Chapter 7
Transportation

Vision

In the year 2020, Lake County will have a development pattern and transportation system that provides a variety of living and transportation choices, meets the mobility needs of all residents, and minimizes adverse environmental impacts.

Significance

Traffic congestion on the highways and roads in Lake County poses a threat to the local economy and quality of life. Traffic congestion was amongst the issues most frequently mentioned by participants at the *Regional Framework Plan* Public Forums. "Less traffic congestion" was identified as the second most important quality of life factor in a Lake County Resident Transportation Survey conducted by the Department of Communications in 2000. The emphasis of this chapter is on the need to provide a land use pattern and other policies in order to provide more transportation options and ease existing traffic congestion.

Transportation planning is a complex process involving federal, state, regional, county, and local agencies. The County Board has adopted a Lake County Year 2020 Tranportataion Priority Plan that includes county highway, transit, and bicycle options. The regional commuter rail service, Metra, is also planning several system expansions to help meet Lake County's growing transportation needs.

This chapter considers the following issues: land use and transportation, roadway system, transit services, bicycle and pedestrian transportation, air transportation, marine transportation, freight transportation, transportation services for the aging and disabled persons, and transportation funding. Roadway, transit, and bicycle improvements to serve existing and future populations are already planned for in the Lake County *Year 2020 Tranportataion Priority Plan*. This plan focuses on the need to provide a land use pattern and other policies in order to provide more transportation options. Decreasing dependency on automobiles will reduce the growth in traffic congestion, fuel consumption, and air pollution. These options will help break the cycle of road construction, inappropriately located low-density development, and traffic congestion. The need to improve the County's roadway system is documented in the adopted *Year 2020 Tranportataion Priority Plan*.

Issues and Opportunities

- Increased traffic congestion on roadways throughout Lake County is having a negative impact on the local economy and quality of life.

- Economic development, while necessary and desirable, causes increased travel and traffic congestion.

- Commercial and residential development have regional transportation impacts that extend beyond municipal, County, and state boundaries.

- An opportunity exists to focus residential and retail development in areas accessible to transit and employment centers.

- An opportunity exists to locate new employment near existing concentration of housing to reduce the need for long commutes.

- An opportunity exists to coordinate bike paths, bike lanes, sidewalks, and parks to link communities, open space, and employment centers to encourage more bicycle and pedestrian travel.

- Waukegan airport and harbor serve vital transportation needs, and provide substantial economic benefits, but the facilities are potentially inconsistent with existing and proposed uses of surrounding properties.

- Limited transportation options (including transit infrastructure) may have negative impacts on the local economy, environment, and quality of life and poses additional problems for persons who do not own a car or who cannot drive.

- Numerous municipalities, townships, and social service agencies provide transportation services for senior citizens and persons with disabilities, however, these services have many limitations and may be inefficient.

- Funding is critical for improving the transportation system.

- There is an opportunity for Pace and Metra to partner with municipalities to create satellite parking lots in communities that do not have commuter rail stations and to provide shuttle bus service to existing stations.

- An opportunity exists to manage and operate transportation systems with in Lake County to reduce congestion and enhance emergency response by using Intelligent Transportation Systems (ITS).

Analysis

Traffic congestion on the highways and roads in Lake County poses a threat to the local economy, environment, and quality of life. A study by the Texas Transportation Institute reported that the Chicago region suffers from the third worst travel time delay in the nation (Shrank and Lomax, 2002:56). Locally, the vast majority of residents—80% of respondents to the *Lake County Resident Transportation Survey*—feel traffic has gotten worse in the last few years. Fifty-two percent of County residents report that traffic in Lake County limits their activities (Lake County Department of Communications, 2000:np). Despite the efforts of state, regional, County, and local transportation and transit agencies, the transportation and mobility needs of Lake County residents are not being met. Transportation improvements and alternatives are needed to serve Lake County's existing residents and businesses, regardless of future population and employment forecasts.

Environmental Impacts of Transportation

Necessary transportation improvements should be designed to minimize environmental impacts. Lake County's *Year 2020 Tranportataion Priority Plan* (*2020 TPP*), which was developed by the

Lake County Division of Transportation and was adopted by the Lake County Board on June 11, 2002, contains the following goal and objectives for minimizing negative environmental impacts and improving air quality:

> "Environmental Impacts: Develop a transportation system that complements the natural and cultural environment.
>
> 1. Evaluate transportation projects based on their potential environmental impacts and positive contribution to the quality of life of Lake County residents.
>
> 2. Minimize housing or business displacement resulting from transportation improvements.
>
> 3. Promote improving air quality by developing a transportation system designed to minimize average travel times and congestion.
>
> 4. Proactively plan future stormwater runoff detention needs, and evaluate transportation projects based on the environmental impacts and engineering feasibility of proposed watershed management actions." (LCDOT, 2002a:np).

As documented in Chapter 4, Environmental Resources, Open Space, and Farmland, the Chicago Metropolitan Area, which includes Lake County, is classified as a "severe" non-attainment area for ozone. Mobile sources, including both on-road vehicles and off-road equipment, contribute 83% of the total anthropocentric ozone precursor emissions on a typical summer day, based on 1996 Illinois Environmental Protection Agency Data.

The Chicago Area Transportation Study (CATS), as the Metropolitan Planning Organization (MPO) for the northeastern Illinois region, is charged with the responsibilities of developing the Regional Transportation Plan (RTP) and the annual and multiyear Transportation Improvement Program (TIP). CATS is required by federal regulations to demonstrate, through air quality conformity analysis, that through implementation of the RTP and the TIP the region is in compliance with the State Implementation Plan (SIP) to attain the National Ambient Air Quality Standards (NAAQS) for ozone by the year 2007. A determination issued in October of 2003 by the United States Department of Transportation found both the 2030 RTP and the 2004-2009 TIP to be in conformance with the SIP (Powell, 2003A, personal communications).

Desirable land use patterns, as discussed in the next section, can reduce automobile travel and air pollution. In addition, Lake County residents and businesses should be encouraged to reduce their air pollution contributions by purchasing fuel-efficient and alternative fuel vehicles, car pooling, driving during off-peak hours, and reducing overall automobile travel.

To address community and environmental concerns, state and local transportation agencies are increasingly engaging in the practice of "context sensitive design." "Context sensitive design (CSD) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility" (FHA, 2003:np). Context sensitive design encourages the implementation of creative transportation solutions to meet travel demand and community desires.

Lake County Division of Transportation has employed these practices for the last few years (Powell, 2003B, personal communication). Examples include planted medians and parkways,

aesthetic bridge designs, and extensive public and property owner involvement in recent construction projects. The state of Illinois is also moving towards requiring context sensitive design for state projects. The Illinois Highway Code[1] requires that state transportation projects be designed to meet transportation needs, exist in harmony with their surroundings, and add lasting value to the communities they serve. The Department of Transportation is required to use principles of context sensitive design for the planning, design, construction, and operation of its projects for new construction, reconstruction, or major expansion of existing transportation facilities.

Land Use and Transportation

Land use is key to understanding Lake County's transportation needs. Population and employment trends and forecasts, which will drive future development, are described in detail in Chapter 2, Population, and Chapter 3, Economy and Employment, of this *Plan*, respectively. In transportation planning terms, residential areas are "trip generators" or "origins"; employment centers are "trip attracters" or "destinations." Population and employment forecasts will be represented spatially on the Future Land Use Map in Chapter 9, Land Use. To the greatest extent possible, the Future Land Use Map will be developed to present a transportation efficient regional land use pattern.

In addition to residential and employment growth, land use patterns greatly influence transportation needs. The relationship of jobs to housing within a community and between communities determines travel patterns, particularly during morning and afternoon peak travel times. At the local level, the physical proximity, relationship, and design of residential and non-residential land uses affect trip lengths and choice in mode of travel.

Just as land use decisions effect transportation, transportation projects can influence land use. Major transportation improvements, such as expressway interchanges, can spur growth by opening new areas to development. Such an improvement in the correct location could be utilized to encourage desirable business development. Major transportation projects must be carefully planned and coordinated with other infrastructure improvements and land use regulations to ensure they serve existing demand and desirable land uses.

