03	0.03
20	12.5	WRAPP-9709	Lake	7120004	PSS1Ad	PSS	Y	0.02	0.02
20	12.5	WRAPP-9710	Lake	7120004	PEMAd	PEM	N	0.00	0.00
20	12.5	WRAPP-9711	Lake	7120004	PEMAd	PEM	Y	0.01	0.01
20	12.5	WRAPP-9712	Lake	7120004	PSS1Ad	PSS	Y	0.08	0.08
20	12.5	WRAPP-9713	Lake	7120004	PSS1Ad	PSS	Y	0.14	0.14
20	12.5	WRAPP-9714	Lake	7120004	PSS1Ad	PSS	Y	0.13	0.13
20	10.4	WRAPP-9755	Lake	7120004	PABF	PEM	Y	0.01	0.01
20	10.6	WRAPP-9756	Lake	7120004	PAB/FO5F	PEM	Y	6.36	6.20
20	10.5	WRAPP-9757	Lake	7120004	PEMF	PEM	Y	20.37	15.80

Attachment B- Table 20-1
Corridor 20 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
20	9.6	WRAPP-9762	Lake	7120004	PEMAd	PEM	N	0.51	0.51
20	9.6	WRAPP-9763	Lake	7120004	PUBGx	PEM	N	0.01	0.01
20	9.6	WRAPP-9764	Lake	7120004	PEM/FO1C	PEM	N	2.62	2.62
20	9.7	WRAPP-9765	Lake	7120004	PEMC	PEM	N	8.04	8.04
20	9.7	WRAPP-9766	Lake	7120004	PEMCd	PEM	N	6.26	6.26
20	10.3	WRAPP-9767	Lake	7120004	PEMC	PEM	Y	0.71	0.71
20	10.4	WRAPP-9768	Lake	7120004	PEMA	PEM	N	0.16	0.16
20	10.3	WRAPP-9769	Lake	7120004	PFO1C	PFO	N	0.18	0.18
20	10.4	WRAPP-9770	Lake	7120004	PSS1A	PSS	Y	0.25	0.25
20	10.5	WRAPP-9771	Lake	7120004	PEMA	PEM	Y	2.44	2.44
20	10	WRAPP-9777	Lake	7120004	PFO1A	PFO	Y	1.87	0.11
20	9.8	WRAPP-9780	Lake	7120004	PFO1C	PFO	N	0.07	0.07
20	9.8	WRAPP-9781	Lake	7120004	R4SBC	PEM	N	0.04	0.03
20	9.8	WRAPP-9796	Lake	7120004	R4SBC	PEM	N	0.21	0.11
20	11.3	WRAPP-9804	Lake	7120004	PUBGx	PEM	Y	0.00	0.00
20	11.3	WRAPP-9805	Lake	7120004	PEMF	PEM	Y	32.49	0.21
20	11.6	WRAPP-9806	Lake	7120004	PUBGx	PEM	Y	0.00	0.00
20	11	WRAPP-9809	Lake	7120004	PEMAd	PEM	N	0.10	0.10
20	11.8	WRAPP-9825	Lake	7120004	PUBGx	PEM	Y	0.01	0.01
20	11.7	WRAPP-9826	Lake	7120004	PEMCd	PEM	Y	30.85	30.85
20	12.9	WRAPP-9831	Lake	7120004	PFO1C	PFO	Y	2.26	0.84
20	13.6	WRAPP-9855	Lake	7120004	PUBGx	PEM	N	0.01	0.00
20	13.3	WRAPP-9856	Lake	7120004	PFO1A	PFO	N	0.60	0.60
20	13	WRAPP-9865	Lake	7120004	PFO1A	PFO	Y	0.89	0.26
20	14.2	WRAPP-9871	Lake	7120004	PEMC	PEM	Y	0.51	0.51
20	14.2	WRAPP-9873	Lake	7120004	PFO1A	PFO	Y	22.21	10.54
20	14.2	WRAPP-9874	Lake	7120004	PEMA	PEM	Y	1.44	1.44
20	14.2	WRAPP-9875	Lake	7120004	PFO1A	PFO	Y	0.68	0.68
20	8	WRAPP-9912	Lake	7120004	PEMFd	PEM	N	2.25	2.25
20	7.8	WRAPP-9927	Lake	7120004	PFO1Ad	PFO	N	0.08	0.08
20	8.2	WRAPP-9933	Lake	7120004	PUBGx	PEM	N	0.63	0.63
20	8.2	WRAPP-9934	Lake	7120004	PEMCd	PEM	N	0.29	0.11
20	8.2	WRAPP-9935	Lake	7120004	PFO1A	PFO	N	0.89	0.87
20	8.1	WRAPP-9936	Lake	7120004	PEM/FO1Cd	PEM	N	0.74	0.74
20	8	WRAPP-9937	Lake	7120004	PUBF	PEM	N	0.01	0.01
20	7.9	WRAPP-9938	Lake	7120004	R4SBCx	PEM	N	0.35	0.30
20	7.7	WRAPP-9939	Lake	7120004	PEMCd	PEM	N	3.68	3.68
20	8.4	WRAPP-9941	Lake	7120004	PEMAf	PEM	N	0.79	0.79
20	8.5	WRAPP-9942	Lake	7120004	PEMAf	PEM	N	0.45	0.45
20	8.5	WRAPP-9943	Lake	7120004	PEMC	PEM	N	0.60	0.60
20	9.2	WRAPP-9947	Lake	7120004	PABF	PEM	N	0.04	0.04
20	9.2	WRAPP-9948	Lake	7120004	PEM/SS1C	PEM	N	0.63	0.63
20	8.8	WRAPP-9949	Lake	7120004	PEMF	PEM	N	0.78	0.71
20	9.5	WRAPP-9953	Lake	7120004	PEMC	PEM	N	0.00	0.00
20	8.4	WRAPP-9954	Lake	7120004	PEMAf	PEM	Y	0.95	0.95
20	7.7	WRAPP-9959	Lake	7120004	R2UBHx	PEM	N	0.24	0.01
TOTAL									**330.95**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 20-2
Corridor 20 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
20	7.7	4265	Lake	7120004	Avon-Fremont Drainage Ditch	0
20	8	4298	Lake	7120004	Countryside Landfill North Ditch	1
20	12.5	3910	Lake	7120004	Sherman Corners Creek	1
20	12.9	9315	Lake, Cook	7120004	Des Plaines River	1
20	10.6	9315	Lake, Cook	7120004	Des Plaines River	1
20	13.6	3573	Lake	7120004	Unnamed Trib to Des Plaines River	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 20-3
Corridor 20 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
20	9	AIOW - 2	Lake	7120004	Detention Basin		0.84	0.84
20	9.3	AIOW - 3	Lake	7120004	Detention Basin		0.55	0.55
20	9	AIOW - 4	Lake	7120004	Detention Basin		0.46	0.46
20	13	LR-3517	Lake	7120004	Pond		3.83	0.66
20	13.4	LR-3552	Lake	7120004	Pond	Woodlake Pond 1	0.53	0.53
20	13.2	LR-3553	Lake	7120004	Pond		0.16	0.16
20	13.4	LR-3565	Lake	7120004	Detention Basin	Woodlake Pond 2	1.08	1.08
20	13.4	LR-3603	Lake	7120004	Pond	LCFPD Pond	2.18	2.18
20	13.2	LR-3633	Lake	7120004	Lake	Lake Carina	23.32	18.05
20	14.2	LR-3814	Lake	7120004	Detention Basin	North Woods Pond 4	0.35	0.35
20	12.5	LR-3826	Lake	7120004	Pond	Heather Ridge Pond 3	0.07	0.06
20	12.7	LR-3834	Lake	7120004	Pond	Spinney Run Pond 1	0.06	0.06
20	12.8	LR-3840	Lake	7120004	Pond	Spinney Run Pond 3	0.03	0.03
20	14.2	LR-3841	Lake	7120004	Detention Basin	Providence Oaks Pond	2.48	2.48
20	12.5	LR-3844	Lake	7120004	Pond	Heather Ridge Pond 2	0.10	0.10
20	12.8	LR-3847	Lake	7120004	Pond	Spinney Run Pond 2	0.02	0.02
20	12.5	LR-3852	Lake	7120004	Pond	Heather Ridge Pond 1	0.32	0.32
20	12.7	LR-3862	Lake	7120004	Pond	Heather Ridge Pond 14	0.08	0.08
20	12.7	LR-3869	Lake	7120004	Pond	Heather Ridge Pond 15	0.08	0.08
20	12.3	LR-3870	Lake	7120004	Pond	Heather Ridge Golf Club Pond 5	0.54	0.32
20	12.5	LR-3879	Lake	7120004	Pond	Heather Ridge Golf Club Pond 6	1.66	1.66
20	11.9	LR-3882	Lake	7120004	Detention Basin	Cambridge at Gurnee Pond	0.95	0.04
20	13.4	LR-3885	Lake	7120004	Pond	LCFPD Pond	0.09	0.09
20	13.3	LR-3886	Lake	7120004	Pond	LCFPD Pond	0.58	0.58
20	14.2	LR-3890	Lake	7120004	Detention Basin	Bayberry Pond 1	0.99	0.99
20	12.2	LR-3892	Lake	7120004	Pond	Heather Ridge Pond 23	0.11	0.11
20	14.2	LR-3894	Lake	7120004	Pond	North Woods Pond 5	0.80	0.80
20	13	LR-3896	Lake	7120004	Pond		0.17	0.17
20	12.7	LR-3897	Lake	7120004	Pond		0.03	0.03
20	14.2	LR-3912	Lake	7120004	Pond	North Woods Pond 6	0.13	0.13
20	12.2	LR-3922	Lake	7120004	Pond	Heather Ridge Pond 19	0.09	0.09
20	12.4	LR-3926	Lake	7120004	Pond	Heather Ridge Pond 17	0.16	0.16
20	12.1	LR-3927	Lake	7120004	Pond	Heather Ridge Pond 22	0.23	0.23
20	14.2	LR-3929	Lake	7120004	Detention Basin	Bayberry Pond 2	0.84	0.84
20	12.4	LR-3930	Lake	7120004	Pond	Heather Ridge Pond 16	0.05	0.05
20	14.2	LR-3932	Lake	7120004	Pond	Bayberry Pond 3	0.41	0.41
20	14.2	LR-3939	Lake	7120004	Pond	North Woods Pond 7	0.84	0.71
20	12.3	LR-3940	Lake	7120004	Pond	Heather Ridge Pond 18	0.14	0.14
20	14.2	LR-3942	Lake	7120004	Detention Basin	Diversity Park Pond	0.40	0.40
20	12.8	LR-3947	Lake	7120004	Pond	LCFPD Pond	2.07	2.07
20	12.1	LR-3950	Lake	7120004	Pond	Heather Ridge Pond 21	0.09	0.09
20	12.1	LR-3953	Lake	7120004	Pond	Heather Ridge Pond 20	0.08	0.08
20	14.2	LR-3958	Lake	7120004	Detention Basin	Bayberry Pond 4	0.27	0.18
20	11.7	LR-3959	Lake	7120004	Pond		0.03	0.03
20	11.2	LR-3960	Lake	7120004	Pond	Woodland Meadows Pond 4	0.17	0.17
20	10.9	LR-3967	Lake	7120004	Pond	Greenfields Pond 1	0.05	0.05
20	10.9	LR-3968	Lake	7120004	Pond	Greenfields Pond 2	0.21	0.21
20	11.1	LR-3970	Lake	7120004	Pond	Greenfields Pond 3	0.04	0.04
20	10.7	LR-3971	Lake	7120004	Pond	Twin Lakes Pond 2	0.40	0.40
20	10.7	LR-3972	Lake	7120004	Pond	Twin Lakes Pond 1	0.49	0.49
20	13.1	LR-3973	Lake	7120004	Pond		1.70	1.70
20	14.2	LR-3980	Lake	7120004	Detention Basin	Bayberry Pond 6	0.68	0.01
20	11	LR-3987	Lake	7120004	Pond	Greenfields Pond 4	0.07	0.07
20	13.2	LR-3996	Lake	7120004	Pond		0.44	0.44
20	10.9	LR-4000	Lake	7120004	Pond	Greenfields Pond 5	0.09	0.09
20	12.1	LR-4008	Lake	7120004	Pond		0.80	0.80
20	11	LR-4009	Lake	7120004	Pond	Greenfields Pond 6	0.07	0.07
20	14.1	LR-4012	Lake	7120004	Pond	Coventry Woods Pond 1	0.42	0.42
20	11.1	LR-4014	Lake	7120004	Pond	Greenfields Pond 7	0.10	0.10
20	14.1	LR-4024	Lake	7120004	Pond	Coventry Woods Pond 2	0.09	0.09
20	10.3	LR-4035	Lake	7120004	Pond	Savanna Ridge Apartments Pond 2	0.06	0.06
20	9.4	LR-4037	Lake	7120004	Detention Basin	Aldworth Pond	0.47	0.34
20	10.7	LR-4050	Lake	7120004	Lake	LCFPD Pond	25.13	14.91
20	10.4	LR-4051	Lake	7120004	Pond		0.01	0.01
20	13.6	LR-4058	Lake	7120004	Pond		0.02	0.02

Attachment B - Table 20-3
Corridor 20 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
20	13.6	LR-4060	Lake	7120004	Pond		1.22	1.19
20	11.8	LR-4063	Lake	7120004	Pond	Reserve at the Merit Club Pond 4	1.11	1.11
20	11.6	LR-4064	Lake	7120004	Pond	Reserve at the Merit Club Pond 3	1.16	1.16
20	9.8	LR-4080	Lake	7120004	Pond		3.11	3.11
20	8.8	LR-4083	Lake	7120004	Pond	Canterbury Park Pond 1	2.16	2.02
20	11.3	LR-4098	Lake	7120004	Pond	Reserve at the Merit Club Pond 2	2.93	2.93
20	9.5	LR-4103	Lake	7120004	Pond		0.03	0.03
20	8.8	LR-4107	Lake	7120004	Detention Basin	Canterbury Park Pond 2	1.19	1.19
20	8.7	LR-4108	Lake	7120004	Detention Basin	Canterbury Estates Pond 2	2.10	2.09
20	9.9	LR-4120	Lake	7120004	Pond		0.25	0.25
20	9.1	LR-4127	Lake	7120004	Pond	Lake Forest Hospital - Grayslake Pond 1	0.61	0.61
20	9.5	LR-4139	Lake	7120004	Pond		0.05	0.05
20	11.1	LR-4140	Lake	7120004	Pond		0.64	0.00
20	9.2	LR-4142	Lake	7120004	Pond	Lake Forest Hospital - Grayslake Pond 2	1.01	1.01
20	11.2	LR-4143	Lake	7120004	Pond	Reserve at the Merit Club Pond 1	1.23	0.45
20	8.6	LR-4152	Lake	7120004	Detention Basin	Canterbury Estates Pond 1	0.48	0.48
20	10.3	LR-4153	Lake	7120004	Pond	LCFPD Pond	0.67	0.49
20	8.4	LR-4164	Lake	7120004	Pond	Mapleview Pond 1	0.51	0.01
20	14.2	LR-4165	Lake	7120004	Pond	Windwood Pond 5	0.43	0.43
20	8.5	LR-4167	Lake	7120004	Pond	Mapleview Pond 2	0.18	0.18
20	9.6	LR-4169	Lake	7120004	Pond	Arbor Vista Pond 1	0.15	0.15
20	14.2	LR-4176	Lake	7120004	Pond	Windwood Pond 6	0.16	0.09
20	9	LR-4200	Lake	7120004	Pond	Prairie Crossing Pond 1	3.10	3.10
20	8.4	LR-4201	Lake	7120004	Pond		1.32	1.32
20	14	LR-4206	Lake	7120004	Pond	Saint Demetrios Greek Church Pond	0.09	0.09
20	10	LR-4207	Lake	7120004	Pond	Windschant Farm Pond 1	0.01	0.01
20	10	LR-4208	Lake	7120004	Pond	Windschant Farm Pond 2	0.04	0.04
20	8.7	LR-4213	Lake	7120004	Pond		0.13	0.13
20	14.2	LR-4215	Lake	7120004	Pond	Windwood Pond 7	0.98	0.98
20	9.4	LR-4216	Lake	7120004	Detention Basin	John Gage Park Pond	0.69	0.69
20	8.2	LR-4220	Lake	7120004	Pond	Hidden Ponds Pond 5	0.32	0.32
20	14.2	LR-4222	Lake	7120004	Pond	Windwood Pond 8	0.18	0.18
20	9.5	LR-4225	Lake	7120004	Pond	Arbor Vista Pond 2	0.08	0.08
20	8.2	LR-4229	Lake	7120004	Detention Basin		0.03	0.03
20	8.5	LR-4232	Lake	7120004	Detention Basin		1.13	1.13
20	8	LR-4237	Lake	7120004	Pond	Hidden Ponds Pond 6	0.24	0.24
20	8	LR-4244	Lake	7120004	Pond	Phil-Mar Pond	0.17	0.17
20	14.2	LR-4252	Lake	7120004	Pond	Rudd Farm Site Pond 1	0.97	0.97
20	9.6	LR-4259	Lake	7120004	Pond	Arbor Vista Pond 3	0.31	0.07
20	8.2	LR-4272	Lake	7120004	Detention Basin		1.62	1.62
20	8	LR-4273	Lake	7120004	Pond		0.64	0.64
20	14.2	LR-4288	Lake	7120004	Pond	Rudd Farm Site Pond 2	1.05	1.05
20	8.1	LR-4295	Lake	7120004	Pond		0.06	0.06
20	8	LR-4302	Lake	7120004	Detention Basin		0.31	0.31
20	8.4	LR-4309	Lake	7120004	Pond		1.33	0.06
20	8.2	LR-4313	Lake	7120004	Pond		0.10	0.10
20	14.2	LR-4318	Lake	7120004	Pond		0.17	0.17
20	8	LR-4364	Lake	7120004	Pond		0.50	0.50
20	7.9	LR-4378	Lake	7120004	Lake	Countryside Landfill Lake 2	11.77	0.27
20	7.7	LR-4404	Lake	7120004	Pond		0.42	0.30
TOTAL								**92.63**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 21-1
Corridor 21 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
21	0.5	ADID-1700	Lake	7120006	PEM	PEM	Y	4.38	0.29
21	0.5	ADID-1701	Lake	7120006	PEM	PEM	N	0.37	0.37
21	0.5	ADID-1706	Lake	7120006	PEM/UBF	PEM	Y	205.24	0.00
21	0.8	ADID-1707	Lake	7120006	PEM	PEM	N	1.18	1.16
21	1.2	ADID-1708	Lake	7120006	PEM/SS1As	PEM	Y	49.64	0.06
21	2.9	ADID-1710	Lake	7120006	R4SBCx	PEM	Y	11.57	0.79
21	4.2	ADID-1720	Lake	7120006	PEM	PEM	N	1.94	0.94
21	2.7	ADID-1820	Lake	7120006	PEM	PEM	N	0.12	0.12
21	2.9	ADID-1821	Lake	7120006	PEM	PEM	N	0.01	0.01
21	5.2	ADID-1834	Lake	7120006	PEMCd	PEM	Y	11.87	1.27
21	3.5	AI-101	Lake	7120006	PEM	PEM	N	0.06	0.06
21	3.4	AI-102	Lake	7120006	PUBFx	PEM	N	2.68	2.68
21	7.6	AI-107	Lake	7120004	PEM	PEM	N	3.04	3.04
21	1	AI-108	Lake	7120006	PEM	PEM	N	1.98	1.98
21	0.9	AI-109	Lake	7120006	PEM	PEM	N	1.67	1.67
21	0.7	AI-19	Lake	7120006	PEM	PEM	N	0.44	0.44
21	7.6	AI-53	Lake	7120004	PEM	PEM	N	0.77	0.77
21	1.8	AI-61	Lake	7120006	PEM	PEM	N	0.49	0.49
21	3.5	AI-84	Lake	7120006	PEM	PEM	N	0.04	0.04
21	3.4	AI-85	Lake	7120006	PEM	PEM	N	0.24	0.24
21	3.5	AI-86	Lake	7120006	PEM	PEM	N	1.00	1.00
21	3.5	AI-99	Lake	7120006	PEM	PEM	N	4.20	4.20
21	7.5	WRAPP-15999	Lake	7120004	PEMAd	PEM	N	1.63	1.36
21	7.5	WRAPP-16000	Lake	7120004	PEMCd	PEM	N	6.59	6.10
21	7	WRAPP-16518	Lake	7120004	PUBGx	PEM	N	0.44	0.44
21	7.1	WRAPP-16519	Lake	7120004	PUBGx	PEM	N	0.52	0.52
21	7.2	WRAPP-16521	Lake	7120004	PUBGx	PEM	N	0.28	0.28
21	7.3	WRAPP-16522	Lake	7120004	PUBGx	PEM	N	0.89	0.75
21	7.6	WRAPP-16524	Lake	7120004	R4SBCx	PEM	N	4.71	0.90
21	5.4	WRAPP-18228	Lake	7120006	PEMAf	PEM	N	0.65	0.65
21	5.4	WRAPP-18229	Lake	7120006	PEM/SS1Cd	PEM	Y	40.52	32.33
21	6.9	WRAPP-18253	Lake	7120006	PEMC	PEM	N	0.66	0.66
21	6.7	WRAPP-18263	Lake	7120006	PEMF	PEM	N	10.52	10.31
21	6.4	WRAPP-18282	Lake	7120006	PEM/SS1A	PEM	N	1.35	1.35
21	6.7	WRAPP-18283	Lake	7120006	PEMCf	PEM	N	1.51	1.51
21	4.4	WRAPP-18284	Lake	7120006	PUBGx	PEM	N	0.02	0.02
21	4.2	WRAPP-18286	Lake	7120006	PEMC	PEM	N	1.36	1.16
21	4	WRAPP-18289	Lake	7120006	PEMAf	PEM	N	1.32	1.05
21	6.7	WRAPP-18291	Lake	7120006	PEMCf	PEM	N	1.82	1.82
21	6	WRAPP-18292	Lake	7120006	PEMAd	PEM	N	0.95	0.95
21	6.6	WRAPP-18293	Lake	7120006	PEMAf	PEM	N	1.30	1.30
21	5.9	WRAPP-18295	Lake	7120006	PEMCd	PEM	Y	1.96	1.96
21	3.7	WRAPP-18297	Lake	7120006	PEMC	PEM	N	4.40	4.40
21	4.4	WRAPP-18301	Lake	7120006	PUBGx	PEM	N	0.04	0.04
21	5.9	WRAPP-18304	Lake	7120006	PEMAf	PEM	N	0.23	0.23
21	6.6	WRAPP-18305	Lake	7120006	PEM/FO1C	PEM	N	0.43	0.43
21	7	WRAPP-18309	Lake	7120006	PEMAf	PEM	N	0.33	0.33
21	5	WRAPP-18310	Lake	7120006	PFO1A	PFO	N	0.40	0.40
21	4.2	WRAPP-18312	Lake	7120006	PEMC	PEM	N	0.89	0.89
21	5.3	WRAPP-18313	Lake	7120006	PUBGx	PEM	N	0.10	0.10
21	3.7	WRAPP-18316	Lake	7120006	PUBGx	PEM	N	0.05	0.05
21	5.9	WRAPP-18319	Lake	7120006	PEMCf	PEM	N	0.16	0.16
21	6.9	WRAPP-18322	Lake	7120006	PUBGx	PEM	N	0.03	0.03
21	4	WRAPP-18323	Lake	7120006	PEMC	PEM	N	9.26	9.26
21	6.8	WRAPP-18328	Lake	7120006	PUBGx	PEM	N	0.13	0.13
21	5.8	WRAPP-18330	Lake	7120006	PEMAf	PEM	N	0.20	0.20

