Lake County Sustainability Chapter
Amendment to Lake County Regional Framework Plan

Lake County, IL
October 7, 2014
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Funding Acknowledgement

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A. Introduction

Intent

The Lake County Regional Framework Plan provides a mechanism to address, promote, and coordinate, between governmental jurisdictions, the needs and effects of development upon the economic, manmade, and natural environments within the county and the region. The Regional Framework Plan is intended to be updated periodically. The development of this Sustainability Chapter serves as an update and as a vehicle for carrying out the Strategic Plan goal of the Lake County Board to promote a sustainable environment.

Based on the Lake County Strategic Plan (2009, 2013), sustainability fits with Lake County’s vision to be “known for its safe and livable communities, thriving local economy, healthy natural environment, high quality educational opportunities, and public services.” It also fits Lake County’s values of fiscal responsibility, exceptional customer service, and leadership.

Structure of the Chapter

The Sustainability Chapter is divided into seven sections, which represent topic areas that are key to the County’s sustainability:

1. Land Use and Development
2. Transportation and Mobility
3. Open Space
4. Energy
5. Waste
6. Water
7. Economy

The Sustainability Chapter addendum is closely modeled after the other Chapters of the Regional Framework Plan. Each section is organized into the following sub-sections:

- Significance
- Issues and Opportunities
- Analysis (of existing conditions)
- Goals, Policies, and Indicators
- Implementation Approach
- Sources (references and resources)

Each Goal, Policy, Action, and Indicator contained in this Chapter is intended to be phased in and evaluated on an annual basis to monitor progress. Each Section has a Goal that is thematic and broad. Policies break each Goal into meaningful pieces, with Action steps to address each Policy, and Target Indicators to measure progress.

There are two types of indicators: Lake County Indicators and Countywide Indicators. Lake County Indicators describe actions and measures within the realm of what the county government can do or control. Countywide Indicators demonstrate the impacts of human action on the environment, the local economy, or our quality of life. While indicators are intended to be evaluated on an annual basis, they should be re-evaluated every five years for appropriateness and to measure progress.
Introduction to Sustainability Planning

What is sustainability?
Numerous planning efforts in Lake County in recent years have supported the County Board’s Strategic Plan (2009, 2013) Goal of promoting a sustainable environment. Lake County has developed several key planning documents in support of this goal, such as the Strategy for a Sustainable Lake County (2009), the Non-Motorized Travel Policy (2010), the 60% Recycling Task Force Report (2011), the Sustainable Building and Development Practices report (2011), the Community Health Status Assessment (2012), and the Comprehensive Economic Development Strategy (draft).

In adopting the Strategy for a Sustainable Lake County document, the County Board endorsed a broad definition of sustainability, similar to the widely accepted definition first endorsed by the United Nations’ World Commission on Environment and Development in 1987:

*Being ‘sustainable’ means the County is achieving economic prosperity while protecting the planet’s natural systems; and meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.*

This “triple-bottom-line” approach promotes a healthy environment, a vigorous economy, and a vibrant community together. The components of the triple bottom line may be visualized as a three-legged stool where one leg cannot stand on its own; rather, all three legs work together to create a sustainable future.

How do you plan for sustainability?
Planning for sustainability is a relatively new concept resulting from an increased interest in and concern for time-sensitive environmental issues. Sustainability plans differ from traditional planning documents in that they focus on the environmental impacts of policy decisions; emphasize the use of quantitative data and indicators to measure progress; and feature implementation with regular monitoring and reporting of progress back to the community to improve accountability and transparency. Indicators have been established for each of the Sustainability Chapter’s sections. Baseline indicators represent quantitative measures of existing conditions, while target indicators are corollary quantitative measures that relate to the Chapter’s goals.

What is the “Sustainability Chapter”?
This Chapter will serve as a sustainability plan for Lake County that builds off of and updates the Regional Framework Plan. The Regional Framework Plan, adopted in 2004, is the County’s primary policy guiding document. The Regional Framework Plan contains many goals and policy statements pertinent to a variety of different topics, including economic development, natural resources, community revitalization, infrastructure and services, transportation, housing, land use, community character, and intergovernmental coordination. This Chapter updates the existing conditions and renews the goals and policies of the Regional Framework Plan, specifically with regard to the environment and sustainability. It paraphrases and references existing policy documents issued by the Lake County Board and its departments and agencies, as needed, to create a cohesive document. The overarching goal of the Sustainability Chapter is to provide a road map for decision-making to achieve a sustainable future.
**Why does Lake County need a Sustainability Chapter?**

Pursuant to the *Strategic Plan* goal of promoting a sustainable environment, Lake County has been actively pursuing sustainable practices, from identifying and protecting natural resources to developing model ordinances for renewable energy and striving to increase recycling rates. The County’s existing commitment to sustainability can be strengthened by developing a cohesive strategy for moving forward that builds upon previous efforts. The Sustainability Chapter will serve to:

1. Provide a foundation for sustainable County decision-making
2. Consolidate and build upon previous related goals, policy statements, and initiatives
3. Provide a model for sustainability planning at the municipal level
4. Help make a compelling case for future grants, awards, and other assistance
5. Raise awareness about sustainability among County officials and staff, constituent municipalities, residents, and other stakeholders

**Planning Process**

The planning process to create this Sustainability Chapter amendment included several key phases. Phases I and II established the sustainability vision and set the Chapter direction. Input received from the Regional Planning Commission, the public kick-off meeting, and municipal representatives helped to inform the project team’s understanding of existing conditions and overarching goals related to sustainability in Lake County. Phase III of the project revolved around drafting policy statements, action items, indicators, and an implementation strategy to help achieve the established goals. The planning process and outreach strategy were created with assistance from County staff to involve diverse stakeholders and create a document that will be useful to a variety of audiences. Phase IV involved the review and adoption of the Sustainability Chapter.

**Community Outreach**

A primary goal of this planning process is to involve many audiences, which will help to create a *Regional Framework Plan* Chapter that represents the interests, needs, and vision of the community as a whole. These audiences each have unique perspectives on what environmental issues are most important to address and how the County might achieve a sustainable future. The public outreach strategy emphasizes broad-based participation to create a cohesive vision for moving forward. This strategy includes close coordination with County staff and elected officials, regular interaction with a steering committee, technical interviews, and public meetings at key points in the planning process.

**Steering Committee Meetings**

The Regional Planning Commission (RPC) served as the steering committee during the development of the Sustainability Chapter. The RPC was tasked with providing input on issues and opportunities, developing overarching Chapter goals, and providing input on the draft existing conditions report and Chapter recommendations.

Six steering committee meetings have been held to date. The first meeting served to introduce the project to the RPC and define the steering committee’s role in the planning process. The second meeting focused on brainstorming initial goals related to the Chapter’s seven topic areas, and the third meeting firmed up the goals and identified major areas of focus for the document’s potential policy statements. The last three meetings served to review the existing conditions report, preliminary ideas for recommendations, and draft Sustainability Chapter. The input gathered from the RPC has been invaluable in shaping the goals and recommendations of the Chapter.
Public Kick-off Meeting
The public kick-off meeting for this project, which had over 30 attendees, was held on June 13, 2012 at the County’s Central Permit Facility in Libertyville. The meeting included an overview of the project, review of existing conditions findings related to the seven key topic areas, and group discussions at small tables. The discussions were oriented around identifying the strengths, issues, and opportunities that exist in the County related to sustainability. Several comments from the meeting include:

- Development may negatively affect the amount of agricultural land that remains in the County.
- More public transit, cycling, and walking options are needed.
- The Lake County Forest Preserve District (LCFPD) and non-profit conservation organizations are strong and effective entities for open space protection.
- There is an opportunity to promote new agricultural uses and urban agriculture.
- Providing information and incentive programs related to energy audits and weatherization of homes would help to reduce energy consumption.
- Solid Waste Agency of Lake County (SWALCO) addresses waste management well in the County through a variety of programs.
- The County has perceived difficulty in attracting new businesses, and there is a mismatch between where people live and where jobs are available.

Municipal Representatives Meeting
To ensure that the Sustainability Chapter represents not only the needs of the County but its member municipalities as well, the County held a meeting with representatives from municipalities on June 13, 2012 at the County’s Central Permit Facility in Libertyville. The meeting included a short presentation which provided an overview of the project and review of existing conditions findings. Then a structured group discussion was held related to three major questions:

1. What is your community doing to be sustainable?
2. How can the County help you with your sustainability goals?
3. How should the County implement sustainability?

Lake County municipalities are currently implementing a range of programs to advance sustainability, from implementing composting programs in Highland Park and Deerfield to encouraging green buildings. Many representatives noted the helpfulness of the County with regard to these issues, particularly in developing model renewable energy ordinances and otherwise leading by example. There was shared sentiment that this Chapter would serve as another tool for Lake County communities to use to advance sustainability.

Draft Review Meetings
Residents and stakeholders had the opportunity to review the draft Sustainability Chapter with the County government prior to the formal approval process. Two review meetings were held on June 12, 2014 – one for municipal representatives and one for the general public. During the municipal representatives meeting, the goals, policies, and indicators of the Sustainability Chapter were presented and attendees’ questions were answered. Representatives expressed interest in adapting some of the County policies, such as encouraging non-motorized travel and increasing access to parks and open space, to suit their communities at the local level. The public open house meeting was designed for interested parties to drop in at their convenience and learn about the draft Sustainability Chapter by
reading display boards and other materials. Staff members were on hand to talk with meeting attendees and answer questions ranging from water quality to recycling to green jobs.

Demographic Profile
Lake County regularly examines demographic trends occurring within its boundaries to gain insight changes that may impact its communities. Data discussed in this section comes from the 2000 U.S. Census, 2010 U.S. Census (when available), and the 2010 American Community Survey 1-Year Estimates, all collected by the U.S. Census Bureau. Lake County may be characterized as a growing area with significant ethnic and racial shifts taking place and with residents who earn more, on average, than other residents in the region. Lake County’s demographic trends are compared with those of the seven-county region at large, yielding the following major findings.

**Lake County’s population grew 9.2 percent in the last decade.** Between 2000-10, Lake County’s population increased from 644,354 residents to 703,462 residents. This growth rate is almost three times higher than the growth rate for the region, which increased by 3.5 percent in the last ten years.

**The County has experienced significant ethnic and racial demographic shifts.** Although white residents continue to make up over 65 percent of its population, the County saw significant increases in Hispanic/Latino and Asian residents in the last decade. The Hispanic/Latino population had the highest increase of any ethnic group, growing by 51 percent from 2000-10 (47,270 people). The Asian population grew by 19,088 people, representing a 76.8 percent increase. These changes were much higher than the regional trends for Hispanic/Latino and Asian population growth. The Black/African American population in Lake County increased about 7.8 percent, while the regional Black/African American population decreased by 4.7 percent. The white population, the only racial group in the County to lose population, saw a slight decrease of three percent.

**Lake County’s residents earn more income on average than other residents of the region.** In 2010, 49.9 percent of Lake County residents reported earning $75,000, while the regional average share earning the same amount was nine percent less (40.9 percent). In addition, 14.2 percent of Lake County residents were in the lowest income bracket (earning $25,000 or less), while the regional average was five percent higher (at 19.5 percent).
<table>
<thead>
<tr>
<th>Table A-1. Population, Households, and Household Size, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake County</td>
</tr>
<tr>
<td>Population</td>
</tr>
<tr>
<td>Households</td>
</tr>
<tr>
<td>Persons per household</td>
</tr>
</tbody>
</table>

Source: 2010 Census

<table>
<thead>
<tr>
<th>Table A-2. Population and Change in Population, 2000 and 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake County</td>
</tr>
<tr>
<td>Population, 2000</td>
</tr>
<tr>
<td>Population, 2010</td>
</tr>
<tr>
<td>Change, 2000-10</td>
</tr>
<tr>
<td>Change as %, 2000-10</td>
</tr>
</tbody>
</table>

Source: 2000 and 2010 Census

<table>
<thead>
<tr>
<th>Table A-3. Household Income, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake County</td>
</tr>
<tr>
<td>Count</td>
</tr>
<tr>
<td>Less than $25,000</td>
</tr>
<tr>
<td>$25,000 to $49,999</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
</tr>
<tr>
<td>$75,000 to $99,999</td>
</tr>
<tr>
<td>$100,000 to $149,999</td>
</tr>
<tr>
<td>$150,000 and over</td>
</tr>
<tr>
<td>Median income</td>
</tr>
</tbody>
</table>

Source: 2010 ACS 1-year estimates
**Table A.4. Race and Ethnicity, 2010**

<table>
<thead>
<tr>
<th></th>
<th>Lake County</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>White</td>
<td>458,701</td>
<td>65.2%</td>
</tr>
<tr>
<td>Hispanic or Latino*</td>
<td>139,987</td>
<td>19.9%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>46,389</td>
<td>6.7%</td>
</tr>
<tr>
<td>Asian</td>
<td>43,954</td>
<td>6.2%</td>
</tr>
<tr>
<td>Other**</td>
<td>13,831</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

* Source: 2010 Census

* Includes Hispanic or Latino residents of any race

** Includes American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, Some Other Race, & Two or More Races

**Table A.5. Change in Race and Ethnicity, 2000-2010**

<table>
<thead>
<tr>
<th></th>
<th>Lake County</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change in Population</td>
<td>Percent Change</td>
</tr>
<tr>
<td>White</td>
<td>-14,267</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Hispanic or Latino*</td>
<td>47,271</td>
<td>51.0%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>3,409</td>
<td>7.8%</td>
</tr>
<tr>
<td>Asian</td>
<td>15,088</td>
<td>76.8%</td>
</tr>
<tr>
<td>Other**</td>
<td>3,605</td>
<td>35.3%</td>
</tr>
</tbody>
</table>

* Source: 2000 and 2010 Census

* Includes Hispanic or Latino residents of any race

** Includes American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, Some Other Race, & Two or More Races

**Table A.6. Age Cohorts and Median Age, 2010**

<table>
<thead>
<tr>
<th></th>
<th>Lake County</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Under 19 years</td>
<td>213,592</td>
<td>30.4%</td>
</tr>
<tr>
<td>20 to 34 years</td>
<td>123,295</td>
<td>17.5%</td>
</tr>
<tr>
<td>35 to 49 years</td>
<td>158,286</td>
<td>22.5%</td>
</tr>
<tr>
<td>50 to 64 years</td>
<td>135,196</td>
<td>19.2%</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>52,856</td>
<td>7.5%</td>
</tr>
<tr>
<td>85 years and over</td>
<td>20,237</td>
<td>2.9%</td>
</tr>
<tr>
<td>Median Age (2010)</td>
<td>36.7</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Source: 2010 Census

**Table A.7. Education Levels, 2010**

<table>
<thead>
<tr>
<th></th>
<th>Lake County</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Population, 25 years and over</td>
<td>449,399</td>
<td>100.0%</td>
</tr>
<tr>
<td>High school diploma or higher</td>
<td>400,533</td>
<td>89.1%</td>
</tr>
<tr>
<td>Bachelor's degree or higher</td>
<td>186,696</td>
<td>41.5%</td>
</tr>
</tbody>
</table>

* Source: 2010 ACS 5-year estimates

**Table A.8. Employment Status, 2010**

<table>
<thead>
<tr>
<th></th>
<th>Lake County</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>In labor force</td>
<td>378,680</td>
<td>70.6%</td>
</tr>
<tr>
<td>Employed</td>
<td>335,244</td>
<td>68.5%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>43,436</td>
<td>11.5%</td>
</tr>
<tr>
<td>Not in labor force</td>
<td>157,848</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

* Source: 2010 ACS 5-year estimates
B. Land Use and Development

The content of the Land Use and Development section of the Sustainability Chapter is most closely related to the Regional Framework Plan’s Chapter 8: Housing, Chapter 9: Land Use, and Chapter 10: Community Character.

Significance
The built environment has a broad impact on the County’s overall sustainability. Energy consumption within buildings (i.e. electricity and natural gas use) was responsible for 68.8 percent of the County’s greenhouse gas emissions in 2007. Buildings that incorporate green features typically consume less energy, water, and material resources; are increasingly marketable in today’s economy, and improve the overall health of inhabitants and the natural environment.

The spatial relationship of buildings and land uses (development patterns) in a community has a profound impact on its livability (ability to attract and retain residents). Development patterns particularly influence transportation options, as the viability of public transit and a walkable environment are dependent upon minimum supportive densities and proximity of land uses. The presence of quality transportation options is critical to livability and is often a determining factor when people choose where to live. Many communities are beginning to stress the importance of compact, walkable, and mixed-use development that supports public transit to improve transportation options and quality of life. Lake County encourages mixed-use development through employment and transit center designations on the Future Land Use Map and through the Planned Unit Development (PUD) process.

Municipalities and the County should encourage compact and walkable development in areas served by infrastructure and services while keeping a focus on preservation of natural resources and agricultural uses where appropriate, particularly in unincorporated areas. This land use strategy is supported by the Promoting Sustainable Building and Development Regulations report (2011) and Regional Framework Plan, which emphasize that, when possible, future development should occur in areas that are service and infrastructure ready. In their land use decisions, County municipalities have the potential to greatly impact overall sustainability. In addition, Lake County promotes efficient land use with conservation design and low impact development for subdivisions to preserve natural resources for residential development in its unincorporated areas.

Issues & Opportunities
The following key issues and opportunities related to land use and development have been identified through the existing conditions analysis:

- Lake County has jurisdiction over land use and development for unincorporated areas, while municipalities retain control over development that occurs within their boundaries. Since 65 percent of the County is incorporated, development decisions made by municipal governments will continue to broadly impact County sustainability.
- Agricultural uses in the County experienced a decline of 20.7 percent from 2000 to 2007 and are expected to continue to decrease (although the number of small farms is increasing – see Open Space section). At the same time, single family residential uses have increased and are projected

1 CNT Municipal Energy Profile Project, 2011
2 Pol. 4.1.5, Pol. 8.1.1, Pol. 8.6.1, Pol. 9.4.1, Pol. 9.4.2, Pol. 10.2.6, Goal 8.3, Goal 8.4, Goal 8.6, Goal 9.4
to continue to comprise the majority of new development. They are a likely contributor to at least some of the agricultural land consumption.

- Lake County has adopted conservation residential development regulations to provide a way for residential development to occur while still preserving critical natural resources.
- The Promoting Sustainable Building and Development Practices in Lake County report presents an opportunity for the County to update various regulations to promote and/or enable sustainable development techniques. Lake County is already home to 67 LEED-registered projects, 29 of which have completed certification.
- Mixed-use, walkable areas in the County are most appropriate in key context areas, such as downtowns, transit areas, and employment centers. The County may wish to revisit the PUD process or create a mixed-use zoning district that further facilitates this type of development in unincorporated areas where appropriate.
- Residential densities appear to support commuter rail in the County, but may not be high enough to make other fixed-route public transportation options (such as frequent bus service, light rail, or rapid transit) feasible in many locations.
- Lake County’s share of housing units with two bedrooms or fewer is significantly lower than the regional average. In addition, according to the Center for Neighborhood Technology (CDNT) Housing and Transportation (H+T) Index, Lake County’s housing costs are ten percent higher than the regional average. These two figures may point toward an opportunity to encourage smaller footprint housing and affordable housing.

Analysis

Land Use
The most recent countywide land use inventory, performed in 2005, shows that single family residential uses, at 25.5 percent of total land, and public and private open space uses, at 19.2 percent of total land, are the two most prominent land uses in the County (see Table B-1. 2005 Land Use and 2005 Land Use Map). Agricultural uses are also prevalent, at 11.6 percent of total land, although the County experienced a 20.7 percent decrease in agriculturally designated land between 2000 and 2007. Most of this decrease may be attributed to development although some of the land has been protected for conservation and consequently coded as public and private open space despite it still being used for agricultural purposes.  

As noted in Chapter 9, the County is projected to gain 142,122 residents by 2020, resulting in a need for an additional 23,911 acres of residential space. It should be noted that this projection was based on the economy and data available in 2004 and may not reflect current economic realities. The County’s projections for future land use show significant gains in office/research, multifamily residential, retail/commercial, industrial, and single family uses (see 2005 Land Use Map and Future Land Use Map). Conversely, agricultural uses are expected to decrease almost 44 percent as land turns over for development; utilities, water, and transportation uses are also projected to decrease.

The nearly 130 percent projected increase in multifamily uses should be noted as particularly significant, as this is currently the smallest land use by area in the County. Despite the increase, multifamily housing

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3 Caliper, 2005 Land Use Inventory and Regional Framework Plan Implementation Report
4 RFP, P. 2-14, 9-9
5 When applicable, Lake County shows the most intensive future land use from municipal land use plans. As such, many potential land use changes in the RFP may be attributed to municipal planning.
is forecasted to comprise just 3.5 percent of residential uses. Single family residential land area is expected to increase about 52 percent and will continue to be the predominant form of residential development in the County (see Table B-3. Future Residential Uses by Density).