Lake County's 2020 TPP contains the following goal and objectives for land use and transportation:

> "Transportation and Land Use: Develop a transportation system that serves existing land use development and supports future land development consistently [sic] with County and municipal land use planning.
>
> 1. Promote connectivity between residential and employment developments and between major activity centers.
> 2. Promote appropriate functional development of future arterial and collector roadways as adjacent land uses change and developments occur in developing sections of Lake County" (LCDOT, 2002a:np).

The *Regional Framework Plan* builds on these recommendations by suggesting that land use and developments should be designed to make efficient use of existing and future transportation systems and to provide maximum transportation options. This will become increasingly relevant

[1] Public Act 93-0545, effective January 1, 2004

as traffic congestion in Lake County continues to worsen, despite major roadway improvements. (See the following section on the Roadway System.)

A transportation efficient regional land use pattern will provide choices for housing, shopping, working, and modes of transportation and protect the environment. This land use pattern will channel development into desirable locations rather than promoting inappropriately located low-density development across the entire County. Desirable locations are those with good access to transit or jobs and limited priority for open space, as presented in Chapter 4, Environmental Resources, Open Space, and Farmland, and depicted on the Priority Open Space Map.

To the extent possible, neighborhoods and communities should be designed to provide residents with options regarding where to live, work, and shop and to provide residents with choices regarding how to travel (walk, bicycle, transit, or automobile). "More intensive mixed-use development alone can allow an increase in walking and bicycling within the neighborhood; when a transit connection is added to the mix then auto-free travel to other parts of the metropolitan area becomes more feasible" (Belzer and Autler, 2002:1).

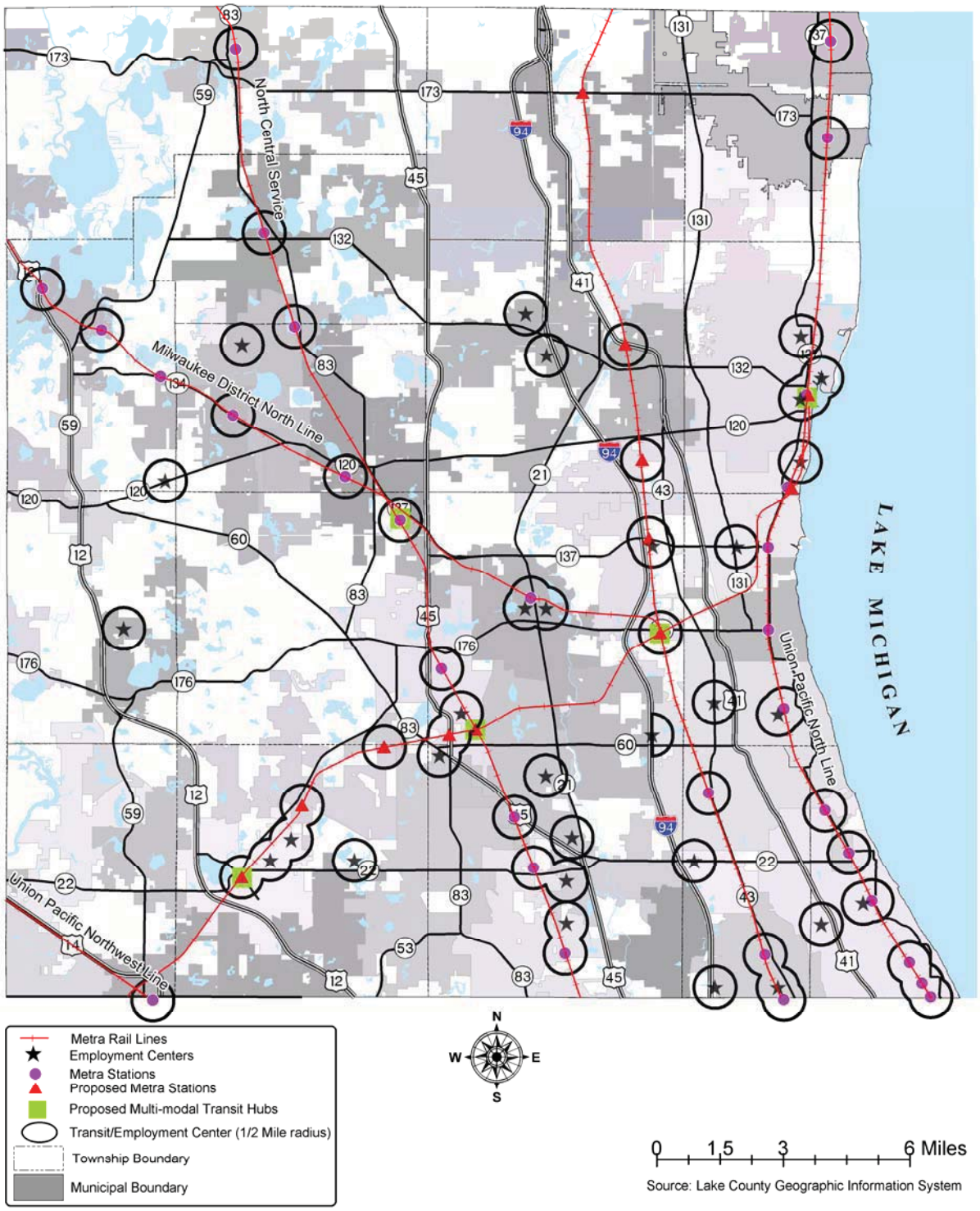
In areas where transit is available, neighborhoods can be designed as Transit Oriented Developments (TOD), which "is a general term used to describe land uses that are designed and located to encourage the use of public transit." (Chicago Area Regional Transit Authority, nd:np). In areas without transit stations, residences and retail can be designed around employment centers to provide mixed-use Employment Oriented Developments (EOD).

Figure 7.1 designates areas within 1/2 mile of Lake County transit and employment centers, which may be appropriate for TOD or EOD development. The transit centers include existing and proposed Metra commuter rail stations, where transit center designation is supported by County and local officials. Transit centers also include the five multimodal transportation hubs included in Lake County's *Year 2020 Transportation Priority Plan*. These hubs are located in Rondout, Prairie Crossing, Waukegan, South Mundelein-Vernon Hills, and Lake Zurich. The employment centers include quarter sections with 2,000 or more employees. Employment centers have been added and excluded based on input from County and local officials. Quarter-section employment is based on Northeastern Illinois Planning Commission data, which is presented in detail in Chapter 2, Population. This employment includes public and private sector jobs, domestic employees, and self-employed persons. It includes full and part-time jobs, as well as second jobs.

The areas around many rail stations and existing employment centers are already developed. Consideration should be given to the potential for infill development, redevelopment, and new development, as appropriate, around rail stations and employment centers. While TOD and EOD are not appropriate for all areas of the County, it may be an attractive option in many places. Placing new homes near transit or jobs does not create Transit or Employment Oriented Developments. To achieve the benefits of these locations, neighborhoods must be carefully designed to encourage walking, bicycling, bus, and rail service, and use of local employment and shopping opportunities. Design standards and land use guidelines for transit and employment oriented developments will be further discussed in Chapter 9, Land Use, and Chapter 10, Community Character.

A transportation efficient land use pattern is not a mandate that people live near work or ride the train. Some persons will take advantage of these opportunities; others will not. While not specifically tied to TOD or EOD developments, programs such as Location Efficient Mortgages (LEM) and Employer-Assisted Housing (EAH) may assist and encourage persons to live near work or transit. Large companies also have a responsibility to locate their facilities near appropriate workforce and transit to minimize the need for long automobile commutes.

Figure 7.1
Transit and Employment Centers



It is important to plan for a land use pattern that provides future transportation options to the automobile. If persons do not choose to take advantage of opportunities now, they may choose to do so in the future as traffic congestion in Lake County continues to increase. (See the following section on the Roadway System.) The land use pattern is established over a long time period and cannot be quickly changed in response to worsening congestion.