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
21	3.4	WRAPP-18333	Lake	7120006	PUBFx	PEM	N	0.17	0.17
21	3	WRAPP-18336	Lake	7120006	PEMAf	PEM	N	0.33	0.19
21	6.1	WRAPP-18338	Lake	7120006	PEMAf	PEM	N	0.16	0.16
21	6.2	WRAPP-18340	Lake	7120006	PEMAf	PEM	N	0.23	0.01
21	3.2	WRAPP-18341	Lake	7120006	PUBGx	PEM	N	1.55	1.55
21	6	WRAPP-18342	Lake	7120006	PEMCd	PEM	Y	36.06	36.06
21	4.4	WRAPP-18345	Lake	7120006	PEMCf	PEM	N	1.39	1.05
21	4.5	WRAPP-18347	Lake	7120006	PUBGx	PEM	N	0.03	0.03
21	5.8	WRAPP-18349	Lake	7120006	PEMAf	PEM	N	6.92	6.92
21	2.9	WRAPP-18351	Lake	7120006	PEMAf	PEM	N	0.38	0.24
21	5.9	WRAPP-18353	Lake	7120006	PEMA	PEM	N	0.01	0.01
21	3.2	WRAPP-18356	Lake	7120006	PEM/SS1A	PEM	N	0.54	0.54
21	4.2	WRAPP-18358	Lake	7120006	PEMC	PEM	N	3.69	2.72
21	2.6	WRAPP-18366	Lake	7120006	PUBGx	PEM	N	0.01	0.01
21	2.7	WRAPP-18368	Lake	7120006	PUBKx	PEM	N	0.04	0.04
21	3.1	WRAPP-18369	Lake	7120006	PEMC	PEM	N	0.66	0.66
21	2.6	WRAPP-18372	Lake	7120006	PUBGx	PEM	N	0.01	0.01
21	6.7	WRAPP-18375	Lake	7120006	PEMF	PEM	N	5.56	1.69
21	2.5	WRAPP-18386	Lake	7120006	PUBGx	PEM	N	0.05	0.05
21	2.7	WRAPP-18387	Lake	7120006	PEMFx	PEM	N	0.63	0.63
21	2.1	WRAPP-18391	Lake	7120006	PUBFx	PEM	N	0.13	0.02
21	3.1	WRAPP-18392	Lake	7120006	PUBF	PEM	N	14.35	14.35
21	2.8	WRAPP-18410	Lake	7120006	PEMC	PEM	N	0.36	0.36
21	2.9	WRAPP-18412	Lake	7120006	PFO1C	PFO	N	0.07	0.07
21	2.5	WRAPP-18414	Lake	7120006	PEMCf	PEM	N	0.19	0.19
21	2.7	WRAPP-18415	Lake	7120006	PEMC	PEM	N	0.11	0.11
21	5.7	WRAPP-18423	Lake	7120006	PEMCd	PEM	N	37.49	3.89
21	2	WRAPP-18427	Lake	7120006	PUBGx	PEM	N	0.02	0.02
21	1.9	WRAPP-18431	Lake	7120006	PUBGx	PEM	N	0.01	0.01
21	2.3	WRAPP-18435	Lake	7120006	PUBGx	PEM	N	0.02	0.02
21	2.7	WRAPP-18443	Lake	7120006	PEM/FO1C	PEM	N	1.06	1.06
21	2.5	WRAPP-18444	Lake	7120006	PUBGx	PEM	N	0.02	0.02
21	1.8	WRAPP-18450	Lake	7120006	PUBGh	PEM	N	0.01	0.01
21	2.1	WRAPP-18467	Lake	7120006	PUBGx	PEM	N	0.01	0.01
21	1.9	WRAPP-18469	Lake	7120006	PEMF	PEM	N	3.12	3.12
21	0.6	WRAPP-18472	Lake	7120006	PEMCd	PEM	N	2.34	0.01
21	1.7	WRAPP-18480	Lake	7120006	PEMAf	PEM	N	0.34	0.34
21	0.8	WRAPP-18497	Lake	7120006	PEMF	PEM	N	15.22	15.18
21	2.1	WRAPP-18507	Lake	7120006	PEMF	PEM	N	29.11	22.46
21	0.5	WRAPP-18515	Lake	7120006	PEMC	PEM	N	0.05	0.05
21	1.6	WRAPP-18516	Lake	7120006	PEMC	PEM	N	3.09	3.06
21	1	WRAPP-18522	Lake	7120006	PEMCd	PEM	N	2.72	2.72
21	1.3	WRAPP-18525	Lake	7120006	L1UBHx	PEM	N	0.10	0.08
21	0.5	WRAPP-18551	Lake	7120006	PFO1C	PFO	N	0.17	0.17
21	0.5	WRAPP-18556	Lake	7120006	PFO1C	PFO	N	0.09	0.09
21	0.6	WRAPP-18576	Lake	7120006	PEMCx	PEM	N	1.20	1.20
21	0.5	WRAPP-18582	Lake	7120006	PEMC	PEM	N	0.91	0.55
21	0.6	WRAPP-18585	Lake	7120006	PEM/SS1Ax	PEM	N	0.28	0.28
21	0.5	WRAPP-18589	Lake	7120006	PFO1A	PFO	N	0.34	0.34
21	0.5	WRAPP-18605	Lake	7120006	L2UBHh	PEM	N	0.87	0.87
21	0.5	WRAPP-18947	Lake	7120006	PEMC	PEM	Y	26.63	2.08
21	6.8	WRAPP-18952	Lake	7120006	PEMC	PEM	N	0.55	0.27
21	5.7	WRAPP-18997	Lake	7120006	R2UBHx	PFO	Y	3.54	0.20
21	1.2	WRAPP-19007	Lake	7120006	R2UBHx	PEM	Y	0.31	0.31
21	0.5	WRAPP-19102	Lake	7120006	PSS1B	PSS	Y	12.77	2.18
21	6.6	WRAPP-19124	Lake	7120006	PEMCd	PEM	N	1.26	0.13
21	6.7	WRAPP-19125	Lake	7120006	PEMCf	PEM	N	0.80	0.80
21	6.7	WRAPP-19126	Lake	7120006	PEMC	PEM	N	1.57	1.57

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
21	6.3	WRAPP-19862	Lake	7120006	PEMAf	PEM	N	1.46	0.03
21	5.8	WRAPP-19864	Lake	7120006	PEM/SS1Cd	PEM	Y	30.84	17.24
21	5.6	WRAPP-19866	Lake	7120006	PEMAf	PEM	N	0.79	0.79
21	5.7	WRAPP-19867	Lake	7120006	PEMAd	PEM	Y	2.72	1.56
21	5.6	WRAPP-19868	Lake	7120006	PFO1Cd	PFO	Y	8.18	8.18
21	5.2	WRAPP-19869	Lake	7120006	PEM/SS1C	PEM	N	9.88	9.88
21	5.3	WRAPP-19870	Lake	7120006	PEMC	PEM	Y	1.03	1.03
21	5.7	WRAPP-19871	Lake	7120006	PFO1Cd	PFO	Y	4.01	4.01
21	6.2	WRAPP-19872	Lake	7120006	PEMCd	PEM	Y	15.93	3.34
21	5.7	WRAPP-19874	Lake	7120006	PEM/FO1Ad	PEM	Y	3.95	0.77
21	6.3	WRAPP-19875	Lake	7120006	PUBGx	PEM	N	0.29	0.29
21	6.2	WRAPP-19876	Lake	7120006	PEMC	PEM	N	15.29	14.24
21	6	WRAPP-19877	Lake	7120006	PEMCd	PEM	N	10.40	10.40
21	4.6	WRAPP-19878	Lake	7120006	PEM/UBF	PEM	N	9.02	9.02
21	4.7	WRAPP-19879	Lake	7120006	PEMC	PEM	N	0.09	0.09
21	4.5	WRAPP-19885	Lake	7120006	PEM/SS1C	PEM	N	0.32	0.32
21	4.5	WRAPP-19886	Lake	7120006	PEMCd	PEM	N	0.62	0.62
21	4.6	WRAPP-19888	Lake	7120006	PUBGx	PEM	N	4.38	4.38
21	4.2	WRAPP-19895	Lake	7120006	PUBG	PEM	N	0.01	0.01
21	4.1	WRAPP-19896	Lake	7120006	PEMC	PEM	N	3.87	3.87
21	4.3	WRAPP-19906	Lake	7120006	PEMCd	PEM	N	2.13	0.49
21	4	WRAPP-19907	Lake	7120006	PEM/SS1C	PEM	N	0.83	0.82
21	3.7	WRAPP-19908	Lake	7120006	PEMA	PEM	N	0.19	0.19
21	0.5	WRAPP-20371	Lake	7120006	PEMC	PEM	N	0.29	0.25
21	1.2	WRAPP-20373	Lake	7120006	PEM/FO1A	PEM	Y	0.01	0.01
21	2.1	WRAPP-20438	Lake	7120006	PFO1A	PFO	Y	0.84	0.84
21	2.2	WRAPP-20439	Lake	7120006	PFO1A	PFO	Y	2.26	2.26
21	2.4	WRAPP-20440	Lake	7120006	PABF	PEM	N	0.07	0.07
21	2.4	WRAPP-20441	Lake	7120006	PEMC	PEM	N	2.56	2.56
21	2.7	WRAPP-20442	Lake	7120006	PEMC	PEM	Y	1.36	1.36
21	2.7	WRAPP-20443	Lake	7120006	PFO1C	PFO	Y	0.67	0.67
21	2.8	WRAPP-20457	Lake	7120006	PFO1A	PFO	Y	0.47	0.23
21	1.1	WRAPP-20460	Lake	7120006	PUBHx	PEM	N	0.01	0.01
21	1.1	WRAPP-20461	Lake	7120006	PEMC	PEM	N	0.02	0.02
21	1.1	WRAPP-20463	Lake	7120006	PUBHx	PEM	N	0.11	0.11
21	1.9	WRAPP-20464	Lake	7120006	PEMC	PEM	N	1.50	1.50
21	1	WRAPP-20468	Lake	7120006	PEMC	PEM	Y	0.24	0.10
21	1.1	WRAPP-20470	Lake	7120006	PEM/SS1A	PEM	Y	0.20	0.20
21	1.1	WRAPP-20471	Lake	7120006	PUBGx	PEM	N	0.51	0.51
21	1	WRAPP-20472	Lake	7120006	PEMA	PEM	N	0.34	0.34
21	1.1	WRAPP-20473	Lake	7120006	PSS1A	PSS	N	0.07	0.07
21	1.1	WRAPP-20474	Lake	7120006	PFO1A	PFO	N	0.08	0.08
21	1.2	WRAPP-20479	Lake	7120006	PEM/SS1As	PEM	N	0.18	0.03
21	1.2	WRAPP-20481	Lake	7120006	PEM/SS1As	PEM	N	0.22	0.06
21	1.8	WRAPP-20492	Lake	7120006	PEM/FO1Cd	PEM	N	1.52	1.52
21	1	WRAPP-20493	Lake	7120006	PUBGx	PEM	N	2.06	2.06
21	0.5	WRAPP-20494	Lake	7120006	PEMF	PEM	N	2.35	2.35
21	0.6	WRAPP-20496	Lake	7120006	PEMFd	PEM	N	11.28	11.28
21	0.5	WRAPP-20499	Lake	7120006	PEM/SS1B	PEM	N	2.92	1.72
21	0.5	WRAPP-20500	Lake	7120006	PEMCd	PEM	N	1.64	1.64
21	0.5	WRAPP-20501	Lake	7120006	PEMAf	PEM	N	0.33	0.33
21	0.5	WRAPP-20502	Lake	7120006	PEM/FO1Cd	PEM	N	13.20	5.22
21	0.6	WRAPP-20508	Lake	7120006	PUBGx	PEM	N	1.00	0.31
21	0.7	WRAPP-20509	Lake	7120006	PUBGx	PEM	N	0.51	0.51
21	0.5	WRAPP-20510	Lake	7120006	PEMC	PEM	N	0.60	0.60
21	1.1	WRAPP-20512	Lake	7120006	PUBGx	PEM	N	0.84	0.77
21	0.8	WRAPP-20513	Lake	7120006	PUBGx	PEM	N	0.65	0.65
21	0.7	WRAPP-20514	Lake	7120006	PUBGx	PEM	N	0.62	0.62

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
21	0.6	WRAPP-20515	Lake	7120006	PUBGx	PEM	N	0.17	0.17
21	0.7	WRAPP-20516	Lake	7120006	PUBGx	PEM	N	0.39	0.39
21	2.4	WRAPP-20616	Lake	7120006	PEMFx	PEM	Y	3.65	3.65
21	2.4	WRAPP-20617	Lake	7120006	PEMFx	PEM	N	2.53	2.53
21	3	WRAPP-20618	Lake	7120006	R2UBH	PFO	Y	0.71	0.04
21	3	WRAPP-20619	Lake	7120006	PEM/FO1Cd	PEM	Y	1.49	0.80
21	3	WRAPP-20620	Lake	7120006	PEM/FO1Cd	PEM	N	1.70	1.19
21	1.7	WRAPP-22069	Lake	7120006	PFO1A	PFO	N	0.50	0.50
21	3	WRAPP-22080	Lake	7120006	PFO1Ad	PFO	N	1.60	1.60
21	3	WRAPP-22081	Lake	7120006	R2UBH	PEM	N	0.95	0.95
21	5.2	WRAPP-22085	Lake	7120006	PUBGx	PEM	N	6.28	4.09
21	6.9	WRAPP-22213	Lake	7120006	PUBGx	PEM	N	0.04	0.04
21	7.2	WRAPP-2845	Lake	7120004	PEMAf	PEM	N	0.45	0.45
21	7.3	WRAPP-2846	Lake	7120004	PEMAf	PEM	N	0.61	0.61
21	7.6	WRAPP-2848	Lake	7120004	PEMCf	PEM	N	0.95	0.95
21	7.6	WRAPP-2849	Lake	7120004	PEMCf	PEM	N	1.40	1.40
21	7.3	WRAPP-2850	Lake	7120004	PEMA	PEM	N	0.73	0.73
21	7.1	WRAPP-2851	Lake	7120004	PEMAdf	PEM	N	3.39	3.39
21	7.2	WRAPP-2854	Lake	7120004	PEMC	PEM	N	0.46	0.46
21	6.9	WRAPP-2863	Lake	7120004	PEMAd	PEM	N	0.20	0.20
21	7.4	WRAPP-2864	Lake	7120004	PEMC	PEM	N	1.89	0.84
21	7.5	WRAPP-9262	Lake	7120004	PEMAd	PEM	N	0.25	0.11
21	7.6	WRAPP-9325	Lake	7120004	PEMCd	PEM	N	0.87	0.68
21	7.4	WRAPP-9326	Lake	7120004	PEM/UBF	PEM	N	0.56	0.08
21	7.6	WRAPP-9328	Lake	7120004	PEMAf	PEM	N	0.76	0.75
21	7.3	WRAPP-9909	Lake	7120004	PUBGx	PEM	N	1.65	1.65
21	6.8	WRAPP-9910	Lake	7120004	PEM/UBF	PEM	N	0.03	0.03
21	7	WRAPP-9911	Lake	7120004	PEMAdf	PEM	N	1.83	1.83
21	7.6	WRAPP-9938	Lake	7120004	R4SBCx	PEM	N	0.35	0.13
21	7.6	WRAPP-9939	Lake	7120004	PEMCd	PEM	N	3.68	3.68
21	7.4	WRAPP-9940	Lake	7120004	PEM/FO1Ad	PEM	N	1.27	0.20
21	7.5	WRAPP-9959	Lake	7120004	R2UBHx	PEM	N	0.24	0.01
TOTAL									**401.17**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 21-2
Corridor 21 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
21	1.1	3752	Lake	7120006	Fish Lake Drain	1
21	3	3982	Lake	7120006	Fort Hill Creek	0
21	5.7	9333	Lake	7120006	Squaw Creek	1
21	7.5	4265	Lake	7120004	Avon-Fremont Drainage Ditch	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 21-3
Corridor 21 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
21	1.7	AIOW - 10	Lake	7120006	Detention Basin		1.00	1.00
21	6.9	AIOW - 7	Lake	7120004	Detention Basin		2.75	2.75
21	0.5	LR-3463	Lake	7120006	Pond		0.47	0.12
21	0.5	LR-3478	Lake	7120006	Pond		1.19	1.09
21	0.5	LR-3483	Lake	7120006	Pond		0.05	0.00
21	0.5	LR-3498	Lake	7120006	Pond		0.26	0.26
21	0.5	LR-3504	Lake	7120006	Lake	Illinois DOT - Ingleside Lake	7.20	7.20
21	1	LR-3576	Lake	7120006	Lake	Fischer Lake	23.05	12.63
21	0.5	LR-3609	Lake	7120006	Pond		3.19	3.19
21	0.5	LR-3615	Lake	7120006	Pond		0.06	0.06
21	0.5	LR-3639	Lake	7120006	Pond		0.15	0.15
21	0.5	LR-3658	Lake	7120006	Pond		0.02	0.02
21	0.6	LR-3670	Lake	7120006	Pond		1.54	1.54
21	0.5	LR-3674	Lake	7120006	Pond	Illinois DOT - Ingleside Pond	5.88	5.88
21	1.3	LR-3741	Lake	7120006	Lake	Lake Christa	8.90	7.94
21	0.5	LR-3773	Lake	7120006	Pond		0.05	0.05
21	1.7	LR-3793	Lake	7120006	Detention Basin	Big Hollow Primary School Pond	4.33	1.66
21	0.5	LR-3808	Lake	7120006	Pond	Spruce Lake Sand and Gravel Pond	0.22	0.22
21	0.7	LR-3818	Lake	7120006	Pond	Remington Pointe Pond	2.25	2.25
21	2.1	LR-3878	Lake	7120006	Pond	Valley Lakes PUD Pond 21	0.19	0.19
21	2.2	LR-3898	Lake	7120006	Pond		0.08	0.08
21	2.3	LR-3902	Lake	7120006	Detention Basin	Valley Lakes PUD Pond 22	0.68	0.68
21	2.5	LR-3908	Lake	7120006	Pond		0.02	0.02
21	2.5	LR-3918	Lake	7120006	Pond		0.06	0.06
21	2.3	LR-3919	Lake	7120006	Pond		0.23	0.23
21	2.5	LR-3924	Lake	7120006	Pond	Valley Lakes PUD Pond 25	0.79	0.79
21	2.3	LR-3928	Lake	7120006	Pond		0.04	0.04
21	2.4	LR-3931	Lake	7120006	Pond	Valley Lakes PUD Pond 24	0.84	0.84
21	2.3	LR-3934	Lake	7120006	Pond		0.06	0.06
21	1.8	LR-3936	Lake	7120006	Pond		1.01	1.01
21	2.3	LR-3943	Lake	7120006	Pond		0.08	0.08
21	2.3	LR-3944	Lake	7120006	Pond		0.02	0.02
21	2.5	LR-3945	Lake	7120006	Pond		0.05	0.05
21	2.3	LR-3949	Lake	7120006	Pond	Valley Lakes PUD Pond 23	0.48	0.48
21	2.3	LR-3955	Lake	7120006	Pond		0.02	0.02
21	2.3	LR-3956	Lake	7120006	Pond		0.10	0.10
21	1.9	LR-3962	Lake	7120006	Pond		0.12	0.12
21	2.3	LR-3976	Lake	7120006	Pond		0.10	0.10
21	2	LR-3979	Lake	7120006	Pond	Bunting Pond	0.24	0.24
21	2.7	LR-4010	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 10	0.06	0.06
21	2.7	LR-4013	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 11	0.07	0.07
21	2.9	LR-4018	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 13	0.11	0.11
21	2.1	LR-4053	Lake	7120006	Pond		0.07	0.00
21	2.8	LR-4066	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 12	5.57	5.57
21	2.5	LR-4067	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 5	2.84	2.84
21	2.7	LR-4068	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 9	0.28	0.28
21	2.6	LR-4092	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 7	0.58	0.58
21	2.7	LR-4096	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 8	0.68	0.68
21	3.1	LR-4100	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 15	0.32	0.32
21	2.6	LR-4102	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 6	0.57	0.55
21	3	LR-4125	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond 14	0.97	0.97
21	5.9	LR-4130	Lake	7120006	Pond		0.06	0.05
21	4.8	LR-4137	Lake	7120006	Detention Basin	Madrona Village Pond 2	4.30	2.09
21	4.4	LR-4150	Lake	7120006	Pond		0.52	0.50
21	4.5	LR-4151	Lake	7120006	Pond		0.63	0.63
21	4.4	LR-4161	Lake	7120006	Pond		0.18	0.18
21	3.3	LR-4175	Lake	7120006	Pond		0.20	0.20
21	6	LR-4186	Lake	7120006	Pond	Northbrook Sports Club Pond 1	0.10	0.10
21	6.8	LR-4189	Lake	7120006	Pond		0.43	0.43
21	5	LR-4203	Lake	7120006	Pond		0.04	0.04
21	6.9	LR-4204	Lake	7120006	Pond		0.53	0.53
21	5	LR-4212	Lake	7120006	Pond		0.08	0.08
21	5.9	LR-4214	Lake	7120006	Pond	Northbrook Sports Club Pond 2	0.40	0.40