Table B-1. 2005 Land Use

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>2005 Land Use</th>
<th>Acres</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential</td>
<td>76,882.6</td>
<td>25.5%</td>
<td></td>
</tr>
<tr>
<td>Public &amp; Private Open Space</td>
<td>57,668.8</td>
<td>19.2%</td>
<td></td>
</tr>
<tr>
<td>Agricultural</td>
<td>35,021.6</td>
<td>11.6%</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>31,945.9</td>
<td>10.6%</td>
<td></td>
</tr>
<tr>
<td>Forest &amp; Grassland*</td>
<td>27,956.3</td>
<td>9.3%</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>21,032.5</td>
<td>7.0%</td>
<td></td>
</tr>
<tr>
<td>Wetlands*</td>
<td>16,436.0</td>
<td>5.5%</td>
<td></td>
</tr>
<tr>
<td>Government/Institutional</td>
<td>7,930.6</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td>6,874.2</td>
<td>2.3%</td>
<td></td>
</tr>
<tr>
<td>Retail/Commercial</td>
<td>6,317.5</td>
<td>2.1%</td>
<td></td>
</tr>
<tr>
<td>Disturbed Land*</td>
<td>4,937.9</td>
<td>1.6%</td>
<td></td>
</tr>
<tr>
<td>Utilities/Waste Facilities</td>
<td>4,298.3</td>
<td>1.4%</td>
<td></td>
</tr>
<tr>
<td>Office/Research</td>
<td>2,046.2</td>
<td>0.7%</td>
<td></td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>1,865.1</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>Total**</td>
<td>301,233.5</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

*Forest & Grassland, Wetlands, and Disturbed Land were not designated on the Future Land Use Map. All wetlands are protected through the development review process and are either shown as dedicated open space or other land uses. The Forest & Grassland category is designated for future land use primarily as agricultural, open space, or single family uses; resources will be preserved through acquisition or the development review process (UDO 4.2.9 Woodlands & Significant Trees)

**Total acreage for 2005 and future land use are different per the RFP & Caliper reports

Source: Caliper report
Table B-2. Future Land Use (2020)

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Future Land Use</th>
<th>Percent Change from 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td>Percent</td>
</tr>
<tr>
<td>Single Family Residential</td>
<td>116,940</td>
<td>38.8% 52.1%</td>
</tr>
<tr>
<td>Public &amp; Private Open Space</td>
<td>61,282</td>
<td>20.3% 6.2%</td>
</tr>
<tr>
<td>Agricultural</td>
<td>19,695</td>
<td>6.5% -43.8%</td>
</tr>
<tr>
<td>Transportation</td>
<td>31,008</td>
<td>10.8% -2.9%</td>
</tr>
<tr>
<td>Water</td>
<td>18,819</td>
<td>6.2% -10.5%</td>
</tr>
<tr>
<td>Government/Institutional</td>
<td>9,282</td>
<td>3.1% 17.0%</td>
</tr>
<tr>
<td>Industrial</td>
<td>11,070</td>
<td>3.7% 61.0%</td>
</tr>
<tr>
<td>Retail/Commercial</td>
<td>13,209</td>
<td>4.4% 109.1%</td>
</tr>
<tr>
<td>Utilities/Waste Facilities</td>
<td>3,838</td>
<td>1.3% -10.7%</td>
</tr>
<tr>
<td>Office/Research</td>
<td>7,505</td>
<td>2.5% 266.8%</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>4,285</td>
<td>1.4% 129.7%</td>
</tr>
<tr>
<td>Mixed Use</td>
<td>2,438</td>
<td>0.8% 0.8%</td>
</tr>
<tr>
<td>Heartland Agreement</td>
<td>1,773</td>
<td>0.6% 0.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>301,233.5</strong></td>
<td><strong>100.0%</strong> n/a</td>
</tr>
</tbody>
</table>

*Source: Regional Framework Plan*

Table B-3. Future Residential Uses by Density

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Future Land Use</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td></td>
</tr>
<tr>
<td>Single Family Residential</td>
<td>116,940</td>
<td>96.5%</td>
</tr>
<tr>
<td>Single Family Large Lot (&gt;3 acres)</td>
<td>16,286</td>
<td>13.9%</td>
</tr>
<tr>
<td>Single Family Medium Lot (1-3 acres)</td>
<td>49,690</td>
<td>42.5%</td>
</tr>
<tr>
<td>Single Family Residential (0.25-1 acre)</td>
<td>34,361</td>
<td>29.4%</td>
</tr>
<tr>
<td>Single Family Small Lot (&lt;0.25 acre)</td>
<td>16,603</td>
<td>14.2%</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>4,285</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>121,225</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

*Source: Regional Framework Plan*
Table B-4. Minimum Residential Densities to Support Transit

<table>
<thead>
<tr>
<th>Mode</th>
<th>Frequency</th>
<th>Minimum Density (dwelling units/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Bus</td>
<td>Demand-response</td>
<td>3.5-6</td>
</tr>
<tr>
<td>Local Bus</td>
<td>1 bus / 30 minutes</td>
<td>7</td>
</tr>
<tr>
<td>Local Bus</td>
<td>1 bus / 10 minutes</td>
<td>15</td>
</tr>
<tr>
<td>Express Bus</td>
<td>1 bus / 20-30 minutes</td>
<td>15</td>
</tr>
<tr>
<td>Rapid Transit</td>
<td>Every 5 min. during peak periods</td>
<td>12</td>
</tr>
<tr>
<td>Light Rail</td>
<td>Every 5 min. during peak periods</td>
<td>9</td>
</tr>
<tr>
<td>Commuter Rail</td>
<td>20 trains / day</td>
<td>1-2</td>
</tr>
</tbody>
</table>


Supportive Land Uses for Transit

Residential densities play an important role in determining the feasibility of various types of public transportation. Most fixed-route modes of transit\(^6\) require supportive residential density of greater than seven dwelling units per acre (see Table B-4. Minimum Residential Densities to Support Transit), with the exception of commuter rail, which has a minimum supportive density of one to two dwelling units per acre. Much of the County’s residential development patterns meet the minimum density to support commuter rail. However, at a density of one to two dwelling units per acre, user dependence on driving for transportation to the station, as well as the large amount of associated surface parking needed, still pose issues for walkability (see the Transportation and Mobility section for further discussion on mode of access).

With regard to other fixed-route modes of transportation, about 14.2 percent of the County’s future single family residential uses are expected to be denser than four dwelling units per acre, with an additional 3.5 percent of development expected for multifamily uses (see Table B-3). This indicates that while most existing and proposed residential densities are sufficient to support commuter rail, other modes of transit may be unfeasible in many places in Lake County.

Per the Future Land Use Map, unincorporated areas in the County are planned for a wide range of land uses, including medium or large lot residential, commercial, office, or industrial. Much of the development in unincorporated areas will occur on farmland that is not well-suited to agricultural uses in the long-term or open space containing natural resources that are of lower priority for preservation.\(^7\)

Conservation Residential Development

To guide the development of its unincorporated areas, the County has adopted provisions in its Unified Development Ordinance (UDO) for conservation residential developments. Conservation developments preserve open space and natural resources, and subsequently are able to retain much of a site’s character. The UDO permits conservation development on parcels over five acres in most residential zoning districts. As part of the subdivision process, the County mandates the identification of natural

\(^6\) Fixed-route service includes all transit modes except demand-response service

\(^7\) RFP p.9-11 to 9-12, Policy 4.1.5
resources requiring protection and determination of the residential density permitted in the underlying zoning district. Depending on the zoning classification, the availability of sanitary sewer and the mandatory amount of open space, the UDO provides for flexibility in a variety of housing types to achieve the appropriate density. This style of development has been successfully utilized in several places in the County, including The Legacy in Cuba Township, Newport Cove in Antioch Township, Deerpath Farm in Mettawa, and Prairie Crossing in Grayslake.

**Walkability**

Walkability refers to the ability to get to destinations on foot. Fostering mixed use, compact, and walkable development increases access to goods, services, and jobs, benefiting both consumers and local businesses; improves public health and encourages social interaction; and helps to lessen dependence on private automobile use, which in turn reduces fuel consumption and pollution. On a countywide scale, walkability may be most prominent within key context areas, such as municipal downtowns and unincorporated hamlets, Metra station areas, and campus style developments. Policy 7.3.5 of this Plan emphasizes that future mixed-use development and higher density housing should be located near transportation and employment hubs. It also recommends the development of transit-oriented development (TOD) and employer-oriented development (EOD) plans to guide the revitalization of those areas.

Lake County enables mixed-use development through the PUD process, as outlined in the UDO, which offers opportunities for flexibility in development standards. Facilitating mixed-use development through this process rather than allowing it “by-right” may present a more time-intensive and less predictable environment for developers, which could unintentionally inhibit this type of development. The County’s existing commercial zoning districts (Limited Commercial (LC), Recreational Commercial (RC), General Commercial (GC), and General Office (GO) districts) technically permit “mixed-use” buildings (attached dwellings in conjunction with a nonresidential use). However, the development standards associated with these districts, such as floor area factor and minimum setbacks (see Table B-5. UDO Nonresidential District Density & Dimensional Standards), do not permit compact development located along the sidewalk, which is a key characteristic of walkable areas. The floor area factor for the most intensive commercial district, the Limited Commercial district, results in an effective maximum lot coverage of just 50 percent. To facilitate mixed-use development, it may be appropriate to streamline the PUD process for such development in particular or consider the creation of a new mixed-use zoning district. Another effective County approach may be to continue to focus on walkable zones in incorporated areas and encourage municipalities to develop TOD and EOD plans.

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10 The floor area factor is the amount of total developable floor area allowed per acre of site area
Table B-5. Unified Development Ordinance Nonresidential District Density & Dimensional Standards

<table>
<thead>
<tr>
<th>Zoning District</th>
<th>Floor Area Factor</th>
<th>Minimum Size (sq. ft. ($7.7.1))</th>
<th>Minimum Width (ft. ($7.7.2))</th>
<th>Minimum Setbacks ($7.7.3)</th>
<th>Max. ISR (each lot) ($7.7.4)</th>
<th>Max Height (feet ($7.7.5))</th>
</tr>
</thead>
<tbody>
<tr>
<td>GO</td>
<td>0.45</td>
<td>40,000</td>
<td>50</td>
<td>12</td>
<td>0.50</td>
<td>50 [1]</td>
</tr>
<tr>
<td>LC [3]</td>
<td>0.50</td>
<td>10,000</td>
<td>30</td>
<td>12 [2]</td>
<td>0.75</td>
<td>35</td>
</tr>
<tr>
<td>RC [2]</td>
<td>0.20</td>
<td>20,000</td>
<td>50</td>
<td>10 [2]</td>
<td>0.75</td>
<td>35</td>
</tr>
<tr>
<td>LI</td>
<td>0.45</td>
<td>40,000</td>
<td>50</td>
<td>20</td>
<td>0.60 [6]</td>
<td>50 [1]</td>
</tr>
<tr>
<td>Il [2]</td>
<td>0.45</td>
<td>40,000</td>
<td>50</td>
<td>20</td>
<td>0.60 [6]</td>
<td>50 [1]</td>
</tr>
<tr>
<td>OS [1]</td>
<td>0.07</td>
<td>200,000</td>
<td>30</td>
<td>30</td>
<td>0.15</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: Unified Development Ordinance, Table 7.1-4

Sustainable Development Regulations
In December 2011, the County Board adopted the *Promoting Sustainable Building and Development Practices in Lake County* report, which proposed a variety of ways that the County could incorporate sustainability into its UDO and other ordinances. The report covered many topics, including energy, land use, transportation, green buildings, open space, natural resources, water, and food supply. As related to land use and site development, the report emphasizes mixed-use development in denser and transit-served locations; innovative and alternative parking strategies; sustainable subdivision development; improved street connectivity; and a variety of green building techniques (see Table B-6. Sustainable Practices Report: Land Use & Development Recommendations). The report identifies which specific County regulations either promote or discourage various sustainability-related building and development practices, making it an invaluable guide for measures that the County may take toward greening its regulations.


<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Pg. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentivize or require mixed-use development in denser and transit-served locations and as part of large PUD &amp; as-of-right projects</td>
<td>17</td>
</tr>
<tr>
<td>Consider decreasing the minimum lot area requirement for lots containing an accessory dwelling unit</td>
<td>19</td>
</tr>
<tr>
<td>Consider creating a sustainability relief procedure that would allow modification of certain UDO requirements that inhibit infill or redevelopment projects</td>
<td>20</td>
</tr>
<tr>
<td>Amend the UDO to provide density incentives and/or design standards for existing/planned transit-served locations</td>
<td>22</td>
</tr>
<tr>
<td>Reduce parking requirements for nonresidential developments that use Travel Demand Management strategies</td>
<td>22</td>
</tr>
<tr>
<td>Add requirements for stub streets or connectivity index, or encourage connectivity through green subdivision incentive program</td>
<td>25</td>
</tr>
<tr>
<td>Require sidewalks and mid-block ped crossings, restrict cul-de-sacs and dead ends, establish shorter block and cul-de-sac length standards, implement traffic calming and complete streets</td>
<td>26</td>
</tr>
<tr>
<td>Require connections via streets/paths from residential areas to nearby schools</td>
<td>28</td>
</tr>
<tr>
<td>Add bicycle parking requirements or incentivize bicycle parking through offsets in vehicle parking requirements</td>
<td>29</td>
</tr>
<tr>
<td>Offer parking incentives for developments that provide priority parking for low-emission and/or fuel-efficient vehicles</td>
<td>30</td>
</tr>
<tr>
<td>Expressly allow electric vehicle charging stations in all zoning districts</td>
<td>32</td>
</tr>
<tr>
<td>Establish lower minimum ratios for some land uses and lower minimums (or maximums) for uses close to transit</td>
<td>55</td>
</tr>
<tr>
<td>Consider incentives to encourage remediation and redevelopment of brownfield sites</td>
<td>61</td>
</tr>
<tr>
<td>Revise parking regulations to accommodate reuse and expansion of existing buildings (exemptions for special circumstances)</td>
<td>62</td>
</tr>
</tbody>
</table>

Housing

Providing a variety of housing options enhances sustainability and livability for several reasons. Having a broad array of housing choices widens the spectrum of potential residents who could choose to locate in the County, thus enhancing diversity and fostering economic development. Providing more compact and smaller housing, such as condos, apartments, and townhomes, opens the door to young families, those of modest means, and seniors hoping to age in place. In addition, smaller footprint housing consumes less energy and fewer resources and helps to support alternative transportation modes and commercial uses.

The Regional Framework Plan acknowledges that, at the time that the plan was written, there was a shortage of housing for every price cohort, except the highest end.\textsuperscript{11} The median housing value increased 39.9 percent from 2000 to the 2010 estimate, from $191,600 to $268,000. In addition, 2010 estimate data shows that the County’s housing stock is comprised of just 9.8 percent 0-1 bedroom housing units, compared with a regional average of 16.3 percent, and 23.3 percent 2 bedroom housing units, compared with a regional average of 29.0 percent (see Table B-7. Housing Size). Lake County has also seen a trend over the past 30 years of increasing single family housing stock and decreasing multifamily units (see Table B-8. Housing Type). From 1980 to the 2010 estimate, single family units in the County increased by six percent, while the total number of multifamily units decreased by six percent. This information, along with very low vacancy rates, points toward a potential need for affordable and smaller footprint housing types in the County.

Table B-7. Housing Size, 2010 estimate

<table>
<thead>
<tr>
<th></th>
<th>0-1 Bedroom</th>
<th>2 Bedrooms</th>
<th>3 Bedrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
<td>Count</td>
</tr>
<tr>
<td>Lake County</td>
<td>25,558</td>
<td>9.80%</td>
<td>60,674</td>
</tr>
<tr>
<td>Chicago region</td>
<td>550,697</td>
<td>16.30%</td>
<td>977,035</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>4 Bedrooms</th>
<th>5 Bedrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Lake County</td>
<td>69,672</td>
<td>26.80%</td>
</tr>
<tr>
<td>Chicago region</td>
<td>553,450</td>
<td>16.40%</td>
</tr>
</tbody>
</table>

Source: 2010 American Community Survey 1-Year Estimates, U.S. Census Bureau

\textsuperscript{11} RFP, p. 8-1
<table>
<thead>
<tr>
<th>Housing Types*</th>
<th>1980</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Single Family</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>108,334</td>
<td>74.30%</td>
</tr>
<tr>
<td>1-unit, detached</td>
<td>102,585</td>
<td>70.40%</td>
</tr>
<tr>
<td>1-unit, attached</td>
<td>5,749</td>
<td>3.90%</td>
</tr>
<tr>
<td><strong>Multifamily Total</strong></td>
<td>37,474</td>
<td>25.70%</td>
</tr>
<tr>
<td>2 units</td>
<td>9,125</td>
<td>6.30%</td>
</tr>
<tr>
<td>3 or 4 units</td>
<td>7,274</td>
<td>5.00%</td>
</tr>
<tr>
<td>5+ units</td>
<td>21,075</td>
<td>14.50%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>145,808</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing Types*</th>
<th>2000</th>
<th>2010 Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Single Family</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>175,765</td>
<td>79.30%</td>
</tr>
<tr>
<td>1-unit, detached</td>
<td>155,336</td>
<td>70.10%</td>
</tr>
<tr>
<td>1-unit, attached</td>
<td>20,429</td>
<td>9.20%</td>
</tr>
<tr>
<td><strong>Multifamily Total</strong></td>
<td>45,789</td>
<td>20.70%</td>
</tr>
<tr>
<td>2 units</td>
<td>7,268</td>
<td>3.30%</td>
</tr>
<tr>
<td>3 or 4 units</td>
<td>7,645</td>
<td>3.50%</td>
</tr>
<tr>
<td>5+ units</td>
<td>30,876</td>
<td>13.90%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>221,554</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

*Excludes mobile home, trailer, boat, RV, van, etc.

Source: Regional Framework Plan; 2010 American Community Survey 1-Year Estimates, U.S. Census Bureau

<table>
<thead>
<tr>
<th>County</th>
<th>Transportation Cost</th>
<th>Housing Cost</th>
<th>Housing &amp; Transportation Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cook</td>
<td>17.7%</td>
<td>26.1%</td>
<td>43.8%</td>
</tr>
<tr>
<td>DuPage</td>
<td>20.5%</td>
<td>34.5%</td>
<td>55.0%</td>
</tr>
<tr>
<td>Kane</td>
<td>22.0%</td>
<td>30.4%</td>
<td>52.4%</td>
</tr>
<tr>
<td>Lake</td>
<td>21.7%</td>
<td>38.0%</td>
<td>59.7%</td>
</tr>
<tr>
<td>McHenry</td>
<td>22.9%</td>
<td>32.9%</td>
<td>55.8%</td>
</tr>
<tr>
<td>Will</td>
<td>22.4%</td>
<td>30.3%</td>
<td>52.7%</td>
</tr>
<tr>
<td>Chicago region</td>
<td>19.1%</td>
<td>28.4%</td>
<td>47.5%</td>
</tr>
</tbody>
</table>

Source: Center for Neighborhood Technology, 2011
CNT developed the H+T Index to evaluate community affordability by considering both housing and transportation costs. The H+T Index rates an area as affordable if the area’s combined average housing and transportation costs comprise less than 45 percent of household income (HHI). Of the 45 percent total, housing costs that comprise 30 percent or less of HHI and transportation costs that comprise 15 percent or less are considered affordable. According to the H+T Index, the cost of transportation for the average Lake County household comprises 21.7 percent of the region’s median HHI, while housing costs are responsible for around 38 percent (see Table B-9. Average Housing & Transportation Costs as a Percentage of Income). The County’s H+T Index indicates that housing and transportation costs in Lake County comprise over six percentage points more of median HHI than the regional average. Most of the difference can be attributed to the County’s housing costs, which comprise ten percentage points more of the median HHI in Lake County than the average for the Chicago region.

However, housing value, stock, and affordability vary greatly from one community to another in the County. In general, the southern third of the County has the highest housing values for single-family units, while the northeastern lakefront communities have the lowest housing values (with another low value area near the intersection of IL-120 and IL-83) (see Regional Framework Plan, Figure 8.6). The County has recognized the need for more affordable housing, and many municipalities have taken steps toward providing more options as well. In 2004, the Illinois Affordable Housing Planning and Appeal Act went into effect, and required counties to adopt affordable housing plans if ten percent or less of the housing was classified as unaffordable. While Lake County at large is exempt because it meets the threshold of affordable units, 20 County municipalities were considered non-exempt as of 2011. The majority of these municipalities have adopted affordable housing plans, which include identification of properties appropriate for affordable housing; incentives to attract affordable housing to their jurisdictions; and a goal for a minimum of 15 percent of new development or redevelopment to qualify as affordable, or a minimum increase of three percentage points in the municipality’s affordable units, or a minimum of ten percent of all units classified as affordable.

Brownfields
The federal government identifies highly contaminated properties that have large cleanup costs associated with them as “Superfund sites,” while less contaminated properties are known as “brownfields.” These sites pose potential barriers to redevelopment due to environmental and/or financial concerns associated with cleaning up the sites. There are a number of contaminated commercial and industrial sites in the County, and five identified Superfund sites, which include: the H.O.D. Landfill (near Antioch); Yeoman Creek Landfill (Waukegan); Johns-Manville site (Waukegan); Outboard Marine Corporation property (Waukegan); and Wauconda Sand and Gravel site (Wauconda). These five sites have all undergone partial or complete remediation.

Brownfield sites are broadly defined as sites with either the presence or potential presence of a hazardous substance, pollutant, or contaminant and, as such, are much more numerous. Such sites are not formally inventoried but do require cleanup prior to redevelopment. The extent of cleanup may be

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13 RFP, p. 8-18.
14 RFP, p. 6-15.
16 RFP, p.6-17.
contingent upon the proposed new use(s) of the property in question. There are many federal, state, and local sources of funding to perform remediation activities. From 2000 to 2010, Lake County had an active brownfield fund, which had a limited effectiveness.