Roadway System

According to the 2000 Census, 86.5% of Lake County workers commuted to work by automobile. Of these persons, 88.3% drove alone and 11.7% carpooled. Nationally, 87.9% of persons commute to work by automobile, which has increased from 77.7% in 1970. In Lake County, the percent of persons commuting to work by automobile would be even higher except for the Great Lakes Naval Training Center, which contains a large number of persons who walk to work. Work trips, while only a portion of all trips, are the major cause of peak hour congestion on the roadway system.

Regardless of efforts to create transportation efficient regional land use patterns and improve other transportation modes, the roadway system in Lake County still needs to be enhanced to serve existing and future development. Between 1990 and 2001, vehicle miles traveled on County Highways increased by 67% (LCDOT, 2002b:4-5). During the same time period, lane miles of County Highways increased by only 23% (LCDOT, 2002b:4-9). While comparable data is not available from the Illinois Department of Transportation, enhancements to state maintained roads have also lagged relative to the increasing use. State maintained roads, including state highways, U.S. highways, and interstate highways, are as congested as County maintained roads.

Congestion of the roadways within Lake County is also influenced by trips originating and/or ending outside of the County. Presently, about 50% of the 1.73 million trips on the Lake County roadway network start and end within the County; the other one-half either leave, enter, or pass through the County (LCTIP, 2002:1-5). This volume of pass through traffic is indicative of Lake County's important role in a large metropolitan economy. A large number of persons commute into and out of the County everyday for employment, shopping, entertainment, and other needs. Efforts to address traffic congestion solely within the County boundaries will be unsuccessful. Transportation planning and improvements need to be coordinated on a regional scale that also includes the states of Illinois and Wisconsin.

If not addressed, congestion will continue to negatively impact Lake County's economy, environment, and quality of life. Unchecked congestions will cause additional urban sprawl. "Congestion… causes urban development to spread more than it otherwise would because firms and workers try to reduce travel times by decentralizing jobs and housing" (Downs, 1992:2). Inappropriately located low-density development will consume additional land and, ultimately, trigger another phase of road extensions.

The Illinois Department of Transportation and Illinois State Toll Highway Authority commissioned the *Lake County Transportation Improvement Program* (LCTIP) study to identify major transportation improvements that will address congestion and mobility problems on state maintained roads (LCTIP 2002:1). The LCTIP process resulted in two finalist roadway alternatives: 1) extending IL 53 as a Freeway or Tollway; or 2) improving IL 83/U.S. 45 and U.S. 12 along existing and new alignments. Both options incorporate east-west travel improvements by widening IL 120 and providing a Grayslake bypass.

Some environmental groups, such as the Sierra Club and the Environmental Law and Policy Center, have criticized the LCTIP. The Environmental Law and Policy Center commissioned a

two volume alternative transportation study known as "Crossroads: Smart Transportation For Lake County" (Resource Systems Group, 1999).

Because the roadways under consideration in the LCTIP are state responsibilities, the Lake County Board has determined that it will not take a position on the roadway alternatives. Instead, the County developed a *Year 2020 Tranportataion Priority Plan* (2020 TPP). The 2020 TPP includes roadways, transit, and bicycle transportation options to coordinate with either LCTIP alternative. Regardless of which LCTIP alternative is implemented, the improvements for County Highways do not change (LCDOT, 2002a:np). The 2020 TPP does not include recommendations for improving local (municipal or township) streets. The complete transportation recommendations contained in the 2020 TPP are not included in this *Regional Framework Plan*, as they represent adopted County policy. Copies of the plan can be obtained from the Lake County Division of Transportation located in Libertyville.

The Street and Highway Transportation Goal and Objectives from the County's 2020 TPP are listed below:

> "Street and Highway Transportation: Maximize the efficiency and safety of existing and planned roadway corridors and facilities.
>
> 1. Maintain Level of Service D[2] as the desired optimal roadway and intersection performance where possible. For locations operating below Level of Service D, pursue options to improve performance or prevent further service degradation.
> 2. Consider roadway and intersection improvements that increase capacity and reduce peak traffic congestion in order to preserve the existing roadway network. Once improvements to existing facilities have been exhausted, promote the development of new roadway and transportation facilities.
> 3. Promote projects that mitigate circuitous travel, reduce trip travel times, and manage the desire to use local roadways as "short-cuts".
> 4. For planned roadway improvements, coordinate roadway classification among state, County, and municipal jurisdictions to maintain consistency of the arterial and major collector roadway network.
> 5. Promote the development of projects that can improve safety at critical accident locations and can minimize overall accidents per vehicle miles of travel (VMT)" (LCDOT, 2002a:np).

Additional goals to improve the safety and efficiency of the County Highway system are included in the Transportation System Management (TSM) section.

Having many County highways operating at Level of Service D indicates that traffic congestion will be worsening in Lake County despite road improvements. This fact demonstrates the need to start developing a land use pattern that provides alternatives to the single passenger vehicle.

There is a noticeable difference in the arterial and local street patterns between the older developed areas and the newer developed areas of the County. "The [County's] existing roadway network east of the Tri-State Tollway corresponds to a more traditional, well-defined grid system.

[2] As used in transportation engineering, Level of Service (LOS) is a measure of the service or operation of a transportation facility from the perspective of the user of the facility. For signalized intersections, at Level of Service D, vehicles may be delayed for more than one signal cycle. For arterial roadways, Level of Service D is characterized as having average travel speeds of about 40% of free-flow travel speed.

However, west of the Tri-State Tollway, the network is less orderly…" (LCTIP, 2001:2-21). Older communities such as Highland Park, Lake Bluff, North Chicago, Zion, and the eastern portions of Waukegan have well defined local grid-patterned street networks. West of the Tri-State Tollway, older portions of communities, such as Libertyville and Mundelein, also have well defined local grid-patterned street networks. In newer developed areas, streets tend to be organized in branching patterns, where many local streets end in cul-de-sacs and collector streets do not extend for long distances.

The interconnected street network east of the Tri-State Tollway provides many travel options for making an automobile trip. "By nature of the roadway network, west of the Tri-State Tollway, travel tends to be more circuitous with limited travel route choices" (LCTIP, 2001:2-21). All travel is forced onto arterial streets thereby worsening congestion and increasing travel distances. The County and municipalities should require appropriate street interconnections between adjacent neighborhoods through the subdivision and site plan approval processes. These street interconnections should be designed so as to not facilitate traffic cutting through residential neighborhoods.

Development along arterial roadways also influences their capacity and level of service. Driveways and building entrances create conflicting vehicle movements that reduce average travel speeds along a route segment. The County and municipalities should carefully plan for driveway and entrance points to minimize disruptions to traffic flow along arterial roadways. Where appropriate, access roads and interconnected parking areas should be provided to minimize entrances and allow vehicles to move between adjacent businesses without utilizing the arterial roadway.

Transit Services

According to the 2000 Census, in Lake County, just 4.4% of workers commuted to work using transit services. This is comparable to the national average of 4.6%, which is down from 8.5% in 1970. The low intensity of land uses throughout much of Lake County makes it difficult to provide efficient transit services to many areas of the County.

Transit services in Lake County are provided by Metra and Pace. Metra is the commuter rail division of the Regional Transportation Authority (RTA). Metra operates three commuter rail lines that serve Lake County. These lines are the: 1) Union Pacific (UP) North Line; 2) North Central Services; and 3) Milwaukee District North Line, as shown in Figure 7-2.

To help meet Lake County's growing transportation needs Metra is planning several system expansions. Metra is upgrading service on the North Central Service from Chicago to Antioch. Metra is also analyzing the feasibility of establishing two additional commuter rail services including: 1) an outer circumferential commuter rail service along the Elgin, Joliet, and Eastern (EJ&E) railway corridor; and 2) an extension of the Milwaukee District North Line from Roundout through the Village of Wadsworth. The Southeastern Wisconsin Regional Planning Commission (SEWRPC) is considering the extension Metra's Union Pacific North Line from Kenosha to Milwaukee.