Attachment B- Table 21-3
Corridor 21 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
21	3.5	LR-4219	Lake	7120006	Pond		0.01	0.01
21	6.2	LR-4221	Lake	7120006	Pond	Northbrook Sports Club Pond 3	1.04	1.04
21	3.7	LR-4224	Lake	7120006	Pond		0.69	0.69
21	6.9	LR-4226	Lake	7120006	Pond		0.07	0.07
21	4.1	LR-4228	Lake	7120006	Pond		0.84	0.84
21	5.3	LR-4230	Lake	7120006	Pond	Madrona Village Pond 4	1.15	1.15
21	4.8	LR-4240	Lake	7120006	Detention Basin	Madrona Village Pond 3	1.91	1.91
21	7	LR-4250	Lake	7120004	Pond		0.09	0.09
21	4.2	LR-4253	Lake	7120006	Pond		4.36	4.36
21	5.3	LR-4255	Lake	7120006	Pond	Madrona Village Pond 5	0.07	0.07
21	4.4	LR-4257	Lake	7120006	Pond		0.18	0.18
21	6.9	LR-4258	Lake	7120004	Pond		2.02	2.02
21	4.4	LR-4317	Lake	7120006	Pond		0.34	0.29
21	7.4	LR-4400	Lake	7120004	Pond		1.85	0.21
21	7.6	LR-4404	Lake	7120004	Pond		0.42	0.42
TOTAL								**83.79**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 22-1
Corridor 22 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
22	5.5	ADID-1834	Lake	7120006	PEMCd	PEM	Y	11.87	0.17
22	7.8	AI-107	Lake	7120004	PEM	PEM	N	3.04	3.04
22	7.7	AI-53	Lake	7120004	PEM	PEM	N	0.77	0.77
22	7.5	WRAPP-15999	Lake	7120004	PEMAd	PEM	N	1.63	1.32
22	7.5	WRAPP-16000	Lake	7120004	PEMCd	PEM	N	6.59	6.09
22	7	WRAPP-16518	Lake	7120004	PUBGx	PEM	N	0.44	0.44
22	7.1	WRAPP-16519	Lake	7120004	PUBGx	PEM	N	0.52	0.52
22	7.2	WRAPP-16520	Lake	7120004	PUBGx	PEM	N	0.27	0.19
22	7.2	WRAPP-16521	Lake	7120004	PUBGx	PEM	N	0.28	0.28
22	7.3	WRAPP-16522	Lake	7120004	PUBGx	PEM	N	0.89	0.89
22	7.9	WRAPP-16524	Lake	7120004	R4SBCx	PEM	N	4.71	2.57
22	5.5	WRAPP-18228	Lake	7120006	PEMAf	PEM	N	0.65	0.65
22	5.5	WRAPP-18229	Lake	7120006	PEM/SS1Cd	PEM	Y	40.52	19.44
22	6.8	WRAPP-18283	Lake	7120006	PEMCf	PEM	N	1.51	1.51
22	6.8	WRAPP-18291	Lake	7120006	PEMCf	PEM	N	1.82	1.82
22	6.6	WRAPP-18293	Lake	7120006	PEMAf	PEM	N	1.30	1.30
22	5.7	WRAPP-18295	Lake	7120006	PEMCd	PEM	Y	1.96	0.14
22	5.9	WRAPP-18304	Lake	7120006	PEMAf	PEM	N	0.23	0.23
22	6.7	WRAPP-18305	Lake	7120006	PEM/FO1C	PEM	N	0.43	0.43
22	6.9	WRAPP-18309	Lake	7120006	PEMAf	PEM	N	0.33	0.33
22	5.5	WRAPP-18313	Lake	7120006	PUBGx	PEM	N	0.10	0.06
22	5.9	WRAPP-18319	Lake	7120006	PEMCf	PEM	N	0.16	0.16
22	6.8	WRAPP-18322	Lake	7120006	PUBGx	PEM	N	0.03	0.03
22	6.8	WRAPP-18328	Lake	7120006	PUBGx	PEM	N	0.13	0.13
22	5.8	WRAPP-18330	Lake	7120006	PEMAf	PEM	N	0.20	0.20
22	6.2	WRAPP-18338	Lake	7120006	PEMAf	PEM	N	0.16	0.16
22	6.3	WRAPP-18340	Lake	7120006	PEMAf	PEM	N	0.23	0.23
22	5.9	WRAPP-18342	Lake	7120006	PEMCd	PEM	Y	36.06	15.05
22	6.3	WRAPP-18344	Lake	7120006	PEMCf	PEM	N	0.45	0.45
22	6.7	WRAPP-18346	Lake	7120006	PEMC	PEM	N	0.41	0.41
22	6.4	WRAPP-18348	Lake	7120006	PEMC	PEM	N	3.28	3.28
22	5.9	WRAPP-18349	Lake	7120006	PEMAf	PEM	N	6.92	6.92
22	6	WRAPP-18353	Lake	7120006	PEMA	PEM	N	0.01	0.01
22	6.2	WRAPP-18355	Lake	7120006	PEM/FO1C	PEM	N	2.03	2.03
22	6	WRAPP-18364	Lake	7120006	PUBGx	PEM	N	0.13	0.13
22	6.2	WRAPP-18371	Lake	7120006	PEM/FO1C	PEM	N	1.02	1.02
22	6.7	WRAPP-18375	Lake	7120006	PEMF	PEM	N	5.56	5.56
22	6.2	WRAPP-18376	Lake	7120006	PEMC	PEM	N	0.14	0.14
22	5.9	WRAPP-18380	Lake	7120006	PEMA	PEM	N	0.83	0.83
22	6.1	WRAPP-18385	Lake	7120006	PEMAf	PEM	N	0.03	0.01
22	5.9	WRAPP-18423	Lake	7120006	PEMCd	PEM	N	37.49	10.85
22	5.7	WRAPP-18997	Lake	7120006	R2UBHx	PFO	Y	3.54	0.21
22	6.5	WRAPP-19117	Lake	7120006	PEM/FO1C	PEM	N	0.86	0.80
22	6.7	WRAPP-19122	Lake	7120006	PEMF	PEM	N	1.90	0.47
22	6.7	WRAPP-19123	Lake	7120006	PFO1Cd	PFO	N	0.87	0.87
22	6.5	WRAPP-19124	Lake	7120006	PEMCd	PEM	N	1.26	1.26
22	6.7	WRAPP-19125	Lake	7120006	PEMCf	PEM	N	0.80	0.80
22	6.7	WRAPP-19126	Lake	7120006	PEMC	PEM	N	1.57	1.57
22	6.7	WRAPP-19127	Lake	7120006	PEMC	PEM	N	0.07	0.01
22	5.7	WRAPP-19864	Lake	7120006	PEM/SS1Cd	PEM	Y	30.84	15.82
22	5.6	WRAPP-19866	Lake	7120006	PEMAf	PEM	N	0.79	0.79
22	5.7	WRAPP-19867	Lake	7120006	PEMAd	PEM	Y	2.72	1.65
22	5.6	WRAPP-19868	Lake	7120006	PFO1Cd	PFO	Y	8.18	8.18
22	5.5	WRAPP-19869	Lake	7120006	PEM/SS1C	PEM	N	9.88	1.88
22	5.5	WRAPP-19870	Lake	7120006	PEMC	PEM	Y	1.03	0.98
22	5.7	WRAPP-19871	Lake	7120006	PFO1Cd	PFO	Y	4.01	4.01
22	5.7	WRAPP-19874	Lake	7120006	PEM/FO1Ad	PEM	Y	3.95	0.83
22	6.4	WRAPP-19875	Lake	7120006	PUBGx	PEM	N	0.29	0.29
22	6.4	WRAPP-19876	Lake	7120006	PEMC	PEM	N	15.29	15.29

Attachment B- Table 22-1
Corridor 22 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
22	6	WRAPP-19877	Lake	7120006	PEMCd	PEM	N	10.40	10.40
22	6.9	WRAPP-22213	Lake	7120006	PUBGx	PEM	N	0.04	0.04
22	7.3	WRAPP-2845	Lake	7120004	PEMAf	PEM	N	0.45	0.45
22	7.3	WRAPP-2846	Lake	7120004	PEMAf	PEM	N	0.61	0.61
22	7.6	WRAPP-2848	Lake	7120004	PEMCf	PEM	N	0.95	0.95
22	7.8	WRAPP-2849	Lake	7120004	PEMCf	PEM	N	1.40	1.40
22	7.4	WRAPP-2850	Lake	7120004	PEMA	PEM	N	0.73	0.73
22	7.1	WRAPP-2851	Lake	7120004	PEMAdf	PEM	N	3.39	3.39
22	7.2	WRAPP-2854	Lake	7120004	PEMC	PEM	N	0.46	0.46
22	7.9	WRAPP-2855	Lake	7120004	PEMC	PEM	N	1.32	0.33
22	6.9	WRAPP-2863	Lake	7120004	PEMAd	PEM	N	0.20	0.20
22	7.3	WRAPP-2864	Lake	7120004	PEMC	PEM	N	1.89	1.89
22	7.8	WRAPP-2881	Lake	7120004	PEMCd	PEM	N	1.54	0.24
22	7.1	WRAPP-2890	Lake	7120004	PEMF	PEM	N	6.88	1.95
22	7.9	WRAPP-9310	Lake	7120004	PEMA	PEM	N	0.18	0.18
22	7.6	WRAPP-9325	Lake	7120004	PEMCd	PEM	N	0.87	0.63
22	7.7	WRAPP-9328	Lake	7120004	PEMAf	PEM	N	0.76	0.76
22	7.3	WRAPP-9909	Lake	7120004	PUBGx	PEM	N	1.65	1.65
22	6.9	WRAPP-9910	Lake	7120004	PEM/UBF	PEM	N	0.03	0.03
22	7	WRAPP-9911	Lake	7120004	PEMAdf	PEM	N	1.83	1.83
22	7.9	WRAPP-9912	Lake	7120004	PEMFd	PEM	N	2.25	2.16
22	7.8	WRAPP-9927	Lake	7120004	PFO1Ad	PFO	N	0.08	0.08
22	7.9	WRAPP-9938	Lake	7120004	R4SBCx	PEM	N	0.35	0.30
22	7.7	WRAPP-9939	Lake	7120004	PEMCd	PEM	N	3.68	3.68
22	7.4	WRAPP-9940	Lake	7120004	PEM/FO1Ad	PEM	N	1.27	0.42
22	7.5	WRAPP-9959	Lake	7120004	R2UBHx	PEM	N	0.24	0.01
TOTAL									**180.27**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 22-2
Corridor 22 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
22	5.7	9333	Lake	7120006	Squaw Creek	1
22	7.5	4265	Lake	7120004	Avon-Fremont Drainage Ditch	1
22	7.9	4298	Lake	7120004	Countryside Landfill North Ditch	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 22-3
Corridor 22 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
22	7	AIOW - 7	Lake	7120004	Detention Basin		2.75	0.19
22	6.1	LR-4071	Lake	7120006	Pond		0.12	0.08
22	6.2	LR-4097	Lake	7120006	Pond	Echols Pond 1	0.12	0.12
22	6	LR-4113	Lake	7120006	Pond		0.16	0.16
22	6	LR-4117	Lake	7120006	Pond		0.86	0.86
22	6.3	LR-4126	Lake	7120006	Pond	Echols Pond 2	0.68	0.68
22	6	LR-4130	Lake	7120006	Pond		0.06	0.06
22	6.5	LR-4132	Lake	7120006	Pond		0.39	0.29
22	6.5	LR-4135	Lake	7120006	Pond		0.21	0.21
22	6	LR-4186	Lake	7120006	Pond	Northbrook Sports Club Pond 1	0.10	0.10
22	6.8	LR-4189	Lake	7120006	Pond		0.43	0.43
22	6.8	LR-4204	Lake	7120006	Pond		0.53	0.53
22	5.9	LR-4214	Lake	7120006	Pond	Northbrook Sports Club Pond 2	0.40	0.40
22	6.3	LR-4221	Lake	7120006	Pond	Northbrook Sports Club Pond 3	1.04	1.04
22	6.9	LR-4226	Lake	7120006	Pond		0.07	0.07
22	5.5	LR-4230	Lake	7120006	Pond	Madrona Village Pond 4	1.15	0.09
22	7.4	LR-4245	Lake	7120004	Detention Basin	Grayslake Rail Station Pond 1	0.98	0.35
22	7	LR-4250	Lake	7120004	Pond		0.09	0.09
22	6.9	LR-4258	Lake	7120004	Pond		2.02	2.02
22	7.9	LR-4273	Lake	7120004	Pond		0.64	0.64
22	7.9	LR-4302	Lake	7120004	Detention Basin		0.31	0.31
22	7.6	LR-4404	Lake	7120004	Pond		0.42	0.37
TOTAL								**9.09**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 23-1
Corridor 23 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
23	0.6	ADID-1707	Lake	7120006	PEM	PEM	N	1.18	0.02
23	1.2	ADID-1708	Lake	7120006	PEM/SS1As	PEM	Y	49.64	4.99
23	2.3	ADID-1717	Lake	7120006	PEM	PEM	N	0.26	0.26
23	2.9	ADID-1718	Lake	7120006	PFO1A	PFO	Y	0.97	0.61
23	4.4	ADID-1720	Lake	7120006	PEM	PEM	N	1.94	0.75
23	2.4	AI-46	Lake	7120006	PEM	PEM	N	0.17	0.17
23	2.4	AI-47	Lake	7120006	PEM	PEM	N	0.12	0.12
23	2.5	AI-48	Lake	7120006	PEM	PEM	N	0.06	0.06
23	2.5	AI-5	Lake	7120006	PEM	PEM	N	0.19	0.19
23	0.5	AI-75	Lake	7120006	PEM	PEM	N	0.05	0.05
23	2.6	AI-83	Lake	7120006	PEM	PEM	N	0.07	0.07
23	3.8	AI-99	Lake	7120006	PEM	PEM	N	4.20	1.49
23	2	WRAPP-18187	Lake	7120006	PEMF	PEM	Y	7.90	7.30
23	2.6	WRAPP-18258	Lake	7120006	PSS1C	PSS	N	2.30	2.30
23	2.5	WRAPP-18260	Lake	7120006	PEMC	PEM	N	0.78	0.78
23	3.5	WRAPP-18264	Lake	7120006	PUBGx	PEM	N	0.15	0.15
23	2.5	WRAPP-18267	Lake	7120006	PEMC	PEM	N	0.18	0.18
23	3.3	WRAPP-18268	Lake	7120006	PEMF	PEM	Y	1.79	1.79
23	3.4	WRAPP-18270	Lake	7120006	PEMC	PEM	Y	2.39	2.37
23	2.5	WRAPP-18271	Lake	7120006	PEMA	PEM	N	0.26	0.26
23	2.4	WRAPP-18277	Lake	7120006	PEMC	PEM	N	1.79	1.79
23	2.5	WRAPP-18280	Lake	7120006	PEMCf	PEM	N	0.49	0.49
23	3.4	WRAPP-18281	Lake	7120006	PEMC	PEM	Y	0.56	0.56
23	4.4	WRAPP-18284	Lake	7120006	PUBGx	PEM	N	0.02	0.02
23	4.2	WRAPP-18286	Lake	7120006	PEMC	PEM	N	1.36	1.36
23	3	WRAPP-18288	Lake	7120006	PEMF	PEM	Y	13.18	13.18
23	4	WRAPP-18289	Lake	7120006	PEMAf	PEM	N	1.32	1.32
23	2.2	WRAPP-18290	Lake	7120006	PEM/FO1C	PEM	N	0.24	0.24
23	2.9	WRAPP-18294	Lake	7120006	R4SBCx	PEM	N	0.37	0.37
23	3.8	WRAPP-18297	Lake	7120006	PEMC	PEM	N	4.40	4.40
23	2.2	WRAPP-18298	Lake	7120006	PEMC	PEM	N	0.04	0.04
23	4.5	WRAPP-18301	Lake	7120006	PUBGx	PEM	N	0.04	0.04
23	2.1	WRAPP-18302	Lake	7120006	PEMCd	PEM	Y	0.96	0.96
23	2	WRAPP-18307	Lake	7120006	PFO1A	PFO	Y	0.10	0.10
23	4.3	WRAPP-18312	Lake	7120006	PEMC	PEM	N	0.89	0.89
23	2.6	WRAPP-18314	Lake	7120006	PEM/FO1C	PEM	N	1.03	0.12
23	2	WRAPP-18315	Lake	7120006	PFO1A	PFO	Y	0.40	0.40
23	3.8	WRAPP-18316	Lake	7120006	PUBGx	PEM	N	0.05	0.05
23	2.1	WRAPP-18318	Lake	7120006	PFO1A	PFO	Y	0.58	0.58
23	3.9	WRAPP-18323	Lake	7120006	PEMC	PEM	N	9.26	9.26
23	2.3	WRAPP-18326	Lake	7120006	PEMF	PEM	N	22.62	18.63
23	2	WRAPP-18334	Lake	7120006	PEMF	PEM	Y	1.46	1.46
23	2	WRAPP-18335	Lake	7120006	PAB/UBF	PEM	Y	1.58	1.58
23	0.5	WRAPP-18339	Lake	7120006	PUBGx	PEM	N	0.02	0.01
23	4.5	WRAPP-18345	Lake	7120006	PEMCf	PEM	N	1.39	0.95
23	4.6	WRAPP-18347	Lake	7120006	PUBGx	PEM	N	0.03	0.03
23	1.8	WRAPP-18354	Lake	7120006	PAB/FO1F	PEM	Y	0.09	0.09
23	4.4	WRAPP-18358	Lake	7120006	PEMC	PEM	N	3.69	1.34
23	0.7	WRAPP-18360	Lake	7120006	PEMC	PEM	N	0.75	0.40
23	1.7	WRAPP-18362	Lake	7120006	PFO1A	PFO	Y	0.60	0.60
23	1.7	WRAPP-18363	Lake	7120006	PEM/FO1C	PEM	Y	0.10	0.10
23	0.6	WRAPP-18374	Lake	7120006	PFO1C	PFO	N	0.00	0.00
23	0.5	WRAPP-18377	Lake	7120006	PEM/FO1C	PEM	N	0.73	0.73
23	0.5	WRAPP-18378	Lake	7120006	PEMC	PEM	N	3.43	3.43
23	1.7	WRAPP-18391	Lake	7120006	PUBFx	PEM	N	0.13	0.13
23	1.5	WRAPP-18398	Lake	7120006	PEMAf	PEM	N	0.60	0.60
23	1.7	WRAPP-18402	Lake	7120006	PUBGx	PEM	N	0.00	0.00
23	0.7	WRAPP-18407	Lake	7120006	PFO1A	PFO	N	0.36	0.36
23	1.6	WRAPP-18409	Lake	7120006	PUBGx	PEM	N	0.04	0.04