**Green Building**
A “green building,” also known as a sustainable or high performance building, is built to be environmentally responsible and resource efficient throughout its life-cycle, including siting, design, construction, operations, maintenance, renovations, and deconstruction. Lake County has worked to promote the goals of sustainable building and development through its *Strategic Plan* and, subsequently, the *Strategy for a Sustainable Lake County* and *Promoting Sustainable Building and Development Practices in Lake County* documents. In particular, *Sustainable Building and Development Practices* contains detailed guidance to remove regulatory barriers, provide incentives, and encourage various sustainable practices, and offers a number of sample ordinances to guide regulatory revisions.

Table B-10 shows potential incentives for several green development practices that may be appropriate opportunities to consider.

The *Sustainable Building and Development Practices* report identifies numerous strategies to increase building performance through retrofits and renovations, including:

- **Renewable energy**: solar collectors and panels, wind energy, and geothermal energy
- **Building orientation**: passive solar through building orientation, solar shading and light shelves
- **Urban heat island solutions**: cool roofs and pavement and green roofs
- **Energy efficiency measures**: exterior insulation, energy-efficient outdoor lighting

The Alternative Energy Task Force (AETF) of Lake County Communities researched and reported on the potential for permitting solar, wind and geothermal energy systems in the County and created model renewable energy ordinances. As a result of their these ordinances have been adopted by a number of County municipalities (see Energy & Waste section for more information).

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18 Lake County Board, *Strategy for a Sustainable Lake County*, 2009
19 Lake County Board, *Promoting Sustainable Building and Development Practices in Lake County*, December, 2011
In 2010, Lake County opened its new Central Permit Facility in Libertyville, a green building with several innovative features. The building has a high efficiency HVAC system for heating and cooling, vegetated green roof, and demonstration rain gardens and bioswales, and uses renewable materials with low volatile organic compounds (VOC) in its interiors. The Central Permit Facility serves as an example of Lake County’s commitment to green building and sustainable practices and also as a demonstration project for developers who visit to apply for building and development permits.

The U.S. Green Building Council’s LEED (Leadership in Energy and Environmental Design) rating systems provide a series of criteria for assessing building performance. LEED certification provides third-party verification and can be performed on a wide array of building types. Lake County is home to 67 LEED-registered projects, 29 of which have completed certification. LEED-certified projects in Lake County include (see appendix for full list):

- Great Lakes Camp Porter Barracks (LEED for New Construction, Silver)
- Lake Bluff Elementary School (LEED for Schools, Silver)
- Abbott Laboratories (LEED for Existing Buildings, Operations and Maintenance, Gold)
- Grainger Headquarters (LEED for Existing Buildings, Operations and Maintenance, Gold)
- Lincolnshire Office Center (LEED for Core and Shell, Gold)

Adaptive Reuse and Historic Preservation

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Although many green building guides focus on the techniques and technologies that can be implemented in new high performance buildings, adaptive reuse presents an opportunity to preserve existing buildings while retaining greenfields and open spaces. Existing development has inherent “embodied energy” in the form of infrastructure and building materials. The *Sustainable Building and Development Practices* report supports adaptive reuse and suggests the revision of parking requirements to accommodate the innovative reuse of existing buildings. The report also notes that existing nonconformity regulations allow a fair amount of flexibility with regard to reuse, rehabilitation, and expansion of nonconforming structures.\(^{21}\)

Often, strategic reuse and redevelopment have the dual benefit of preserving historic sites and places. According to the National Park Service’s National Register of Historic Places, there are currently 90 historic places in Lake County, including 21 historic districts.\(^{22,23}\) Many of the historic districts are clustered within lakefront communities. As noted in the *Regional Framework Plan*, many incentive programs exist at the state and federal levels to encourage historic preservation.\(^{24}\) For example, the Illinois Historic Preservation Agency is offering a property tax freeze to owner-occupants of historic residences who rehabilitate their homes.\(^{25}\)

**Goal and Policies**

**Goal:** Promote sustainable buildings and development.

**Policy 1:** Continue to assess and revise development regulations to protect natural resources and encourage sustainable development.

[Ref.: Goal 9.1, Pol. 6.2.2, Pol. 10.2.4, Pol. 4.10.1, Pol. 10.2.7, Pol. 10.3.1, Pol. 7.2.1]

1. **Action 1:** Update the County’s development regulations per the recommendations made in this and other Plan chapters, the *Promoting Sustainable Building and Development Practices* report, and other County documents.
2. **Action 2:** Continue to regularly evaluate and amend County regulations to promote sustainable practices in the future.

**Policy 2:** Incentivize high impact green building practices.

[Ref.: *Promoting Sustainable Building and Development Practices* report]

1. **Action 1:** Using the “*Promoting Sustainable Building and Development Practices*” report as a guide, develop incentives for high impact green building techniques. This action step should be pursued in conjunction with the update of the County’s development regulations (see Policy 1 above).

---

\(^{21}\) *Promoting Sustainable Building and Development Practices* report, p. 62
\(^{24}\) RFP, p.10-4
\(^{25}\) [http://www.lakecountyil.gov/Assessor/PreferentialAssessments/Pages/CertificateofRehabilitation.aspx](http://www.lakecountyil.gov/Assessor/PreferentialAssessments/Pages/CertificateofRehabilitation.aspx)
**Policy 3:** When possible, future development, especially higher-intensity development or Transit-Oriented Development (TOD), should occur in areas that have existing or planned services and infrastructure.

[Ref.: Pol. 4.1.5, Pol. 7.1.2, Pol. 8.1.1, Pol. 8.6.1, Pol. 9.4.1, Pol. 9.4.2, Pol. 10.2.6, Pol. 10.5.4, Goal 8.3, Goal 8.4, Goal 8.6, Goal 9.4]

**Action 1:** Review zoning maps to determine where higher-intensity uses are currently permitted and review potential areas where such uses should be expanded, such as in transit and employment centers or along regional transportation corridors. Ensure that mixed-use development and a variety of housing types may be built within those areas.

**Action 2:** Streamline the County’s PUD process for TOD and/or explore creating a distinct TOD/mixed-use zoning district to be applied within identified transit and employment centers.

**Action 3:** Support municipal efforts to undertake TOD planning and implementation as needed.

**Action 4:** Encourage municipalities to create mixed-use zoning districts when applicable.

---

**Policy 4:** Continue to explore additional incentives for the use of conservation residential development standards, especially in areas that have significant natural resources or a need for additional open space.

[Ref.: Pol. 4.2.4, Pol. 5.3.2, Pol. 8.6.4, Pol. 9.2.4, Pol. 10.3.4]

**Action 1:** Determine areas of need for additional open space in the unincorporated County (see Open Space section of this Chapter).

**Action 2:** During the initial stages of the development review process, promote the use of conservation residential development techniques in unincorporated areas, where natural resources are located or a need for additional open space exists.

**Action 3:** Work with the developer community to identify and assess additional incentives for the use of conservation design.

---

**Policy 5:** Study and consider adoption of standards and incentives for non-residential conservation development best practices.

[Ref.: Pol. 4.2.4, Pol. 5.3.2, Pol. 9.2.4, Pol. 10.3.4]

**Action 1:** Identify economically feasible standards and best practices for conservation non-residential development.

**Action 2:** Identify incentives to promote the use of conservation non-residential development best practices during the development review process.

---

**Policy 6:** Encourage the rehabilitation and redevelopment of brownfields to create environmentally and economically viable areas.

[Ref.: Goal 6.5, Pol. 6.5.1, Pol. 6.5.2, Pol. 6.5.4]

**Action 1:** Refer municipalities, developers, and property owners to informational resources and encourage them to apply for grants related to the assessment and rehabilitation of brownfields.

**Action 2:** Review the zoning districts and associated permitted uses for known brownfields areas to ensure that economically viable uses are allowed.

---

**Policy 7:** Encourage the preservation and/or adaptive reuse of existing buildings, especially those that are culturally or historically significant.

[Ref.: Goal 6.7, Policy 6.3.1, Policy 6.7.1]
Action 1: Refer local governments, property owners, and investors to historic preservation programs and grants.
Action 2: Review development regulations to ensure adequate flexibility in permitted uses and parking requirements that will accommodate reuse and expansion of existing buildings.

Indicators

While the policies in this Chapter will be implemented on an ongoing basis, each indicator will be monitored on an annual basis and evaluated every five years. “Lake County Indicators” include indicators that are within the County government’s purview, while “Community Indicators” relate to activities within the County at large.

Lake County Indicators:

Indicator 1: Lake County development regulations will be revised to include sustainable provisions per the recommendations of all pertinent existing County documents by 2016. (PBD)

Community Indicators:

Indicator 1: The number of new residential developments utilizing conservation design principles in areas with significant natural resources will increase by 2018. (PBD)
Indicator 2: The annual number of green building applications will increase by 2018. (PBD)

Implementation Approach

<table>
<thead>
<tr>
<th>Policy</th>
<th>Inter-governmental</th>
<th>County Departments and Agencies</th>
<th>Non-County Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Continue to assess and revise development regulations to protect natural resources and encourage sustainable development.</td>
<td>PB&amp;D, SMC, LCHD, LCPW, LCDOT</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Incentivize high impact green building practices.</td>
<td>PB&amp;D</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>When possible, future development, especially higher-intensity development or Transit-Oriented Development (TOD), will occur in areas that have existing or planned services and infrastructure.</td>
<td>PB&amp;D, LCDOT</td>
<td>RTA, Metra</td>
</tr>
<tr>
<td>4</td>
<td>Continue to explore additional incentives for the use of conservation residential development standards, especially in areas that have significant natural resources or a need for additional open space.</td>
<td>PB&amp;D</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Study and consider adoption of standards and incentives for non-residential conservation development best practices.</td>
<td>PB&amp;D</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Encourage the rehabilitation and redevelopment of brownfields to create environmentally and economically viable areas.</td>
<td>PB&amp;D</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Encourage the preservation and/or adaptive reuse of existing buildings, especially those that are culturally or historically significant.</td>
<td>PB&amp;D</td>
<td></td>
</tr>
</tbody>
</table>
Figure 8.6 (from RFP). Housing Value for Single-Family Units (2001 EAV)

Source: Lake County Geographic Information System
C. Transportation & Mobility

The content of the Transportation and Mobility section of the Sustainability Chapter is most closely related to Regional Framework Plan Chapter 7: Transportation.

Significance

Lake County’s transportation system is vital to its sustainability and continued economic prosperity. The transportation network in the County is comprised of its roads, sidewalks, trails, railways, bikeways, and public transportation amenities. While the County has many transportation assets, issues such as traffic congestion, pollution and emissions associated with the use of private automobiles and freight, and rising transportation costs pose potential obstacles to a sustainable and economically competitive future.

Data shows that County residents are driving more than the region’s average resident. The average County household drove almost 61 miles per day in 2007 while the average household in the region drove approximately 13 miles less on a daily basis. Private vehicle travel has a corollary impact on the greenhouse gas emissions produced by the transportation sector. In 2007, the transportation sector was responsible for over a quarter of the County’s emissions. In addition, residents in Lake County spend, on average, about 21.7 percent of their income on transportation, while the regional average is 19.1 percent. According to CNT’s H+T Index, transportation costs should represent about 15 percent of household income in an affordable community. Much of this increased travel time and cost is likely associated with County residents’ accessibility to jobs in the region (see Table C-1. Accessibility to Regional Jobs). Just over seven percent of the region’s jobs are accessible within a 45-minute drive, compared with an average for the Chicago region of almost 16 percent; about 9.5 percent of the region’s jobs are accessible by transit within a 75-minute commute, compared with a regional average of almost 21 percent. Since Lake County has a somewhat limited ability to improve residents’ access to regional jobs, reducing private vehicle use by providing a variety of viable transportation options is an even more critical component of a livable and sustainable County.

Table C-1. Accessibility to Regional Jobs

<table>
<thead>
<tr>
<th></th>
<th>Cook County</th>
<th>DuPage County</th>
<th>Kane County</th>
<th>Kendall County</th>
<th>Lake County</th>
<th>McHenry County</th>
<th>Will County</th>
<th>Chicago Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Jobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessible by</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobile (commute</td>
<td>37.10%</td>
<td>31.30%</td>
<td>8.30%</td>
<td>4.10%</td>
<td>8.80%</td>
<td>3.90%</td>
<td>9.40%</td>
<td>29.10%</td>
</tr>
<tr>
<td>time of 45 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>or less)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Jobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessible by Transit (commute time of 75 minutes or less)</td>
<td>38.10%</td>
<td>26.40%</td>
<td>10.70%</td>
<td>9.30%</td>
<td>12.10%</td>
<td>5.20%</td>
<td>9.50%</td>
<td>29.70%</td>
</tr>
</tbody>
</table>

Source: Chicago Metropolitan Agency for Planning, weighted travel model for roadway and public transportation

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26 CNT MEPP
27 CNT H+T Index
Lake County is in a unique position to effect change related to transportation issues, as the Lake County Division of Transportation (LCDOT) has jurisdiction over nearly 300 miles of roads within County boundaries. In 2010, LCDOT adopted its Policy on Infrastructure Guidelines for Non-Motorized Travel Investments (“Non-Motorized Travel Policy”), which sets forth a standard for County roadway improvements “to provide appropriate accommodation for vehicles, pedestrians, bicyclists, transit users, and persons of all abilities.” The Policy embodies a sustainable approach to transportation known as “Complete Streets,” which focuses on the needs of all users – pedestrians, bicyclists, transit users, and automobile drivers – in designing transportation facilities.

Issues & Opportunities
The following key issues and opportunities related to transportation and mobility have been identified through the existing conditions analysis:

- The Lake County Division of Transportation (LCDOT) manages and maintains almost 300 miles of road infrastructure, and the recent adoption of its Non-Motorized Travel Policy presents an opportunity to implement Complete Streets in the County.
- Municipalities manage almost 60 percent of the County’s road infrastructure and have great potential to impact the availability of alternative and non-motorized transportation modes.
- The IL 53/120 Tollway project has the potential to alleviate congestion and improve accessibility in the County but the mitigation of negative environmental impacts and implications for greenfield development in the western County should continue to be carefully assessed.
- Private automobile use remains the primary mode of transportation for residents of Lake County. In 2007, the average Lake County household drove about 60.8 miles per day versus a regional average of around 47.8 miles per day.
- County residents use public transportation at a slightly lower rate than the collar-county average (3.8 percent versus 4.4 percent of work trips). In addition, the number of residents who walk to work is higher than the collar-county average (2.8 percent versus 1.7 percent).
- The three Metra lines that serve Lake County have generally seen slow but steady ridership increases over the past three decades, and ridership has recently been climbing on two of Metra’s three lines that service Lake County (North Central Service and Milwaukee District North lines).
- One-third of the County’s Metra station areas either are currently undertaking or have already completed TOD plans. The two Metra station areas in unincorporated County (Long Lake and Prairie View) present opportunities for transit-oriented development through the PUD process or a new mixed-use zoning district.
- Within Metra station areas, multifamily uses are expected to see an increase of 126 percent, per future land use projections, indicating a shift toward supportive residential densities adjacent to station areas. However, retail/commercial and office/research uses are projected to decrease.
- In the past five years, Pace ridership on routes that serve the County has increased about 9.4 percent, with 18 of the County’s 29 routes seeing increases in ridership. The Transportation Management Association of Lake Cook, in conjunction with Pace and Metra, has implemented 12 shuttle bugs (10 of which run in Lake County) that transport employees from the Metra to their place of employment. However, half of these shuttle bug routes saw ridership declines from 2007-2012.

• Pace-supported Dial-a-Ride and local jurisdiction/non-profit transportation provide additional services for residents in need.
• The County is well served by almost 500 miles of bikeways, including 130 miles of trails managed by the Forest Preserve District and over 50 miles managed by LCDOT.
• On-road bicycling facilities, such as designated bike lanes and bicycle-friendly paved shoulders, are gaining in popularity but are not as prevalent as off-road facilities within the County. However, a lack of complete sidewalk and bikeway amenities creates unsafe pedestrian conditions and leads to additional unnecessary automobile trips.

Analysis

Road Infrastructure
Lake County’s road infrastructure spans nearly 2,700 miles and is managed at the state, county, township, and municipal levels (see Figure C-1. Transportation Facilities). The Illinois Department of Transportation (IDOT) oversees 330 miles of state highways in Lake County.29 The Tri-State Tollway, or I-94, is the County’s only interstate highway and is managed by the Illinois Tollway, which constructs, maintains, and operates all tollways in northern Illinois.30 The Lake County Division of Transportation (LCDOT) manages the County highway system, which is comprised of about 300 miles of arterial and collector roads, 162 signalized intersections, and 35 bridges. There are also over 430 miles of township roads and streets, managed by elected township highway commissioners.

While the State, County, and townships play a critical role in Lake County’s road infrastructure, almost 60 percent of County road mileage is constructed, maintained, and managed by its municipalities.31 Municipal streets are located within the boundaries of a municipality and provide access to community attractions, shopping areas, employment centers, neighborhoods, and subdivisions. In their management and design of roadways, municipalities have a significant impact on the extent to which Complete Streets exist in the County.

Major Capital Projects
Several capital projects related to transportation are currently underway in Lake County. In 2009, an intergovernmental group, including Lake County and 11 municipalities, developed the Unified Vision for the Route 120 Bypass. The project would involve the creation of a new tollway facility through central Lake County via an extension of IL Route 53 and bypass of Route 120. This proposed project – called the IL 53/120 Tollway project – would extend north for 12.5 miles from the terminus of IL-53 at Lake Cook Road to just south of IL-120, with a combination of a new Route 120 bypass and improvements to the existing Route 120 between US-41 on the east and US-12 on the west.

Although the project in varying forms has been under consideration in the County since the 1960s, renewed interest in the project was spurred by support voiced in GO TO 2040, the region’s long-range comprehensive plan. The Corridor is one of only five new major capital projects included in the GO TO 2040 plan and was supported due to its potential to improve mobility and accessibility in highly congested portions of the County. GO TO 2040 emphasized that the project should be designed to minimize negative impacts on natural resources and preserve the character of adjacent communities.

30 (LCDOT, 2012)
31 (LCDOT, 2012)
A Blue Ribbon Advisory Council was formed by the Tollway in 2011 to develop a consensus on whether the facility should move forward, as well as the configuration, design, and financing of the project. In May 2012, the Council approved a resolution in support of a four-lane, limited access tolled parkway with a 45 mile-per-hour speed limit. In addition to this small footprint and moderate speed boulevard, the plan includes numerous innovative features to preserve community character and support environmental mitigation, such as depressed sections or earthen berms, stormwater treatment features, and ongoing lighting, deicing, and maintenance standards.  

**Lake County PASSAGE**

The application of Intelligent Transportation System (ITS) technology offers a complimentary approach to system expansion to help alleviate congestion and reduce the environmental impacts of travel. The Lake County Division of Transportation has pursued this strategy and developed the Lake County PASSAGE system which offers a variety of information tools and operational improvements to the traveling public and makes the existing travel network in Lake County operate more efficiently. This has the intended effect of reducing travel delays for motorists and helps to reduce the associated negative environmental impacts of traffic congestion including degraded air quality and increased carbon emissions.

**Complete Streets**

The State of Illinois passed Complete Streets legislation in 2007, which requires bicycle and pedestrian facilities to receive full consideration in the planning and development of state transportation facilities. Complete Streets strive to address the needs of all users – motorists, cyclists, transit users, and pedestrians – in designing and constructing roadways. IDOT followed this legislation in June 2010 with a memorandum that sets specific criteria for considering bicycle and pedestrian accommodations, which must be used for all state roadway improvement projects. In December 2010, LCDOT adopted its *Policy on Infrastructure Guidelines for Non-Motorized Travel Investments* (“Non-Motorized Travel Policy”), which sets forth a Complete Streets mandate for County roadway improvements “to provide appropriate accommodation for vehicles, pedestrians, bicyclists, transit users, and persons of all abilities.” This is particularly important in encouraging the use of alternative forms of transportation which are less energy-intensive, produce fewer emissions, and add to quality of life and livability.

**Private Vehicular Transportation**

In the Chicago region, private automobile use remains the predominant transportation choice for the majority of trips. Lake County is no exception; in 2010, over 83 percent of residents drove alone for their work commutes, compared with a regional average of 69.4 percent (see Table C-2. Mode Share). In addition, County residents utilized transit for 3.8 percent of work trips, compared with an average of 4.4 percent across the region’s collar counties. While dependence on private vehicle use is linked with suburban and rural land use patterns, this travel mode has several negative environmental impacts.

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33 “Policy on Infrastructure Guidelines for Non-motorized Travel Investments.”

34 (LCDOT, 2010)


Combustion of fuel in vehicles leads to depletion of petroleum resources, degraded air quality, and increased carbon emissions. In 2007, the transportation sector was responsible for over a quarter of Lake County’s greenhouse gas emissions, making it the second largest contributor to emissions in the County, behind electricity usage (see Table C-3. Greenhouse Gas Emissions by Sector). In addition, the cost of gas has been rising rapidly in recent years, making driving an increasingly costly venture. One study estimates the annual savings of commuting by public transportation instead of by car at over $11,000 for the Chicago region.\(^{37}\)

Looking at a community’s annual vehicle miles traveled (VMT) provides a metric to assess how much its residents are traveling via private vehicle. In 2007, the County’s total household VMT was 5,223,678,753 miles. The average Lake County household drove approximately 22,197 miles – about 60.8 miles per day – via private vehicle, while the average household in the region drove about 17,443 miles (or around 47.8 miles) per day.\(^{38}\) This indicates that households in Lake County are spending more time traveling via private vehicle than households in many other parts of the region.