Metra's North Central Service Upgrade will approximately double the number of scheduled trains from the current 10 trains per weekday to 19 to 22 trains per weekday. The service upgrade requires installation of additional track (double-tracking) along segments of the line and expansion of the operating capacity of existing track. The project is expected to cost $226 million. Sixty percent of the funding is being provided by federal New Start transportation funding. Construction is in progress and scheduled to be completed by the end of 2005. The

expanded schedule will allow one additional peak hour train in each direction; one reverse train departing Chicago around 7:00 a.m. with the return inbound train arriving in Chicago after 6:00 p.m.; and enhanced midday service operating approximately every two hours. The service upgrade is expected to increase passenger boardings from 5,000 per day to 8,000 per day by 2008. The service upgrade will not provide for weekend service. Additional ridership demand would be required to justify weekend service (Ciavarella, 2003, personal communication).

The *Outer Circumferential Commuter Rail Feasibility Study* evaluated the potential for using the Elgin Joliet and Eastern (EJ&E) railway corridor for future commuter rail service (T-Y-Lin International-Bascor, 1999:ES-1). The EJ&E corridor, which passes through portions of Cook, Will, DuPage, and Lake counties, extends around the Chicago region in an arc approximately 106 miles long and located approximately 35 miles from the Center of Chicago (T-Y-Lin International-Bascor, 1999:ES-1). Within Lake County, the corridor extends southwest from its origin in Waukegan. From Lake County, the corridor continues south to Joilet and then west to Lynwood.

The *Wadsworth Extension Commuter Rail Feasibility Study* examined the potential for establishing commuter rail service using the existing Canadian Pacific corridor. The proposed service would extend north from Metra's existing Milwaukee District-North Line from Roundout through the Village of Wadsworth (T-Y-Lin International, 2001:ES-1). This service would include a potential new station near Roundout just north of Rockland Road. This station would serve the existing Milwaukee District North line, as well as the Wadsworth extension.

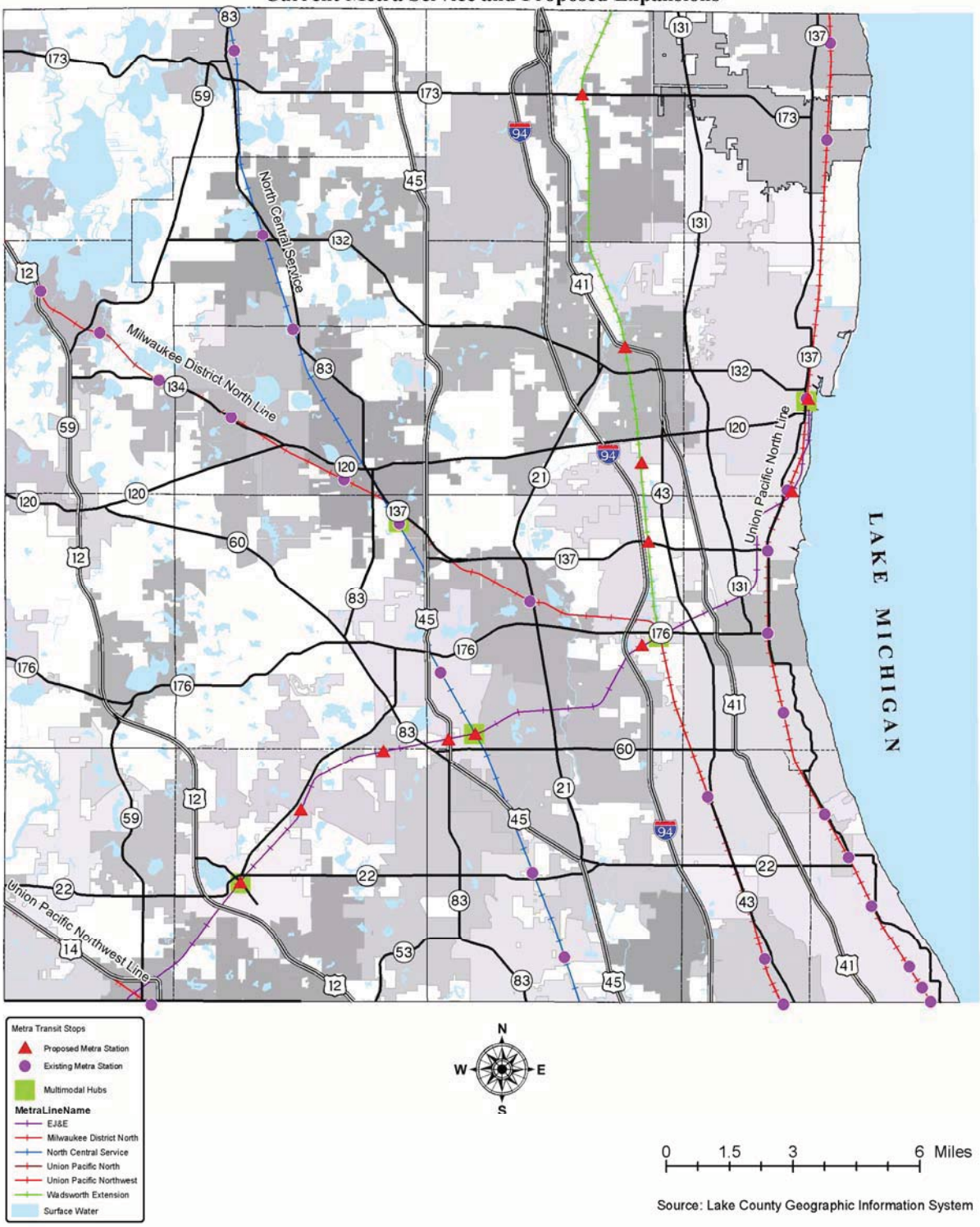
Based on the available data, both studies recommended that further analysis be conducted regarding the potential establishment of commuter rail service using the EJ&E and Canadian Pacific corridors (T-Y-Lin International-Bascor, 1999:ES-5; T-Y-Lin International, 2001:ES-7). This recommendation is based on the conclusion that in both cases commuter service appears to be physically feasible and that there is substantial local support, but also recognizing that there are significant capital costs involved (T-Y-Lin International-Bascor, 1999:ES-55; T-Y-Lin International, 2001:ES-59).

Potential station locations along the Wadsworth extension and the EJ&E are shown in Figure 7.2. The Lake County 2020 TPP incorporates commuter rail service on the Wadsworth extension and EJ&E as baseline transit priorities (LCDOT, 2002a:np). This *Regional Framework Plan* recommends that these commuter rail extensions continue to be studied and implemented, if feasible.

In 1998, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) conducted a feasibility study for providing commuter rail service in the Kenosha-Racine-Milwaukee (KRM) corridor (SEWRPC, 2003:5). This service would be an extension of the Metra's Union Pacific North Line from its current terminus in Kenosha with stations located in Somers, Racine, Caledonia, Oak Creek, South Milwaukee, Cudahy-St. Francis, and Milwaukee. SEWRPC has proceeded with analyzing transit alternative for the corridor and selection of a "locally preferred alternative." "The purpose of this study effort was to evaluate alternative commuter rail and bus services which would better connect the Kenosha, Racine, and Milwaukee areas to each other and to northeastern Illinois" SEWRPC, 2003:1).

SEWRPC 's Advisory Committee has recommendation that the commuter rail alternative with a medium level of service be implemented (SEWRPC, 2003:102 and 107). This alternative would provide seven inbound trains and seven outbound trains daily on weekdays and provide lesser service on weekends and holidays (SEWRPC, 2003:10). With the recommended level of service, the commuter rail could provide 1.1 million passenger trips per year (SEWRP, 2003:44).