Attachment B - Table 23-1
Corridor 23 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
23	0.5	WRAPP-18416	Lake	7120006	PEM/SS1C	PEM	N	0.89	0.89
23	0.9	WRAPP-18417	Lake	7120006	PEMC	PEM	N	0.79	0.79
23	1.5	WRAPP-18424	Lake	7120006	PFO1A	PFO	N	0.87	0.87
23	1.4	WRAPP-18436	Lake	7120006	PEM/FO1Ad	PEM	N	0.34	0.34
23	0.5	WRAPP-18437	Lake	7120006	PEMCf	PEM	N	0.34	0.34
23	1	WRAPP-18441	Lake	7120006	PEMF	PEM	N	0.11	0.11
23	1.3	WRAPP-18453	Lake	7120006	PUBGx	PEM	N	0.48	0.48
23	0.5	WRAPP-18457	Lake	7120006	PEMAf	PEM	N	0.05	0.05
23	1	WRAPP-18460	Lake	7120006	PEM/FO1C	PEM	N	1.72	1.72
23	0.5	WRAPP-18461	Lake	7120006	PEMAf	PEM	N	0.24	0.24
23	0.5	WRAPP-18464	Lake	7120006	PEM/FO1C	PEM	N	1.13	1.13
23	0.5	WRAPP-18472	Lake	7120006	PEMCd	PEM	N	2.34	2.34
23	0.6	WRAPP-18497	Lake	7120006	PEMF	PEM	N	15.22	0.04
23	3.3	WRAPP-18955	Lake	7120006	PEM/SS1C	PEM	Y	3.23	0.50
23	3	WRAPP-18961	Lake	7120006	PEMF	PEM	Y	7.35	2.96
23	3.5	WRAPP-18962	Lake	7120006	PAB/UBF	PEM	N	0.04	0.04
23	2.8	WRAPP-18965	Lake	7120006	PEMC	PEM	Y	8.61	4.72
23	1.2	WRAPP-19007	Lake	7120006	R2UBHx	PEM	Y	0.37	0.36
23	3.5	WRAPP-19809	Lake	7120006	PAB/UBF	PEM	N	0.00	0.00
23	3.4	WRAPP-19810	Lake	7120006	PEMC	PEM	N	41.12	17.62
23	4	WRAPP-19811	Lake	7120006	PEMCd	PEM	N	8.50	3.30
23	3.8	WRAPP-19814	Lake	7120006	PEMC	PEM	N	4.79	2.36
23	3.4	WRAPP-19815	Lake	7120006	PAB/EMF	PEM	N	0.14	0.14
23	3.5	WRAPP-19816	Lake	7120006	PAB/UBF	PEM	N	0.55	0.27
23	4.6	WRAPP-19878	Lake	7120006	PEM/UBF	PEM	N	9.02	8.98
23	4.6	WRAPP-19885	Lake	7120006	PEM/SS1C	PEM	N	0.32	0.32
23	4.6	WRAPP-19886	Lake	7120006	PEMCd	PEM	N	0.62	0.62
23	4.6	WRAPP-19888	Lake	7120006	PUBGx	PEM	N	4.38	4.38
23	4.3	WRAPP-19895	Lake	7120006	PUBG	PEM	N	0.01	0.01
23	4.3	WRAPP-19896	Lake	7120006	PEMC	PEM	N	3.87	3.87
23	4.1	WRAPP-19907	Lake	7120006	PEM/SS1C	PEM	N	0.83	0.83
23	3.8	WRAPP-19908	Lake	7120006	PEMA	PEM	N	0.19	0.19
23	1.5	WRAPP-20464	Lake	7120006	PEMC	PEM	N	1.50	0.17
23	1.3	WRAPP-20476	Lake	7120006	PEM/FO1Cd	PEM	N	6.16	6.16
23	1.3	WRAPP-20477	Lake	7120006	L1UBH	PEM	Y	0.19	0.02
23	1.1	WRAPP-20478	Lake	7120006	PEMCd	PEM	N	5.78	5.78
23	1.1	WRAPP-20479	Lake	7120006	PEM/SS1As	PEM	N	0.18	0.15
23	1.2	WRAPP-20480	Lake	7120006	PFO1Ad	PFO	Y	1.37	1.37
23	1.2	WRAPP-20481	Lake	7120006	PEM/SS1As	PEM	N	0.22	0.16
23	1.3	WRAPP-20482	Lake	7120006	PEMFx	PEM	N	0.14	0.14
23	1.2	WRAPP-20483	Lake	7120006	PFO1Ad	PFO	Y	0.67	0.67
23	0.5	WRAPP-20502	Lake	7120006	PEM/FO1Cd	PEM	N	13.20	0.52
23	0.9	WRAPP-20511	Lake	7120006	PUBGx	PEM	N	3.51	3.51
23	0.9	WRAPP-20512	Lake	7120006	PUBGx	PEM	N	0.84	0.07
23	0.6	WRAPP-20570	Lake	7120006	PEMCf	PEM	N	3.02	3.02
23	0.5	WRAPP-20572	Lake	7120006	PEMCd	PEM	N	1.71	0.44
23	0.5	WRAPP-20573	Lake	7120006	PEMA	PEM	N	0.67	0.67
23	1.3	WRAPP-20580	Lake	7120006	PEMF	PEM	Y	16.56	1.68
23	0.6	WRAPP-20589	Lake	7120006	PFO1Ad	PFO	Y	3.46	0.13
23	0.7	WRAPP-20590	Lake	7120006	PFO1A	PFO	Y	1.02	0.12
23	0.7	WRAPP-20591	Lake	7120006	PEMCd	PEM	Y	6.35	0.24
23	1.2	WRAPP-20592	Lake	7120006	PSS1Ad	PSS	Y	1.46	1.46
23	1.1	WRAPP-20593	Lake	7120006	L2USJ	PEM	Y	0.06	0.00
23	1.3	WRAPP-20594	Lake	7120006	PEM/SS1C	PEM	Y	0.53	0.53
23	1.2	WRAPP-20595	Lake	7120006	PEMFx	PEM	N	0.09	0.09
23	0.6	WRAPP-20596	Lake	7120006	PFO1A	PFO	N	1.83	1.83
23	0.8	WRAPP-20597	Lake	7120006	PFO1C	PFO	N	0.59	0.59
23	0.7	WRAPP-20598	Lake	7120006	PEMAf	PEM	N	0.24	0.24
23	1.3	WRAPP-20603	Lake	7120006	PEM/FO1A	PEM	Y	6.33	5.78

Attachment B - Table 23-1
Corridor 23 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
23	1.5	WRAPP-20604	Lake	7120006	R4SBCx	PEM	N	0.21	0.21
23	1.6	WRAPP-20605	Lake	7120006	PEMCf	PEM	N	0.43	0.43
23	1.8	WRAPP-20606	Lake	7120006	PEMC	PEM	Y	0.44	0.44
23	1.8	WRAPP-20607	Lake	7120006	PEM/FO1A	PEM	Y	0.45	0.45
23	1.8	WRAPP-20608	Lake	7120006	PEMA	PEM	Y	0.14	0.14
23	1.9	WRAPP-20609	Lake	7120006	PEM/FO1A	PEM	Y	0.40	0.40
23	1.9	WRAPP-20610	Lake	7120006	PEM/FO1C	PEM	Y	0.92	0.92
23	2.1	WRAPP-20611	Lake	7120006	PEM/FO1A	PEM	Y	0.68	0.66
23	2.4	WRAPP-20612	Lake	7120006	PEMC	PEM	N	0.61	0.61
23	2.3	WRAPP-20613	Lake	7120006	PEMAf	PEM	N	0.08	0.08
23	2.4	WRAPP-20614	Lake	7120006	PEM/SS1Cd	PEM	N	1.61	1.61
23	3.2	WRAPP-20615	Lake	7120006	PEM/UBF	PEM	N	0.61	0.61
23	3.4	WRAPP-20623	Lake	7120006	PEMA	PEM	N	0.66	0.66
23	3.4	WRAPP-20628	Lake	7120006	PEMC	PEM	Y	0.01	0.01
23	3.4	WRAPP-20629	Lake	7120006	PUBGx	PEM	Y	0.03	0.03
23	2.5	WRAPP-20635	Lake	7120006	PUBGx	PEM	N	2.02	2.02
23	2.6	WRAPP-20636	Lake	7120006	PEMA	PEM	N	0.24	0.24
23	2.7	WRAPP-20639	Lake	7120006	PEMC	PEM	Y	0.25	0.06
23	3	WRAPP-20647	Lake	7120006	PAB/UBF	PEM	Y	3.22	1.57
23	2.9	WRAPP-20648	Lake	7120006	PEM/FO1C	PEM	Y	2.58	2.58
23	3.4	WRAPP-20650	Lake	7120006	PEMC	PEM	Y	0.55	0.55
23	2.7	WRAPP-22066	Lake	7120006	PEM/FO1C	PEM	Y	0.70	0.70
23	0.5	WRAPP-22161	Lake	7120006	PEMA	PEM	N	0.32	0.11
23	1.6	WRAPP-22314	Lake	7120006	PEM/FO1C	PEM	N	0.46	0.46
TOTAL									**202.46**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 23-2
Corridor 23 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
23	1.2	3880	Lake	7120006	Fish Lake Drain	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 23-3
Corridor 23 Open Water Data

Corridor	Mile Post	WetlandID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
23	1.3	LR-3923	Lake	7120006	Pond	Grant Township Office Pond 2	1.64	1.64
23	1.4	LR-3936	Lake	7120006	Pond		1.01	0.00
23	1.2	LR-3937	Lake	7120006	Pond	Grant Township Office Pond 1	0.28	0.28
23	1	LR-3941	Lake	7120006	Pond		0.24	0.24
23	1.3	LR-3952	Lake	7120006	Pond	Grant Township Office Pond 5	0.03	0.03
23	1.2	LR-3957	Lake	7120006	Pond	Grant Township Office Pond 3	0.30	0.30
23	1.3	LR-3966	Lake	7120006	Pond	Grant Township Office Pond 4	0.04	0.04
23	1.6	LR-4019	Lake	7120006	Pond		0.51	0.51
23	1.7	LR-4034	Lake	7120006	Pond		0.02	0.02
23	1.7	LR-4053	Lake	7120006	Pond		0.07	0.07
23	1.3	LR-4059	Lake	7120006	Lake	Fish Lake	96.75	14.84
23	0.6	LR-4090	Lake	7120006	Pond		0.30	0.30
23	1.7	LR-4118	Lake	7120006	Pond	LCFPD Pond	0.10	0.10
23	1.7	LR-4119	Lake	7120006	Pond	LCFPD Pond	0.06	0.06
23	1.7	LR-4124	Lake	7120006	Pond	LCFPD Pond	0.10	0.10
23	1.8	LR-4128	Lake	7120006	Pond	LCFPD Pond	0.39	0.39
23	0.6	LR-4148	Lake	7120006	Pond		0.92	0.92
23	4.5	LR-4150	Lake	7120006	Pond		0.52	0.32
23	4.6	LR-4151	Lake	7120006	Pond		0.63	0.63
23	0.5	LR-4159	Lake	7120006	Pond	Fischer Industrial Park Pond 3	0.19	0.09
23	4.5	LR-4161	Lake	7120006	Pond		0.18	0.18
23	2	LR-4168	Lake	7120006	Lake	LCFPD Pond	9.06	9.05
23	2	LR-4199	Lake	7120006	Pond	LCFPD Pond	0.81	0.81
23	3.8	LR-4224	Lake	7120006	Pond		0.69	0.69
23	4.2	LR-4228	Lake	7120006	Pond		0.84	0.84
23	2.2	LR-4234	Lake	7120006	Pond		0.12	0.12
23	4.6	LR-4240	Lake	7120006	Detention Basin	Madrona Village Pond 3	1.91	0.39
23	2.8	LR-4241	Lake	7120006	Detention Basin	Baxter Healthcare - Round Lake Pond 1	0.93	0.36
23	4.3	LR-4253	Lake	7120006	Pond		4.36	4.36
23	4.5	LR-4257	Lake	7120006	Pond		0.18	0.18
23	2.2	LR-4261	Lake	7120006	Pond		0.12	0.12
23	4.4	LR-4317	Lake	7120006	Pond		0.34	0.34
23	3.4	LR-4331	Lake	7120006	Pond		0.45	0.45
23	2.8	LR-4348	Lake	7120006	Lake	Sargent Marsh - ADID 85	21.87	14.51
23	4	LR-4350	Lake	7120006	Pond	Concord Development Pond	1.68	0.31
23	3.3	LR-4351	Lake	7120006	Pond		0.10	0.10
23	3.5	LR-4355	Lake	7120006	Pond		0.24	0.24
23	3.5	LR-4365	Lake	7120006	Pond		0.30	0.30
23	3.5	LR-4374	Lake	7120006	Pond		0.20	0.20
23	3.5	LR-4381	Lake	7120006	Pond		0.48	0.48
TOTAL								**54.92**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 24-1
Corridor 24 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
24	0.5	ADID-1708	Lake	7120006	PEM/SS1As	PEM	Y	49.64	2.92
24	0.5	ADID-1716	Lake	7120006	PEM	PEM	N	0.13	0.13
24	1.9	ADID-1717	Lake	7120006	PEM	PEM	N	0.26	0.22
24	2	ADID-1718	Lake	7120006	PFO1A	PFO	Y	0.97	0.57
24	1.7	AI-46	Lake	7120006	PEM	PEM	N	0.17	0.17
24	1.7	AI-47	Lake	7120006	PEM	PEM	N	0.12	0.12
24	1.8	AI-48	Lake	7120006	PEM	PEM	N	0.06	0.06
24	1.8	AI-5	Lake	7120006	PEM	PEM	N	0.19	0.19
24	2	AI-83	Lake	7120006	PEM	PEM	N	0.07	0.07
24	1.2	AI-9	Lake	7120006	PEM	PEM	N	0.00	0.00
24	0.7	WRAPP-18060	Lake	7120006	PEMCf	PEM	N	1.42	1.42
24	0.8	WRAPP-18094	Lake	7120006	PEMC	PEM	N	0.72	0.67
24	0.5	WRAPP-18103	Lake	7120006	PUBGx	PEM	N	0.01	0.01
24	0.9	WRAPP-18105	Lake	7120006	PEMCd	PEM	N	0.75	0.11
24	0.5	WRAPP-18106	Lake	7120006	PEMC	PEM	N	0.97	0.75
24	0.8	WRAPP-18108	Lake	7120006	PEMC	PEM	N	0.25	0.25
24	1.4	WRAPP-18187	Lake	7120006	PEMF	PEM	Y	7.90	0.08
24	1.4	WRAPP-18249	Lake	7120006	PEMC	PEM	N	0.43	0.43
24	2	WRAPP-18258	Lake	7120006	PSS1C	PSS	N	2.30	2.30
24	1.3	WRAPP-18259	Lake	7120006	PEMCf	PEM	N	3.25	3.25
24	1.7	WRAPP-18260	Lake	7120006	PEMC	PEM	N	0.78	0.78
24	1.2	WRAPP-18262	Lake	7120006	PEMAf	PEM	N	0.25	0.25
24	0.5	WRAPP-18266	Lake	7120006	PUBGx	PEM	N	0.01	0.01
24	1.8	WRAPP-18267	Lake	7120006	PEMC	PEM	N	0.18	0.18
24	1.9	WRAPP-18271	Lake	7120006	PEMA	PEM	N	0.26	0.26
24	0.5	WRAPP-18275	Lake	7120006	PEM/SS1Ad	PEM	N	0.27	0.27
24	1.7	WRAPP-18277	Lake	7120006	PEMC	PEM	N	1.79	1.79
24	1.4	WRAPP-18278	Lake	7120006	PEMCf	PEM	N	1.37	1.37
24	1.8	WRAPP-18280	Lake	7120006	PEMCf	PEM	N	0.49	0.49
24	1.6	WRAPP-18290	Lake	7120006	PEM/FO1C	PEM	N	0.24	0.24
24	0.5	WRAPP-18296	Lake	7120006	PEMF	PEM	N	16.27	16.27
24	1.7	WRAPP-18298	Lake	7120006	PEMC	PEM	N	0.04	0.04
24	0.6	WRAPP-18300	Lake	7120006	PUBHx	PEM	N	0.02	0.01
24	1.5	WRAPP-18302	Lake	7120006	PEMCd	PEM	Y	0.96	0.07
24	2	WRAPP-18314	Lake	7120006	PEM/FO1C	PEM	N	1.03	0.12
24	1.8	WRAPP-18326	Lake	7120006	PEMF	PEM	N	22.62	9.15
24	0.5	WRAPP-18339	Lake	7120006	PUBGx	PEM	N	0.02	0.01
24	0.5	WRAPP-18953	Lake	7120006	PEMC	PEM	N	14.46	14.46
24	0.9	WRAPP-18954	Lake	7120006	PEMCf	PEM	N	0.91	0.89
24	0.8	WRAPP-18958	Lake	7120006	PEMCd	PEM	N	2.72	2.72
24	2	WRAPP-18965	Lake	7120006	PEMC	PEM	Y	8.61	2.25
24	1	WRAPP-20477	Lake	7120006	L1UBH	PEM	Y	0.19	0.02
24	0.5	WRAPP-20574	Lake	7120006	PEM/FO1Cd	PEM	N	0.86	0.86
24	0.5	WRAPP-20575	Lake	7120006	R4SBCx	PEM	Y	0.07	0.07
24	0.5	WRAPP-20576	Lake	7120006	PFO1A	PFO	N	1.81	1.81
24	0.7	WRAPP-20577	Lake	7120006	PEM/SS1Cd	PEM	N	3.76	3.76
24	0.5	WRAPP-20578	Lake	7120006	R4SBCx	PEM	Y	0.26	0.26
24	0.5	WRAPP-20579	Lake	7120006	R4SBCx	PEM	Y	47.66	42.29
24	0.5	WRAPP-20581	Lake	7120006	PEMC	PEM	N	1.22	1.22
24	0.7	WRAPP-20582	Lake	7120006	PEM/UBFx	PEM	N	0.03	0.03
24	0.5	WRAPP-20583	Lake	7120006	R4SBCx	PEM	N	2.59	2.59
24	0.5	WRAPP-20584	Lake	7120006	PEMCd	PEM	Y	0.12	0.12
24	0.6	WRAPP-20585	Lake	7120006	PSS1C	PSS	Y	1.34	0.80
24	0.5	WRAPP-20586	Lake	7120006	PEMCd	PEM	Y	3.04	3.04
24	0.9	WRAPP-20587	Lake	7120006	PEMC	PEM	Y	0.09	0.02
24	0.5	WRAPP-20589	Lake	7120006	PFO1Ad	PFO	Y	3.46	3.34
24	0.5	WRAPP-20590	Lake	7120006	PFO1A	PFO	Y	1.02	0.90
24	0.5	WRAPP-20591	Lake	7120006	PEMCd	PEM	Y	6.35	3.14
24	1	WRAPP-20600	Lake	7120006	PEM/SS1F	PEM	Y	10.45	10.28

Attachment B - Table 24-1
Corridor 24 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
24	1.1	WRAPP-20601	Lake	7120006	PSS1C	PSS	Y	1.99	1.80
24	1	WRAPP-20602	Lake	7120006	PEM/FO1C	PEM	Y	3.42	3.42
24	1.4	WRAPP-20611	Lake	7120006	PEM/FO1A	PEM	Y	0.68	0.64
24	1.8	WRAPP-20612	Lake	7120006	PEMC	PEM	N	0.61	0.61
24	1.8	WRAPP-20613	Lake	7120006	PEMAf	PEM	N	0.08	0.08
24	1.9	WRAPP-20614	Lake	7120006	PEM/SS1Cd	PEM	N	1.61	1.61
24	1.2	WRAPP-20634	Lake	7120006	PUBGx	PEM	N	0.97	0.71
24	1.9	WRAPP-20635	Lake	7120006	PUBGx	PEM	N	2.02	2.02
24	2	WRAPP-20636	Lake	7120006	PEMA	PEM	N	0.24	0.24
24	2	WRAPP-20639	Lake	7120006	PEMC	PEM	Y	0.25	0.06
24	2	WRAPP-20648	Lake	7120006	PEM/FO1C	PEM	Y	2.58	2.58
24	0.9	WRAPP-20670	Lake	7120006	PEMCx	PEM	N	0.32	0.11
24	0.5	WRAPP-20671	Lake	7120006	PEMC	PEM	N	0.52	0.52
24	0.5	WRAPP-20674	Lake	7120006	PEMA	PEM	N	0.12	0.12
24	0.5	WRAPP-20675	Lake	7120006	PSS1C	PSS	N	4.09	4.09
24	2	WRAPP-22066	Lake	7120006	PEM/FO1C	PEM	Y	0.70	0.70
TOTAL									**159.18**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 24-2
Corridor 24 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
24	0.5	4158	Lake	7120006	Fish Lake Tributary 1	0
24	0.5	4202	Lake	7120006	Fish Lake Tributary 2	0

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 24-3
Corridor 24 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
24	1	LR-4059	Lake	7120006	Lake	Fish Lake	96.75	2.61
24	0.5	LR-4159	Lake	7120006	Pond	Fischer Industrial Park Pond 3	0.19	0.10
24	0.5	LR-4197	Lake	7120006	Detention Basin	Fischer Industrial Park Pond 5	0.76	0.76
24	0.5	LR-4198	Lake	7120006	Detention Basin	Fischer Industrial Park Pond 4	0.29	0.29
24	0.5	LR-4217	Lake	7120006	Detention Basin		1.39	1.39
24	0.6	LR-4260	Lake	7120006	Pond		0.90	0.50
24	1.7	LR-4261	Lake	7120006	Pond		0.12	0.12
24	2	LR-4348	Lake	7120006	Lake	Sargent Marsh	21.87	7.54
24	0.5	LR-4349	Lake	7120006	Pond		0.79	0.79
24	0.7	LR-4387	Lake	7120006	Pond		0.13	0.13
24	0.7	LR-4413	Lake	7120006	Detention Basin		0.60	0.60
24	0.5	LR-4422	Lake	7120006	Pond		1.09	1.09
TOTAL								**15.91**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B- Table 25-1
Corridor 25 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
25	3	ADID-1710	Lake	7120006	R4SBCx	PEM	Y	11.57	8.54
25	4	ADID-1711	Lake	7120006	PSS1Cs	PSS	Y	10.07	8.03
25	4	ADID-1719	Lake	7120006	PEM	PEM	Y	1.67	0.81
25	2.7	ADID-1820	Lake	7120006	PEM	PEM	N	0.12	0.12
25	2.7	ADID-1821	Lake	7120006	PEM	PEM	N	0.01	0.00
25	5.3	AI-43	Lake	7120006	PEM	PEM	N	0.25	0.25
25	5.3	AI-87	Lake	7120006	PEM	PEM	N	0.10	0.10
25	6.7	WRAPP-16518	Lake	7120004	PUBGx	PEM	N	0.44	0.44
25	6.7	WRAPP-16519	Lake	7120004	PUBGx	PEM	N	0.52	0.52
25	6.7	WRAPP-16520	Lake	7120004	PUBGx	PEM	N	0.27	0.09
25	6.7	WRAPP-16521	Lake	7120004	PUBGx	PEM	N	0.28	0.28
25	6.7	WRAPP-16522	Lake	7120004	PUBGx	PEM	N	0.89	0.58
25	4	WRAPP-18191	Lake	7120006	PEMC	PEM	Y	3.60	3.58
25	3.6	WRAPP-18230	Lake	7120006	PFO1C	PFO	N	1.22	1.22
25	3.2	WRAPP-18242	Lake	7120006	PFO1A	PFO	Y	0.18	0.18
25	3.1	WRAPP-18243	Lake	7120006	PEM/FO1Cd	PEM	N	1.14	1.14
25	6.7	WRAPP-18283	Lake	7120006	PEMCf	PEM	N	1.51	1.51
25	6.7	WRAPP-18291	Lake	7120006	PEMCf	PEM	N	1.82	1.82
25	6.7	WRAPP-18293	Lake	7120006	PEMAf	PEM	N	1.30	1.30
25	6.7	WRAPP-18305	Lake	7120006	PEM/FO1C	PEM	N	0.43	0.43
25	6.7	WRAPP-18309	Lake	7120006	PEMAf	PEM	N	0.33	0.33
25	6.7	WRAPP-18322	Lake	7120006	PUBGx	PEM	N	0.03	0.03
25	6.7	WRAPP-18328	Lake	7120006	PUBGx	PEM	N	0.13	0.13
25	6.3	WRAPP-18338	Lake	7120006	PEMAf	PEM	N	0.16	0.16
25	6.4	WRAPP-18340	Lake	7120006	PEMAf	PEM	N	0.23	0.23
25	6.3	WRAPP-18342	Lake	7120006	PEMCd	PEM	Y	36.06	3.59
25	6.4	WRAPP-18344	Lake	7120006	PEMCf	PEM	N	0.45	0.45
25	6.7	WRAPP-18346	Lake	7120006	PEMC	PEM	N	0.41	0.41
25	6.5	WRAPP-18348	Lake	7120006	PEMC	PEM	N	3.28	3.28
25	6	WRAPP-18349	Lake	7120006	PEMAf	PEM	N	6.92	0.86
25	6.1	WRAPP-18353	Lake	7120006	PEMA	PEM	N	0.01	0.01
25	6.3	WRAPP-18355	Lake	7120006	PEM/FO1C	PEM	N	2.03	2.03
25	6.1	WRAPP-18364	Lake	7120006	PUBGx	PEM	N	0.13	0.13
25	6.3	WRAPP-18371	Lake	7120006	PEM/FO1C	PEM	N	1.02	1.02
25	6.7	WRAPP-18375	Lake	7120006	PEMF	PEM	N	5.56	5.56
25	6.3	WRAPP-18376	Lake	7120006	PEMC	PEM	N	0.14	0.14
25	6	WRAPP-18380	Lake	7120006	PEMA	PEM	N	0.83	0.83
25	6.3	WRAPP-18381	Lake	7120006	PEMA	PEM	N	0.16	0.16
25	6.1	WRAPP-18385	Lake	7120006	PEMAf	PEM	N	0.03	0.03
25	2.5	WRAPP-18386	Lake	7120006	PUBGx	PEM	N	0.05	0.03
25	2.7	WRAPP-18387	Lake	7120006	PEMFx	PEM	N	0.63	0.63
25	6.1	WRAPP-18390	Lake	7120006	PEMAf	PEM	N	0.12	0.12
25	2.6	WRAPP-18392	Lake	7120006	PUBF	PEM	N	14.35	4.70
25	6	WRAPP-18395	Lake	7120006	PEMAf	PEM	N	0.02	0.02
25	3.2	WRAPP-18396	Lake	7120006	PFO1C	PFO	Y	0.18	0.18
25	5.9	WRAPP-18397	Lake	7120006	PEMCf	PEM	N	0.33	0.33
25	6.2	WRAPP-18401	Lake	7120006	PEM/FO1C	PEM	N	2.73	0.46
25	3.2	WRAPP-18403	Lake	7120006	PEMC	PEM	Y	1.16	1.16
25	5.9	WRAPP-18405	Lake	7120006	PEMCd	PEM	N	2.28	2.28
25	3.6	WRAPP-18408	Lake	7120006	PEMC	PEM	N	0.76	0.76
25	2.8	WRAPP-18410	Lake	7120006	PEMC	PEM	N	0.36	0.36
25	2.9	WRAPP-18412	Lake	7120006	PFO1C	PFO	N	0.07	0.07
25	3.5	WRAPP-18413	Lake	7120006	PUBGx	PEM	Y	0.03	0.03
25	2.5	WRAPP-18414	Lake	7120006	PEMCf	PEM	N	0.19	0.19
25	2.8	WRAPP-18415	Lake	7120006	PEMC	PEM	N	0.11	0.11
25	3.3	WRAPP-18420	Lake	7120006	PAB/UBF	PEM	Y	0.01	0.01
25	3.5	WRAPP-18421	Lake	7120006	PUBGx	PEM	Y	0.22	0.22
25	5.8	WRAPP-18423	Lake	7120006	PEMCd	PEM	N	37.49	28.90
25	3.6	WRAPP-18432	Lake	7120006	PUBGx	PEM	N	0.21	0.21