### Table C-2. Mode Share (percent of work trips), 2010 estimates

<table>
<thead>
<tr>
<th>Mode(^{*})</th>
<th>Lake County</th>
<th>Lake County, Percent</th>
<th>Chicago region</th>
<th>Chicago region, Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive alone</td>
<td>257,313</td>
<td>83.4%</td>
<td>2,667,539</td>
<td>69.4%</td>
</tr>
<tr>
<td>Carpool</td>
<td>27,051</td>
<td>8.8%</td>
<td>333,479</td>
<td>8.7%</td>
</tr>
<tr>
<td>Transit</td>
<td>13,196</td>
<td>4.3%</td>
<td>470,499</td>
<td>12.2%</td>
</tr>
<tr>
<td>Walk</td>
<td>5,608</td>
<td>1.8%</td>
<td>123,590</td>
<td>3.2%</td>
</tr>
<tr>
<td>Other</td>
<td>5,278</td>
<td>1.7%</td>
<td>66,507</td>
<td>1.7%</td>
</tr>
<tr>
<td>Total workers</td>
<td>308,446</td>
<td>100.0%</td>
<td>3,661,614</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*Note: data excludes those who worked from home

*Source: 2010 American Community Survey 1-year estimates, U.S. Census Bureau*

### Table C-3. Greenhouse Gas Emissions by Sector (percent of total emissions), 2007

<table>
<thead>
<tr>
<th>Sector</th>
<th>Cook</th>
<th>DuPage</th>
<th>Kane</th>
<th>Kendall</th>
<th>Lake</th>
<th>McHenry</th>
<th>Will</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>45.2%</td>
<td>50.8%</td>
<td>46.5%</td>
<td>43.1%</td>
<td>47.2%</td>
<td>45.7%</td>
<td>44.5%</td>
<td>46.1%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>24.6%</td>
<td>18.7%</td>
<td>22.5%</td>
<td>19.2%</td>
<td>21.6%</td>
<td>21.7%</td>
<td>24.6%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Transportation</td>
<td>21.0%</td>
<td>26.2%</td>
<td>24.5%</td>
<td>30.0%</td>
<td>25.4%</td>
<td>25.1%</td>
<td>25.5%</td>
<td>23.0%</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>4.7%</td>
<td>0.7%</td>
<td>2.1%</td>
<td>3.1%</td>
<td>1.7%</td>
<td>2.7%</td>
<td>1.4%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Waste Water</td>
<td>0.9%</td>
<td>0.7%</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.9%</td>
<td>0.9%</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Product Use</td>
<td>3.6%</td>
<td>3.0%</td>
<td>3.5%</td>
<td>3.8%</td>
<td>3.3%</td>
<td>3.8%</td>
<td>3.2%</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

*Source: Center for Neighborhood Technology Municipal Energy Profile Project*

### Public Transportation

One of Lake County’s transportation goals is to provide transportation options that respond to the needs of all residents. Public transportation provides an affordable and environmentally friendly alternative to private vehicle use, and caters specifically to the numerous County residents who cannot or choose not to drive, including youths, senior citizens, people with disabilities, and low-income residents. Public transportation is...\(^{37}\)


\(^{38}\) CNT Municipal Energy Profile Project.
transportation is also a critical component of sustainable development that encourages land, resource, and fuel efficiency by grouping trips and destinations closer together.

Lake County’s primary public transit options include Metra commuter train service and Pace Suburban Bus service. The three Metra commuter lines in the County primarily link County residents with Chicago’s loop and other destinations along the way, while the Pace bus system is more oriented toward intra-County travel, linking destinations in adjacent communities. In 2011, County residents utilized transit for about 3.8 percent of work trips, slightly below the collar-county average of 4.4 percent.39

Figure C-2. County Metra Ridership, 1983-2011


Lake County is served by the Milwaukee District North (MD-N), North Central Service (NCS), and Union Pacific North (UP-N) Metra rail lines (see Figure C-1. Transportation Facilities). In general, all three lines have seen slow but steady increases in ridership over the past three decades (see Figure C-2. County Metra Ridership). In 2011, system ridership as a whole increased by 1.6 percent to 82.7 million trips, marking Metra’s third-highest year for ridership (after 2008 and 2007). Nine of Metra’s 11 lines experienced ridership gains, including two that serve Lake County. The NCS line saw a 6.1 percent increase in ridership (second only to the Union Pacific Northwest Line’s 7.5 percent increase) while the MD-N line gained 1.8 percent in ridership. However, the County’s third Metra service route, the UP-N, experienced the greatest drop in ridership of the Metra system, at 6.7 percent.40

While the UP-N line boasts the highest ridership of the three system-wide, the MD-N has the highest ridership when only considering boardings for stations within Lake County (see Table C-4. Characteristics of County Metra Stations).41 From 2002 to 2006, all three Metra lines in Lake County saw significant increases in ridership, with the NCS line experiencing the highest growth (13.7 percent). While the mode of access to Metra stations was somewhat consistent between the NCS and MD-N lines, the UP-N line is unique in its relatively high representation of cyclist and pedestrian access — a rate of 25 percent versus just 11 percent for both the NCS and MD-N lines. Fewer than half of riders accessed UP-N stations in Lake County by driving alone, compared to 61 percent of riders on the NCS line and 67 percent on the MD-N line. While the NCS line has less than half the ridership of the UP-N and MD-N lines, its stations provide 340 more parking spaces than MD-N line stations and 34 percent more spaces than UP-N stations. However, less than 50 percent of the spaces provided at NCS line stations are utilized. This may point toward anticipated growth in NCS line communities and/or the relative auto-dependence of its station areas.

Metra is conducting capital projects along two of the three lines that run through Lake County, although neither project is located within the County. As a whole, the improvements will improve the overall safety and efficiency of the Metra lines that serve Lake County residents and businesses.42,43

40 RTAMS, 2012; Metra, 2012a
42 Pace, 2011; Metra, 2012c-d
Table C-4. Characteristics of County Metra Stations

<table>
<thead>
<tr>
<th>Mode of Access</th>
<th>Parking Capacity</th>
<th>Parking Utilization</th>
<th>Ridership Boarding, 2006 % Change from 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drove Alone</td>
<td>Carpool</td>
<td>Drop Off</td>
<td>Walk/ Bike</td>
</tr>
<tr>
<td>Braeside</td>
<td>46%</td>
<td>8%</td>
<td>11%</td>
</tr>
<tr>
<td>Ravinia</td>
<td>26%</td>
<td>1%</td>
<td>13%</td>
</tr>
<tr>
<td>Highland Park</td>
<td>55%</td>
<td>6%</td>
<td>15%</td>
</tr>
<tr>
<td>Highland</td>
<td>26%</td>
<td>15%</td>
<td>57%</td>
</tr>
<tr>
<td>Fort Sheridan</td>
<td>69%</td>
<td>3%</td>
<td>13%</td>
</tr>
<tr>
<td>Lake Forest</td>
<td>47%</td>
<td>4%</td>
<td>21%</td>
</tr>
<tr>
<td>Lake Bluff</td>
<td>58%</td>
<td>4%</td>
<td>10%</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>48%</td>
<td>3%</td>
<td>30%</td>
</tr>
<tr>
<td>North Chicago</td>
<td>27%</td>
<td>3%</td>
<td>38%</td>
</tr>
<tr>
<td>Waukegan</td>
<td>57%</td>
<td>7%</td>
<td>21%</td>
</tr>
<tr>
<td>Zion</td>
<td>56%</td>
<td>6%</td>
<td>22%</td>
</tr>
<tr>
<td>Winthrop Harbor</td>
<td>75%</td>
<td>4%</td>
<td>10%</td>
</tr>
<tr>
<td>Total for UP-N</td>
<td>49%</td>
<td>4%</td>
<td>18%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mode of Access</th>
<th>Parking Capacity</th>
<th>Parking Utilization</th>
<th>Ridership Boarding, 2006 % Change from 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milwaukee District N.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deerfield</td>
<td>65%</td>
<td>1%</td>
<td>15%</td>
</tr>
<tr>
<td>Lake Forest (west)</td>
<td>69%</td>
<td>7%</td>
<td>14%</td>
</tr>
<tr>
<td>Libertyville</td>
<td>61%</td>
<td>5%</td>
<td>19%</td>
</tr>
<tr>
<td>Prairie Crossing</td>
<td>72%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Grayslake</td>
<td>69%</td>
<td>6%</td>
<td>14%</td>
</tr>
<tr>
<td>Round Lake</td>
<td>67%</td>
<td>7%</td>
<td>20%</td>
</tr>
<tr>
<td>Ingleside</td>
<td>68%</td>
<td>6%</td>
<td>14%</td>
</tr>
<tr>
<td>Fox Lake</td>
<td>68%</td>
<td>4%</td>
<td>21%</td>
</tr>
<tr>
<td>Total for MD-N</td>
<td>67%</td>
<td>5%</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mode of Access</th>
<th>Parking Capacity</th>
<th>Parking Utilization</th>
<th>Ridership Boarding, 2006 % Change from 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Central Service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buffalo Grove</td>
<td>71%</td>
<td>4%</td>
<td>14%</td>
</tr>
<tr>
<td>Prairie View</td>
<td>64%</td>
<td>6%</td>
<td>12%</td>
</tr>
<tr>
<td>Vernon Hills</td>
<td>56%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Mundelein</td>
<td>72%</td>
<td>2%</td>
<td>20%</td>
</tr>
<tr>
<td>Prairie Crossing</td>
<td>52%</td>
<td>2%</td>
<td>21%</td>
</tr>
<tr>
<td>Washington St (Grays)</td>
<td>56%</td>
<td>5%</td>
<td>28%</td>
</tr>
<tr>
<td>Round Lake Beach</td>
<td>61%</td>
<td>26%</td>
<td>12%</td>
</tr>
<tr>
<td>Lake Villa</td>
<td>65%</td>
<td>5%</td>
<td>27%</td>
</tr>
<tr>
<td>Antioch</td>
<td>55%</td>
<td>7%</td>
<td>28%</td>
</tr>
<tr>
<td>Total for NCS</td>
<td>61%</td>
<td>6%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Transit-Oriented Development**

TOD focuses on the ideal mix of land uses and urban design characteristics adjacent to transit stations to support ridership. TOD has many benefits, including increased walkability, reduced automobile dependence, and enhanced opportunities for economic development as transit riders utilize proximate commercial uses. The importance of TOD and EOD in Lake County is underscored on the Future Land Use Map with the identification of transit and employment centers, along with a walkable half-mile radius around each center. Eight TOD plans have been completed to date and two are currently underway in Fox Lake and Lake Villa (see Figure C-3. TOD Plans Completed, In Progress, or Programmed).

In addition, in April 2012, Libertyville began to consider a TOD proposal within its downtown.  

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44 RFP, page 9-16.
The two Metra stations that are located in unincorporated Lake County, Long Lake and Prairie View, have not actively pursued TOD. As mentioned in the Land Use and Development section, proposals for TOD are possible using the PUD process, which can be streamlined to further encourage such development. Creation of a mixed-use zoning district would further facilitate this type of development.

Figure C-3. TOD Plans Completed, In Progress, or Programmed

Source: “TOD Map Viewer.” Regional Transportation Authority. See http://www.rtams.org/TODViewer/

40 (Lake County Board, 2004; RTAMS, 2012; Zawislak, 2012)
43 Ibid.
Table C-5. Land Uses within One-Half Mile of County Metra Stations*

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Existing Land Use (2005)</th>
<th>Future Land Use</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area (acres)</td>
<td>Area (% of total)</td>
<td>Area (acres)</td>
</tr>
<tr>
<td>Single-family Residential</td>
<td>4,649</td>
<td>31.4%</td>
<td>5,128</td>
</tr>
<tr>
<td>Transportation</td>
<td>2,751</td>
<td>18.6%</td>
<td>2,656</td>
</tr>
<tr>
<td>Open Space</td>
<td>1,835</td>
<td>12.4%</td>
<td>2,284</td>
</tr>
<tr>
<td>Government/Institutional</td>
<td>1,023</td>
<td>6.9%</td>
<td>1,009</td>
</tr>
<tr>
<td>Retail/Commercial</td>
<td>797</td>
<td>5.4%</td>
<td>789</td>
</tr>
<tr>
<td>Industrial</td>
<td>530</td>
<td>3.6%</td>
<td>714</td>
</tr>
<tr>
<td>Agriculture</td>
<td>385</td>
<td>2.6%</td>
<td>69</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>258</td>
<td>5.3%</td>
<td>583</td>
</tr>
<tr>
<td>Office and Research</td>
<td>152</td>
<td>1.0%</td>
<td>115</td>
</tr>
<tr>
<td>Other</td>
<td>2,430</td>
<td>16.4%</td>
<td>1,463</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14,810</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>14,810</strong></td>
</tr>
</tbody>
</table>

*Transportation, utilities, and water land use categories were excluded from this analysis. Future land use totals include existing Metra stations (future Metra stations or employment centers designated in the Regional Framework Plan are not included). Source: Regional Framework Plan

Table C-6. Change in Residential Land Uses within One-Half Mile of Metra Stations

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Existing Land Use (2005)</th>
<th>Future Land Use</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area (acres)</td>
<td>Area (% of total)</td>
<td>Area (acres)</td>
</tr>
<tr>
<td>Single-family Residential</td>
<td>4,649</td>
<td>94.7%</td>
<td>5,128</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>258</td>
<td>5.3%</td>
<td>583</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,907</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>5,711</strong></td>
</tr>
</tbody>
</table>

Source: Regional Framework Plan

The Land Use and Development section also noted that much of the future residential development in the County will likely be at sufficient densities to support commuter rail, such as Metra, but not other types of public transit. Examining the mix of existing and proposed land uses within one-half mile of the County’s Metra stations is a good indication of whether those station areas will foster transit-oriented development (see Table C-5. Land Uses within ½-Mile of County Metra Stations and Figure C-4. Existing Land Use within ½-Mile of Metra Stations). Currently, within the County’s station areas, single family residential uses are by far the most common, at 31.4 percent of land area. The prevalence of single family uses speaks to the commuter-oriented nature of many of the County’s Metra stations, but may pose issues in terms of walkability. Conversely, multifamily residential uses are expected to increase dramatically (by 126 percent), indicating a potential shift toward more supportive residential density near station areas. Despite this increase, however, single family uses will still comprise almost 90 percent of residential land area within ½ mile of Metra stations (see Table C-6. Change in Residential Land Uses within ½-Mile of Metra Stations). The Regional Framework Plan notes that providing the right balance of single family and multifamily uses is a key component of creating transit centers, and
indicates that an optimum mix of residential uses within one-half mile of a transit station (per Metra) is one-third multifamily and two-thirds single-family dwellings.\(^{50}\)

According to the future land use projections, commercial and office uses, which are supportive of TOD, are not projected to increase. Retail/commercial uses are expected to comprise slightly less area than they do now (with about a one percent decrease in area), while office and research uses are projected to decrease by almost a quarter. As co-location of employment uses and transit stops helps to reduce dependence on private vehicles and vehicle miles traveled, it is important to encourage commercial and office uses within station areas.

**Pace Service**

Pace Suburban Bus service provides connectivity between many destinations within Lake County that are not adjacent to rail. In 2010, Pace’s service area consisted of 8.3 million residents in Cook, DuPage, Kane, Lake, McHenry, and Will Counties, with just over 35 million boardings. Pace operates 193 ADA-accessible fixed bus routes, with 19 fixed routes serving Lake County; a majority of the routes are located in the eastern half of the County (see Figure C-1). All of the County’s fixed-route buses operate on weekdays, 12 routes operate on Saturdays, and two routes offer Sunday service.\(^{51,52}\) In the past five years, Pace ridership on fixed lines that serve the County has increased about 10.6 percent (see Table C-7. Weekday Pace Ridership). Fourteen of these 19 routes saw increases in ridership.

The County is also served by ten “shuttle bug” routes. The Transportation Management Association of Lake Cook (TMA) administers the Shuttle Bug Program, which is a public-private partnership between the TMA, Pace, Metra, and interested area businesses.\(^{53}\) While these shuttle bugs provide valuable transportation between Metra stations and employment centers, half of the routes saw declines in ridership from 2007-2012, and overall ridership declined over six percent.

Pace also provides Dial-a-Ride service, vanpool/rideshare services, and paratransit service to complement its fixed route bus lines. To use these services, customers call the provider to schedule a pick up time at their home at least a day in advance. Pace’s suburban bus system is complemented by two types of paratransit, or demand-response service. The first type of paratransit, Pace Dial-a-Ride, is typically run through a joint partnership between Pace and a township or municipality, offering rides for residents traveling within their own communities. The second type of paratransit is ADA paratransit service, which is mandated by the Americans with Disabilities Act. ADA paratransit service allows registered passengers to call for a ride, with 24 hours’ notice. Pace’s Vision 2020 plan seeks to expand paratransit services to increase resident eligibility and to allow more door-to-door trips across municipal and county boundaries.\(^{54}\)

Capital projects to improve Pace service are also underway. Pace’s Suburban Capital Program spent $100.2 million in 2012 to return the Pace system to a “state of good repair,” with improvements scheduled for rolling stock, support facilities and equipment, stations and passenger facilities, and miscellaneous necessities.

\(^{50}\) RFP, p. 9-16
\(^{51}\) “2020 Transportation Priority Plan.”
\(^{52}\) “Transit Services in Lake County.” Retrieved 7/20/12 from http://www.lakecountyil.gov/Transportation/TransitParatransit/Pages/TransitOverview.aspx?#Pace
\(^{53}\) “TMA Shuttle Program.” Retrieved 7/20/12 from http://www.tmalakecook.org/shuttle_overview.html
\(^{54}\) (Pace Suburban Bus, 2012a)
Although often overlooked, the movement of freight, which is a critical component of the region’s economic strength and competitiveness, has considerable environmental impacts. The freight sector is responsible for approximately eight percent of global carbon dioxide emissions, and the sector’s greenhouse gas emissions have risen 58 percent since 1990. This increase is more than double that of passenger travel, due to more stringent regulations for passenger vehicles in terms of fuel efficiency and emissions production. Freight is also a major source of air pollutants that are linked to premature death.

Table C-7. Weekday Pace Ridership, 2007-2012

<table>
<thead>
<tr>
<th>Route</th>
<th>Weekday Boardings, May 2007</th>
<th>Weekday Boardings, May 2012</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>213 Green Bay Road</td>
<td>1,189</td>
<td>1,285</td>
<td>8.1%</td>
</tr>
<tr>
<td>568 Belvidere</td>
<td>1,131</td>
<td>1,213</td>
<td>7.3%</td>
</tr>
<tr>
<td>572 Westfield Hawthorn-Waukegan</td>
<td>896</td>
<td>1,200</td>
<td>33.9%</td>
</tr>
<tr>
<td>565 Grand Ave</td>
<td>1,051</td>
<td>1,038</td>
<td>-1.2%</td>
</tr>
<tr>
<td>569 Lewis</td>
<td>917</td>
<td>1,003</td>
<td>9.4%</td>
</tr>
<tr>
<td>422 Linden CTA/Glenview/Northbrook Court</td>
<td>796</td>
<td>793</td>
<td>-0.4%</td>
</tr>
<tr>
<td>272 Golf Mill-Westfield-Milwaukee Ave</td>
<td>684</td>
<td>757</td>
<td>10.7%</td>
</tr>
<tr>
<td>571 Zion</td>
<td>526</td>
<td>630</td>
<td>19.8%</td>
</tr>
<tr>
<td>561 Castlecrest via McAree</td>
<td>404</td>
<td>549</td>
<td>35.9%</td>
</tr>
<tr>
<td>626 Skokie Valley Limited</td>
<td>432</td>
<td>474</td>
<td>9.7%</td>
</tr>
<tr>
<td>562 Gurnee via Sunset</td>
<td>382</td>
<td>470</td>
<td>23.0%</td>
</tr>
<tr>
<td>566 McAree-Keller</td>
<td>285</td>
<td>375</td>
<td>31.6%</td>
</tr>
<tr>
<td>570 Fox Lake-Gurnee Mill via CLC</td>
<td>164</td>
<td>348</td>
<td>112.2%</td>
</tr>
<tr>
<td>234 Wheeling - Des Plaines</td>
<td>446</td>
<td>342</td>
<td>-2.3%</td>
</tr>
<tr>
<td>564 Jackson/14th</td>
<td>286</td>
<td>337</td>
<td>17.8%</td>
</tr>
<tr>
<td>563 Great Lakes Naval Station</td>
<td>263</td>
<td>244</td>
<td>-7.2%</td>
</tr>
<tr>
<td>471 Highland Park-Northbrook Court</td>
<td>201</td>
<td>234</td>
<td>16.4%</td>
</tr>
<tr>
<td>472 Highland Park-Highwood</td>
<td>279</td>
<td>134</td>
<td>-52.0%</td>
</tr>
<tr>
<td>573 Green Bay Road</td>
<td>19</td>
<td>17</td>
<td>-10.5%</td>
</tr>
<tr>
<td><strong>Total, Pace routes</strong></td>
<td><strong>10,332</strong></td>
<td><strong>11,426</strong></td>
<td><strong>10.6%</strong></td>
</tr>
</tbody>
</table>

**Lake-Cook TMA Shuttle Bug routes**

<table>
<thead>
<tr>
<th>Route</th>
<th>Weekday Boardings, May 2007</th>
<th>Weekday Boardings, May 2012</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>635 Lake Cook Shuttle Bug 5</td>
<td>168</td>
<td>188</td>
<td>11.9%</td>
</tr>
<tr>
<td>627 Discover-Takeda Shuttle Bug</td>
<td>166</td>
<td>176</td>
<td>6.0%</td>
</tr>
<tr>
<td>632 Lake Cook Shuttle Bug 2</td>
<td>168</td>
<td>151</td>
<td>-10.1%</td>
</tr>
<tr>
<td>633 Lake Cook Shuttle Bug 3</td>
<td>144</td>
<td>126</td>
<td>-12.5%</td>
</tr>
<tr>
<td>628 Braeside Shuttle Bug 8</td>
<td>112</td>
<td>124</td>
<td>10.7%</td>
</tr>
<tr>
<td>631 Lake Cook Shuttle Bug 1</td>
<td>130</td>
<td>107</td>
<td>-17.7%</td>
</tr>
<tr>
<td>634 Lake Cook Shuttle Bug 4</td>
<td>110</td>
<td>85</td>
<td>-22.7%</td>
</tr>
<tr>
<td>629 Braeside Shuttle Bug 9</td>
<td>57</td>
<td>73</td>
<td>28.1%</td>
</tr>
<tr>
<td>625 Lake Forest Shuttle Bug</td>
<td>42</td>
<td>56</td>
<td>33.3%</td>
</tr>
<tr>
<td>576 Deerfield Metra to Buffalo Grove/Lincolnshire</td>
<td>48</td>
<td>45</td>
<td>-6.3%</td>
</tr>
<tr>
<td><strong>Total, Lake-Cook TMA Shuttle Bug routes</strong></td>
<td><strong>1,145</strong></td>
<td><strong>1,131</strong></td>
<td><strong>-1.2%</strong></td>
</tr>
</tbody>
</table>

**Freight**

Although often overlooked, the movement of freight, which is a critical component of the region’s economic strength and competitiveness, has considerable environmental impacts. The freight sector is responsible for approximately eight percent of global carbon dioxide emissions, and the sector’s greenhouse gas emissions have risen 58 percent since 1990. This increase is more than double that of passenger travel, due to more stringent regulations for passenger vehicles in terms of fuel efficiency and emissions production. Freight is also a major source of air pollutants that are linked to premature death.