Figure 7.2
Current Metra Service and Proposed Expansions



Beyond these major system expansions, transit usage can be increased by smaller improvements. The LCTIP study found that nearly 50% of Lake County's rail stations have insufficient parking (LCTIP, 1999:1-4). The study recommends that 5,500 parking stations be added at current rail stations (LCTIP, 1999:3-5). In situations where additional station parking will be disruptive to the local community, Lake Regional Forum participants suggested that satellite parking should be constructed in communities without commuter rail stations and that shuttle buses should be used to transport passengers to existing rail stations. Metra has plans to add 2,570 spaces at Lake County commuter rail stations. Nearly all of the parking enhancements are planned to accommodate increased usage associated with the North Central Service upgrade (Zingle, 2003:np). Additional parking upgrades are required to encourage full utilization of rail transit.

Bus service within Lake County is provided by Pace, which is the suburban bus division of the RTA. Pace provides fixed-route, dial-a-ride, paratransit, shuttle bus, and vanpool services (LCTIP:1999:4-14).Within the LCTIP study area, which includes Lake County and small adjacent portions of Cook and McHenry counties, Pace operates 36 fixed-route bus services and contracts for 14 dial-a-ride services (LCTIP:1999:4-14). Dial-a-ride services are further discussed in the "Transportation Services for the Aging and Disabled Persons" section of this chapter. In addition, Pace contracts with the City of Highland Park to provide fixed-route bus services along three routes (LCTIP:1999:4-14). Pace operates 33 vanpools in Lake County, with an assumed weekday ridership of 485 persons (LCTIP:1999:4-18).

Pace, in cooperation with the Lake Cook Transportation Management Association (TMA), Metra, and local businesses, also operates shuttle buses, known as "Shuttle Bugs" (LCTIP:1999:4-14). The Shuttle Bug system provides weekday rush-hour trips from four Metra stations to companies along the major corridors of Lake Cook Road, Half Day Road, Kennedy Road, and Willow Road. Employees of participating businesses get free access to the Shuttle Bugs. Other passengers pay cash fare. The TMA, Metra, and Pace are studying opportunities to add shuttle bus lines. These lines would serve additional employment centers from train stations on Metra's North Central Line (Scales, 2002:1). Additional shuttle bus lines should also be considered for other high-volume traffic corridors.

The Transit Services Goal and Objectives from the 2020 TPP are listed below:

> "Transit Service: Promote the use of public transit and other travel means as viable alternatives to single-occupant travel.
>
> 1. Identify transit demands throughout Lake County and coordinate the prioritization of needed transit service improvements consistent with the Regional Transportation Authority and its Metra rail and Pace suburban bus systems.
> 2. Promote transit projects that provide the greatest reduction in traffic congestion.
> 3. Promote transit projects that improve connections between major employment and residential areas. Promote transit projects that improve travel within the region, including commutes to Chicago and reverse commuting into Lake County.
> 4. Where possible, develop logical connections between all travel modes that include accessibility, transfer, and parking conveniences." (LCDOT, 2002a:np).

Municipal and township representatives believe that flexible transportation systems are more appropriate for Lake County than new fixed route bus systems. Local representatives expressed support for expanding van pool, dial-a-ride, and shuttle bus services. The 2020 TPP indicates

that, "An essential ingredient is to redirect [transit] efforts from fixed route bus transit service to providing interconnection throughout the County between Metra rail stations" (LCDOT, 2002a:np). The plan calls for establishing multimodal transportation hubs where current and future commuter rail lines will cross at Waukegan, Rondout, South Mundelein-Vernon Hills, Prairie Crossing, and the EJ&E Lake Zurich Station (LCDOT, 2002a:np). The five multimodal hubs are shown in Figure 7.1.

The changing demographics of Lake County (see Chapter 2, Population) may also create a greater demand for public transit. This growing transit demand will be primarily for transportation within and around a community (for shopping or to local employment centers) as opposed to regional transportation to jobs located in Chicago.

Transit use is strongly influenced by development patterns and neighborhood design. Encouraging compact development and appropriate neighborhood design in areas that are served by bus or commuter rail will encourage transit use. Encouraging development to occur in the area of potential new train stations, as opposed to elsewhere in Lake County, will help ensure the future viability of commuter rail service.

Bicycle And Pedestrian Transportation

A very small percentage of persons bicycle or walk to work or for other trips. According to the 2000 Census, 2.9% of workers walked to work, both nationally and in Lake County. The percentage of persons who walk to work in Lake County is greatly influenced by the presence of the Great Lakes Naval Training Center. Fifty-seven percent of all the persons who walk to work in Lake County reside in North Chicago. In Lake County, 0.14% of workers commuted to work via bicycle. Nationally, 0.38% of workers commuted to work via bicycle. The 1990 Nationwide Personal Transportation Study found that 7.2% of all travel trips (as opposed to just work trips) are made by walking and 0.7% by bicycling (Federal Highway Administration, 1994:VII).

The 2020 TPP includes a proposed countywide trunk system of bicycle paths that builds on the existing system of paths (LCDOT, 2002a:np). The bicycle and pedestrian network is intended to coordinate with the multimodal transportation hubs (LCDOT, 2002a:np). Chapter 4, Environmental Resources, Open Space, and Farmland, also contains goals and policies for developing an interconnected network of pedestrian and bicycle trails across the County. These trails should be connected across municipal, County, and state boundaries. To be useful for commuters (as opposed to recreational users), these paths need to be available for use during early mornings and late evenings, which may require addressing trail lighting and security.

The Bicycle and Pedestrian Goal and Objectives from the 2020 TPP are listed below:

> "Bicycle and Pedestrian Transportation: Maintain and develop pedestrian facilities and a continuous trunk system of bicycle facilities as an important means of transportation and recreational travel, thereby promoting their positive contribution to the quality of life in Lake County.
>
> 1. Where possible, include bicycle and pedestrian facilities as a system component of all transportation projects.
> 2. Develop a County trunk system utilizing both existing and proposed bicycle facilities to link major commercial, residential, recreational, cultural/historical and transit activity areas.
> 3. Use the County bicycle trunk system to provide inter-connection of existing municipal, County, and state bicycle routes.

4. Incorporate more "bicycle-friendly" facilities designed to reduce bicyclists' stress levels by limiting the bicycle interaction and conflicts with vehicular traffic." (LCDOT, 2002a:np).

Developers of residential and non-residential projects should be required to put in sidewalks and bicycle trails, as appropriate, during the development approval process. Sidewalks and trails should be provided along routes with bus service. To be useful for commuting year-round, sidewalks, bike paths, and bicycle lanes should be maintained free of snow and ice during winter months, as funding priorities permit.

Transit and Employment Oriented Developments (TOD and EOD) provide the best opportunities for facilitating bicycle and pedestrian transportation. Utilizing appropriate neighborhood design, such as networked street patterns, reduced building setbacks, and mixed-use, can promote walking and cycling in all areas of the County. The use of bicycles can also be promoted by allowing cyclists to transport their bicycles on transit. Pace should expand on its bike rack program to include all busses operating in Lake County. Metra should expand its bikes on trains programs to include all lines. To be useful for commuters (as opposed to recreational cyclists), this program needs to be available during peak travel times and not only on weekends.

Air Transportation/Airports

Lake County residents and businesses have access to two international airports with scheduled airline service. Chicago O'Hare International Airport is located 35 miles southwest from Waukegan. Milwaukee's General Mitchell Field is located 45 miles north from Waukegan. Both airports are accessible via expressways, although often traffic congestion creates significant delays in reaching O'Hare. This makes Mitchell Field an increasingly attractive option for business and personal travelers, particularly from northern Lake County. Lake County residents and businesses can also reach O'Hare via commuter train service. Metra's North Central Service, which extends from Antioch to Chicago's Union Station with eight stations in Lake County, has a stop at O'Hare on weekdays.

O'Hare airport is owned and operated by the City of Chicago. Air traffic congestion at O'Hare has begun to limit the number of daily flights in and out of O'Hare and also causes substantial delays for many scheduled flights. The possibility of expanding O'Hare, developing a new airport in south suburban Will County or Kankakee County, or both is being considered at the federal, state, and local levels. The Illinois Governor and Mayor of Chicago have developed an O'Hare modernization plan. The proposal includes constructing one new runway, relocating and extending several existing runways, expansion of the terminal, and providing a new western access highway to the airport. The modernization is estimated to serve airport demand possibly beyond 2030 (FAA, 2002:6).