Attachment B - Table 25-1
Corridor 25 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
25	3.4	WRAPP-18433	Lake	7120006	PEMCs	PEM	Y	0.03	0.03
25	3.4	WRAPP-18434	Lake	7120006	PUBGx	PEM	N	0.00	0.00
25	2.3	WRAPP-18435	Lake	7120006	PUBGx	PEM	N	0.02	0.02
25	5.6	WRAPP-18438	Lake	7120006	PEM/FO1A	PEM	N	0.69	0.69
25	3.7	WRAPP-18439	Lake	7120006	PEM/SS1C	PEM	Y	4.99	4.99
25	3.4	WRAPP-18442	Lake	7120006	PEMC	PEM	Y	0.74	0.74
25	2.8	WRAPP-18443	Lake	7120006	PEM/FO1C	PEM	N	1.06	1.06
25	2.5	WRAPP-18444	Lake	7120006	PUBGx	PEM	N	0.02	0.02
25	5.5	WRAPP-18445	Lake	7120006	PFO1Cd	PFO	N	0.31	0.31
25	5.8	WRAPP-18446	Lake	7120006	PEMC	PEM	N	14.99	14.99
25	5.9	WRAPP-18447	Lake	7120006	PUBGx	PEM	N	0.12	0.01
25	2.9	WRAPP-18448	Lake	7120006	PEMC	PEM	N	0.83	0.83
25	3.4	WRAPP-18449	Lake	7120006	PFO1C	PFO	Y	0.42	0.42
25	5.6	WRAPP-18451	Lake	7120006	PUBGx	PEM	N	0.07	0.07
25	3.6	WRAPP-18452	Lake	7120006	PEMAf	PEM	N	0.34	0.34
25	3.6	WRAPP-18456	Lake	7120006	PUBGx	PEM	N	0.01	0.01
25	3.5	WRAPP-18459	Lake	7120006	PEMC	PEM	Y	0.40	0.40
25	5.3	WRAPP-18465	Lake	7120006	PEMCx	PEM	N	0.55	0.55
25	5.5	WRAPP-18466	Lake	7120006	PEMC	PEM	N	0.99	0.99
25	2.2	WRAPP-18467	Lake	7120006	PUBGx	PEM	N	0.01	0.01
25	5.5	WRAPP-18470	Lake	7120006	PEMCd	PEM	N	0.37	0.37
25	5.5	WRAPP-18473	Lake	7120006	PEMCd	PEM	N	0.46	0.46
25	3.4	WRAPP-18476	Lake	7120006	PEMF	PEM	Y	5.78	5.35
25	3.5	WRAPP-18482	Lake	7120006	PEMC	PEM	N	0.41	0.41
25	3.9	WRAPP-18483	Lake	7120006	PEMC	PEM	Y	0.65	0.65
25	2.9	WRAPP-18486	Lake	7120006	PEM/FO1Ad	PEM	N	1.15	0.06
25	5.4	WRAPP-18504	Lake	7120006	PEMC	PEM	N	4.35	4.35
25	2.2	WRAPP-18507	Lake	7120006	PEMF	PEM	N	29.11	15.02
25	4.2	WRAPP-18511	Lake	7120006	PAB/UBF	PEM	Y	4.43	0.25
25	4.3	WRAPP-18997	Lake	7120006	R2UBHx	PFO	Y	4.12	0.58
25	3	WRAPP-19005	Lake	7120006	PUBGx	PEM	N	0.00	0.00
25	3.3	WRAPP-19006	Lake	7120006	R4SBCx	PFO	Y	0.24	0.24
25	6.6	WRAPP-19117	Lake	7120006	PEM/FO1C	PEM	N	0.86	0.80
25	6.7	WRAPP-19122	Lake	7120006	PEMF	PEM	N	1.90	0.48
25	6.7	WRAPP-19123	Lake	7120006	PFO1Cd	PFO	N	0.87	0.87
25	6.6	WRAPP-19124	Lake	7120006	PEMCd	PEM	N	1.26	1.26
25	6.7	WRAPP-19125	Lake	7120006	PEMCf	PEM	N	0.80	0.80
25	6.7	WRAPP-19126	Lake	7120006	PEMC	PEM	N	1.57	1.57
25	6.7	WRAPP-19127	Lake	7120006	PEMC	PEM	N	0.07	0.01
25	6.5	WRAPP-19875	Lake	7120006	PUBGx	PEM	N	0.29	0.29
25	6.6	WRAPP-19876	Lake	7120006	PEMC	PEM	N	15.29	15.29
25	6.3	WRAPP-19877	Lake	7120006	PEMCd	PEM	N	10.40	10.40
25	4.2	WRAPP-19881	Lake	7120006	PAB/UBF	PEM	Y	0.02	0.02
25	4.3	WRAPP-19882	Lake	7120006	PUBGx	PEM	Y	0.00	0.00
25	4	WRAPP-19883	Lake	7120006	PEMFd	PEM	Y	29.38	19.57
25	4.1	WRAPP-19892	Lake	7120006	PAB/UBF	PEM	Y	0.00	0.00
25	4.3	WRAPP-19894	Lake	7120006	PEMC	PEM	Y	7.55	5.77
25	4	WRAPP-19898	Lake	7120006	L1UBHx	PEM	Y	0.32	0.15
25	3.4	WRAPP-19899	Lake	7120006	PUBGx	PEM	Y	0.04	0.04
25	3.4	WRAPP-19900	Lake	7120006	PEM/FO1Cd	PEM	Y	3.18	3.18
25	3.2	WRAPP-19901	Lake	7120006	PEMC	PEM	Y	0.47	0.47
25	3.2	WRAPP-19902	Lake	7120006	PEMC	PEM	Y	1.43	1.43
25	3.3	WRAPP-19903	Lake	7120006	PFO1C	PFO	Y	0.07	0.07
25	3.4	WRAPP-19904	Lake	7120006	PUBG	PEM	Y	0.40	0.40
25	3.6	WRAPP-19905	Lake	7120006	PEMAd	PEM	Y	0.93	0.93
25	3.2	WRAPP-19927	Lake	7120006	R4SBCx	PFO	Y	0.19	0.19
25	3.2	WRAPP-19928	Lake	7120006	R4SBCx	PFO	Y	0.09	0.09
25	4.2	WRAPP-19929	Lake	7120006	PEMF	PEM	Y	10.17	4.87
25	4.2	WRAPP-19933	Lake	7120006	PEMC	PEM	Y	3.23	3.23

Attachment B - Table 25-1
Corridor 25 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
25	3.9	WRAPP-19934	Lake	7120006	PFO1C	PFO	Y	2.64	2.64
25	4.9	WRAPP-19935	Lake	7120006	PFO1Cd	PFO	N	1.68	1.68
25	3.7	WRAPP-19936	Lake	7120006	PFO1A	PFO	N	0.21	0.21
25	3.6	WRAPP-19937	Lake	7120006	PFO1A	PFO	N	1.11	0.07
25	3.7	WRAPP-19938	Lake	7120006	PFO1A	PFO	N	0.91	0.84
25	4.3	WRAPP-19939	Lake	7120006	PEM/FO1Ad	PEM	Y	1.65	1.65
25	3.9	WRAPP-19940	Lake	7120006	PEM/FO1C	PEM	Y	1.15	1.15
25	3.7	WRAPP-19941	Lake	7120006	PEM/FO1A	PEM	N	0.32	0.32
25	4.6	WRAPP-19958	Lake	7120006	PEMCx	PEM	N	0.90	0.90
25	4.4	WRAPP-19959	Lake	7120006	PEM/FO1A	PEM	N	0.34	0.34
25	4.4	WRAPP-19962	Lake	7120006	PEM/FO1A	PEM	N	0.91	0.76
25	4.6	WRAPP-19963	Lake	7120006	PEM/FO1A	PEM	N	0.30	0.19
25	5	WRAPP-19964	Lake	7120006	PFO1Ad	PFO	N	1.90	1.90
25	5	WRAPP-19966	Lake	7120006	PEM/FO1A	PEM	N	0.32	0.32
25	5	WRAPP-19967	Lake	7120006	PFO1A	PFO	N	0.62	0.61
25	5.6	WRAPP-19968	Lake	7120006	PEM/SS1Cd	PEM	N	3.30	2.91
25	5	WRAPP-19969	Lake	7120006	PFO1A	PFO	N	0.41	0.30
25	5	WRAPP-19970	Lake	7120006	PFO1A	PFO	N	0.27	0.26
25	5.3	WRAPP-19973	Lake	7120006	PUBGx	PEM	N	3.26	3.26
25	5.4	WRAPP-19974	Lake	7120006	PFO1C	PFO	N	2.37	2.37
25	5.3	WRAPP-19975	Lake	7120006	PUBFx	PEM	N	0.14	0.14
25	5.3	WRAPP-19976	Lake	7120006	PEMAf	PEM	N	0.53	0.53
25	5.5	WRAPP-19977	Lake	7120006	PEMC	PEM	N	2.39	2.39
25	3.1	WRAPP-20418	Lake	7120006	PUBHx	PEM	N	0.04	0.02
25	2.2	WRAPP-20438	Lake	7120006	PFO1A	PFO	Y	0.84	0.84
25	2.2	WRAPP-20439	Lake	7120006	PFO1A	PFO	Y	2.26	2.26
25	2.5	WRAPP-20440	Lake	7120006	PABF	PEM	N	0.07	0.07
25	2.5	WRAPP-20441	Lake	7120006	PEMC	PEM	N	2.56	2.56
25	2.7	WRAPP-20442	Lake	7120006	PEMC	PEM	Y	1.36	1.36
25	2.8	WRAPP-20443	Lake	7120006	PFO1C	PFO	Y	0.67	0.67
25	3	WRAPP-20446	Lake	7120006	PEMC	PEM	N	2.49	0.09
25	3.2	WRAPP-20447	Lake	7120006	R4SBCx	PEM	Y	0.26	0.26
25	3.1	WRAPP-20448	Lake	7120006	R4SBCx	PEM	N	0.48	0.48
25	3.3	WRAPP-20449	Lake	7120006	R4SBCx	PFO	Y	1.85	1.85
25	3.2	WRAPP-20450	Lake	7120006	R4SBCx	PFO	Y	0.41	0.41
25	3.2	WRAPP-20451	Lake	7120006	R4SBCx	PFO	Y	0.12	0.12
25	3.1	WRAPP-20452	Lake	7120006	R4SBCx	PEM	N	4.00	0.54
25	3	WRAPP-20453	Lake	7120006	PEMC	PEM	N	1.09	0.06
25	3	WRAPP-20455	Lake	7120006	PEM/FO1C	PEM	N	1.66	1.66
25	3	WRAPP-20456	Lake	7120006	PFO1C	PFO	N	0.19	0.19
25	2.9	WRAPP-20457	Lake	7120006	PFO1A	PFO	Y	0.47	0.47
25	3	WRAPP-20458	Lake	7120006	PFO1A	PFO	Y	0.10	0.10
25	2.4	WRAPP-20616	Lake	7120006	PEMFx	PEM	Y	3.65	3.65
25	2.4	WRAPP-20617	Lake	7120006	PEMFx	PEM	N	2.53	2.53
25	3	WRAPP-20618	Lake	7120006	R2UBH	PFO	Y	0.71	0.12
25	3	WRAPP-20619	Lake	7120006	PEM/FO1Cd	PEM	Y	1.49	1.49
25	3	WRAPP-20620	Lake	7120006	PEM/FO1Cd	PEM	N	1.70	1.70
25	3.1	WRAPP-20622	Lake	7120006	PUBGx	PEM	N	0.64	0.64
25	4.3	WRAPP-22053	Lake	7120006	PEM/FO1C	PEM	Y	3.27	3.27
25	4.9	WRAPP-22058	Lake	7120006	PEMC	PEM	N	0.35	0.35
25	3	WRAPP-22080	Lake	7120006	PFO1Ad	PFO	N	1.60	1.26
25	3	WRAPP-22081	Lake	7120006	R2UBH	PEM	N	0.95	0.53
25	4.3	WRAPP-22082	Lake	7120006	PFO1A	PFO	Y	2.06	2.06
25	3.8	WRAPP-22083	Lake	7120006	PFO1C	PFO	N	0.23	0.23
25	6.7	WRAPP-22213	Lake	7120006	PUBGx	PEM	N	0.04	0.04
25	6.7	WRAPP-2845	Lake	7120004	PEMAf	PEM	N	0.45	0.45
25	6.7	WRAPP-2846	Lake	7120004	PEMAf	PEM	N	0.61	0.61
25	6.7	WRAPP-2850	Lake	7120004	PEMA	PEM	N	0.73	0.69
25	6.7	WRAPP-2851	Lake	7120004	PEMAdf	PEM	N	3.39	3.39

Attachment B - Table 25-1
Corridor 25 Wetland Data

Corridor	Mile Post	Feature ID	County	Watershed	NWI Classification	Cowardin Classification	Potential High Quality Wetland[1]	Total Acres	Acres Within Analysis Area
25	6.7	WRAPP-2854	Lake	7120004	PEMC	PEM	N	0.46	0.46
25	6.7	WRAPP-2863	Lake	7120004	PEMAd	PEM	N	0.05	0.05
25	6.7	WRAPP-2863	Lake	7120004	PEMAd	PEM	N	0.15	0.15
25	6.7	WRAPP-2890	Lake	7120004	PEMF	PEM	N	6.88	1.95
25	6.7	WRAPP-9909	Lake	7120004	PUBGx	PEM	N	1.65	1.65
25	6.7	WRAPP-9910	Lake	7120004	PEM/UBF	PEM	N	0.03	0.03
25		WRAPP-9911	Lake	7120004	PEMAdf	PEM	N	1.83	1.83
TOTAL									**286.39**

[1]For this memo, a wetland was identified as high quality if it overlap with at least one of the following GIS layers: conservation easements (various conservation organizations, provided by the National Conservation Easement Database), forest preserves, natural areas (ILDNR), nature preserves (properties owned, leased or managed by ILDNR) or threatened and endangered species record (boundaries provided by ILDNR). However, a wetland delineation is required to verify that a wetland is high quality.

Notes:

1. Each row in this table is associated with a wetland polygon in the GIS data. Each individual polygon listed is often a portion of a larger wetland complex. Therefore, a total count of wetlands is not provided. Wetland delineations to confirm connectivity of wetland polygons are required to accurately determine wetland counts.
2. Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 25-2
Corridor 25 Stream Data

Corridor	Mile Post	Feature ID	County	Watershed	Stream Name	Number of Times Crossed by Centerline
25	3	3724	Lake	7120006	Fort Hill Creek	1
25	4.3	3913	Lake	7120006	Unnamed Trib to Squaw Creek	0
25	4.3	9333	Lake	7120006	Squaw Creek	1

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment B - Table 25-3
Corridor 25 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
25	6.7	AIOW - 7	Lake	7120004	Detention Basin		2.75	0.19
25	4.2	LR-3759	Lake	7120006	Lake	Round Lake Marsh North	23.13	6.78
25	4.8	LR-3804	Lake	7120006	Detention Basin	Treehouse in the Woods Pond 1	0.83	0.51
25	4.7	LR-3817	Lake	7120006	Detention Basin	Treehouse in the Woods Pond 2	0.86	0.86
25	5.4	LR-3829	Lake	7120006	Detention Basin	Cranberry Lake Subdivision Pond 4	1.91	0.40
25	3.1	LR-3849	Lake	7120006	Pond	Nippersink Estates Pond 1	1.50	0.40
25	2.9	LR-3874	Lake	7120006	Detention Basin	Valley Lakes PUD Pond 20	3.43	1.26
25	5.3	LR-3875	Lake	7120006	Pond	Demeyer Pond	3.81	3.81
25	2.2	LR-3878	Lake	7120006	Pond	Valley Lakes PUD Pond 21	0.19	0.06
25	4.7	LR-3884	Lake	7120006	Detention Basin	Bright Meadows Pond 1	1.68	1.68
25	2.9	LR-3895	Lake	7120006	Pond		0.17	0.17
25	2.2	LR-3898	Lake	7120006	Pond		0.08	0.08
25	5.6	LR-3901	Lake	7120006	Detention Basin	Hainesville Pond	0.25	0.25
25	2.4	LR-3902	Lake	7120006	Detention Basin	Valley Lakes PUD Pond 22	0.68	0.68
25	3.6	LR-3903	Lake	7120006	Pond		0.12	0.12
25	2.8	LR-3904	Lake	7120006	Pond		0.15	0.15
25	2.8	LR-3905	Lake	7120006	Pond		0.03	0.03
25	2.8	LR-3906	Lake	7120006	Pond		0.18	0.18
25	2.6	LR-3908	Lake	7120006	Pond		0.02	0.02
25	4.1	LR-3914	Lake	7120006	Pond	Round Lake Marsh South	2.18	2.18
25	5.6	LR-3915	Lake	7120006	Pond		0.41	0.41
25	4.3	LR-3916	Lake	7120006	Pond		0.23	0.23
25	2.6	LR-3918	Lake	7120006	Pond		0.06	0.06
25	2.4	LR-3919	Lake	7120006	Pond		0.23	0.23
25	5.9	LR-3921	Lake	7120006	Detention Basin	Hines Lumber Company Pond	1.76	0.28
25	2.5	LR-3924	Lake	7120006	Pond	Valley Lakes PUD Pond 25	0.79	0.79
25	3.4	LR-3925	Lake	7120006	Pond		0.18	0.18
25	2.3	LR-3928	Lake	7120006	Pond		0.04	0.04
25	2.5	LR-3931	Lake	7120006	Pond	Valley Lakes PUD Pond 24	0.84	0.84
25	2.4	LR-3934	Lake	7120006	Pond		0.06	0.06
25	2.3	LR-3943	Lake	7120006	Pond		0.08	0.08
25	2.4	LR-3944	Lake	7120006	Pond		0.02	0.02
25	2.6	LR-3945	Lake	7120006	Pond		0.05	0.05
25	3	LR-3948	Lake	7120006	Pond	Nippersink Valley Estates Pond	0.22	0.22
25	2.3	LR-3949	Lake	7120006	Pond	Valley Lakes PUD Pond 23	0.48	0.48
25	3.4	LR-3951	Lake	7120006	Pond		0.54	0.54
25	2.4	LR-3955	Lake	7120006	Pond		0.02	0.02
25	2.3	LR-3956	Lake	7120006	Pond		0.10	0.10
25	2.9	LR-3961	Lake	7120006	Pond		0.06	0.06
25	4.8	LR-3974	Lake	7120006	Detention Basin	Bright Meadows Pond 2	2.11	2.11
25	2.4	LR-3976	Lake	7120006	Pond		0.10	0.10
25	3.4	LR-3981	Lake	7120006	Pond		0.79	0.79
25	3.5	LR-3983	Lake	7120006	Pond		0.32	0.32
25	3.4	LR-3984	Lake	7120006	Pond		0.61	0.61
25	5.9	LR-3991	Lake	7120006	Pond		0.09	0.09
25	3.5	LR-3992	Lake	7120006	Pond		0.36	0.36
25	3.3	LR-3998	Lake	7120006	Pond		0.29	0.29
25	4.2	LR-3999	Lake	7120006	Pond	Round Lake Marsh South	0.33	0.11
25	4	LR-4001	Lake	7120006	Lake	Schaul Country North Lake	7.17	2.75
25	4.2	LR-4006	Lake	7120006	Pond	Round Lake Marsh South	0.26	0.12
25	4.1	LR-4007	Lake	7120006	Pond	Round Lake Marsh South	0.39	0.15
25	2.8	LR-4010	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond	0.06	0.06
25	2.8	LR-4013	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond	0.07	0.07
25	3.5	LR-4017	Lake	7120006	Pond		2.43	2.43
25	2.9	LR-4018	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond	0.11	0.11
25	3.3	LR-4039	Lake	7120006	Pond		0.08	0.08
25	6.2	LR-4040	Lake	7120006	Pond		0.62	0.01
25	6	LR-4048	Lake	7120006	Pond		0.05	0.05
25	3.2	LR-4049	Lake	7120006	Pond		0.31	0.31
25	6.2	LR-4052	Lake	7120006	Pond		0.31	0.23
25	6.1	LR-4055	Lake	7120006	Pond		0.08	0.08
25	2.7	LR-4066	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond	5.57	3.00
25	2.5	LR-4067	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond	2.84	2.28

Attachment B - Table 25-3
Corridor 25 Open Water Data

Corridor	Mile Post	Feature ID	County	Watershed	Waterbody Type	Waterbody Name	Total Acres	Acres Within Analysis Area
25	2.7	LR-4068	Lake	7120006	Pond	Baxter Healthcare - Round Lake Pond	0.28	0.28
25	6.1	LR-4071	Lake	7120006	Pond		0.12	0.12
25	6.3	LR-4097	Lake	7120006	Pond	Echols Pond 1	0.12	0.12
25	6.1	LR-4113	Lake	7120006	Pond		0.16	0.16
25	6.1	LR-4117	Lake	7120006	Pond		0.86	0.86
25	6.4	LR-4126	Lake	7120006	Pond	Echols Pond 2	0.68	0.68
25	6.1	LR-4130	Lake	7120006	Pond		0.06	0.06
25	6.6	LR-4132	Lake	7120006	Pond		0.39	0.23
25	6.6	LR-4135	Lake	7120006	Pond		0.21	0.21
25	6.2	LR-4186	Lake	7120006	Pond	Northbrook Sports Club Pond 1	0.10	0.10
25	6.7	LR-4189	Lake	7120006	Pond		0.43	0.43
25	6.7	LR-4204	Lake	7120006	Pond		0.53	0.53
25	6.4	LR-4221	Lake	7120006	Pond	Northbrook Sports Club Pond 3	1.04	1.04
25	6.7	LR-4226	Lake	7120006	Pond		0.07	0.07
25	6.7	LR-4250	Lake	7120004	Pond		0.09	0.09
25	6.7	LR-4258	Lake	7120004	Pond		2.02	2.02
TOTAL								**47.97**

Note: Data is based on published information with limited field verification. Therefore, some minor features may not be included.