55 [http://www.rtams.org/rtams/ridershipDetail.jsp?dataset=paceBus&month=5&dayTypeID=1](http://www.rtams.org/rtams/ridershipDetail.jsp?dataset=paceBus&month=5&dayTypeID=1)
asthma, lung cancer, low birth weight, and cardiovascular illness. 56 The Regional Framework Plan acknowledges that the region’s road and freight rail systems are in need of improvement and specifically cites traffic congestion and pollution as key concerns. 57

In the Chicago region, 67 percent of freight is moved by truck, 30 percent is moved by rail, and three percent is moved by air or water. 58 Trucks make up one out of every six vehicles on the urban interstates in Illinois. 59 Despite the prevalence of freight movement via trucking, it is also the most fuel-intensive mode, emitting the largest amount of greenhouse gases and pollutants. Freight movement via rail is three times more fuel efficient than trucking. 60 Although Lake County is not home to any intermodal facilities or container yards, there are several freight trains moving through the County on a daily basis, which run mostly on the Elgin, Joliet, and Eastern (EJ&E), Canadian Pacific (CP), and Canadian National (CN) railways. The majority of this traffic is likely passing through to intermodal facilities in Cook or Will Counties or on its way to other areas of the country.

Non-Motorized Transportation
Access to non-motorized transportation options, such as bicycling and walking, is a key feature of sustainable communities. Lake County recently recognized the importance of these options through the adoption of LCDOT’s Non-Motorized Travel Policy, which emphasizes the incorporation of pedestrian and bicycle facilities in the construction and reconstruction of County highway improvements. The Policy recognizes that “increased commitment to, and investment in, bicycle facilities and walking networks can help meet goals for cleaner, healthier air, less congested roadways, and more livable, safe, cost-efficient communities.” 56

Bicycling
Lake County has made the promotion of cycling a goal and boasts almost 500 miles of high quality trails and bike paths (see Table C-8. Bicycle Path Mileage). 62 LCDOT owns 57 miles of bike paths and maintains over 47 miles. The Lake County Forest Preserve District (LCFPD) maintains over 130 miles, the Illinois Department of Natural Resources (IDNR) is responsible for 13.2 miles, and municipalities, townships, and other entities maintain the remaining 297 miles (see map). 63,64 The Des Plaines River Trail, which at 31 miles spans nearly the whole length of Lake County, and Millennium Trail, of which 20 of 35 planned miles are complete, serve as regional trails within the County. 65,66 The County’s North Shore Path, Des Plaines River Trail, Robert McClory Trail, and Green Bay Trail also form about 40 miles of the Grand

57 RFP, 7-16
58 GO TO 2040 Comprehensive Regional Plan
59 Drill down report
60 “The Good Haul.”
61 Non-Motorized Travel Policy, p.1.
62 Lake County Board, 2004
64 “Activities at your forest preserves.” Lake County Forest Preserves. Retrieved 7/28/12 from http://www.lcfpd.org/preserves/index.cfm?fuseaction=preserves.viewActDetail&object_id=125
Illinois Trail system, which consists of 475 miles of trails running from Chicago to Rock Island to Galena and back to Chicago.67

Table C-8. Bicycle Path Mileage, 2009

<table>
<thead>
<tr>
<th>Responsible Entity</th>
<th>On-Road Paths</th>
<th>Off-Road Paths</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC DOT</td>
<td>6.9</td>
<td>46.6</td>
<td>53.5</td>
</tr>
<tr>
<td>LC FPD</td>
<td>1.7</td>
<td>128.9</td>
<td>130.6</td>
</tr>
<tr>
<td>IDNR</td>
<td>1</td>
<td>12.2</td>
<td>13.2</td>
</tr>
<tr>
<td>Municipal/Township/Other</td>
<td>25.5</td>
<td>271.6</td>
<td>297.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35.1</strong></td>
<td><strong>459.3</strong></td>
<td><strong>494.4</strong></td>
</tr>
</tbody>
</table>

*Source: Lake County Department of Transportation*

While the County is clearly well served by off-road trails, on-road bicycle lanes, which are especially convenient for transportation and commuting purposes, are not as prevalent. LCDOT currently maintains almost seven miles of on-road bicycle facilities,68 but the establishment of its Non-Motorized Travel Policy is expected to increase this mileage. The Policy provides standards for County roads to increase bicycle-friendliness via the use of paved shoulders and marked bicycle lanes, as well as guidelines for when these types of facilities are appropriate.

LCDOT’s Non-Motorized Travel Policy may serve as a model for municipalities that wish to facilitate non-motorized transportation options as well. Municipalities maintain many miles of bicycle facilities within their respective jurisdictions. Goal 7.3 of the *Regional Framework Plan* acknowledges that connecting residential neighborhoods with employment and other non-residential areas via bicycle facilities is an opportunity to facilitate this non-motorized mode of transportation. Since most of the County’s residents and employment centers are located within municipalities, these areas have great potential for such bicycle linkages.

**Walking**

While pedestrian activity for recreational purposes is strongly facilitated in the County, very few residents choose walking as their transportation mode, particularly for commuting. In fact, pedestrian commuting figures across the Chicago region represent a low percentage of mode share (see Table C-9. Share of Commuters Walking to Work). However, the number of Lake County residents who walk to work is higher than the collar-county average (2.8 percent versus 1.7 percent). This can largely be attributed to a mismatch between where people live and where they work (see Economy section), as well as spatial land use patterns that make walking less desirable than other modes of transportation.

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Table C-9. Share of Commuters Walking to Work, 2010

<table>
<thead>
<tr>
<th></th>
<th>Lake County</th>
<th>Collar County Average</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian Commuters</td>
<td>2.8%</td>
<td>1.7%</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

Source: 2011 American Community Survey 1-Year Estimates, U.S. Census Bureau

LCDOT’s Non-Motorized Travel Policy considers sidewalks an integral component of transportation corridors. The Policy includes enhanced guidelines to encourage sidewalks in its roadway projects. When a new County roadway improvement or construction project is underway, LCDOT considers pedestrian accommodations if they are not already available and if any of the following conditions exist:

- Evidence of pedestrian activity, or public interest in such facilities (observed by staff or reported during the public participation process)
- A history of pedestrian-related crashes
- Existing or planned development that would attract pedestrian travel
- A state, county, or local government policy or plan has previously designated pedestrian improvements in the area
- The roadway provides primary access to a school, park, recreation area, or other significant destination, or across a natural or manmade barrier

With regard to private development, the County’s Unified Development Ordinance (UDO) requires sidewalks of at least five feet in width to be installed on all new streets except single-family residential subdivisions that are comprised of lots with an average area of 40,000 square feet or greater. The future land use projections established in the Regional Framework Plan indicate that much of the new residential development expected for the unincorporated County will occur at density levels low enough for exemption from this sidewalk installation requirement.

Goal & Policies

Goal: Provide a full range of transportation options.

Policy 1: Continue to work with Pace Suburban Bus, Metra, and the Regional Transportation Authority (RTA) to support and advocate for the coordination of existing transit services and to study and evaluate extending transit service in other areas of the County (such as Pace demand-response service to connect with Metra), improved transit facilities, and additional public transportation options (i.e. bus rapid transit).
[Ref.: Pol. 7.3.1; Pol. 7.3.3]

Action 1: Work with Pace to install more bus infrastructure (such as signage and shelters) in needed locations.
Action 2: Work with Lake County Partners and employers to encourage the use of vanpools and other transit services.

69 UDO, 10.10.17 Sidewalks
Action 3: Work with Metra and RTA to facilitate specific collaboration with Pace to increase bus service along East-West corridors through the County to enhance connections to train stations.

Action 4: Increase public awareness of transit alternatives via educational materials to post on the County’s website and distribute to County and municipal partners.

Action 5: Continue to work with the Lake County Coordinated Transportation Services Committee (LCCTSC), in order to “facilitate the implementation of coordinated, efficient, reliable and affordable public transportation throughout Lake County....”

Policy 2: Continue to support and implement Non-motorized/Complete Streets policies, including the Lake County Division of Transportation’s (DOT) Non-motorized Travel Policy and the Illinois Department of Transportation’s Complete Streets policy, to further facilitate all travel modes, including carpooling, bicycling and walking. In addition, encourage local agencies to support, adopt, and implement Complete Streets policies and practices.
[Ref.: Pol. 7.3.7; Pol. 7.3.8; Pol. 7.3.10]

Action 1: Coordinate more directly with LCDOT and other departments on non-motorized transportation projects to ensure integration of land use and roadway/right-of-way design.
Action 2: Update the County’s regulations to require non-motorized facilities in new development or infill development.
Action 3: Launch public education efforts to inform residents about bicycle and pedestrian safety issues, existing bicycling options throughout the county, and non-motorized signage and striping that indicate how and where motorists and cyclists must share the road.
Action 4: Create non-motorized pathways whenever possible to link residents and businesses with county resources (e.g. County facilities, forest preserves and parks, cultural attractions, transit stations, municipalities, schools and residential areas. etc.)
Action 5: Use outreach and education to encourage local agencies to implement Complete Streets practices.

Policy 3: Improve multi-modal transportation options for county residents and workers.
[Ref.: Pol. 7.3.9; Pol. 7.5.1; 7.3.4; Pol. 7.9.3; Non-motorized Policy Guidelines, p. 18]

Action 1: Encourage Metra to continue its study of parking utilization for all Lake County Metra stations and to conduct Origin-Destination Surveys in conjunction with Boarding-Alighting counts.
Action 2: Support municipalities in working with Metra to provide adequate access to trains via on-site parking, connecting bus and demand-responsive services, and bicycle parking.
Action 3: Support local agencies in working to improve the connection of bicycle paths and lanes and pedestrian paths and sidewalks with access to Metra stations, and to increase the availability of bicycle parking near Metra stations.
Action 4: Educate the public about the option of bringing bicycles onto trains and buses.
Action 5: Ensure Metra stations and surrounding roadways are designed to facilitate easy, rapid, and safe access by transit buses.
Policy 4: Coordinate appropriate land uses and context sensitive street design to foster walkability near transit station areas, schools, and employment centers.
[Ref.: Pol. 7.1.3; Pol. 7.3.5; Promoting Sustainable Building and Development Practices report, pp. 22, 29]

Action 1: Coordinate land use and transportation investments by establishing meetings between the Lake County Planning, Building, and Development Department (PBD), the Health Department (HD), and the Division of Transportation (DOT).
Action 2: Encourage the use of context sensitive design for any roadway expansions or improvements, such that the new facilities fit with the character of the community.
Action 3: Encourage transit-friendly site design, using such policies as the Pace Design Guidelines.

Policy 5: Remain an active partner in corridor planning processes to ensure coordinated development, the protection of natural resources, and the provision of transportation alternatives, including the Route 53/120 Corridor.
[Ref.: 2020 Transportation Priority Plan]

Action 1: Actively participate with the Chicago Metropolitan Agency for Planning (CMAP) in the Route 53/120 Corridor Land Use Study.
Action 2: Help implement the next steps and recommendations of the Route 53/120 Blue Ribbon Advisory Council Resolution and Summary Report.
Action 3: Actively participate in other Lake County corridor studies with the various stakeholders.
Action 4: Continue to implement PASSAGE technology across the travel network in Lake County.

Indicators

While the policies in this Chapter will be implemented on an ongoing basis, each indicator will be monitored on an annual basis and evaluated every five years. “Lake County Indicators” include indicators that are within the County government’s purview, while “Community Indicators” relate to activities within the County at large.

Lake County Indicators:
Indicator 1: The County will increase the installation of pedestrian facilities along County Highways through 2018, provided there is a municipal or local agency partner. (DOT)
Indicator 2: The County will increase the number of bicycle-friendly shoulders along County Highways through 2018. (DOT)
Indicator 3: The Forest Preserve District will increase the miles of regional trails and accessible routes for bicycles through 2018. (FPD)
Indicator 4: The County will continue to expand coverage and functionality of the Lake County PASSAGE system across the travel network in Lake County thru 2018. (DOT)

Community Indicators:
Indicator 1: Overall transit ridership in Lake County will increase by 2018. (DOT)
Indicator 2: The number of participants in Pace vanpool and shuttle services between Metra stations and employment centers will increase by 2018. (DOT)
**Indicator 3:** The number of bus shelters updated or installed will increase by 2018. (DOT)

**Indicator 4:** The number of municipalities adopting Complete Streets or non-motorized travel policies will increase by 2018. (PBD)

### Implementation Approach

<table>
<thead>
<tr>
<th>Policy</th>
<th>Inter-governmental</th>
<th>County Departments and Agencies</th>
<th>Non-County Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Continue to work with Pace Suburban Bus, Metra, and the Regional Transportation Authority to support and advocate for the coordination of existing transit services and to study and evaluate extending transit service in other areas of the County (such as Pace demand-response service to connect with Metra), improved transit facilities, and additional public transportation options (i.e. bus rapid transit).</td>
<td>County, Municipalities, Transit Agencies</td>
<td>LCDOT, PB&amp;D</td>
<td>RTA, Metra, Pace</td>
</tr>
<tr>
<td>2. Continue to support and implement Non-motorized/Complete Streets policies, including the Lake County Division of Transportation’s (DOT) Non-motorized Travel Policy and the Illinois Department of Transportation’s Complete Streets policy, to further facilitate all travel modes, including bicycling and walking. In addition, work to encourage local agencies to support, adopt, and implement Complete Streets policies and practices.</td>
<td>County, Municipalities</td>
<td>LCDOT, PB&amp;D</td>
<td></td>
</tr>
<tr>
<td>3. Improve multi-modal transportation options for county residents and workers.</td>
<td>County, Municipalities</td>
<td>LCDOT, PB&amp;D</td>
<td>RTA, Metra, Pace</td>
</tr>
<tr>
<td>4. Coordinate appropriate land uses and context sensitive street design to foster walkability near transit station areas, schools, and employment centers.</td>
<td>County, Municipalities</td>
<td>LCDOT, PB&amp;D</td>
<td></td>
</tr>
<tr>
<td>5. Remain an active partner in corridor planning processes to ensure coordinated development, the protection of natural resources, and the provision of transportation alternatives, including the Route 53/120 Corridor.</td>
<td>Counties, Municipalities</td>
<td>LCDOT, PB&amp;D, CAO</td>
<td>CMAP, ISTHA, IDOT</td>
</tr>
</tbody>
</table>
Figure C-1. Transportation Facilities

Legend
- Lake County
- US Highway
- Metra Stations
- Municipalities
- State Highway
- Commuter Rail Lines
- Unincorporated
- Local Roads
- Interstate Highway
- Pace Routes

Source: Chicago Metropolitan Agency for Planning, 2012
Figure C-4. Existing Land Use within 1/2-Mile of Metra Stations (2005, RFP)

Legend
- Lake County
- Municipalities
- Metra Station
- Multifamily Residential
- Single Family Residential
- Retail/Commercial
- Office and Research
- Industrial
- Government/Institutional
- Agricultural
- Open Space
- Transportation/Rail
- Other

Source: Chicago Metropolitan Agency for Planning, 2012
D. Open Space

The content of the Open Space section of the Sustainability Chapter is most closely related to Regional Framework Plan Chapter 4: Environmental Resources, Open Space, and Farmland and Chapter 5: Infrastructure and Services, particularly the Parks and Recreation section.

Significance
Open space areas provide rich recreational, social, aesthetic, restorative, economic, environmental, and ecological benefits to the County. Environmental benefits include air purification, enhanced groundwater recharge, water filtration, flood mitigation, and a cooling effect on temperatures. The benefits received from open space make it a cost-effective expenditure of public and private investments. Agricultural land uses are also important because they help buffer protected natural areas and habitat and provide an economic use of private land while still offering some of the public benefits in terms of ecosystem services. Farmland also contributes to the scenic quality and character of Lake County.

Public and Private Open Space and Agricultural land are both land use categories of the Regional Framework Plan. However, the land use classification of open space is broader than the discussion in this section, which focuses on permanently protected open space. Protected open space areas in the County are managed by a variety of entities, both public (municipalities, park districts, Lake County Forest Preserve District, Illinois Department of Natural Resources, etc.) and private (i.e. non-profit conservation organizations, homeowners associations) (see Existing Land Use Map and Figure D-1. Open Space Network). It can be helpful to discuss open space within the context of the following broad categories:

- **Protected public lands**: Land owned by a unit of government and managed primarily for conservation purposes, such as forest preserves, state parks, and Libertyville Township open space. Some ancillary recreational functions may also exist.
- **Protected private lands**: Land held in private ownership but protected either via conservation easement held by a non-profit conservation land trust, or via dedication to the State Nature Preserves Commission.
- **Public recreational lands**: Land owned by park districts and municipalities and managed primarily for recreational uses, although conservation purposes or “passive” recreational uses may be an ancillary or supporting use.
- **Farmland**: Farmland offers some of the benefits provided by protected open space, without public acquisition costs. However, most of the land that is currently in agricultural production is not permanently dedicated to that land use, and may face development pressure.
- **Golf courses**: Golf courses were included as open space in Chapter 5 of this Plan due to their recreational function. Golf courses may be publicly owned, protected by a conservation easement, or part of a development set-aside. Certain golf courses are also managed to provide open space benefits, such as habitat. However, privately held and non-protected golf courses are subject to potential land use changes, and therefore are not traditionally considered as open space.

Other categories that could be included as open space include regulated lands and common open space. In Lake County, regulated lands include wetlands, floodplains, and riparian buffers, which are subject to land use regulations that provide protection against impact or conversion. This ensures protection of these resources on at least a temporary basis as long as regulations do not change. Common open space is land that is required to be set aside or platted as part of a subdivision approval for open space.
or recreational use by the subdivision residents. However, many common areas do not necessarily embody natural resource values and may not be managed for conservation purposes.

The *Regional Framework Plan* emphasizes the value of open space in one of its overall Vision Statements by stating that, "In the year 2020, Lake County will have: A superior open space network that preserves natural resources, cultural resources, and farmland to promote and enhance functioning ecosystems, agricultural activities, and the quality of life for all residents." The importance of open space and natural resource protection is also cited in other *Regional Framework Plan* Vision Statements (such as those for the land use and water supply sections) and in the 2009 Strategy for a Sustainable Lake County. The *Regional Framework Plan* directly recognizes the contribution of state lands, forest preserves, parks and recreation facilities to livable cities and villages, and sets a goal of maintaining and increasing the then-current County ratio of public parks to residents. Farmland is also noted in the *Regional Framework Plan* as contributing to open space goals at a very low cost – 36 cents spent on community services for farmland provided for every dollar of property tax revenue.

**Issues & Opportunities**

The following key issues and opportunities related to open space have been identified through the existing conditions analysis:

- The County-wide goal of achieving the permanent protection of 60,000 acres of open space is two-thirds of the way accomplished. The Lake County Forest Preserve District (FPD) and private organizations have been leading the way in the County with regard to increasing acreage of protected open space, with a total of 4,486 acres added since 2008.
- In 2004, the recreational land within the County exceeded the recommended standard for adequate access to parks, which is defined as ten acres per 1,000 residents. As the County continues to grow, it is important that new residents are provided with adequate open space.
- 52.3 percent of households in the unincorporated County are served by walkable access to open space (open space exists within ¼-mile). The greatest potential for increased access to open space exists in the northwest and southwest corners of the County.
- Continued coordination among various organizations (i.e. park districts, Lake County FPD, school districts, municipalities, Lake County DOT, and the Stormwater Management Commission) is essential to economically and efficiently improve the County’s parks and trails system.
- The County can utilize tools such as the Illinois Natural Areas Inventory (INAI) and Green Infrastructure Vision 2.0 to guide decision-making regarding environmentally sensitive areas.
- Some of the best farmland in the world is located in Lake County, but less of this land is being used for agricultural production than in the past, and this use is expected to continue to decrease. Promoting new and sustainable farming activities, such as local food production, and addressing barriers to small-scale agricultural uses may help to foster the agricultural sector of the County’s economy.
- There is unmet demand for locally grown food in Lake County. The local food economy has the potential to create more revenue and a greater number of jobs than traditional agricultural uses.