Modernization of O'Hare will have the following effects on Lake County compared to the alternative of constructing a new airport in the south suburbs:

- Modernization of O'Hare would serve Lake County's existing population and businesses; a new airport in the south suburbs would be inaccessible to Lake County residents and business, particularly given existing road congestion.

- A new south suburban airport would encourage new commercial development, which provides desirable job opportunities and a desirable tax base for communities and schools, to locate in the southern suburbs instead of locating near existing employment centers in the northwest suburbs and Lake County.

- A new south suburban airport would cause Lake County to receive less employment growth, without a similar decrease in Lake County's residential population growth.

The City of Chicago should complete an Environmental Impact Statement (EIS) to determine if it is possible to expand and modernize O'Hare airport.

Lake County contains two general aviation airports: Campbell Airport and Waukegan Regional Airport. The County is served by a third general aviation airport, Palwaukee Municipal Airport, which is located approximately 3 miles south of Lake County. Campbell Airport is a small, privately owned facility, located in unincorporated Lake County, south of Route 120. Over the years various villages and the County have considered the possibility of expanding the airport, however, there are no current plans for enlarging or increasing the use facility, which is bordered by environmentally sensitive wetlands.

The Waukegan Regional Airport, along with the Waukegan Harbor, is managed by the Waukegan Port District. The airport, which is located on the northwest side of the City, is categorized by the Federal Aviation Administration (FAA) as a "reliever airport" for Chicago's O'Hare International. In this role, the airport handles general aviation, airtaxi, and military aircraft operations. Scheduled airline service is not offered at the airport. The airport has two runways and features an air traffic control tower and instrument landing system for improved operation in inclement weather. The airport also has a U.S. Customs Service Inspector, which allows arriving international flights.

The Waukegan Regional Airport is a significant economic generator for the region. It is a prominent base of operations for corporate aviation. The airport has 200 based aircraft, including 56 corporate jets. Some major employers rely exclusively on corporate jets located at Waukegan Regional Airport to meet their air transportation needs. The airport handles approximately 100,000 aircraft takeoffs and landings annually. The airport has existing capacity to double its aircraft operations.

The primary runway (5-23) is 6,000 feet in length. The FAA has granted a waiver to allow the full use of the runway, despite the proximity of Green Bay Road and Wadsworth Road to the end of the runway. If the FAA waivers are removed, the usable portion of the runway at the northeast end will be shortened by 650 feet and the southwest end will be shortened by 820 feet (Waukegan Port District, 2002). Shortening the usable length of the runway will negatively impact existing and future flight operations. The Waukegan Port District would like to extend Runway 5-23, which would require removing several existing homes and businesses; relocating or tunneling Green Bay Road; and relocating or burying Commonwealth Edison power lines for an extended runway safety zone. A portion of the runway safety zone would be located in the Lake County Forest Preserve Waukegan Savannah. Lake County supports the Port District's request for Federal Administration Funding to cover 90% of the estimated $3 million cost for an Environmental Impact Statement (EIS) study. Since the EIS has not been conducted, the County reserves judgment on the runway extension.

Palwaukee Municipal Airport is located at Milwaukee Avenue and Willow Road, approximately three miles south of Lake County. Given its proximity, the airport also serves the general aviation needs of Lake County residents and businesses. Palwaukee Municipal Airport is owned by the City of Prospect Heights and the Village of Wheeling. The airport consists of more than 412 acres of land with three runways. The Airport handles over 180,000 annual operations and has 360 based aircraft, including 54 corporate jet aircraft. It is the third busiest airport in Illinois. The Airport operates 24 hours a day. The airport has a control tower that is attended during day and evening hours. The airport also offers U.S. Custom Services, with a two hours advanced

notice. The airport is currently involved in a modernization project, which includes improving runways, taxiways, aprons, and building (www.palwaukee.org).

Freight Transportation

Freight refers to the commercial transportation of goods as cargo. The freight transportation modes considered in this chapter include: 1) truck, 2) rail, and 3) ship. The freight industry is important to the Chicago regional economy. Nearly one-third of the nation's total rail shipments pass through the Chicago region (McCarron and LaBelle, 2002:1) and more than one-half of the nation's container traffic passes through the Chicago area (McCarron and LaBelle, 2002:7). However the regional road and freight rail systems are in need of improvement (McCarron, 2002:1). Average travel speeds across the Chicago region for freight trains is 6.8 to 12 miles per hour; average cross-regional truck speeds are 10 to 15 miles per hour (McCarron and LaBelle, 2002:1).

The current status of the regional freight transportation infrastructure has widespread implications. Trucks and trains contribute to the region's traffic congestion by using roads and blocking the region's 1,953 at-grade railroad crossings. Truck traffic accounts for 28% of the trips on interstate highways and 16% of trips on other marked routes in the region (McCarron and LaBelle, 2002:7). Freight transportation also contributes to regional air pollution (McCarron and LaBelle, 2002:1). Freight volume is projected to increase by approximately 80% over the next 20 years (McCarron and LaBelle, 2002:6).

Failure to improve the region's freight transportation infrastructure could result in extra congestion for all roadway users. The number of trucks on the roadway will increase and freight trains will block road crossings with greater frequency. Failure to improve the region's freight transportation infrastructure may also result in freight companies developing and selecting rail and truck routes that avoid the Chicago region, which would result in a large loss to the regional economy. The shipping industry in the Chicago region generates $8 billion in annual economic activity and employs 117,000 persons with an annual payroll of $3.2 billion (McCarron and LaBelle, 2002:1).

Most of the freight transportation railroad infrastructure and associated intermodal freight transfer activity is located in the southern portion of the Chicago region. Only one of the "problem grade crossings" identified by the Chicago Area Transportation study is located in Lake County. This is the CP railroad crossing on Half Day Road in Bannockburn (McCarron, 2001:22). None of the "Chicago area railroad bottlenecks" identified by the Illinois Department of Transportation are located in Lake County (McCarron, 2001:23). Nevertheless, Lake County does have at grade rail crossings and truck traffic, which contribute to traffic congestion for other roadway users. Within Lake County, "heavy commercial vehicle equivalencies" account for more than 20% of the traffic on specific segments of IL 12, IL 41, IL 83, IL 120, IL 131, IL 173, IL 176, U.S. 41, and U.S. 45 (CATS, 1997:Appendix A). "Heavy commercial vehicle equivalencies" considers the larger influence of trucks on highway lane capacity (CATS, 1997:5).

As opportunities for expanding commuter rail services along existing freight railroad corridors continue to be explored, adequate consideration needs to be given to maintaining capacity for freight trains. Within Lake County, this is particularly relevant for the proposed EJ&E and Wadsworth Extensions. Metra's studies consider this issue. Ideally, by building new infrastructure, such as located grade separations, track-over-track fly-overs, and parallel tracking new transit service can actually enhance freight transportation and reduce vehicle conflicts (McCarron, 2001:8).

The Waukegan harbor is currently of local importance for freight transportation. Cement and gypsum are provided to a multistate area through the port (Waukegan Port District, 2002:np). Over 500,000 tons of cargo (which is equivalent to 12,500 trucks or 5,000 rail cars) are shipped through the deepwater harbor annually (Waukegan Port District, 2002:np). The depth of the harbor channel limits the size and cargo-loads of ships that can use the harbor. Dredging of Slip 1 (which is the working freight slip) was completed during 2002. Studies are presently underway to determine the best way to obtain a desirable harbor depth and concurrently remove remaining contamination from the inner harbor (Waukegan Port District, 2002:np).