Attachment C
Water Quality Data

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
1	Nippersink Creek	F - Aesthetic Quality F - Aquatic Life N - Fish Consumption N - Primary Contact X - Secondary Contact	• Fecal Coliform • Mercury • Polychlorinated biphenyls	• Atmospheric Deposition-Toxics • Source Unknown	B	C
1	North Branch Nippersink Creek	F - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	No Listed Impairments; Biologically Significant Stream		C	C
1	Lake Zurich	F - Aesthetic Quality F - Aquatic Life N - Fish Consumption X - Primary Contact X - Secondary Contact	• Mercury	• Atmospheric Deposition-Toxics • Source Unknown	N/A	N/A
1	Nippersink Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Dredging • Onsite Treatment Systems • Other Recreation Pollution Sources • Crop Production (Crop or Dry Land) • Urban Runoff/Storm Sewers • Runoff from Forest/Grassland/Parkland	N/A	N/A
1	Timber Lake (South)	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
1	Pistakee Lake	N - Aesthetic Quality F - Aquatic Life N - Fish Consumption X - Primary Contact X - Secondary Contact	• Mercury • Phosphorus (Total) • Polychlorinated biphenyls • Total Suspended Solids (TSS)	• Atmospheric Deposition - Toxics • Source Unknown • Dredging • Onsite Treatment systems (Septic Systems and Similar Decentralized Systems) • Other Recreational Pollution Sources • Urban Runoff/Storm Sewers • Runoff from Forest/Grassland/Parkland	N/A	N/A
2	South Churchill Lake	N - Aesthetic Quality N- Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
3	Diamond Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Littoral/Shore Area Modifications • Sediment Resuspension (Clean Sediment) • Internal Nutrient Recycling • Onsite Treatment Systems • Yard Maintenance • Source Unknown	N/A	N/A
4	Buffalo Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Chloride • Dissolved oxygen • Fecal Coliform • Total Suspended Solids (TSS)	• Urban Runoff/Storm Sewers • Source Unknown	Not Rated	Not Rated
4	Forest Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown • Agriculture • Urban Runoff/Storm Sewers	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
4	Lake Naomi	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
4	Salem-Reed Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
4	Lake Leo	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Cause Unknown	• Source Unknown	N/A	N/A
4	Sylvan Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Fecal Coliform • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown • Littoral/shore Area Modifications (Non-riverine)	N/A	N/A
4	Pond-A-Rudy	N - Aesthetic Quality N - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Dissolved Oxygen • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
6	Salt Creek	X - Aesthetic Quality N - Aquatic Life N - Fish Consumption N - Primary Contact X - Secondary Contact	• Chloride • Dissolved Oxygen • Fecal Coliform • Mercury • Phosphorus (Total) • Polychlorinated biphenyls	• Urban Runoff/Storm Sewers • Impacts from Hydrostructure Flow- Regulation/modification • Dam or Impoundment • Atmospheric Deposition-Toxics • Source Unknown	Not Rated	Not Rated

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
7	Buffalo Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Chloride • Dissolved oxygen • Fecal Coliform • Total Suspended Solids (TSS)	• Urban Runoff/Storm Sewers • Source Unknown	Not Rated	Not Rated
7	Indian Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Dissolved Oxygen	• Source Unknown	D/E	D/E
7	Longview-Meadow Lake	N - Aesthetic Quality N - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Dissolved Oxygen • Phosphorus (Total) • Total Suspended Solids (TSS)	• Rural (Residential Areas) • Runoff from Forest/Grassland/Parkland	N/A	N/A
8	Lake Louise	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
9	Poplar Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Chloride • Fecal Coliform • Total Suspended Solids (TSS)	• Highway/Road/Bridge Runoff (Non-construction related) • Urban Runoff/Storm Sewers	Not Rated	Not Rated
9	Lake Fairview	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
9	Grassy Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown • Internal Nutrient Recycling • Agriculture • Runoff from Forest/Grassland/Parkland	N/A	N/A
9	Lake Barrington	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Fecal Coliform • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
9	Honey Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Fecal Coliform • Total Phosphorus (Total)	• Source Unknown	N/A	N/A
9	Tower Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Fecal Coliform • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
11	Des Plaines River	F - Aesthetic Quality N - Aquatic Life N - Fish Consumption N - Primary Contact X - Secondary Contact	• Arsenic • Chloride • Fecal Coliform • Mercury • Phosphorus (Total) • Polychlorinated biphenyls	• Streambank Modifications/destabilization • Contaminated Sediments • Municipal Point Source Discharges • Urban Runoff/Storm Sewers • Atmospheric Deposition-Toxics • Source Unknown	C	D
11	Gages Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption F - Primary Contact F - Secondary Contact	• Cause Unknown • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
11	Grays Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total)	• Internal Nutrient Recycling • Yard Maintenance	N/A	N/A
13	Davis Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total)	• Source Unknown	N/A	N/A
13	Taylor Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown • Urban Runoff/Storm Sewers • Runoff from Forest/Grassland/Parkland	N/A	N/A
13	Bangs Lake	N - Aesthetic Quality F - Aquatic Life N - Fish Consumption X - Primary Contact X - Secondary Contact	• Mercury • Phosphorus (Total)	• Atmospheric Deposition-Toxics • Source Unknown • Internal Nutrient Recycling	N/A	N/A
13	Drummond Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
13	Summerhill Estate	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Agriculture • Rural (Residential Areas) • Runoff from Forest/Grassland/Parkland	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
14	Duck Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Other Recreation Pollution Sources • Rural (Residential Areas) • Urban Runoff/Storm Sewers	N/A	N/A
14	Long Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Rural (Residential Areas) • Urban Runoff/Storm Sewers • Internal Nutrient Recycling • Agriculture • Pesticide Application	N/A	N/A
15	Bull Creek	No Listed Impairments			E/C/D	E/C
15	Des Plaines River	X - Aesthetic Quality N - Aquatic Life N - Fish Consumption X - Primary Contact X - Secondary Contact	• Cause Unknown • Mercury • Polychlorinated biphenyls	• Source Unknown • Atmospheric Deposition - Toxics	Not Rated	Not Rated
15	Butler Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Highway/Road/Bridge Runoff (Non-construction related) • Littoral/shore Area Modifications (Non-riverine) • Streambank Modifications/destabilization • Source Unknown • Waterfowl • Urban Runoff/Storm Sewers • Runoff from Forest/Grassland/Parkland	N/A	N/A
15	Saint Mary Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Contaminated Sediments • Littoral/shore Area Modifications • Streambank Modifications/destabilization • Source Unknown • Urban Runoff/Storm Sewers	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
				• Runoff from Forest/Grassland/Parkland		
16	Buffalo Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Chloride • Dissolved oxygen • Fecal Coliform • Total Suspended Solids (TSS)	• Urban Runoff/Storm Sewers • Source Unknown	Not Rated	Not Rated
16	Indian Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Dissolved Oxygen	• Source Unknown	D	D
16	Albert Lake (Outlet)	N - Aesthetic Quality N - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Dissolved Oxygen • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown	N/A	N/A
16	Loch Lomond	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Fecal Coliform • Phosphorus (Total) • Total Suspended Solids (TSS)	• Source Unknown • Littoral/shore Area Modifications • Other Recreational Pollution Sources • Streambank Modifications/destabilization • Agriculture • Rural (Residential Areas) • Urban Runoff/Storm Sewers • Waterfowl	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
17	Buffalo Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption N - Primary Contact X - Secondary Contact	• Chloride • Dissolved oxygen • Fecal Coliform • Total Suspended Solids (TSS)	• Urban Runoff/Storm Sewers • Source Unknown	Not Rated	Not Rated
18	Indian Creek	X - Aesthetic Quality N - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Dissolved Oxygen	• Source Unknown	D	D
20	Des Plaines River	F - Aesthetic Quality N - Aquatic Life N - Fish Consumption N - Primary Contact X - Secondary Contact	• Arsenic • Chloride • Fecal Coliform • Mercury • Phosphorus (Total) • Polychlorinated biphenyls	• Streambank Modifications/destabilization • Contaminated Sediments • Municipal Point Source Discharges • Urban Runoff/Storm Sewers • Atmospheric Deposition-Toxics • Source Unknown	C	D
21	Lake Christa	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Rural (Residential) • Urban Runoff/Storm Sewers	N/A	N/A
21	Fischer Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Phosphorus (Total) • Total Suspended Solids (TSS)	• Other Marina/Boating On-vessel Discharges • Agriculture • Rural (Residential) • Runoff from Forest/Grassland/Parkland	N/A	N/A
22	No Impaired Waters or Streams with a Diversity or Integrity Score					
23	Fish Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Pollutants from Public Bathing Areas • Agriculture • Runoff from Forest/Grassland/Parkland	N/A	N/A

Attachment C. Water Quality Data, Project Corridors

Corridor	Waterway/ Lake Name	Designated Use [a]	Causes of Impairment	Sources of Impairment	Diversity Score	Integrity Score
24	Fish Lake	N - Aesthetic Quality F - Aquatic Life X - Fish Consumption X - Primary Contact X - Secondary Contact	• Aquatic Plants (Macrophytes) • Phosphorus (Total) • Total Suspended Solids (TSS)	• Pollutants from Public Bathing Areas • Agriculture • Runoff from Forest/Grassland/Parkland	N/A	N/A
25	No Impaired Waters or Streams with a Diversity or Integrity Score					

[a] F – Fully Supporting, N – Not Supporting, X – Not assessed

Sources:

Environment Protection Agency (EPA). 2016a. Water Quality Assessment Report – Upper Fox Watershed. Accessed September 2019. https://ofmpub.epa.gov/waters10/attains_watershed.control.

Environment Protection Agency (EPA). 2016b. Water Quality Assessment Report – Des Plaines Watershed. Accessed September 2019. https://ofmpub.epa.gov/waters10/attains_watershed.control.

Illinois Department of Natural Resources (IDNR). 2008. Biological Stream Rating Data GIS Database. Accessed September 2019. https://www.dnr.illinois.gov/conservation/biologicalstreamratings/Pages/default.aspx.

Attachment D: References

References

Wetland and Waterbody References

Center for Neighborhood Technology and Openlands. 2017. DuPage County Forest Preserves. Accessed November 2017. http://greenmapping.cnt.org/archive.php.

Cook County GIS Department (Cook). 2015. Lakes and Rivers 2015. Accessed September 28, 2017. https://datacatalog.cookcountyil.gov/GIS-Maps/ccgisdata-Lakes-and-Rivers-2015/kpef-5dtn.

Cook County Government. 2017. Historical – GIS—Shapefiles of Cook County Forest Preserve Boundaries. Accessed September 2017. https://datacatalog.cookcountyil.gov/GIS-Maps/Historical-GIS-Shapefiles-of-Cook-County-Forest-Pr/ikxe-tdm7/data.

ESRI. 2010. North American Water Polygons. Accessed November 2018. http://www.arcgis.com/home/item.html?id=1630b19fafbe4c9589306d967e418088.

Illinois Department of Natural Resources (IDNR). 2019. Illinois Natural Area Inventory (INAI) Natural Areas Data. Acquired January 2019.

Illinois Department of Natural Resources (IDNR). 2019. Nature Preserves Data. Acquired January 2019.

Illinois Department of Natural Resources (IDNR). 2019. Threatened and Endangered Species Data. Acquired January 2019.

Lake County Department of Information Technology (Lake). 2017. Forest Preserve Boundaries. Accessed August 2017. https://s3.amazonaws.com/lakecountygis-public/natural_resources.html.

Lake County Department of Information Technology (Lake). 2018a. Lake County Hydrology Polygons GIS Dataset. Accessed September 25, 2018. https://s3.amazonaws.com/lakecountygis-public/water.html.

Lake County Department of Information Technology (Lake). 2018b. Lake County Hydrology Lines GIS Dataset. Accessed September 25, 2018. https://s3.amazonaws.com/lakecountygis-public/water.html.

Lake County Storm Management Commission (LCSMC). 2018. Lake County Wetland Restoration and Preservation Plan (WRAPP) Data. Accessed November 8, 2018.

McHenry County GIS. 2018. Forest Preserve Boundary Data. Acquired June 2018.

National Conservation Easement Database (NCED). 2017. Conservation Easements. Accessed November 2017. https://www.conservationeasement.us/interactivemap/.

U.S. Army Corps of Engineers (USACE). 2018. ADvanced IDentification (ADID) wetlands (Lake and McHenry Counties). Accessed November 28, 2018. http://www.lrc.usace.army.mil/Missions/Regulatory/Illinois/ADID-Maps/.

U.S. Army Corps of Engineers (USACE). 2019. RIBITS. Accessed September 2019. https://ribits.usace.army.mil/ribits_apex/f?p=107:2:2274401425260::NO.

U.S. Fish and Wildlife Service (USFWS). 2017. National Wetlands Inventory (NWI). Accessed August 21, 2017. https://www.fws.gov/wetlands/.

U.S. Geological Survey (USGS). 2018. National Hydrography Dataset (NHD). Accessed May 16, 2018. https://nhd.usgs.gov/. x

1Water Quality References

Environment Protection Agency (EPA). 2016a. Water Quality Assessment Report – Upper Fox Watershed. Accessed September 2019. https://ofmpub.epa.gov/waters10/attains_watershed.control.

Environment Protection Agency (EPA). 2016b. Water Quality Assessment Report – Des Plaines Watershed. Accessed September 2019. https://ofmpub.epa.gov/waters10/attains_watershed.control.

Illinois Department of Natural Resources (IDNR). 2008. Biological Stream Rating Data GIS Database. Accessed September 2019.
https://www.dnr.illinois.gov/conservation/biologicalstreamratings/Pages/default.aspx.

TECHNICAL MEMORANDUM

List of Preparers

List of Preparers

The following individuals were directly involved in the preparation of the affected environment memorandums. Their responsibilities included collecting and analyzing data, evaluating impacts, identifying mitigation, consulting with agencies, and writing or reviewing sections of the memorandums.

GIS Data, Analysis, Figures

Dan Millen, Jacobs Engineering Group Inc.

Land Use

Ranadip Bose, SB Friedman Development Advisors
Fran Lefor Rood, SB Friedman Development Advisors
Ryan Schmitt, SB Friedman Development Advisors

Special Lands

Carly Dutkiewicz, Jacobs Engineering Group Inc.
Michael Hoffmann, Jacobs Engineering Group Inc.
Christine Norrick, Jacobs Engineering Group Inc.

Traffic Noise

Jamie Benz, Huff & Huff, a subsidiary of GZA

Community Resources and Facilities

Carly Dutkiewicz, Jacobs Engineering Group Inc.
Christine Norrick, Jacobs Engineering Group Inc.

Special Waste

David Klatt, Jacobs Engineering Group Inc.
Jim Mallison, Jacobs Engineering Group Inc.

Cultural Resources

Jay Martinez/Midwest Archaeological Research Services (MARS)

Visual Resources

Jeff Eichenauer, Jacobs Engineering Group Inc.
Jade Paul, Jacobs Engineering Group Inc.
Ryan Scherner, Jacobs Engineering Group Inc.

Agricultural Resources

Linda Paris, Knight E/A
Kevin Walsh, Knight E/A

Biological and Threatened and Endangered Resources

Evan Markowitz, Huff & Huff, a subsidiary of GZA
Jim Novak, Huff & Huff, a subsidiary of GZA
Lailah Reich, Huff & Huff, a subsidiary of GZA
Barry Stuedemann, Huff & Huff, a subsidiary of GZA

Wetlands and Water Resources

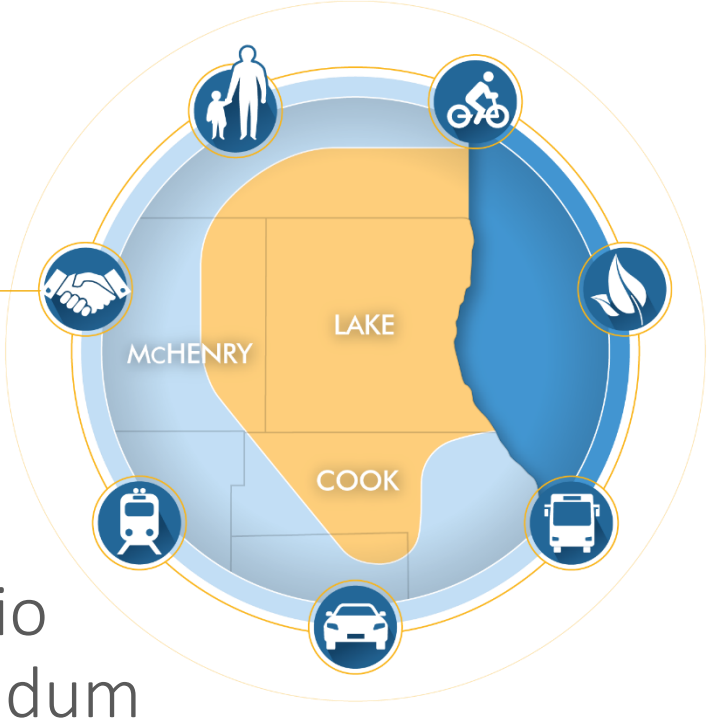
Julie Johnson, Jacobs Engineering Group Inc.
Karen Kabbes, Kabbes Engineering
Karen Munson, Jacobs Engineering Group Inc.

QA/QC

Jeff Frantz, Jacobs Engineering Group Inc.
Christine Norrick, Jacobs Engineering Group Inc.

Appendix K

Initial System Scenarios (ISS): Development of Transit-Only Scenario Technical Memorandum



Initial System Scenarios: Development of Transit-Only Scenario Technical Memorandum

1.0 Introduction

As part of the alternatives development process for the Tri-County Access (TCA) Project, the TCA Team developed an assessment of Initial System Scenarios (ISS) representing transit solutions that would address the TCA Draft Purpose and Need. ISS for transit considered a range of planned transit projects in the TCA Project study area and were developed using extensive coordination with regional transit services (RTA, Metra and Pace) and stakeholder input. This memorandum documents the development and evaluation of the ISS for transit improvements and the Transit-Only Scenario's benefits and performance against the TCA Draft Purpose and Need.

To provide guidance on the identification, development, and evaluation of transit improvements in the TCA Project study area, a Transit Framework was established with the following guiding principles:

- Understand the TCA Project study area characteristics and their influence on the transit system
- Understand the extent of planned transit projects in the TCA Project study area identified as part of the regional long-range planning activities by transit providers
- Develop a Transit-Only Scenario that would attempt to optimize the ridership to address the Draft Purpose and Need
- Test and evaluate the Transit-Only Scenario using a "best-case scenario" based on best practices and bench-marking approaches
- Identify and develop complimentary transit opportunities along with roadway improvements to address the Draft Purpose and Need

The Transit Framework for the development and evaluation of the ISS for transit is included as Attachment 1.

1.1 TCA Project Study Area

The TCA Project study area covers approximately 1,000 square miles including Lake County in its entirety, eastern McHenry County, and northern Cook County, as well as the travel interrelationship with portions of DuPage and Kenosha counties. There are several centers of activity that function as origin and destination centers and these areas are concentrated in the southern portion of the TCA Project study area and further south into Chicago. Employment destinations are concentrated in southeastern Lake County, northwestern Cook County, and downtown Chicago. Population density is highest in the southern portions of the TCA Project study area and along the I-94 corridor in the east. Clusters of increased residential density also occur in central Lake County. By the forecast year of 2050, both population and employment are expected to expand further to the north and west. However, in those areas, population is expected to grow at a higher rate than employment, thereby increasing the need for reliable connections to existing regional employment centers.