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70 If the land is dedicated to a local park district for a public park, it falls within the category of public recreational land.
71 RFP, p. 4-1
72 RFP [p. 5-148, Policy 5.36.2]
73 RFP [p.4-28]
Analysis

Protected Lands
In January 2010, the Lake County Board adopted the Vision Statement developed by the Land Conservation Partners of Lake County: “To realize a Lake County landscape where, by 2030, at least 20% of the County is preserved forever as natural areas, parks, trails, farmland, and scenic views.” All 16 governmental and non-profit conservation organizations working in land preservation in Lake County have adopted the same vision to protect 60,000 acres in total. Organizations that own and/or maintain protected open space within Lake County include the Lake County Forest Preserve District (FPD), Illinois Department of Natural Resources, Libertyville Township Open Space District, McHenry County Conservation District, Citizens for Conservation, Land Conservancy of Lake County, Lake Bluff Open Lands Association, Lake Forest Open Lands Association, and Conserve Lake County (formerly Liberty Prairie Conservancy).  

Table D-1, below, shows changes in protected open space since the Regional Framework Plan was adopted. Lake County and the Land Conservation Partners of Lake County are currently tracking progress towards accomplishing the Lake County Land Preservation Vision to calculate increases in protected open space. In 2012, Lake County had over 50,000 acres of protected public and private lands (see Figure D-1. Open Space Network for a map of all protected County open space areas).

The Regional Framework Plan mapped priority lands for open space acquisition utilizing a resource point system developed by the Lake County Regional Planning Commission in consultation with local governments (see Chapter 4, Figure 4.11. Priority for Open Space). The Regional Framework Plan also identified Environmental Limitations, showing the location of the most critical environmental resources in the County (see Chapter 4, Figure 4.12). The Priority Open Space Map informed goals and policies of Chapter 9: Land Use, and was intended to serve as a planning tool to provide guidance on development decisions. Although the number of acres of protected open space has changed since 2004, many of the other criteria that informed them—such as hydric soils, floodplains, and INAI sites—will have remained more or less constant.

The voters of Lake County authorized a referendum in November 2008, which provided the Lake County FPD with $185 million to create new trails, restore wildlife habitats, and improve public access to new and existing preserves. These funds have enabled the acquisition of over 2,000 acres of new forest preserves. The State of Illinois Nature Preserves Commission, which protects land by accepting the donation of a form of conservation easement over public or private land, has added 2,485.6 acres to the state nature preserve system since January 2010, all of which is owned by the Lake County FPD. The private sector’s role has been expanding over time as non-profit conservation land trusts work with private landowners to permanently protect their land.

74 Caliper report, 2009
75 Lake County Vision for Preservation Thermometer (maintained by Conserve Lake County)
81 Includes public water bodies.
84 Consisting of 4,616 acres of conservation easements and 2,330 acres held by other conservation districts and agencies. The 2009 figure double-counts certain private land trust and conservation agency land that also falls within another category, such as state nature preserves or forest preserve district-owned conservation easements. The 2012 figure eliminates double counting.
85 Consisting of 2,848 acres of private land trust land (no double counting); 422 acres owned by McHenry County Conservation District; and 1,535 acres owned by Libertyville Township Open Space District.
76 http://www.lcfpd.org/html_lc/referendum/main.html
Table D-1. Open Space Acreage, 2004-2012

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>State Parks and Natural Areas(^{77})</td>
<td>7,799</td>
<td>9,676</td>
<td>10,312</td>
</tr>
<tr>
<td>Lake County FPD (includes conservation easements)</td>
<td>24,220</td>
<td>26,492</td>
<td>28,971</td>
</tr>
<tr>
<td>Libertyville Township Open Space</td>
<td>1,535</td>
<td>N/A (included below)</td>
<td>N/A (included below)</td>
</tr>
<tr>
<td>Nature Preserves (includes both FPD and Private Land Trust lands)</td>
<td>5,194</td>
<td>6,720</td>
<td>9,570</td>
</tr>
<tr>
<td>Private Land Trusts and Other Conservation Agencies (includes conservation easement and fee simple interests)</td>
<td>N/A</td>
<td>6,946(^{78})</td>
<td>4,805(^{79})</td>
</tr>
</tbody>
</table>

Sources: \(^{1}\) *Regional Framework Plan*, \(^{2}\) *Caliper report*

Ecosystem Restoration

Healthy ecosystems are essential to support species biodiversity, which is a cornerstone of sustainability. A variety of important resources and processes (collectively referred to as “ecosystem services”) are supplied by natural, healthy ecosystems. Such services include water filtration, clean air, crop pollination, and carbon sequestration, among many others.

The *Regional Framework Plan* recognizes the value contributed by healthy ecosystems by recommending, for example, that the health of Lake County’s remaining wetlands should be maintained by reducing the pollution in run-off from impervious surfaces, retaining absorbent solids and deep-rooted vegetation in bordering buffer areas.\(^{80}\) Protection of hydric soils was also recognized as important to purify water and direct runoff into streams, rivers, and aquifers. Restoring prairies and wetlands was also noted as beneficial to reducing the frequency and severity of flooding.\(^{81}\) The 2011 Sustainable Building and Development Practices report recommended the use of native plant species, which require less maintenance and water; stabilize soils; and provide food and shelter for native birds, animals, and insects.\(^{82}\)

Many different actors within Lake County are working to restore ecosystems or otherwise ensure that they remain functioning. The Lake County FPD, Libertyville Township, and the Illinois Department of Natural Resources provide on-going work on their publicly-owned properties to eliminate invasive species, restore natural hydrology, introduce and support native species, and apply management strategies such as controlled burns. Some privately owned corporate campuses have restored and

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77 Includes public water bodies.
78 Consisting of 4,616 acres of conservation easements and 2,330 acres held by other conservation districts and agencies. The 2009 figure double-counts certain private land trust and conservation agency land that also falls within another category, such as state nature preserves or forest preserve district-owned conservation easements. The 2012 figure eliminates the double counting.
79 Consisting of 2,848 acres of private land trust land (no double counting); 422 acres owned by McHenry County Conservation District; and 1535 acres owned by Libertyville Township Open Space District.
80 RFP [p. 4-11]
81 RFP [p. 4-12]
82 Sustainable Building and Development Regulations report, [p34-35]
preserved open space, resulting in educational opportunities. Openlands, a private non-profit organization, has launched a high-quality ecological restoration of the ravines and bluffs at the 77-acre Openlands Lakeshore Preserve along Lake Michigan. In addition, the private non-profit organization Conserve Lake County has launched Conservation@Home, an ambitious program that encourages private landowners to plant native species in their yards. Likewise, the Lake County Stormwater Management Commission (SMC) offers educational programming and materials. For example, SMC’s *Rain Gardens: A How-To Manual for Homeowners* publication demonstrates the value of establishing native plants in rain gardens to reduce flooding and enhance groundwater recharge. The Lake County FPD has an annual program of restoring native habitat and monitoring the health of natural areas. In 2009 alone, the FPD installed 15,000 native plants and 4,310 trees and shrubs on its properties.

The Illinois Natural Areas Inventory (INAI) provides information about high quality natural areas, habitats of endangered species, and other significant natural features. The original state-wide inventory, performed in the 1970s, was completed by the Illinois Natural History Survey and identified 15,847 acres in Lake County as INAI sites, which are mapped in Chapter 4, Figure 4.4. An update to the original inventory is currently underway, the results of which will be a useful tool in evaluating how Lake County’s INAI sites have fared over the last four decades.

**Parks & Recreation**

Parks and recreational facilities offered by local park districts and municipalities provide residents with a wide range of places to participate in healthy and restorative activities, as well as offering a sense of community. Such places include aquatic centers, nature museums, beaches, picnic areas, playgrounds, fitness trails, and community centers. The *Regional Framework Plan* notes that parks and recreation are “an essential component of livable cities and villages.”83 “Livability” refers to those characteristics of places that are directly linked to quality of life, such as access to open space, affordability, transportation options, public health, and social equity.

In 2004, the *Regional Framework Plan* set a goal of maintaining the County’s ratio of recreational land to residents. This calculation compared the population level to the amount of local park and recreation sites (including some school playgrounds). The County’s existing ratio in 2004, 19.5 acres per 1,000 residents, was higher than the statewide average supply of community outdoor recreation lands, which is 11.35 acres per 1,000 residents,84 in part because lakes were included in the calculation of recreational land. The 2004 measured ratio was almost double the general standard for adequate access to parks, which is defined as ten acres per 1,000 residents.85

Current indicators are moving away from considering access to open space in the sole context of a people-to-parks ratio, and instead looking at the physical proximity of people to parks. In addition to providing a sufficient acreage of open space, it is also important to ensure that open space areas are located close to where people live. Figure D-2. Walkable Access to Open Space Areas shows residential uses in the County that have open space areas available within a walkable distance (1/4-mile). Those served by walkable access to open space constitute 52.3 percent (or 16,308 of 31,209) of households. The map illustrates which areas of the County might benefit most from additional open space; these areas are largely concentrated in the northwest and southwest corners of the County. The Trust for Public Land has developed a new tool, called ParkScore, that will allow communities to look at park

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83 RFP [p. 5-141]
84 [Illinois Statewide Comprehensive Outdoor Recreation Plan, 2009-2014 (SCORP)]
85 GO TO 2040 Comprehensive Regional Plan, p. 124
accessibility in a dynamic way (for example, by considering barriers to access such as highways or rivers). This tool may be useful to Lake County and its municipal governments as they plan and add new recreational lands.

*Regional Framework Plan* Policy 5.36.3 recommends requiring developers to provide adequate recreation facilities and parkland in new developments. To that end, the County has enacted a parkland dedication provision in its UDO that requires a land set-aside, cash-in-lieu payment, or both, as part of the approval of a final plat of subdivision.\(^{86}\) However, subdivisions comprised entirely of single-family detached houses with a net density of equal to or less than 1.25 dwelling units per acre are exempt from the requirement. Per the future land use projections established in the *Regional Framework Plan*, most new development in the unincorporated County will be single family development at density levels low enough for an exemption from the parkland dedication requirement. Therefore, it remains to be seen how much of an impact this requirement will have on ensuring that new residents are served by new parkland. Since the bulk of new residential development is expected to occur within municipal limits, it may be useful to survey municipal entities to determine whether local park dedication ordinances are supportive of the larger *Regional Framework Plan* goal.

**Connectivity and Greenway Corridors**

Greenway corridors are the connective tissue in a sustainable open space system that serve to protect and enhance habitats, provide recreational and non-motorized transportation options, assist with ecosystems services (particularly those related to water), and improve overall quality of life. In 2004, the nonprofit coalition Chicago Wilderness developed a Green Infrastructure Vision (GIV) for the broader metropolitan region, including Lake County. In this vision, natural areas and their surrounding landscapes will be developed and managed with mutual benefits in mind as the region grows. The GIV identifies many acres of land that can be restored, protected, or connected through conservation and thoughtful, sustainable development practices. The GIV guides the protection and development of an accessible, interconnected network of healthy ecosystems that contribute to economic vitality and quality of life for all the region’s residents. Chicago Wilderness recently facilitated an update to the Green Infrastructure Vision (titled GIV 2.0) which enhances the functionality for decision-makers across the region (see Figure D-3. Green Infrastructure).

Many *Regional Framework Plan* policies relate to connectivity from both a physical perspective – such as establishing on-the-ground greenway corridors – and an administrative perspective – such as interjurisdictional cooperation among local governments.\(^{87}\) Recognizing that coordination among infrastructure and service providers is a major challenge, the County established a goal that, “the publicly-owned recreation and parks facilities in Lake County will form a balanced network serving all portions of the County.”\(^{88}\) Policies to implement this goal include acquiring land and developing trails and paths that connect existing and new parks and recreation sites,\(^{89}\) as well as encouraging coordination among park districts, the Lake County FPD, school districts, municipalities, Lake County DOT, and the Stormwater Management Commission to economically and efficiently improve the park and trails system.\(^{90}\)

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\(^{86}\) UDO Section 11.2 Park and Recreation Areas

\(^{87}\) RFP Policies 5.37.1, 5.37.3, 6.3.3, 7.3.8, 9.2.1

\(^{88}\) RFP Goal 5.37

\(^{89}\) RFP [Policy 5.37.1]

\(^{90}\) RFP [Policy 5.37.3]
Agricultural Land Uses
Some of the best farmland in the world is located in our region, thanks to abundant rainfall and fertile soil conditions. These conditions make much of the land in Lake County and the surrounding region well-suited to farming and food production. While agriculture was once a leading sector of the Lake County economy, it has been negatively impacted by growth and development. As a result, there has been a significant reduction in the County’s agricultural land area. From 2000 to 2007, the County has seen a 20.7 percent decrease in agricultural land area, with the bulk of the change occurring by 2005. This translates to just over 9,000 acres of agricultural land lost in just seven years.

Table D-2. Agricultural Land Area, 2000-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Agricultural Land (acres)</th>
<th>Percent of Total Land</th>
<th>Percent Change, 2000-2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>43,530</td>
<td>14.5%</td>
<td>N/A</td>
</tr>
<tr>
<td>2002</td>
<td>38,860</td>
<td>12.9%</td>
<td>-10.7%</td>
</tr>
<tr>
<td>2005</td>
<td>35,021.6</td>
<td>11.6%</td>
<td>-9.9%</td>
</tr>
<tr>
<td>2007</td>
<td>34,525</td>
<td>11.5%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Total</td>
<td>-9,005</td>
<td>N/A</td>
<td>-20.7%</td>
</tr>
</tbody>
</table>

Sources: Caliper report (2009); 2007 Census of Agriculture in Lake County; Lake County Planning, Building, & Development Department

To address this issue, Regional Framework Plan Goal 4.8 states that the County should, “preserve select remaining farmland,” particularly high quality areas or those most likely to succeed into the future. Strategies to accomplish this goal include promoting sustainable farming activities, such as the sale of fresh produce, and identifying County regulations that make it challenging to start, expand, or continue agricultural operations. The Regional Framework Plan acknowledges the work of local conservation land trusts in preserving farmland through conservation easements. Work is also underway with Openlands and CMAP, among others, to identify opportunities and challenges to agricultural operations.

Some agricultural uses may have detrimental environmental effects when they occur on highly erodible soils or neglect to use best management practices (BMPs). Without the use of sustainable farming practices, agricultural operations can degrade soil health by causing the loss of topsoil and well as impact environmental resources off-site. For instance, using chemical applications not only impacts on-site soil conditions but can also pollute water downstream. The Soil Survey of Lake County report offers recommendations for sustainable soil-erosion control measures, such as structural practices like conservation tillage (also known as no-till farming) or ridge planting. Crop rotations that include one or more years of close-grown grasses or legumes, as well as grassed waterways, also help with erosion and soil management.

91 RFP [Goal 4.8].
92 RFP p.4-17
93 Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe, 2003
Although the total amount of land devoted to agricultural production in Lake County is declining, the County is experiencing an increase in the number of farms. While the gross number of farms declined 12 percent from 1997 to 2002 (385 farms), it then increased by 2.9 percent from 2002 to 2007 (to a total of 396 farms). The increased number of farms can be accounted for by a shift toward smaller-sized farms (see Figures D-4 and D-5. Lake County Farms by Size). The 2007 Census of Agriculture marked a 100 percent increase in small sized farms (one to nine acres) between 2002 and 2007, from 81 farms in 2002 to 162 farms in 2007 (Agricultural Census). Fortunately, a trend towards smaller farms supports the growing sustainable local food system in Lake County, as local food operations tend to be concentrated on smaller-sized land parcels and typically do not require large-scale equipment and infrastructure compared to commodity crops.

**Figure D-4. Lake County Farms by Size, 2002**

![Chart showing farms by size, 2002](image)

*Source: United States Department of Agriculture, 2002 Census of Agriculture, County Profile*

**Figure D-5. Lake County Farms by Size, 2007**

![Chart showing farms by size, 2007](image)

*Source: United States Department of Agriculture, 2007 Census of Agriculture, County Profile*

**Local Food Production**

Ensuring that people have access to fresh, healthy, affordable food is a basic tenet of sustainability. Local food production makes fresh food more available and accessible to community members. Local food consumption also increases the efficiencies and profitability of local food operations as farmers can sell their produce directly to consumers at local retail venues like farmers’ markets or farm stands. Direct-to-consumer sales have multiple benefits, as farmers are able to access the local market, which

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95 2007 Census of Agriculture in Lake County

96 Sustainable Building and Development Regulations report, [p75]
increases their earnings and compensation, and consumers can learn about where and how their food is grown. Local food sales also keep food dollars in the local economy, which benefits the community at large. Overall, supporting local food production in Lake County offers public health, economic, and environmental benefits and also fosters agriculture as an ongoing and viable land use.

Community gardens, which use vacant land to grow produce for local consumption, are a subset of local food production and help promote access to fresh, local food. The 2011 Sustainable Building and Development Practices report recommends expressly allowing community gardens, market farms, community-supported agriculture farms, and farmers’ markets to remove potential regulatory barriers to those uses. Examples of community gardens in Lake County are located at Prairie Crossing in Grayslake, Mano a Mano in Round Lake Park, College of Lake County (CLC) (Grayslake campus), Avon Township, a senior housing complex in the Village of Grayslake, and Waste-Not Gardens in Waukegan. In addition to small scale farms and community gardens, many residents in Lake County are cultivating backyard gardens to produce food. A 2012 qualitative survey conducted in the County to learn more about the potential for sustainable farming illustrated that local residents are also becoming increasingly interested in keeping honeybees and backyard chickens. This interest reflects a documented national growing trend to produce honey and eggs on residential lots. As a result, city councils and local planning departments across the country are re-examining local zoning ordinances to determine whether these practices are a compatible land use in residential zones.

In evaluating the potential for expanding local food production and sustainable farming practices in Lake County, the most significant barriers appear to be land access and affordability; zoning provisions also pose challenges to certain sustainable agricultural uses on parcels that are less than 200,000 square feet. The UDO defines agricultural uses and distinguishes between exempt and non-exempt agricultural uses based on the parcel size. Uses that qualify for an agricultural exemption in the UDO have a minimum lot area of 200,000 square feet (4.59 acres or more) and the coinciding zoning regulations permit all agricultural uses and animal husbandry. The UDO allows community garden uses on public land (Section 4.3.2.6), which allows the possibility of using protected public open space land for local food growing as a method to increase local food production.

However, land parcels less than 200,000 square feet in size are classified as non-exempt agricultural land and are subject to more restrictions, which might pose barriers to some agricultural uses. For instance, although “crop raising” is allowed in any zoning district in unincorporated Lake County, the UDO presents some issues for local food production within residential districts. For example, the UDO does not currently permit beekeeping or backyard chickens in residentially-zoned lots fewer than 200,000 square feet in size. Regional Framework Plan Policy 4.8.3 calls for the examination of the County’s regulations and elimination of barriers to local food farming, which will enable the County to foster a viable local food system and economy. Local municipalities may also be interested in information on how to zone to support local food production within their incorporated boundaries.

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98 2011 Sustainable Building and Development Practices in Lake County
99 Survey designed and conducted by the Chicago Metropolitan Agency for Planning (CMAP) in 2012 to identify barriers to sustainable agriculture across several stakeholder groups in Lake County
Local Food Economy

The term “local food system” is characterized by its geographical focus based on the area where food is grown and consumed (also known as a “foodshed”); it also refers to the infrastructure and conditions needed to sustain this system such as local food production, conducive local government policies, programs, and decisions, matching supply and demand, building the local supply-chain (packing, processing, and distribution), preserving farmland, and sustainably managing organic agricultural waste. The “local food economy” is the economic impact that this system generates.

There is unmet demand for locally grown food in Lake County, as there is throughout the metropolitan Chicago area and state-wide. Perhaps as an effect, Lake County farm operations are increasing sales of vegetable products, with no negative impact on revenues from commodity crops. There is great market potential to further increase production of vegetables and fruits based on the $180 million annual demand for vegetables and fruits in Lake County.

As evidence of the economic potential of local food production in Lake County, there has been an increase in the value of direct-to-consumer sales of local food products. If County consumers bought five dollars of food directly from local farms each week, local farms would earn an additional $182 million. Typically, direct marketing to consumers accounts for a higher percentage of sales for smaller farms than for larger farms. On a national scale, studies have shown that farm income and per acre net revenue for fresh market vegetables are five to 50 times greater than that for commodity crops. Due to the hands-on nature of local food production, skilled farmers and farmhands play a crucial role in producing the output, whereas commodity farming is highly mechanized. A recent USDA report reveals that fruit and vegetable farms that sell into local markets employ 13 full-time employees per every $1 million in sales, versus just three employees for their counterparts that sell into global farm commodity markets. In other words, a dollar spent at the farmers’ market supports four times as many workers as a dollar spent at the supermarket. Overall, by promoting sustainable local farmland protection and food production, farmers can meet this growing demand and earn better compensation.