The continued existence of viable economic uses is critical to retaining the involvement of the U.S. Army Corp of Engineers in dredging the Federal Channel. The Federal Channel should continue to be dredged in order to maximize flexibility regarding future transportation and land use options on the lakefront. An important secondary benefit of dredging is the removal and proper disposal of contaminated soil from the harbor. If the channel is allowed to deteriorate, it would be very difficult to reestablish a working harbor anywhere in Lake County. The harbor should be dredged in order to retain the existing viable businesses located on the Waukegan waterfront. Around the region and the nation, there are many examples of lakefront redevelopments that successfully combine residential, commercial, tourist, and recreational uses with working harbors.

Transportation Services for Senior Citizens and Persons with Disabilities

Municipalities, townships, and social service agencies are struggling to meet the transportation needs of senior citizens and persons with disabilities in a safe, reliable, and economical manner. An informal survey of townships revealed that most townships offer some type of transportation service for seniors. These services, commonly referred to as "paratransit", ranged from the Pace Dial-a-Ride program and subsidized taxi services to contracts with Pace for bus service on specific days. Services vary by cost, minimum age for participation, and allowable destinations. Residents with disabilities also face services with various restrictions when seeking transportation. The North-NorthWest Cook County and Lake County Work Group of service providers, parents, and advocates for persons with disabilities would like to improve residents' mobility by eliminating the geographic boundaries imposed by existing services.

To assist local communities in improving access to transportation for the transportation disadvantaged, the state of Illinois has created an Interagency Coordinating Committee.[3] The Interagency Coordinating Committee will encourage the coordination of public and private transportation services with priority given to services directed towards underserved populations. The Committee will facilitate a coordinated state process for requesting federal funds such as the Job Access and Reverse Commute (JARC) Grant programs.

The Ride DuPage program may serve as a model for coordinating paratransit services. A 1996 DuPage County study found that 40 agencies provided 500,000 trips to special needs persons at a cost of $4.2 million. In response to these findings, the County created the Inter Agency Paratransit Coordinating Council. With the DuPage County program one central agency will coordinate the activities of the sponsors that subsidize transportation with the transportation service providers. Under this system, a resident needing a ride calls one number and is matched with an appropriate provider. Providers may serve multiple residents at one time since all requests go through one dispatch center. With the Ride DuPage program, the sponsoring agencies that provide the transportation subsidy are responsible for qualifying persons for service

[3] Public Act 093-0185, effective July 11, 2003

based on agency's own criteria, which can include consideration of income, disability, and transportation needs.

Local leaders should encourage Pace to assume the lead role in coordinating paratransit services in Lake County. Pace should partner with local social service providers and major employers, who would benefit from increased workforce accessibility, to conduct a thorough, countywide study to identify paratransit providers and sponsors, the types of services provided, the number of clients served, the cost of the services, and the source of funding. With this information, a coordinated paratransit system could be developed.

Transportation Funding

Funding is critical for improving transportation networks and options. The Lake County 2020 TPP contains the following goals and objectives for transportation funding:

> "Financial Planning: Provide a fiscally responsible transportation system supported by available revenues.
> 1. Develop a fiscally-constrained program of prioritizing transportation projects reflecting the likely availability of forecast capital and maintenance funding from all available funding sources.
> 2. Determine the level of capital funding necessary for needed, but unfunded, transportation improvements, and identify potential funding mechanisms for meeting these unfunded needs.
> 3. Coordinate transportation project development and programming among various state, regional, and local agencies to encourage cooperative funding efforts" (LCDOT, 2002a:np).

Currently available revenues do not allow Lake County Division of Transportation to keep pace with the demand for roadway expansions and improvements. The Illinois County Motor Fuel Tax Law (55 ILCS 5/5-1035.1) does not allow Lake County to implement the same motor fuel tax as DuPage, Kane, and McHenry counties. The majority of Lake County residents support increased funding for road improvements (Lake County Department of Communications, 2000:np). The *Lake County Resident Transportation Survey* found that 61.3% of survey respondents indicate that they would support a referendum to give the County authority to increase taxes in order to raise money for road improvements. Given a choice on which type of tax to utilize, 43% favor a general sales tax; 35% favor a motor vehicle fuel tax; and 15% favor property tax (Lake County Department of Communications, 2000:np).

In 1992, the Lake County Board approved a *Comprehensive Road Improvement Plan For Impact Fees* and a road impact fee ordinance. The ordinance was never implemented because the County does not have a funding source to pay for the portion of road improvements that would not be covered by developer impact fees. If the County obtains a dedicated transportation funding source, the County should consider the feasibility of updating and implementing the road impact fee plan and ordinance.

Transportation System Management and Transportation Demand Management

Transportation System Management (TSM) refers to attempts to increase the capacity and efficiency of the existing transportation infrastructure (Moore and Thorsnes, 1994:72). Transportation Demand Management (TDM) refers to attempts to reduce the demand for automobile travel.

One TSM strategy is implementation of Intelligent Transportation Systems. The goal of ITS, for metropolitan areas, is to manage and operate transportation systems to reduce congestion and enhance emergency response by using advanced computer technology and implementing new institutional arrangements (USDOT, 1998:np).

The Lake County Year 2020 Tranportataion Priority Plan contains the following goal and objectives for promoting an Intelligent Transportation System:

> "Intelligent Transportation System: Promote the use of Intelligent Transportation System (ITS) technologies as a viable means to reduce traffic congestion.
>
> 1. Consider the development of ITS projects, such as signal systems, transit or emergency vehicle preemption, and other technologies, as alternatives to roadway widening.
> 2. Promote ITS projects that can utilize alternative funding sources and improve system management and coordination between local agencies" (LCDOT, 2002a:np).

Over the last several years, the County has been successful in obtaining federal funds for ITS projects, such as traffic signal systems with fiber optic connections, video detection, and priority preemption for buses. The County has also been successful in receiving direct federal grants for a feasibility study and implementation plan for a Lake County Traffic Management Center. If built, this center will put controls for all state, County, and local traffic signals in one location allowing better integration and management of signals countywide.

While Transportation System Management (TSM) focuses on ways to utilize the existing "supply" of transportation infrastructure more efficiently, Transportation Demand Management (TDM) focuses on ways to reduce automobile travel demand. The recommendations contained within this *Regional Framework Plan* to facilitate use of transit, pedestrian, and bicycle transportation options all serve to reduce demand for automobile transportation.

Price is another way to reduce transportation demand. Some economists believe the current situation of traffic congestion is based on a market failure because automobile drivers fail to pay the full cost of their travel (Moore and Thorsnes, 1994; Downs, 1992). The Illinois State Toll Highway Authority (ISTHA) has authorized a "value pricing" study to evaluate the impacts of establishing reduced tolls during off-peak travel times and higher prices during peak travel times. Delays at tollbooths dropped significantly after a similar plan was implemented in New Jersey (Groark, 2002:1). The ISTHA study will determine if the same result is possible in Illinois.

Individual firms or a group of firms located within an employment center can work to reduce travel demand. Within Lake County, there is one active TDM Organization: the Lake Cook Transportation Management Association (TMA). As described in the Transit Section, the Lake Cook TMA, along with Pace, Metra, and local businesses fund a shuttle bus system. The TMA, Metra, and Pace are studying opportunities to add shuttle bus lines. These lines would serve additional employment centers from train stations on Metra's North Central Line. Shuttle buses should be considered for additional high-volume corridors.

Conclusion

This chapter is intended to augment Lake County's *Year 2020 Tranportataion Priority Plan*. Beyond supporting the Goals and Strategies contained in that plan, this chapter identifies additional transportation issues and opportunities and recommends policies for addressing these needs. This chapter emphasizes the need to provide a transportation efficient land use pattern and other policies in order to provide more transportation options and ease existing traffic congestion. Transit Oriented Development and Employment Oriented Development, which are key to a transportation efficient land use pattern, are further described in Chapter 9, Land Use, and Chapter 10, Community Character. These chapters provide policy recommendations that encourage land use developments that facilitate pedestrian, bicycle, and transit usages.

Goals and Policies[4]

7.1 **Goal:** Future neighborhood and community land use patterns will be transportation efficient offering transportation choices.