The public transportation system serving the TCA Project study area includes services provided by two of the RTA's operating agencies: Metra, the region's commuter rail operator; and Pace, the suburban bus operator. The transit system in the TCA Project study area (particularly commuter rail) has served the

downtown Chicago area well, but there are limited transit connections for other destinations. Chicago Transit Authority (CTA) network and services were not considered as they operate only in the southernmost portion of the TCA Project study area.

Currently, two percent of all trips within the TCA Project study area are transit trips. Population and employment in the study area have been steadily increasing over the past 30 years. During that time, Metra and Pace have enhanced the frequency of their service yet, during that same time period, ridership on Metra and Pace has not increased. Based on the evaluation of 2050 conditions and planned projects, the future transit system is expected to maintain a similar level of performance.

Several factors contribute to low transit usage in the study area, including but not limited to:

- Dispersed land use
- Congested roadways
- Limited service to suburban employment centers
- Poor first- and last-mile connections to existing routes
- Introduction of transportation network and ride-share companies (such as Uber and Lyft) providing reasonably priced alternatives to transit
- Consumer behavior indicates consumers in the TCA Project study area prefer driving over public transit use

Understanding the TCA Project study area characteristics and their influence on the transit system served as the starting point for the development of the Transit-Only Scenario.

2.0 Regional Plans

Given the constraints of the study area to support efficient transit, an assessment of regional long-range plans (both historic and current) and stakeholder engagement were utilized to identify a range of opportunities for transit improvements in the TCA Project study area. The following regional plans were reviewed, with a focus on information relevant to the development of the Transit-Only Scenario:

- Lake County Transportation Improvement Project (LCTIP) Draft Environmental Impact Statement (EIS)[1]
- Pace Vision 2020[2]
- RTA 2018-2023 Strategic Plan: Priority Projects[3]
- ON TO 2050 Comprehensive Regional Plan, Chicago Metropolitan Agency for Planning (CMAP)[4]

Each plan is summarized in this section, focusing on information relevant to current planning for the Transit-Only Scenario.

[1] Illinois Department of Transportation (IDOT) and Illinois Tollway. 2001. Lake County Transportation Project Draft Environmental Impact Statement. Available at https://www.illinoistollway.com/documents/20184/94512/00_LCTIP_Draft_EIS.pdf/43812954-b766-4d4c-abdf-96df1a06762c.

[2] PACE. 2001. Vision 2020: The Blueprint for the Future. Available at http://www.pacebus.com/sub/vision2020/default.asp.

[3] Regional Transportation Authority (RTA). 2017. Regional Transit Strategic Plan 2018-2023: Beginning the Discussion. Available at https://www.rtachicago.org/sites/default/files/documents/strategicprograms/strategicplan/IIT_2018-23_Final/InvestInTransit_BeginDiscuss_18-23.pdf.

[4] Chicago Metropolitan Agency for Planning (CMAP). 2018. ON TO 2050. Available at https://www.cmap.illinois.gov/2050.

2.1 LCTIP Draft EIS

The LCTIP, completed in 2001, identified a system of strategic roadway, rail, and bus improvements to address key congestion and mobility problems in the study area. The Draft Environmental Impact Statement presented two build alternatives – the IL 53 Freeway/Tollway Alternative and the IL 83/US 45 with US 12 Alternative. These alternatives included extensive roadway improvements as well as a package of multimodal transportation improvements (i.e., rail, bus, bike, transportation management strategies) that were common to both build alternatives.

The complementary transit service expansion proposed for the LCTIP build alternatives included new commuter rail service on the EJ&J Railroad between Spaulding and Waukegan, new express bus routes between major origins and destinations, frequent bus service on four trunk corridors (Winthrop Harbor-Waukegan, Waukegan-Round Lake, Gurnee-Libertyville-Buffalo Grove, Highland Park-Fox River Grove) a BRT line in the Lake Cook Corridor, new shuttle bus services and frequency improvements on existing local routes.

Another component of the package of proposed transit improvements was enhanced transportation centers. This component would add opportunities for bus-to-bus and bus-to-rail transfers, as well as improved automobile connections at five key locations: Round Lake, Libertyville, Palatine, Highland Park, and Fox River Grove.

2.2 PACE Vision 2020

The Pace Vision 2020 document represents the blueprint for Pace's vision for the future which is to provide a publicly acceptable level of efficient suburban mobility. Vision 2020 points out changing travel needs such as growth in population and employment in the suburban "ring" and demand for services connecting locations in the City of Chicago with widely distributed suburban centers.

The plan identifies two types of line-haul routes based on their primary operating environment: Expressway/Tollway Routes and Arterial Routes. Expressway/Tollway services use comfortable over-the-road coaches, provide frequent service, connect major regional activity centers with few stops in between, and operate in a high-occupancy vehicle lanes or dedicated right-of-way, where appropriate, to avoid traffic delays. Line-haul Arterial Routes use specially marked low-floor transit buses to enhance system identity and increase boarding speed. They will also use Pace's Intelligent Bus System to improve on-time performance, communicate with customers, protect transfers with other bus services, and reduce operating costs.

2.3 RTA 2018-2023 Regional Transit Strategic Plan

The Regional Transportation Authority (RTA) and transit operating agencies developed the Regional Transit Strategic Plan to serve as the roadmap for near-term transit investment in the RTA's six-county area and to make the case for pursuing dependable funding streams for transit in the region. The strategic plan presents key findings and research conducted in 2016 that was also used, in coordination with CMAP, to develop the ON TO 2050 plan. Priority Projects, defined as key initiatives that the transit agencies cannot complete at current funding levels but are necessary for high-quality transit for the region, are identified in the report.

Priority Projects include:

- Metra's A-2 interlocking replacement, that would allow faster service and increased capacity on the MD-N, MD-W, UP-W and NCS lines
- Metra fleet modernization, signal upgrades and station improvements
- New Pace buses for replacement and service expansion
- Regional deployment of Pace Transit Signal Priority

- Upgraded Pace transportation/transfer centers at Buffalo Grove, Elgin and Gurnee Mills Mall
- Design and construction of Pace passenger facilities for the soon-to-be-implemented I-94 Eden's Bus-on-Shoulder corridor

2.4 CMAP ON TO 2050

CMAP adopted the ON TO 2050 comprehensive regional plan in October 2018. Mobility was one of five subject areas addressed by the ON TO 2050 plan. One of the goals under mobility is "a modern, multimodal system that adapts to changing travel demand" with "making transit more competitive" identified as a key recommendation for reaching the goal. Several challenges to making transit more competitive are outlined in the ON TO 2050 plan including lack of funding, minimal supportive land use changes, demographic shifts, aging infrastructure, and competition from emerging private transportation services.

The ON TO 2050 plan states that the region's transit agencies are experiencing a capital funding shortage with 31 percent of the transit system not in a state of good repair – a percentage projected to grow without significant increases in capital funding. Nonetheless, an aggressive target of doubling transit ridership was set for the region. According to the CMAP's comprehensive plan, the region's transit agencies should focus limited funding on projects that build on transit's key strengths: frequent, fast, reliable service that makes connections in areas of moderate and high density and walkability. Further, the plan recognizes that the region cannot meet its transit ridership goals without supportive development near bus and rail.

Notably, the ON TO 2050 plan encourages roadway agencies to adopt transit-oriented roadway improvements. For example, transit and highway agencies can build on the success of Pace expressway service on I-55, I-94, and I-90 to offer additional routes and continue to provide innovative bus service options.

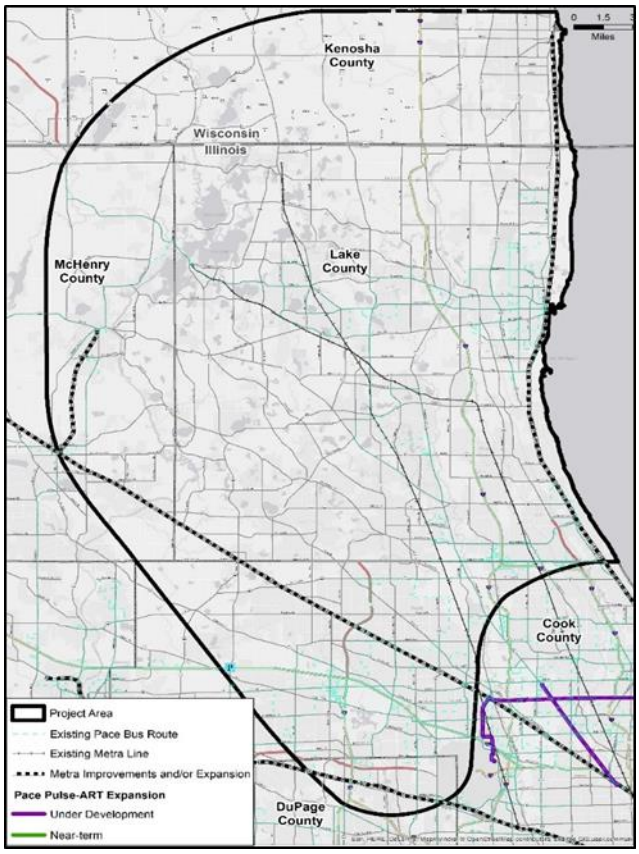


Figure 1. ON TO 2050 Constrained RSP

CMAP identifies regionally significant projects (RSP), or capital improvements in the region's expressways, transit system, and arterials with impacts and benefits that are large enough to warrant additional discussion through the regional planning process. The ON TO 2050 plan includes constrained RSPs that have been identified as priorities for the region and recommends further study of others that are classified as "unconstrained". Only constrained projects are eligible to receive federal transportation funds.

The ON TO 2050 constrained projects includes Metra improvements within the study area. No Pace bus services within the study area are included in the constrained RSPs. Metra's constrained RSPs within the study area include capacity and operational improvements to the MD-W, UP-N, and UP-NW lines.

In addition to the CMAP ON TO 2050 constrained plan, the ON TO 2050 plan discusses a list of unconstrained projects that could enhance transit utilization in the region. This represents the region's long-term vision for arterial rapid transit and express bus opportunities and there are projects identified

in the study area. Some of planned Pace routes along IL 83, IL 120, US 12, and IL 59 align with major corridors identified by the stakeholder engagement process and would support the study area transit usage. The Pace Pulse-ART development plan will provide fast and reliable service along these corridors, encouraging residents to use transit and contributing to reduced roadway congestion.

The Pace Pulse program of projects is discussed in detail in the CMAP ON TO 2050 Plan. The program focuses on improving Pace's 24 most heavily used arterials routes by providing ART service with enhanced amenities, and other improvements. Near-term Pulse projects are included in CMAP's list of constrained RSP; mid-term and long-term projects are included in CMAP's list of unconstrained RSP. Pace's Express Bus expansion corridors are also included in CMAP's list of unconstrained RSP. TCA Project study area Pace projects included in the unconstrained RSP are listed in Table 2.

Several commuter rail improvements are also included in CMAP's list of unconstrained RSP. These include extensions to the MD-N and MD-W lines, upgrades to the NCS line, and electrification of the UP-N and UP-NW lines.

Table 2. ON TO 2050 Unconstrained Pace Bus Initiatives

Road Name	Description	Type	Priority Level
Golf Road	Evanston to IL 83	PULSE ART	Mid-term
Golf Road	IL 83 to IL 19 (Irving Park Road)	PULSE ART	Long-term
IL 83	Halsted Street to Golf Road	PULSE ART	Mid-term
Milwaukee Avenue	Golf Mill Mall to IL 68 (Dundee Road)	PULSE ART	Mid-term
Milwaukee Avenue	IL 68 (Dundee Road) to IL 120	PULSE ART	Long-term
Touhy Avenue	Evanston to Arlington Heights Road	PULSE ART	Mid-term
IL 19 (Irving Park Road)	Randall Road to Harlem Avenue	PULSE ART	Long-term
IL 59	US 30 to US 12 (Rand Road)	PULSE ART	Long-term
IL 62 (Algonquin Road)	IL 31 to Arlington Heights Road	PULSE ART	Long-term
IL 68 (Dundee Road)	IL 31 to Milwaukee Avenue	PULSE ART	Long-term
IL 120	Crystal Lake Road to S Greenleaf Street	PULSE ART	Long-term
US 12 (Rand Road)	IL 59 to Dempster Street	PULSE ART	Long-term
Randall Road	IL 120 to IL 59	PULSE ART	Long-term
Ogden Avenue	Eola Road to Higgins Road	PULSE ART	Long-term
I-90	Rosemont to IL 47	Express Bus	N/A
I-294	Wisconsin State Line to Indiana State Line	Express Bus	N/A
I-355/IL 53	New Lenox to Lake Cook Road	Express Bus	N/A
I-94 Edens	Dempster Street to Lake Cook Road	Express Bus	N/A
Elgin O'Hare Corridor	West Terminal to Elgin	Express Bus	N/A

Corridors considered for improvement as part of the TCA Initial Range of Alternatives would incorporate features to accommodate the planned Pace Pulse-ART and Express Bus services.

3.0 Transit-Only Initial System Scenario

In addition to understanding the extent of planned transit projects in the study area, an ISS representing a Transit-Only Scenario was developed that would attempt to optimize transit ridership and address Purpose and Need for the project.

Table 3 provides the evaluation criteria considered for the Transit-Only Scenario.

The Transit-Only Scenario was a mode agnostic option and would represent a 'best-case scenario' to address the extent to which potential transit ridership and mode shift from automobile could be realized in the TCA study area. The Transit-Only Scenario evaluation used regional transit mode share benchmarks and sketch-level modeling using the Simplified Trips on Project Software (STOPS) model to evaluate the viability of the Transit-Only Scenario for the Project.

Table 3. Preliminary Evaluation Criteria for the Transit-Only Scenario

Draft Purpose and Need	Evaluation Criteria
Inadequate travel options to reach regional destinations	• Project study area connections • Transit network coverage
Widespread congestion and unreliable travel	• Existing transit ridership • Projected transit ridership

In order to better understand the range of transit solutions applicable to the TCA study area, several suburban transit projects operated by agencies across the United States were explored in detail. Although each transit project includes a unique set of best practices and lessons learned, the following were common to the researched suburban transit systems:

- Create dedicated running-ways to offer attractive travel times and reliability
- Establish simple and direct routing between origins and destinations
- Increase frequency of service where applicable (e.g. peak periods, popular locations)
- Connect to downtown areas or other activity centers
- Develop a reliable network of connections and transfer points
- Select densely-populated corridors with transit-supportive land use

3.1 Corridor Identification

While it is typically difficult to obtain new dedicated running way for suburban transit, the right-of-way that has been protected for the IL 53 extension represents an opportunity to implement a premium transit service that fills an existing gap in the transit network.

Providing dedicated infrastructure that improves transit network coverage, if not for the protected right-of-way, would entail repurposing heavily-utilized roadway lanes and/or large amounts of right-of-way acquisition. Because of the impacts associated with removing roadway capacity and/or acquiring property, the right-of-way preserved for IL 53 extension is indicated as being the corridor with the highest potential for constructing transit-dedicated infrastructure within the TCA study area.

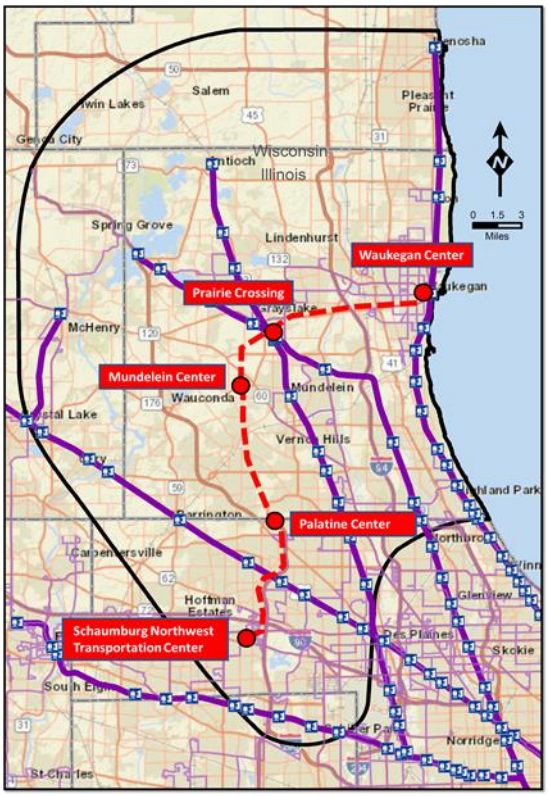


Figure 2. Transit-Only Option Route Plan

Premium transit, operating along exclusive running ways, are offered within the study area via Pace's express bus service on I-90 flex lanes as well as Metra's UP-N, MD-N, NCS, MD-NW and MD-W lines. The proposed IL 53 extension corridor is not served by premium transit and lacks connectivity to the regional transit network.

For these reasons, the corridor made up of the right-of-way protected for the IL 53 extension represents the "best-case scenario" that would provide dedicated transit right-of-way and attempt to optimize the ridership and utilization in the study area. This corridor connects the regional destination centers of Schaumburg

and Waukegan, via the existing IL 53 in the south and IL 120 in the north. The logical terminus in Waukegan is the Waukegan Metra Station. In Schaumburg, the logical terminus is the Northwest Transportation Center. The approximate length of the route is 33 miles.

3.2 Intermediate Stations

Along the corridor between Schaumburg and Waukegan, intermediate stations were located within reasonably dense clusters of population or employment and where there were opportunities to provide convenient connections to the existing transit network. It provided direct access and connections to existing transit opportunities and avoided duplication of service. In addition to residential centers, employment centers were identified along the proposed route, terminating in the Schaumburg area (which supports significant number of jobs in the region). The proposed connection provided connections to existing Metra stations at Vernon Hills and in the Libertyville area.

The Transit-Only Scenario is approximately 33 route miles of new service and had service oriented in the north-south direction from Waukegan to Schaumburg, with dedicated stops along the route at Prairie Crossing, Mundelein, and Palatine. In addition, it provided transfers at Waukegan via UP-N line to Kenosha and at Prairie Crossing via MD-N line to Fox Lake and North-Central service to Antioch.

3.3 Service Plan

The service plan for the Transit-Only Scenario aimed to be consistent with the levels of service offered for premium transit services within the CMAP region as well as the national sample of suburban transit systems reviewed. As these systems are predominantly oriented towards commuters, a greater level of service is offered during the peak periods in the peak travel period.

Station-to-station travel times for the Transit-Only Scenario were estimated based on the assumption that a dedicated running way would be utilized from end-to-end so that there would be no delays from interactions with traffic or traffic signals. A sketch level analysis was used to calculate the travel time estimates including 20 second dwell times at stations.

The proposed service had about 47 minutes of travel time from Waukegan to Schaumburg and was assumed to have 30- to 60-minute headways, based on the time-of-day with four vehicles at capacity in the peak periods. Schedule and frequency based on time-of-day and direction are summarized below in Table 4A and Table 4B. In addition, an assessment of travel time compared to drive time is summarized in Table 5 demonstrating comparable travel time between auto and transit between stations in the TCA Project study area.

Table 4A. AM Period Schedule by Direction of Travel

		A	B	C	D	A	B	C	D	B	D	B
	Project Station	*5300*	*5302*	*5304*	*5306*	*5308*	*5310*	*5312*	*5314*	*5316*	*5318*	*5320*
Southbound	**Waukegan**	5:28	5:58	6:28	6:58	7:28	7:58	8:28	8:58	9:58	10:58	11:58
	Prairie Crossing	5:46	6:16	6:46	7:16	7:46	8:16	8:46	9:16	10:16	11:16	12:16
	Mundelein	5:53	6:23	6:53	7:23	7:53	8:23	8:53	9:23	10:23	11:23	12:23
	Palatine	6:05	6:35	7:05	7:35	8:05	8:35	9:05	9:35	10:35	11:35	12:35
	Schaumburg	6:15	6:45	7:15	7:45	8:15	8:45	9:15	9:45	10:45	11:45	12:45

		A	B	C	D	A	B	D	B	D	B	D
		5301	*5303*	*5305*	*5307*	*5309*	*5311*	*5313*	*5315*	*5317*	*5319*	*5321*
Northbound	**Schaumburg**	6:30	7:00	7:30	8:00	8:30	9:00	10:00	11:00	12:00	13:00	14:00
	Palatine	6:40	7:10	7:40	8:10	8:40	9:10	10:10	11:10	12:10	13:10	14:10
	Mundelein	6:51	7:21	7:51	8:21	8:51	9:21	10:21	11:21	12:21	13:21	14:21
	Prairie Crossing	6:59	7:29	7:59	8:29	8:59	9:29	10:29	11:29	12:29	13:29	14:29
	Waukegan	7:16	7:46	8:16	8:46	9:16	9:46	10:46	11:46	12:46	13:46	14:46

Table 4B. PM Period Schedule by Direction of Travel

		D	B	D	B	A	D	C	B	A	D	B
	Project Station	*5322*	*5324*	*5326*	*5327*	*5328*	*5329*	*5330*	*5331*	*5332*	*5333*	*5334*
Southbound	**Waukegan**	12:58	13:58	14:58	15:58	16:28	16:58	17:28	17:58	18:58	19:58	20:58
	Prairie Crossing	13:16	14:16	15:16	16:16	16:46	17:16	17:46	18:16	19:16	20:16	21:16
	Mundelein	13:23	14:23	15:23	16:23	16:53	17:23	17:53	18:23	19:23	20:23	21:23
	Palatine	13:35	14:35	15:35	16:35	17:05	17:35	18:05	18:35	19:35	20:35	21:35
	Schaumburg	13:45	14:45	15:45	16:45	17:15	17:45	18:15	18:45	19:45	20:45	21:45

		B	D	C	B	A	D	C	B	A	D	B
		5323	*5325*	*5327*	*5329*	*5331*	*5333*	*5335*	*5337*	*5339*	*5341*	*5343*
Northbound	**Schaumburg**	15:00	16:00	16:30	17:00	17:30	18:00	18:30	19:00	20:00	21:00	22:00
	Palatine	15:10	16:10	16:40	17:10	17:40	18:10	18:40	19:10	20:10	21:10	22:10
	Mundelein	15:21	16:21	16:51	17:21	17:51	18:21	18:51	19:21	20:21	21:21	22:21
	Prairie Crossing	15:29	16:29	16:59	17:29	17:59	18:29	18:59	19:29	20:29	21:29	22:29
	Waukegan	15:46	16:46	17:16	17:46	18:16	18:46	19:16	19:46	20:46	21:46	22:46

Table 5. Comparable Travel Time between Auto and Transit

	Span of Service (Departure Times)	Avg. Frequency (Minutes)	Avg. Travel Time (H:MM)	Drive Time (H:MM)
Kenosha	6:00 to 9:00	30	1:21	1:00 to 1:25
Fox Lake	5:15 to 7:15	24	1:01	0:40 to 1:20
Antioch	5:30 to 7:00	23	0:57	0:55 to 1:15
Waukegan	5:30 to 9:00	30	0:46	0:45 to 1:05
Prairie Crossing	5:45 to 9:15	30	0:29	0:35 to 1:00
Mundelein	6:00 to 9:30	30	0:21	0:26 to 0:45
Palatine	6:00 to 9:30	30	0:10	0:08 to 0:14

4.0 Transit-Only Scenario Assessment and Evaluation

A combination of regional benchmarking assumptions and the STOPS model was used to assess and evaluate performance of the Transit-Only Scenario. The STOPS model is developed by Federal Transit Administration to estimate project ridership using a streamlined set of procedures that forecast transit ridership. The STOPS model uses national calibration parameters but is responsive to local conditions; and the TCA Project used the calibrated RTA STOPS model developed in 2015 as the starting point for this effort. The RTA 2015 model was updated to add in the representation of the Transit-Only Scenario and incorporated current demographics and travel time assumptions (both highway and transit) for the TCA Project study area.