Further, consumer interest in local food, as indicated in the qualitative survey, increases the potential for additional food dollars to stay in Lake County. The multiplier effect would compound these economic effects to generate even more local revenue. According to research conducted at the University of Wisconsin Extension, the multiplier effect for small farms is 2.6, meaning that every dollar that goes toward local food purchases nearly triples the economic benefits to the local economy. This positive trend also influences labor income and jobs as studies show that fruit and vegetable production

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102 USDA Census of Agriculture from 2002 and 2007 in Lake County, IL
105 Ibid
has the potential to generate three to seven times more local jobs and farm income than corn and soybean production.\footnote{Swenson, David. Selected Measures of the Economic Values of Increased Fruit and Vegetable Production and Consumption in the Upper Midwest. Research, Department of Economics, Iowa State University, Ames: Leopold Center for Sustainable Agriculture, March 2010.}

An important part of a sustainable local food system is sustainable waste management; composting organic agricultural materials is a viable way to divert biodegradable waste from landfills. There are also entrepreneurial opportunities related to composting organic waste as demonstrated by composting facilities in Lake County, including Midwest Organics Recycling in Wauconda Township and New Earth Compost in Waukegan. Although there are regulatory challenges related to this type of composting for public health reasons, there are still opportunities to establish composting businesses that comply with regulations. For instance, Midwest Organics Recycling has obtained proper permitting from the Illinois Environmental Protection Agency (IEPA) to compost food scraps, horse manure, and landscape waste, and have been able to create an economically viable business while having an impact on organic waste diversion. Based on United States Environmental Protection Agency (USEPA) national statistics, food scraps constitute 12 percent of landfill capacities across the country.\footnote{US Environmental Protection Agency, 2008} Given the economic and environmental opportunities associated with food scrap and organic waste composting, it makes sense to expand these types of businesses while adhering to composting codes. Further, there is another entrepreneurial role for licensed composting haulers, such as Organix Recycling based in Mokena, Illinois. This company has contracted with grocery stores, including Jewel-Osco, and others to pick up food scrap waste. These local composting businesses are already demonstrating their business potential and can serve as a replicable business model in Lake County.

The Illinois General Assembly is also playing a key role in supporting the viability of local food production in Illinois and farmers who rely on this income. The “Local Food, Farms, and Jobs Act” (P.A. 096-0579) passed in 2011 includes a procurement goal that 20 percent of all food products purchased by State agencies and State-owned facilities shall be local farm or food products by 2020. This is an impressive target and has established a framework for local communities, like Lake County, to set similar targets to bolster their own sustainable local farm and food economies.

**Goal & Policies**

**Goal:** Conserve and enhance Lake County’s natural resources, open space network, and local food system for environmental, economic, recreational, and aesthetic benefits.

**Policy 1:** Support the Lake County Forest Preserve District as the largest land holder and open space provider in Lake County by backing the adopted “Lake County Vision for Land Preservation” and “The Forest Preserve District’s 100-year Vision for Lake County” (pending adoption as of the publication of this document) and track progress through the countywide partnership.

[Ref.: Goal 3.1; Goal 4.1; Goal 4.2; Goal 9.1; Goal 9.2; Pol. 4.1.1; Pol. 4.1.3; Pol. 5.37.3; Pol. 9.2.1]

**Action 1:** Continue to actively coordinate with public and private conservation partners.
**Action 2**: Continue tracking the amount and type of protected open space under the Lake County Vision for Land Preservation and incorporate such figures into future *Regional Framework Plan* updates, using a commonly used methodology.

**Action 3**: Encourage partnerships to preserve, manage and enhance high priority conservation areas.

**Action 4**: Encourage partnerships to focus on coordinating land acquisitions to provide greenway corridor connectivity where appropriate.

**Action 5**: Protect high quality natural resources through fee-simple purchase or conservation easements.

**Commentary**: The Land Conservation Partners of Lake County developed the goal of preserving 20 percent as open space, adopted by the County Board in 2010. This group has been coordinated by Conserve Lake County. It has established a methodology for tracking protected open space, which should continue to be used to ensure consistency.

**Policy 2**: Promote convenient and safe access to local parks, open space areas, and recreational facilities for all County residents.

[Ref.: Goal 3.1; Goal 4.2; Goal 5.36; Goal 5.37; Goal 9.1; Pol. 4.2.2; Pol. 4.2.4; Pol. 5.36.3; Pol. 5.37.1; Pol. 5.37.2; Pol. 9.2.1; Pol. 10.2.2]

**Action 1**: Measure access to parks and recreational facilities in unincorporated areas within one half mile of area residences, rather than by county-wide averages.

**Commentary**: One half mile is a commonly used measure, developed by the Trust for Public Lands, as a metric to evaluate access to parks.

**Action 2**: Evaluate the potential to expand park dedication requirements in existing County ordinances. The development review process should encourage protecting open space areas that align with existing and potential greenway corridors.

**Action 3**: Provide model regulatory language for municipalities to encourage them to adopt best practices in park dedication requirements.

**Policy 3**: Incorporate the consistent application and use of available data and resources to further identify and prioritize the protection of natural resources in development decisions.

[Ref.: Goal 4.1; Goal 4.2; Goal 4.3; Goal 4.4; Goal 5.11; Goal 5.12; Goal 9.2; Pol. 4.1.1; Pol. 4.2.2; Pol. 4.4.2; Pol. 5.11.1; Pol. 5.37.1; Pol. 5.37.3; Pol. 6.3.3; Pol. 9.2.1; Pol. 9.2.3; Pol. 9.2.4; Pol. 9.2.5]

**Action 1**: Incorporate criteria in development regulations from state of the art resources for evaluating development proposals (see Commentary below for examples).

**Action 2**: Share available resources for prioritizing natural areas with other jurisdictions.

**Action 3**: Evaluate the concept of a Lake County green infrastructure map and plan.

**Commentary**: Examples of available resources for natural area evaluation include the Green Infrastructure Vision 2.0 and the Illinois Natural Areas Inventory (INAI).
Policy 4: Promote the use of native plants to create habitat, remove invasive species, and promote infiltration of rainwater.
[Ref.: Goal 4.1; Goal 4.3; Goal 4.4; Goal 5.1; Goal 5.2; Goal 5.3; Goal 5.11; Goal 5.12; Pol. 4.4.2; Pol. 5.3.2; Pol. 10.3.1]

Action 1: Incentivize use of native plants in site development practices, such as in bioretention areas for bioswales and rain gardens.
Action 2: Support and encourage the use of native plants in existing residential and nonresidential landscaping settings.

Commentary: Conserve Lake County’s Conservation@Home and Openlands Treekeepers programs are examples of programs that provide residents recognition for planting trees and incorporating native plants into their landscaping.

Action 3: Continue to promote native landscaping best practices at Lake County demonstration facilities, where appropriate.

Policy 5: Provide opportunities and incentives that will facilitate an economically viable local food system.
[Ref.: Goal 4.8; Pol. 4.8.1; Pol. 4.8.3; Pol. 4.8.4]

Action 1: Adapt zoning ordinances to provide more opportunities for local food producers to operate on non-exempt land (under 200,000 square feet) in unincorporated areas.
Action 2: Support the increase in direct-to-consumer sales opportunities by allowing farmers markets in all zoning districts and increasing the length of Temporary Use Permits for onsite seasonal sales, with minimum space and location requirements.
Action 3: Encourage stronger connections within the food systems between farmer training programs, business development, and potential aggregation services (i.e. food hubs).
Action 4: Continue to support the Lake County Local Food Working Group and its recommendations in the Lake County Sustainable Local Food Systems Report (Spring 2013).

Commentary: The Lake County Local Food Working Group is a public-private partnership developed with CMAP Local Technical Assistance and with the support of the County.

Policy 6: Promote sustainable local food farming activities that create a productive transitional or permanent land activity (for instance, on public, tax delinquent land), thereby supporting the local food economy.
[Ref.: Goal 4.8; Pol. 4.8.1; Pol. 4.8.3; Pol. 4.8.5; Pol. 4.8.7]

Action 1: Clearly define sustainable local food farming in development regulations to promote it as a legitimate long-term use when making land use planning decisions.
Action 2: Work with partners to evaluate the opportunities to provide affordable land for local food operations through redesigned license agreements on public lands.

Commentary: Examples of public lands that lease to farmers include the Lake County Forest Preserve District and the Libertyville Township Open Space District.
Action 3: Encourage local community groups to establish community garden programs in urbanized areas.

Action 4: Encourage programs which allow local food farmers to license public land at a reduced rate in exchange for donating a percentage of their produce to food pantries.

Indicators

While the policies in this Chapter will be implemented on an ongoing basis, each indicator will be monitored on an annual basis and evaluated every five years. “Lake County Indicators” include indicators that are within the County government’s purview, while “Community Indicators” relate to activities within the County at large.

Lake County Indicators:

Indicator 1: County regulations will be evaluated for expanded park dedication requirements that could also serve as a model for municipalities by 2018. (PBD)
Indicator 2: The annual number of registrations for chicken coops and hoop houses will increase by 2018. (PBD)

Community Indicators:

Indicator 1: At least 20 percent of the County will be preserved as natural areas, parks, trails, farmland, and scenic views by 2030. (Vision for Land Preservation, 2010) (PBD/FPD)
Indicator 2: The number of residents with limited access to fresh and local food will decrease by 2018. (PBD)
Indicator 3: The number of locations and hours of operation of farmers markets will increase by 2018. (PBD)
Indicator 4: The number of small local food farming operations will increase by 2018. (PBD)
## Implementation Approach

<table>
<thead>
<tr>
<th>Policy</th>
<th>Policy Description</th>
<th>Inter-governmental</th>
<th>County Departments and Agencies</th>
<th>Non-County Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Support the adopted “Lake County Vision for Land Preservation” and “The Forest Preserve District’s 100-Year Vision for Lake County” and track progress through the countywide partnership.</td>
<td>County, Municipalities, Townships, Agencies</td>
<td>PB&amp;D</td>
<td>LCFPD, Conserve Lake County, other local land trusts</td>
</tr>
<tr>
<td>2</td>
<td>Promote convenient and safe access to local parks, open space areas, and recreational facilities for all County residents.</td>
<td>County, Municipalities</td>
<td>PB&amp;D</td>
<td>Trust for Public Lands</td>
</tr>
<tr>
<td>3</td>
<td>Incorporate the consistent application and use of available data and resources to further identify and prioritize the protection of natural resources in development decisions.</td>
<td>State, County, Municipalities</td>
<td>PB&amp;D</td>
<td>LCFPD, Chicago Wilderness</td>
</tr>
<tr>
<td>4</td>
<td>Promote the use of native plants to create habitat, remove invasive species, and promote infiltration of rainwater.</td>
<td>County, Municipalities</td>
<td>PB&amp;D, SMC</td>
<td>Conserve Lake County</td>
</tr>
<tr>
<td>5</td>
<td>Provide opportunities and incentives that will facilitate an economically viable local food system.</td>
<td>County, Municipalities</td>
<td>PB&amp;D</td>
<td>Liberty Prairie Foundation</td>
</tr>
<tr>
<td>6</td>
<td>Promote sustainable local food farming activities that create a productive transitional or permanent land activity (for instance, on public, tax delinquent land), thereby supporting the local food economy.</td>
<td>County, Municipalities</td>
<td>PB&amp;D</td>
<td>LCFPD</td>
</tr>
</tbody>
</table>
Figure D-1. Open Space Network

Legend
- Lake County
- Interstate Highway
- County Forest Preserves
- US & State Highway
- Other Open Space

Source: Chicago Metropolitan Agency for Planning, 2012
Figure 4.11 (from RFP). Priority for Open Space
Figure 4.4 (from RFP), Illinois Natural Areas Inventory Areas

Source: Illinois Department of Natural Resources; Lake County Geographic Information System
Figure D-2. Walkable Access to Open Space

Legend
- Lake County
- Open Space
- Municipalities
- 1/4 Mile Unincorporated Open Space Buffer
- Residential Land Use

Source: Chicago Metropolitan Agency for Planning, 2012
Figure D-3. Green Infrastructure

Legend
- Lake County
- Open Space
- Municipalities
- Green Infrastructure

Source: Chicago Metropolitan Agency for Planning, 2012
E. Water Resources

The content of the Water Resources section of the Sustainability Chapter is most closely related to Regional Framework Plan Chapter 4: Environmental Resources, Open Space, and Farmland and Chapter 5: Infrastructure and Services, particularly the Water Supply and Stormwater Management sections.

Significance

Lake County has long recognized the importance of protecting its water resources. Clean and plentiful water is a fundamental necessity for the health of County inhabitants and the natural environment. Reducing water consumption and stormwater runoff saves energy and prolongs the life of water infrastructure. Expanding the use of stormwater best management practices can reduce flood damage to the built and natural environment and create attractive amenities, such as rain gardens and rooftop gardens. Several planning initiatives in the County have stressed how the area’s lakes, rivers, and groundwater form an interconnected and extremely complex water system, which requires an integrated water resource management approach.

The 2013 Lake County Strategic Plan states that the County should strive to “preserve the health of our natural resources and our drinking water through the widespread use of sustainable and environmental management practices, effective stormwater management and the enhancement and rehabilitation of lakes, wetlands and other fragile ecosystems.” Many other County documents, including the Regional Framework Plan, contain similar policies and goals. The Regional Framework Plan describes how many County decisions can influence water in subtle ways. For example, the location and layout of new residential development can increase stormwater runoff and flooding, which can in turn negatively affect drinking water quality.

Overall, Lake County is part of a national movement that views rainwater as an asset rather than a waste and promotes solutions to capture rain where it falls and harvest it as a commodity. The County utilizes extensive education and outreach to teach residents and businesses how sustainable practices can maximize innovative ecological, recreational and economic opportunities. This is a fundamental step towards achieving the County’s goal of “a regional environment that is healthy for residents, offers scenic and recreational open space, and provides habitat for wildlife.”

The County has taken an active role in protecting its water resources, particularly through participation in several groups, including the Northwest Water Planning Alliance (NWPA) and Lake County Water Supply Advisory Committee. Lake County developed its “State of Lake County’s Water Supply” in 2008, which documents Lake County’s existing water supply and water use patterns, identifies existing water management practices, and provides groundwork for future actions. In addition, the Lake County Stormwater Management Commission (Lake County SMC), which is responsible for administering stormwater management standards and floodplain regulations, has nearly completed the process of updating the County’s Watershed Development Ordinance (WDO), which will improve baseline water quality performance standards for the County.

109 RFP, p. 4-4
110 RFP, p. 1.
111 RFP, p. 8.
Issues and Opportunities
The following key issues and opportunities related to water resources have been identified through the existing conditions analysis:

- Lake County’s water resources are natural amenities that contribute to the County’s quality of life, which is a major determinant in business retention and location decisions.
- However, the County’s water supply is not endless and demand could potentially increase up to 121 percent by 2050. Communities are drawing down more water from shallow aquifers than can be replenished, and some deep aquifers are contaminated with harmful substances. In addition, Lake Michigan as a water source is only projected to be sustainable for the region until 2030.\textsuperscript{112}
- Encouraging awareness and implementation of water conservation measures is an important element of ensuring a sustainable source of drinking water for the County.
- Lake County surface and groundwater resources face growing issues with “emerging contaminants,” such as chlorides (deicing salt), phosphorus from fertilizers, and pharmaceuticals. This compounds traditional water quality issues, such as contamination from commercial and industrial processes, as well as erosion and sedimentation from increased stormwater runoff.
- Without adequate measures to manage stormwater, increased impervious coverage (roof tops, parking lots, etc.) has the potential to contribute to flood damage and degraded water quality and aquatic habitat.
- The County is facilitating the wide-spread and systematic use of best management practices (BMPs) to manage stormwater, which is considered the most cost-effective and environmentally friendly solution. Improved stormwater regulations, in line with future state and federal performance standards, will help to curb the volume and concentration of polluted stormwater runoff.
- Lake County has developed a number of sub-watershed plans that take a holistic approach to managing water resources, addressing both sources of urban and agricultural runoff as well as specific pollutants, such as ones that the IEPA identified as impairments to the county’s waterways.
- Lake County is part of state-wide discussions to think creatively about funding these initiatives to afford the best possible protections to its water resources.

Analysis

Existing Water Resources
Lake County has tremendous water resources and is bordered on the east by Lake Michigan. Nearly 90,000 acres (about 30 percent of the County) consists of lakes, streams, wetlands, and floodplain areas (see Figure E-1. Water Resources). It has four major watersheds, and 26 sub-watersheds (see Regional Framework Plan, Figure 4.2). The County’s geology is heavily influenced by glaciers that formed the area, and has a ground surface of silt, clay, sand, and glacial till. Over 350 inland lakes and ponds span 16,895 acres, including part of the Chain-O-Lakes area, Fox Lake, and Lake Nippersink. Lake County has 159.6 linear miles of classified streams, with 33.6 miles of Class B High Value Aquatic Resources. In addition, 38,474 acres of Advance Identification (ADID) wetlands\textsuperscript{113} and 61,495 acres of other wetlands are found in the County.\textsuperscript{114} The County has 17,533 acres of INAI sites (which contain unique or exceptional

\textsuperscript{112} Water 2050
\textsuperscript{113} Data reported in 1992.
\textsuperscript{114} Lake County Wetland Inventory
These resources are part of the natural environment that is home to over 130 different known threatened and endangered species.

**Water Supply & Demand**

Lake County receives its water from three main sources: Lake Michigan, shallow aquifers, and deep aquifers (see Figure E-2. Water Sources and Table E-1. Water Supply by Source). In 2008, the Lake Michigan water service area covered 195 square miles (41 percent of the County’s area), extending service to approximately 70 percent of the County’s population.\(^\text{115}\) There were 37 Lake Michigan water allocation permits, including 26 municipal systems, five non-municipal systems, and six commercial, industrial, or institutional systems. In 2010, the Illinois Department of Natural Resources approved Lake Michigan allocations for ten additional Lake County communities: Antioch, Fox Lake, Lake Villa, Lake Zurich, Lindenhurst, Long Grove, Volo, Wauconda, and unincorporated Lake County (Fox Lake Hills and Grandwood Park).\(^\text{116}\)

Areas in Lake County that do not receive Lake Michigan water rely on groundwater aquifers. More than 80 percent of Lake County’s groundwater supply is drawn from shallow aquifers.\(^\text{117}\) Only a small portion of the population draws from deep aquifers. While deep aquifers are less susceptible to surface contaminants (such as road deicing salt and unsealed or abandoned wells), this deep “legacy” water is replenished very slowly and can have naturally occurring water quality issues, such as radium, barium, salinity, and total dissolved solids (TDS). Radium levels above the drinking water standard occur in some areas of the County.

<table>
<thead>
<tr>
<th>Water Source</th>
<th>Population in Service Area</th>
<th>Millions of Gallons per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Michigan</td>
<td>494,620(^1)</td>
<td>834.7</td>
</tr>
<tr>
<td>Shallow Aquifers</td>
<td>248,760</td>
<td>18.1</td>
</tr>
<tr>
<td>Deep Aquifers</td>
<td>49,240</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>792,620</strong>(^2)</td>
<td><strong>857.1</strong></td>
</tr>
</tbody>
</table>

\(^1\) Includes non-contact cooling water that is returned to the lake

\(^2\) Exceeds the County’s total population – not everyone in the service area utilizes Lake Michigan water

While Lake County is known for its abundant water resources, it does not have an endless supply of drinking water. To understand the growing demand on its limited water resources, Lake County participated in the Northeastern Illinois Regional Water Supply Planning Group, which was facilitated by CMAP. This three-year intensive study produced a comprehensive view of the region’s water supply and demand, and recommended numerous specific measures that local governments could adopt to become more sustainable. The study resulted in the *Water 2050: Northeastern Illinois Water Supply/Demand Plan Report (Water 2050)*, adopted in 2010. Scenario projections indicated that if the County continues along its current trend, water withdrawals will increase by around 44 percent by 2050. If Lake County implements stronger conservation practices, it could potentially restrict its rate of

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\(^{115}\) 2008 Report, The State of Lake County’s Water Supply, Executive Summary

\(^{116}\) “North-West Lake County Lake Michigan Water Planning Project.” Retrieved 7/5/12 from [http://www.lakecountyil.gov/PublicWorks/PublicInformation/Pages/LakeMichiganWaterFeasibilityStudy.aspx](http://www.lakecountyil.gov/PublicWorks/PublicInformation/Pages/LakeMichiganWaterFeasibilityStudy.aspx)

\(^{117}\) The State of Lake County’s Water Supply, Executive Summary, p. 2 (2008)

\(^{118}\) Ibid
increase to 13 percent. Alternatively, if Lake County becomes more resource-intensive, it will potentially withdraw over 75 percent more water by 2050 than the 2005 baseline, a 28 percent increase over the baseline scenario.\footnote{119} Overall, the Illinois State Water Survey estimated in 2008 that the demand for water in Lake County will increase between 45 percent and 121 percent by 2050, depending upon water consumption practices.\footnote{120}

### Table E-2. Scenario Water Withdrawals in Millions of Gallons per Day, 2005-2050

<table>
<thead>
<tr>
<th></th>
<th>Current Trend (Baseline)</th>
<th>Less Resource Intensive</th>
<th>More Resource Intensive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 Reported</td>
<td>105.3</td>
<td>105.3</td>
<td>105.3</td>
</tr>
<tr>
<td>2005 Normal</td>
<td>91.3</td>
<td>91.3</td>
<td>91.3</td>
</tr>
<tr>
<td>2050 Normal</td>
<td>131.6</td>
<td>103.1</td>
<td>160.1</td>
</tr>
<tr>
<td>2005-2050 Change (MGD)</td>
<td>40.3</td>
<td>11.8</td>
<td>68.9</td>
</tr>
<tr>
<td>2005-2050 Change (%)</td>
<td>44.1%</td>
<td>13.0%</td>
<td>75.4%</td>
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<tr>
<td>Change from Current Scenario</td>
<td>0</td>
<td>-28.5</td>
<td>28.6</td>
</tr>
</tbody>
</table>

Source: Northeastern Illinois Water Demand Report, ISWS (2008), Table ES-8

The amount of water that Lake County can withdraw from Lake Michigan is limited. A United States Supreme Court Consent Decree restricts the amount of water that Illinois can divert from Lake Michigan each year to 3,200 cubic feet per second, which amounts to approximately 2.1 billion gallons of water per day.\footnote{122,123} In 2005, Lake County reported withdrawing an average of 105 million gallons per day (MGD) (see Table E-2. Scenario Water Withdrawals). Continued County growth will further constrain the amount of available Lake Michigan water. In fact, if the region maintains status quo use, Lake Michigan water is projected to only provide a sustainable supply through the year 2030.\footnote{124} In the immediate future, CMAP estimates that Illinois is currently 50 to 75 million gallons per day under the federal limit on diverting Lake Michigan water. While this is enough to accommodate the ten recent communities that were approved for new allocations of lake water, it is possible that inadequate local water supplies could limit growth and development opportunities in the future if new sources of water are not utilized.\footnote{125}

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\footnote{119}{See Northeastern Illinois Water Demand Report, ISWS, Executive Summary (ES) (2008).}
\footnote{120}{See Northeastern Illinois Water Supply Planning Investigations: Opportunities and Challenges of Meeting Water Demand in Northeastern Illinois, Contract Report 2012-03, Table 17, p. 46.}
\footnote{121}{The 2005 reported figures for Lake County water withdrawal scenarios were unusually high because the region was in a period of drought. If Lake County experiences hotter and drier weather in the future, this figure illustrates how the demand may intensify beyond the current “normal” projections.}
\footnote{124}{CMAP Water 2050}
\footnote{125}{See CMAP Water 2050, p. XI.}
Communities that rely on aquifers face supply issues as well. About 30 percent of Lake County utilizes groundwater. Groundwater withdrawals are projected to increase faster than surface water withdrawals. While the recent approval by IDNR for additional allocation permits will potentially reduce this strain, the long-term pressure on aquifer levels still remains a critical issue.