7.1.1 Policy: Develop a Future Land Use Map that presents a transportation efficient regional land use pattern, in a manner consistent with local planning objectives and this *Regional Framework Plan*.

7.1.2 Policy: In cooperation with interested municipal officials and transportation agencies, establish Transit Oriented Design plans around train stations and Employment Oriented Design plans around major employment centers, in a manner consistent with local planning objectives and this *Regional Framework Plan*.

7.1.3 Policy: Consider priority funding for transportation system improvements that serve Transit and Employment Oriented Developments.

7.1.4 Policy: Encourage employers to locate near existing housing of appropriate workforce.

7.1.5 Policy: Promote new state "Concurrency Management" Legislation that will allow the County greater authority to ensure roads and other public infrastructure are in place and have capacity before new development occurs.

7.2 **Goal:** Coordinate an interconnected street system of local, collector, and arterial streets adequate to serve the current and desired future land use identified in this *Regional Framework Plan*.

7.2.1 Policy: The County and municipalities should require appropriate street interconnections, which do not encourage cut-through traffic, between adjacent neighborhoods through the subdivision and site plan approval processes.

7.2.2 Policy: The County and municipalities should properly control driveway entrances onto arterial streets.

[4] As stated in Chapter 1, Introduction, a Goal is defined as "the desired result to be achieved by implementing the *Plan*;" and a Policy is defined as "a general method or action designed to achieve a goal."

7.2.3 Policy: The County and municipalities should require internal access roads and interconnected parking areas in order to maintain the roadway capacity.

7.2.4 Policy: The County and municipalities should cooperatively identify future key transportation rights-of-way and incorporate such alignments and proposed improvements into the Lake County Regional Framework Plan map and local comprehensive plan maps.

7.2.5 Policy: Transportation agencies should develop creative transportation solutions that meet traffic needs as well as community desires.

7.2.6 Policy: Encourage transportation agencies to continue to monitor innovations in road construction techniques and materials and to implement road construction methods that are cost-effective, prolong roadway life, and minimize construction disruptions.

7.2.7 Policy: The County, municipalities, and townships should develop a coordinated effort to lobby the state to improve the existing state roadway network within Lake County.

7.2.8 Policy: Consider roadway and intersection improvements that increase capacity and reduce peak traffic congestion in order to preserve the existing roadway network. Once improvements to existing facilities have been exhausted, promote the development of new roadway and transportation facilities.

7.3 Goal: Facilitate the use of bicycles, walking, and transit service as alternatives to all automobile work and non-work trips.

7.3.1 Policy: Support continued planning by Metra, other transportation planning agencies, and local communities for the establishment of commuter rail service on the EJ&E corridor and the Wadsworth extension.

7.3.2 Policy: Encourage Metra, other transportation planning agencies, and local communities to aggressively pursue state and federal funding for projects, such as bridges and tunnels, to minimize the negative impacts of commuter rail improvements on local communities and automobile travel.

7.3.3 Policy: Encourage Pace, Metra, and the Transportation Management Associations to study and implement shuttle bus and other creative transportation services within Lake County.

7.3.4 Policy: The County, municipalities, and Metra should work together to increase parking at existing commuter rail stations and explore opportunities to establish satellite parking lots with shuttle buses to commuter rail stations.

7.3.5 Policy: Encourage concentrated development to be located near transit or employment centers, as opposed to elsewhere in Lake County, and to be appropriately designed to encourage bicycling, walking, and transit use.

7.3.6 Policy: Encourage financial institutions to support “transportation efficient mortgages” for homes in locations with lower transportation costs.

7.3.7 Policy: The County and municipalities should require developers to provide sidewalks and bicycle paths within and between residential and non-residential developments, as appropriate based on density and surrounding existing and planned future land uses, such as schools, public parks, and retail centers.

7.3.8 Policy: Encourage the connection of sidewalks and trails between communities, townships, and the Forest Preserve, within and beyond the County boundaries.

7.3.9 Policy: Encourage multimodal trips that combine bicycle and transit usage by providing appropriate bicycle parking facilities at transit stations and encouraging Metra to continue to seek a feasible manner to accommodate bicycles on all trains.

7.3.10 Policy: Review opportunities to incorporate bicycle paths and bicycle lanes into state, County, and local roadway projects.

7.3.11 Policy: Encourage the agencies responsible for maintaining sidewalks, bicycle paths, and bicycle lanes to keep their facilities clear of snow and ice, as funding priorities permit.

7.4 **Goal:** Improve the availability of scheduled commercial, charter, and general aviation flights to international and general aviation airports serving Lake County businesses and residents.

7.4.1 Policy: Support completion of an Environmental Impact Statement to determine the social, economic, and environmental impacts of modernization and expansion of O'Hare Airport, in accordance with all applicable state and federal laws.

7.4.2 Policy: Support completion of an Environmental Impact Statement to determine the social, economic, and environmental impacts of extending the runway at the Waukegan Regional Airport, in accordance with all applicable state and federal laws.

7.4.3 Policy: The Waukegan Port District should coordinate cooperative efforts to protect existing airport capacity at Waukegan Regional Airport to ensure corporate aircraft needs for hanger space and runway length are met.

7.4.4 Policy: Encourage the continued use of Waukegan Regional Airport as a significant economic generator for the region by serving as an international point of entry and prominent base for corporate aviation.

7.5 **Goal:** Maintain and enhance the Waukegan harbor as a transportation center, as part of a vibrant mixed land use on the Waukegan lakefront.

7.5.1 Policy: Support creation of a Waukegan intermodal transit center in the vicinity of the existing train station that links Metra, Pace, automobile parking, and pedestrian access to downtown and the lakefront.

7.5.2 Policy: Support implementation of ferry service from Waukegan to Chicago, Michigan, Wisconsin and/or Indiana.

7.6 **Goal:** Provide for the safe and efficient movement of freight by truck, ship, and rail within and through Lake County in a manner that minimizes conflicts with automobile traffic.

7.6.1 Policy: Ensure that the addition of commuter rail services on existing freight rail corridors maintains and, where possible, enhances rail freight services and reduces vehicle traffic delays.

7.6.2 Policy: Support continued dredging and maintenance of the Waukegan Harbor Federal Channel in order to retain maximum flexibility regarding future transportation and land use options on the lakefront.

7.6.3 Policy: Enhance existing roads to accommodate freight transportation throughout Lake County.

7.6.4 Policy: Address delays at at-grade railroad crossings by seeking state and federal funding for improvements.

7.6.5 Policy: Develop strategies to encourage truck through-traffic to utilize the tollway instead of Route 41 and other state and County highways.

7.7 **Goal:** Ensure flexible, safe, reliable, and affordable transportation services are available to meet the needs of senior citizens and persons with disabilities throughout Lake County.

7.7.1 Policy: The County, municipalities, townships, and local social service agencies should encourage Pace to conduct a thorough countywide study of paratransit services for the purpose of identifying how to coordinate and improve services.

7.8 **Goal:** Obtain new funding sources for transportation improvements.

7.8.1 Policy: Lake County should identify new funding sources to raise money to be dedicated for road improvements.

7.8.2 Policy: When the County has a dedicated transportation funding source, the County should consider implementing an impact fee on new developments for transportation improvements.

7.8.3 Policy: Lake County should participate in the State Interagency Coordinating Committee for transportation and attempt to obtain federal funding for special transit programs, including paratransit.

7.8.4 Policy: Continue to explore transportation funding options and pursue implementation as determined appropriate.

7.9 **Goal:** Maximize the efficient utilization of the County's limited transportation infrastructure and improve air quality.

7.9.1 Policy: Lake County Division of Transportation should pursue implementation of a Traffic Management Center to coordinate traffic signal timing countywide.

7.9.2 Policy: Lake County Division of Transportation should continue to monitor innovations in Intelligent Transportation Systems and to implement strategies

that maximize the efficient use of the existing transportation system in a cost-effective manner.

7.9.3 Policy: Encourage Lake County residents to share rides, consolidate trips, travel at times other than rush hour, and purchase fuel efficient and alternative fuel vehicles.

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