4.1 Transit Ridership Assessment – Using Regional Benchmarks

The regional benchmarking approach used the best-case transit utilization scenario from existing Metra services oriented towards Chicago's central business district. Current transit mode share around Metra Stations is around 10 percent of the total trips in the region along the western and southwestern suburbs of Chicago. In addition to the Metra mode share benchmark, information from the Census Transportation Planning Package (CTPP) was used, which suggested a 2 to 11 percent maximum likelihood of transit usage in the region. Figure 3 shows study area zones and Table 6 summarizes the

mode share estimates from the CTPP study area zones utilized as a regional benchmark for transit ridership comparisons for the Transit-Only Scenario.

An assessment of potential transit mode share for the Transit-Only Scenario was calculated based on a 2.5-mile radius buffer from proposed stations. An assessment of utilization of the proposed transit service using regional benchmarks was compared to the total number of trips generated within the 2.5-mile buffer of the proposed station. Of the approximately 21,000 total trips, between 400 (minimum) to 3,100 (maximum) trips are likely to use the proposed transit service, which is a small proportion of the overall travel demand in the TCA study area. Table 7 summarizes the mode share estimates from the benchmarking approach for the Transit-Only Scenario.

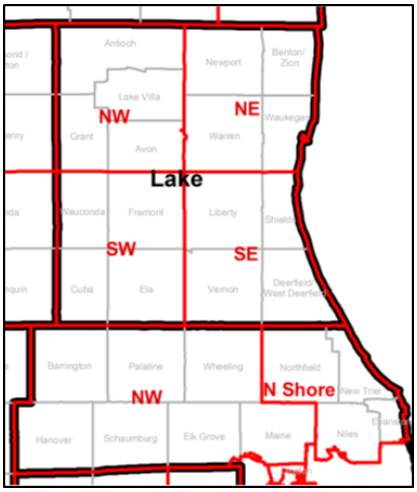


Figure 3. Study Area CTPP Transit Zones

Table 6. TCA Study Area CTPP Transit Mode Share Estimates

Residence Location	VERNON		DEERFIELD		NORTHFIELD		SCHAUMBURG	
	Total Workers	Transit Mode Share	Total Workers	Transit Mode Share	Total Workers	Transit Mode Share	Total Workers	Transit Mode Share
Lake County-Northwest	**5,882**	**2%**	**2,977**	**6%**	**2,841**	**11%**	**918**	**0%**
Antioch Township	783		641	1%	303	13%	64	
Lake Villa Township	1,421		836	2%	879	5%	232	
Grant Township	787	3%	314	10%	525	8%	281	
Avon Township	2,891	3%	1,186	12%	1,134	16%	341	
Lake County-Northeast	**5,766**	**2%**	**5,454**	**2%**	**2,968**	**1%**	**548**	**5%**
Newport Township	153		152		75			
Benton/ Zion Township	1,195		647	1%	534	4%	20	
Warren Township	2,253	3%	2,275		1,532	1%	289	
Waukegan Township	2,165	2%	2,380	4%	827	1%	239	11%
Lake County-Southwest	**4,915**	**0%**	**1,844**	**1%**	**2,356**	**1%**	**1,507**	**1%**
Wauconda Township	951		196		237	13%	304	
Fremont Township	1,983		848	1%	822		132	
Cuba Township	274		87		172		348	3%
Ela Township	1,707		713		1,125		723	
Lake County-Southeast	**13,795**	**1%**	**16,323**	**2%**	**7,504**	**2%**	**1,289**	**4%**
Liberty Township	3,463	1%	1,794		1,258	4%	190	
Shields Township	454		1,147		344		64	
Vernon Township	8,745	1%	2,521	1%	2,973		734	7%
Moraine and West Deerfield Townships	1,133		10,861	3%	2,929	3%	301	

Table 7: Estimate of Mode Share of Transit-Only Scenario Using Regional Benchmarks

Origin-Station	All Trips	Transit Trips	
		Low-End	High-End
Kenosha	0	0	0
Antioch	35	1	5
Fox Lake	622	12	93
Waukegan	9	0	1
Prairie Crossing	217	4	33
Mundelein	587	12	88
Palatine	19,625	393	2,944
TOTAL	**21,095**	**422**	**3,164**

The total number of expected transit trips using the regional benchmarking represents a small portion of the overall trips in the study area and the Transit-Only Scenario is underutilized and does not support the Purpose and Need for the Project.

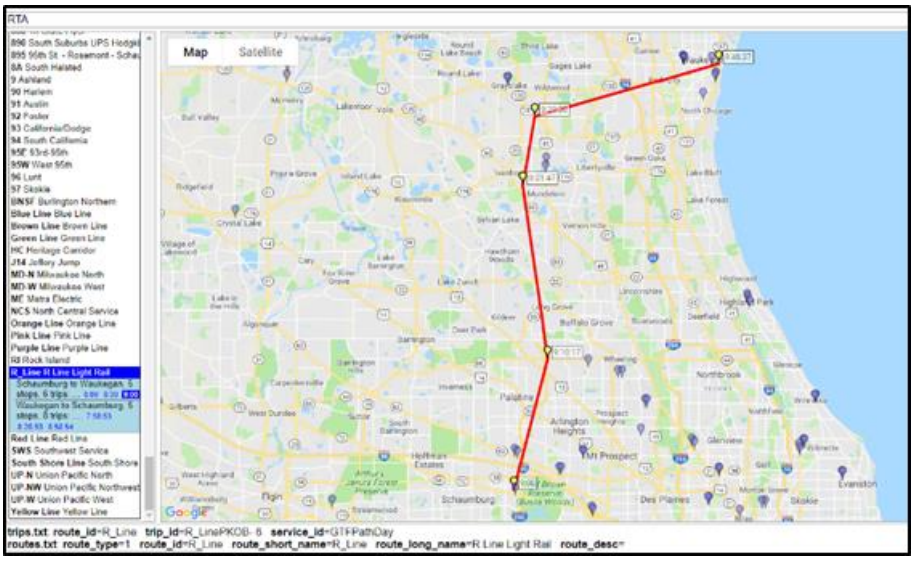
4.2 Transit Ridership Assessment – Using STOPS Model

Like the regional benchmarking assessment, evaluations from the STOPS model resulted in similar estimates of transit mode share and shifts for the proposed new Transit-Only Scenario. A diagrammatic representation of the Transit-Only Scenario in the STOP model is shown in Figure 4.

The STOP model was calibrated to develop ridership estimates for existing year and forecast year 2050 for the TCA study area. The existing year network represented the existing transit system to include all regional transit services, demographic considerations and travel times. The Transit-Only Scenario was

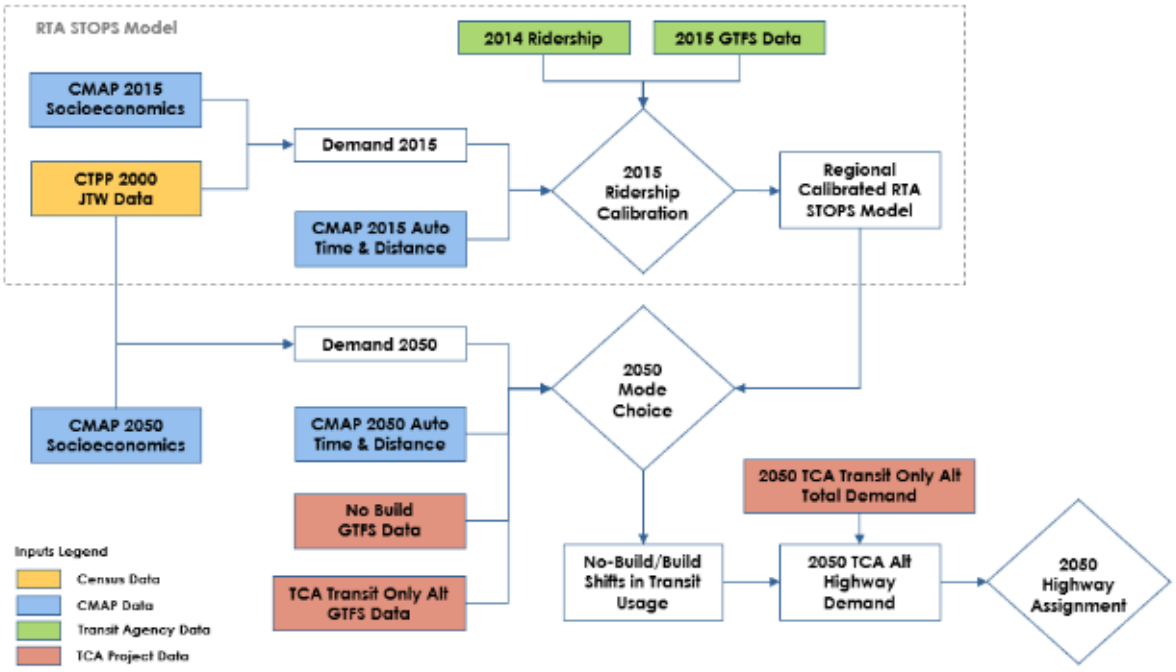
coded into the existing network as well as the forecast year 2050 network in the calibrated regional STOPS model.

Figure 4. Transit-Only Scenario – STOPS Model



The flow-chart in Figure 5 describes the process, input and assumptions for the TCA study area STOPS model that was utilized to generate estimates of transit ridership for the Transit-Only Scenario for the Project.

Figure 5. STOPS Model (Process, Inputs and Assumptions)



Evaluations from the STOPS model resulted in transit mode share and shifts for the proposed new Transit-Only Scenario like the benchmark approach described in Section 4.1. Ridership for the new Transit-Only Scenario was concentrated around the station locations along the proposed route. The total estimated ridership for the new Transit-Only Scenario ranged from approximately 1,500 daily trips, in the existing condition, to about 1,700 trips, in the 2050 forecast year, for the TCA study area. Table 8 summarizes daily boarding estimates by station locations along the proposed Transit-Only Scenario using the STOP model.

In addition to the overall estimate of transit trips by station location, the STOPS model generated transit mode share and shifts based on trip type and vehicle ownership for the TCA study area. Table 9 summarizes estimates of ridership and mode shifts by vehicle ownership and Table 10 summarizes estimates of trip type for the TCA study area.

Table 8. Daily Estimate of Transit-Only Scenario Boarding

Station Location	Existing Year	Forecast Year (2050)
Waukegan Center	225	275
Prairie Crossing	275	300
Mundelein Center	125	150
Palatine Center	450	475
Schaumburg NW	450	475
Total	**1,525**	**1,675**

The highest transit mode share is expected with households with access to two or more automobiles and the highest utilization are home-based trips, which account for about 65 percent of all the transit trips for the proposed new service.

Both the STOPS model and the benchmarking approach represent a small percentage of total trips utilizing transit and marginal mode shifts from automobiles for the proposed new Transit-Only Scenario.

Table 9. Transit Mode Shift by Vehicle Ownership

Vehicle Ownership	Existing Year Trips	Percent of Project Trips by Car Ownership	Forecast Year (2050) Trips	Percent of Project Trips by Car Ownership
0 Cars	125	8	125	8
1 Car	400	25	425	25
2 Cars	1,000	67	1,125	67
Total	**1,525**	**100**	**1,675**	**100**

Table 10. Transit Mode Share by Trip Purpose

Trip Purpose	Existing Year Trips	Percent of Project Trips by Trip Purpose	Forecast Year (2050) Trips	Percent of Project Trips by Trip Purpose
HBW	1,000	65	1,100	65
HBO	425	28	450	28
NHB	100	7	125	7
Total	**1,525**	**100**	**1,675**	**100**

5.0 Cost Considerations

In addition to underutilization of the proposed new Transit-Only Scenario, cost considerations of a new transit service depend on several contributing factors, including but not limited to:

- Geography
- Land Use Patterns
- Density (Population and Built-Environment)
- Environmental Constraints
- Right-of-Way Acquisition

However, despite the differences that make each transit project unique, the rough order-of-magnitude (ROM) cost for a new transit service can often be estimated by considering its mode. For example, a BRT system is often associated with lower capital and operating costs than its light rail counterpart.

Table 11 below provides an overview of the ROM costs for three different transit modes, including a high and low estimate for each cost component. The cost ranges provided here were aggregated from a variety of different transit projects completed throughout the United States.

Table 11. ROM Cost Estimate for Different Transit Modes

Cost Component (Per Route-Mile)	Bus Rapid Transit		Light Rail		Commuter Rail	
	Low	High	Low	High	Low	High
Capital	$5,000,000	$25,000,000	$40,000,000	$160,000,000	$2,000,000	$26,000,000
Annual Operating	$250,000	$1,000,000	$1,000,000	$5,000,000	$500,000	$1,600,000

As mentioned, Table 11 shows that BRT has both a lower capital and operating cost than light rail, whose costs are relatively high compared to the other modes. The high capital cost of light rail can likely be attributed to its construction in dense, urban environments where right-of-way acquisition can be particularly challenging. The costs in Table 11 however are by no means a rule, and only serve as a representative ROM based on reported costs from transit projects throughout the nation. Exceptions to these costs exist, such as the Portland-Milwaukie light rail service in Portland, Oregon whose capital costs exceeded $200 M per route-mile.

The proposed Transit-Only Scenario described in the following sections, however, does not yet fit into any of the three transit mode categories provided above. At this stage of the TCA Project, the Transit-Only Scenario is an idealized, mode-agnostic service connecting popular destinations in the TCA study area. Considering the length of the proposed Scenario, the costs provided in Table 11 only serve as a ROM for what the Scenario might cost if implemented as any of the three different transit modes.

To provide additional context, the cost information for three different transit projects has been collected. Two of these projects are local, Chicago projects that provide a sense for the magnitude of costs associated with new, regional transit proposals. In addition, a third project implemented in Phoenix, Arizona was included as an additional point of reference.

- **Pulse Milwaukee Line (Pace Bus):** This 7.6-mile BRT service in Chicago, Illinois will operate in mixed traffic along Milwaukee Avenue between the Golf Mill Shopping Center and the Jefferson Park Transit Center. The Pulse Milwaukee Line is currently under construction and is expected to begin operation in 2019. This service will combine a variety of BRT features (e.g. limited-stop service) and other roadway improvements.
- **Initial Segment (Valley Metro):** This 20-mile, 28-station light rail service was launched in 2008 to connect Phoenix, Arizona with other regional cities and destinations. Users of the system were provided with nine park-and-ride locations from which the transit service could be accessed. At the time of construction, it was the longest starter line in Federal New Starts grant history.
- **STAR North (Metra):** This proposed 32-mile, 9-station rail service would follow an existing freight route between Waukegan and Hoffman Estates in the Chicago, Illinois metropolitan area. This proposed route has the most similarities with that of the Transit-Only Scenario. The STAR North service would also provide two connection points to existing Metra services that currently operate radially between downtown and the northern suburbs.

Table 12 provides an overview of the capital and operating costs for these three transit projects. For the two local services that are either proposed or currently under construction, the costs provided are estimates. The costs for the Valley Metro light rail service are based on actual reported costs.

Table 12. Transit Project Capital and Operating Costs

Transit Project	System Characteristics		Capital Cost**		Annual Operating Cost	
	Miles	Weekday Riders	Total	Per Route-Mile	Total	Per Route-Mile
Pulse Milwaukee*	7.6	N/A	$14,000,000	$1,842,105	$1,580,000	$207,895
Initial Segment	20	44,029	$1,840,000,000	$92,000,000	$35,300,000	$1,765,000
STAR North*	32	4,700	$1,480,000,000	$46,250,000	$18,900,000	$590,625

* Proposed or currently under construction, all costs and rider characteristics are estimated

** All capital costs transformed into current year (2019) dollars, using a 2.5% inflation rate

6.0 Summary

The proposed Transit-Only Scenario concept represents an optimistic and aggressive scenario for a stand-alone transit improvement for the TCA Project. However, based on the land use characteristics, demographics, and consumer behavior, the TCA Project study area does not support a stand-alone transit option. Findings from both the STOPS model and the benchmarking approach do not support significant transit ridership demand in the TCA Project study area, which is similar to findings from other studies undertaken by RTA and other transit agencies in the region. In addition, the analysis costs and service effectiveness for a Transit-Only Scenario suggests that the capital and operational costs of implementing a transit-only service outweigh the utilization in the TCA Project study area.

Hence, it was recommended that a Transit-Only Scenario be dropped from further consideration, and that the TCA Project focus on a suite of improvement packages including multi-modal solutions that were best suited to accommodate travel needs and desires in the TCA Project study area.

Attachment 1

Transit Framework for the Tri-County Access (TCA) Project

The intent of the TCA Project specific Transit Framework is to provide guidance on TCA study area transit priorities, assumptions and performance related to the identification, development and evaluation of transit improvements to be considered as part of the alternatives study process.

The guiding principles of the Transit Framework include:

- Understanding the TCA Project study area characteristics and influences on the transit system
- Developing a Transit-Only Scenario that would attempt to optimize the ridership to address Purpose and Need
- An initial testing and evaluation of a Transit-Only Scenario using the "best-case scenario" by utilizing best practices and benchmarking approaches
- Identifying and developing complimentary transit opportunities along with roadway improvements to address Purpose and Need

Understanding TCA Study Area Characteristics

The TCA Project Transit Framework is built around the regional transit agencies (RTA, Metra and Pace) policies and priorities identified as part of the regional ON TO 2050 process. The Transit Framework for the TCA Project will be based on study area characteristics that represent travel demand and land use characteristics that reflect:

- Population and employment density
- Travel patterns in the study area and interrelationship between the study area and rest of the region
- Transit system and usage
- Regional planning process and anticipated improvements

The Transit Framework will use the characteristics of the existing transportation system, travel behaviors, as well as land development patterns. The predominant development pattern throughout much of the study area is medium-density dispersed development. Transit usage, which accounts for two percent of daily trips within the study area, has been hindered by low-density residential development that currently exists over large swaths of the study area. The transit system in the study area (particularly commuter rail) has served the downtown Chicago area well, but low-density housing has grown and will continue to expand farther north and west. Suburban employment centers within the study area may represent opportunities to implement new transit services, however, the productivity of such services will be influenced by residential development patterns, parking costs and the willingness of potential transit patrons to transfer between connecting modes and services. The development of the transit alternatives will utilize study area conditions and opportunities for improving the regional transit throughout the development of the transit alternatives.

The evaluation will identify travel patterns, trip characteristics, location and extent of major problems, and factors contributing to the transportation problems. In addition, the following regional plans will be reviewed for planning consistency:

- Lake County Transportation Improvement Project Draft Environmental Impact Statement
- CMAP ON TO 2050 Plan
- RTA 2018-2023 Strategic Plan: Priority Projects
- Pace Vision 2020
- Metra Benefit-Cost Study Report

Initial Testing and Evaluation of a Transit-Only Scenario

The transit framework proposes for developing a Transit-Only Scenario utilizing the protected corridor connecting regional destinations centers between Schaumburg and Waukegan area. The Transit-Only Scenario represents the "best-case scenario" that would provide dedicated transit right-of-way and attempt to optimize the ridership and utilization in the TCA study area. Initial testing and evaluation of such a scenario will provide stakeholders an understanding of potential mode shift from auto to transit and the extent to which the best-case Transit-Only Scenario can address Purpose and Need.

The initial testing and evaluation of the best-case Transit-Only Scenario will utilize a combination of qualitative and quantitative approaches to determine ridership, mode shifts and impact on auto travel on the transportation network. Development, testing and evaluation of the Transit-Only Scenario will use local, regional and national benchmarking approaches and travel demand modeling to assess ridership, transit demand and auto travel impacts/benefits on the roadway network. In addition, other regions with comparable transportation conditions that are utilizing recent transit system improvements will be used to refine and develop the Transit-Only Scenario.

Some of the potential comparable systems to be considered include:

- Bus Rapid Transit Systems: Alum Rock/Santa Clara BRT, California; Em-X, Oregon; MAX, Kansas; Mid-City Rapid, California
- Express Bus Systems: Freeway Flyer, Wisconsin; Red Line, Minnesota; Route 237, California

A technical memorandum detailing the process, procedures, and assumptions used in the development, testing and evaluation of the Transit-Only Scenario for the TCA Project will be prepared as part of the alternatives development and evaluation report.

Complimentary Transit Opportunities and Roadway Improvements

The TCA Project will examine the compatibility of expanded transit service with the area's land use, travel characteristics and determine how transit can be included as an element of a multi-modal solution. Multi-modal solutions may include expanded bus and shuttle service, bicycle and pedestrian accommodations and complementary demand management strategies. Based on findings from the best-case scenario for the Transit-Only Scenario concept, a range of transit alternatives representing complimentary transit opportunities along with roadway improvements will be developed as part of the alternatives development process. Components from the Transit-Only Scenario concepts will be integrated into the combination strategies where appropriate using best practices and findings from comparable systems, representing multi-modal transportation solutions. The complimentary transit opportunities and roadway improvements will be evaluated as part of the overall alternative package that best addresses the Purpose and Need for the TCA Project.