The groundwater supply in Lake County is susceptible to both increased drawdowns as well as potential contamination. Shallow aquifers are particularly vulnerable to surface contamination from illicit discharges (such as leaking underground storage tanks) to abandoned wells and chemicals in stormwater runoff (such as road salt). The list of potential contaminants is enormous and includes various organic classes (e.g. petroleum, solvents, pesticides), toxic metals (e.g. cadmium, lead, chromium), mercury, chlorides from road salt and septic softeners, sulfates, nitrogen, and high total dissolved solids (TDS).

To better understand the yield of the County’s groundwater sources, the Lake County Water Supply Advisory Committee is working with the Illinois State Geological Survey (ISGS) and University of Illinois on part of a federal and state initiative to create high resolution 3D geologic mapping of the western three quarters of Lake County, illustrating both surface water and groundwater resources. Pending future funding, the County intends to expand the project to identify the quantity of available groundwater supplies. This part of the project would not be completed for several years.

According to the 2008 Illinois State Water Survey report, “urbanization can seriously degrade groundwater quality of shallow aquifers, particularly in snowy climes where deicers are heavily used. In addition, thousands of abandoned wells throughout Lake County are no longer monitored, and could easily and quickly contaminate neighboring wells in the area.”

Water Conservation
To address concerns about water supply, Lake County has begun to implement water conservation measures. As a foundation, the Lake County Board endorsed CMAP’s Water 2050 plan, which defined several goals related to managing water demand, ensuring sufficient supply, protecting water quality and sustaining aquatic ecosystems, encouraging stewardship, fostering intergovernmental communication for water conservation and planning, and improving integration of land use and water use planning. Water 2050 underscores how “investments in water conservation and efficiency are not only integral to water supply planning, but also beneficial on the larger economic scale through job creation, associated energy savings, and the avoided cost of new infrastructure.” Since its adoption of Water 2050, Lake County has taken several steps to meet these sustainable water resource goals.

In September 2010, Lake County, along with five other counties and approximately 80 communities, formed the regional “Northwest Water Planning Alliance” (NWPA) to implement Water 2050

130 Lake County Water Supply Advisory Committee 2011 Annual Report
131 Water 2050, p. 89.
recommendations and concepts concerning groundwater and inland surface water dependent communities. The NWPA formed a Technical Advisory Committee (TAC), comprised of municipal and county water and planning professionals, consulting agency partners, and conservation organizations, to provide technical expertise. The group has focused on two initiatives: cooperation between the Illinois State Water Survey and water utility operators to measure water levels in deep aquifers; and collaboration with CMAP to create educational materials for the public on water conservation. The TAC is also considering potential ordinance recommendations, such as lawn watering restrictions, for county and municipal governments.

In addition, the Lake County Board formed a Water Supply Advisory Committee (WSAC), which is comprised of representatives from County and municipal governments. This committee, along with its technical and policy advisory groups, has made progress on several local water supply planning initiatives, including developing recommendations for a comprehensive water supply planning strategy; creating and promoting the adoption of County-wide water management and conservation ordinances, including CMAP’s 2010 Model Water Use Conservation Ordinance; and adopting recommendations for appropriate water pricing practices, such as full cost and conservation pricing.

Lake County has engaged in several studies and initiatives to develop sustainable water practices. In 2008, the County Board adopted the State of Lake County’s Water Supply report, which documented Lake County’s existing water supply and water use patterns, identified existing water management practices, and provided groundwork for future actions. The December 2011 Promoting Sustainable Building and Development Practices in Lake County report lists many examples of sustainable water practices, including rainwater harvesting and reuse; high-efficiency plumbing fixtures; low water use landscaping; efficient irrigation systems; turf-area management; and individual metering.

Lake County is also a leader with regard to water reuse practices. The County is home to one of the first rainwater harvesting systems for toilet flushing in the region, located at the Lake County Forest Preserve District’s Ryerson Woods Welcome Center. Rainwater harvesting systems conserve potable water and reduce the overall amount of water that is sent to be treated. The Forest Preserve District led by example in securing a variance for the Ryerson Woods system, which is not currently permitted under the Illinois Plumbing Code. The District’s pioneering efforts in this area helped to inspire new legislation in 2012 that authorizes amending the Illinois Plumbing Code to accommodate rainwater reuse systems without a variance.

Water Quality
The Regional Framework Plan calls for regional and state agencies to identify and protect the quality of its most vulnerable lakes, streams, wetlands, and floodplain areas, noting agricultural and stormwater runoff, and industrial waste as particular threats. The Regional Framework Plan also stresses the value of promoting smart growth and wise land use decisions as a vehicle for water quality protection. The 2009 Strategy for a Sustainable Lake County and Strategic Plan documents contain similar

132 http://www.ryersonwoods.org/p/GreenArchitecture.html
133 http://chicagolandh2o.wordpress.com/2012/01/11/from-gray-to-green-investing-in-sustainable-infrastructure/
136 RFP, p. 4-9.
acknowledgements of the importance of water quality. Lake County has also enacted numerous
regulations and incentives related to water quality, many of which have been in place for years.

Lake County recognizes that, “the quality of our surface and ground waters has suffered as a result of
numerous waste products that find their way into the water.” Watershed management plans identify
actions to improve water quality, protect natural resources, and reduce the risk of flooding. The Lake
County Stormwater Management Commission has completed 15 of 26 sub-watershed plans for the
County. One of its most recent watershed plans for North Mill Creek/Dutch Gap Canal included a water
quality and biological study to target future projects and activities to improve aquatic resources and
habitat in streams and lakes. SMC watershed plans include best management practices to maintain and
improve water quality and protect aquatic habitat.

Most recently, in June 2012, CMAP began to develop a Total Maximum Daily Load (TMDL)
implementation plan to improve water quality for lakes and their combined watersheds in southwestern
Lake County, along with many partners, including Lake County. A number of streams, lakes, and other
County waters are impaired for certain types of pollutants, which limit how people and aquatic life (such
as fish and mussels) use the waterways. When the IEPA lists part of a waterway as “impaired” under
303(d) of the Clean Water Act, it is charged with creating a Total Maximum Daily Load (TMDL) analysis to
identify what sources are causing the pollution and also developing a plan to reduce the amount of
pollution discharged by these sources. The goal is to reduce the pollution so that the waterway can
support “general use,” in that it is clean enough for people to swim and a healthy range of fish to thrive in.

CMAP and partners are taking a watershed-based approach to develop a TMDL plan for southwestern
Lake County, collaborating with community decision makers to identify the pollution sources for the
affected waterways. While watershed planning has traditionally focused on reducing non-point source
pollution (such as urban and agricultural runoff), Lake County is part of a growing trend to look more
holistically at both point sources (such as permitted discharges from industrial facilities) and non-point
sources.

Lake County has also spearheaded a new initiative with many partners, the Des Plaines River Watershed
Workgroup of Lake County, a voluntary, dues paying membership organization that will work to improve
water quality within the Des Plaines River basin in Lake County. The group consists of NPDES permit
holders, both Publically Owned Treatment Works and MS4s, other interested organizations, and
individuals, which contribute annual membership dues based on their NPDES permits. The group’s first
goal is to conduct an extensive bioassessment that will establish baseline levels for water and sediment
chemistry, fish and macroinvertebrates, and habitat. The group will also complete, with the assistance
of Lake County Stormwater Management, watershed based planning within the Des Plaines River basin
and then move into project implementation, which will improve water quality within the Des Plaines.

The government of Lake County has also implemented a number of measures for its own operations to
reduce pollutants that degrade water quality. The County has substituted eco-friendly products for
many traditional chemicals (pesticides, herbicides, etc.) in favor of eco-friendly products. For example,
LCDOT has begun to use a non-toxic alternative to road salt that is derived from sugar beets. This
measure is to reduce the use of traditional deicing salts, which have the potential to contaminate

shallow aquifers (a source of drinking water in the County). Additionally, as part of a public outreach campaign, Lake County has advised residents to use low phosphorus detergents and apply outside chemicals (such as fertilizers) sparingly. In 2010, the State of Illinois passed a law restricting the use of lawn fertilizers containing phosphorus by commercial applicators, and ten County municipalities have also passed ordinances related to phosphorus fertilizer restrictions aimed at homeowners and commercial applicators. This is especially important since a large percentage of Lake County’s lakes have high phosphorus levels. According to the Lake County Health Department, 193 lakes in Illinois are impaired for phosphorus, and 76 lakes require TMDL plans for such; half of these lakes are in Lake County.

**Stormwater Management**

Stormwater management is crucial to maintaining a sustainable County, and is central to meeting many natural resource-related goals across the County’s policy documents. There is a relationship between the amount of impervious surface in the County and the degraded quality of many of its waterways. When the ground is paved, rain cannot percolate into the soil. This hampers the process of rain absorption, which naturally filters out pollutants and reduces runoff that may otherwise flood homes and businesses. High runoff flow weakens the stability of stream channels through erosion, degrades habitat, and reduces aquatic passageways. It also thins tree canopy by eroding roots resulting in reduced shade and increased water temperature.

Planning on a sub-watershed level to maintain enough pervious (absorptive) ground is crucial to managing the growing intensity of storm events in Lake County. The process “considers protecting land and water resources that extend beyond jurisdictional boundaries while reducing negative impacts of land development, such as flood damage, soil erosion, habitat loss and water pollution. As Lake County continues to grow, there is a need to predict and manage, through watershed planning, how land use changes will affect the natural hydrologic systems of streams, lakes, and wetlands and the high quality habitats and environmental resources they connect.”

Lake County encourages the use of stormwater best management practices (BMPs), or solutions that mimic nature, that capture rain where it falls to reduce runoff. A strategic combination of green infrastructure BMPs, such as bioswales and green roofs, and grey infrastructure, like pipes and pumping stations, can help to prevent flood damage to people and the environment, filter pollutants that would otherwise flow into waterways, and replenish shallow aquifers. Lake County has incorporated BMPs into new County facilities, such as the Central Permit Facility that opened in April 2010. The Central Permit Facility showcases an 8,000 square foot green roof, native plantings, bioswales, and other vegetation to reduce stormwater runoff.

**Stormwater Management Commission**

The Lake County Stormwater Management Commission (Lake County SMC) is the delegated stormwater authority for over 90 jurisdictions in Lake County. The SMC advocates for the use of strong incentives, ordinances, and land use planning at the sub-watershed level to help inform development, preserve sensitive areas, and maintain or reduce impervious coverage. Its priorities include managing the County’s floodplains and watersheds; achieving flood damage reduction; and protecting and restoring

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138 *Strategy for a Sustainable Lake County*, p. 7.
140 Lake County RFP, Ch. 4, p. 4-4.
141 *Lake County Strategic Plan 2011 Progress Report*, p. 5.
natural resources. These priorities are mostly addressed through the SMC’s administration of stormwater management standards and floodplain regulations, development of sub-watershed plans, and encouragement of stormwater BMPs.  

The SMC recently updated its Watershed Development Ordinance (WDO), which will improve water quality protection standards. The WDO establishes countywide standards for stormwater runoff maintenance, detention sites, erosion control, water quality, volume, wetlands, riparian areas, and floodplains. The Lake County Board passed 94 amendments and enhancements to the WDO in 2012. The changes include new agricultural and wetland protections, such as applying mitigation requirements to wetlands that are as small as one tenth of an acre. While the updated WDO does not set a numeric limit for reducing the volume of runoff on sites, it established a framework to implement a standard in the future. This is especially salient, since the State of Illinois and United States EPA are considering baseline volume requirements for urbanized areas in the foreseeable future. The IEPA is awaiting recommendations from a work group on volume requirements for Municipal Separate Storm Sewer System (MS4) areas, and the United States EPA has closed public comments on draft federal regulations that include volume control requirements.

The SMC understands the strong correlation between land use practices, water quality, and flood damage. In addition to traditional infrastructure and streambank stabilization projects, the SMC has led wetland and upland restoration work to prevent polluted runoff from degrading downstream waterways. Its 2011 Annual Report highlights 16 best management practices projects, such as helping communities install rain gardens and porous pavement lots. Its programs recognize the nexus between good farmland and water conservation practices, and promote agricultural best management practices, such as stream channel and riparian area management, rain barrel/cisterns, rain gardens, and nutrient and pesticide management.

The Lake County SMC places a heavy emphasis on education and outreach on the benefits of sustainable practices, such as green infrastructure and wetland restoration work, to foster broad systemic change throughout its communities. The SMC also runs a successful rain barrel program in partnership with the Solid Waste Agency of Lake County, webinars, conferences, and workshops, which complement other aspects of its program. The SMC has integrated innovative and fun outreach, such as geocaching for BMPs. To further incentivize conservation behavior, it also issues stormwater awards for initiatives that best conserve and protect water resources.

Regulatory Actions
In addition to the stormwater management updates to the WDO, a host of other regulatory mechanisms exist to protect water resources. Both Lake County’s WDO and Unified Development Ordinance (UDO) require the preservation of riparian buffers, which are the natural vegetative areas next to streams, lakes, ponds, and wetlands. These buffers naturally filter nutrients, like phosphorus in fertilizers, and

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144 http://www.lakecountyil.gov/Stormwater/LakeCountyWatersheds/BMPs/Pages/Agriculture.aspx

145 See e.g. LCSMC Video library.
sediment; stabilize waterway banks; and provide important habitat and wildlife corridors. The UDO requires 100-foot buffers for wetlands near steep slopes to prevent erosion and sedimentation and preserve the natural landscape. The WDO also requires mitigation for development that impacts “isolated” wetlands, such as depressions and kettles, to complement federal requirements to mitigate for “jurisdictional” ones with a significant nexus to a waterway. In addition, the UDO requires tree preservation and mitigation, keeping existing woodland areas, and replacing lost trees, which helps to protect and improve water quality by reducing stormwater runoff, flooding, and erosion.

The County has also taken steps toward mitigating the impact of land use on water quality by promoting the use of conservation design in the Regional Framework Plan (Policies 5.3.2 and 10.3.4) and UDO. Developments that utilize conservation design help to preserve open space, filter stormwater runoff (thereby reducing flooding and improving water quality), and provide habitat and wildlife corridors. The UDO incentivizes the use of conservation design via density bonuses and allowance of a broader range of housing types than conventional subdivisions (see Section B. Land Use and Development for more details). Lastly, Lake County’s weed ordinance allows use of native plants that typically require less water and maintenance than non-native species. Native plants stabilize soils and limit erosion, and provide habitat for native birds, animals, and insects.

Goal and Policies

Goal: Protect and conserve water resources.

Policy 1: Encourage water conservation through potential regulatory amendments and incentives. [Ref.: Goal 5.1; Goal 5.3; Goal 5.4; Pol. 5.1.4; Pol. 5.1.7; Pol. 5.3.1; Pol. 5.3.3; Pol. 5.4.1]

- **Action 1**: Evaluate potential regulatory changes to encourage water conservation.
- **Action 2**: Identify additional regulatory incentives to encourage water conservation.

Commentary: CMAP and the NWPA have developed model ordinances and the US EPA has developed the WaterSense program that provides educational resources to promote water conservation.

Policy 2: Facilitate the use of water reuse systems. [Ref.: Goal 5.3; Pol. 5.3.1]

- **Action 1**: Endorse and incorporate updates to regulations under the Illinois Plumbing Code and License law, which will allow water reuse through rainwater harvesting. Encourage installation and use of these systems in County facilities.
- **Action 2**: Encourage local communities to consider updates of municipal plumbing codes to incorporate water reuse allowances and incentives under amendments of the Illinois Plumbing Code and Licensing regulations.
- **Action 3**: Encourage the use of green infrastructure including rain barrels/cisterns, rain gardens and bioswales to reuse water onsite for native landscape plantings.
Policy 3: Consider opportunities to balance water supply and demand in land use planning and development decisions.
[Ref.: Goal 5.1; Goal 5.4; Pol. 4.7.1; Pol. 4.7.2; Pol. 4.7.3; Pol. 4.7.4; Pol. 5.1.1; Pol. 5.1.2; Pol. 5.1.4; Pol. 5.1.5; Pol. 5.1.6; Pol. 5.2.5; Pol. 5.4.1]

Action 1: Complete the Illinois State Geological Survey GIS-based 3D mapping initiative to illustrate the amounts, locations, and areas of ground and surface water supply and potential contamination throughout Lake County.
Action 2: Utilize the maps and findings within the planning and development process.
Action 3: Continue to support development regulations and policies that protect sensitive water resources.

Policy 4: Protect the County’s groundwater resources by facilitating the sealing of abandoned water wells.
[Ref.: Goal 4.7; Goal 5.1; Goal 5.2; Pol. 4.7.3; Pol. 5.2.1; Pol. 5.2.4]

Action 1: Explore incentivizing the sealing of abandoned water wells.
Action 2: Establish a public awareness campaign, in conjunction with a County cost-sharing program, to encourage more people to seal their abandoned water wells.
Action 3: Pursue policies to regulate and monitor supplemental irrigation wells (non-potable water wells that are used for residential landscape watering and/or other outdoor purposes, where a separate water supply exists for drinking, culinary and sanitation purposes).

Policy 5: Update stormwater management practices and performance standards to meet State and federal requirements, as they occur. [Ref.: Pol. 4.4.2; Goal 5.11; Goal 5.12; Pol. 5.12.1; Pol. 5.12.2]
Action 1: Adopt county-wide standards for runoff volume reduction in line with adopted standards of the IEPA and USEPA.
Action 2: Implement and enforce runoff volume reduction strategies and water quality improvements in accordance with periodic updates to the Watershed Development Ordinance, on an as needed basis dependent upon state and federal requirements.
Action 3: Support legislation that allows the IEPA to use State Revolving Loan Funds for innovative projects that maximize combinations of “green” and “grey” (traditional) infrastructure solutions. Partner with municipalities on Illinois Green Infrastructure Grant projects to showcase community-based stormwater solutions.
Action 4: Continue to offer community education and outreach on compliance with current and future Municipal Separate Storm and Sewer System (MS4) permit requirements; include successful strategies to implement stormwater best management practices at the county level.

Policy 6: Encourage or require innovative practices to reduce point and nonpoint sources of pollution of water resources.
[Ref.: Goal 5.2; Pol. 5.2.2; Goal 5.4; Goal 5.8; Goal 5.12; Goal 11.1; Pol. 5.2.3; Pol. 5.4.2; Pol. 5.8.1; Pol. 5.8.2; Pol. 5.11.4; Pol. 11.1.5]

Action 1: Work with the Health Department to evaluate the state-wide legislative ban on selling phosphorous fertilizer.
Action 2: Encourage communities to adopt municipal ordinances banning the sale of phosphorous fertilizer.
**Action 3:** Evaluate opportunities for the Lake County Health Department, SMC, Forest Preserve District and local municipalities to collaborate to conduct a countywide stream inventory and assessment and to monitor and report the levels of indicator pollutants in County streams and lakes.

**Action 4:** Continue to expand the use of non-toxic alternatives to deicing salt compounds on roads that the County maintains; eliminate salt usage on roads near highly sensitive natural resources.

**Action 5:** Encourage strategies to reduce the amount of contaminants discharged into Lake County waterways (such as increased use of medicine take-back programs). Consider monitoring levels of endocrine disrupting compounds in county waterways.

**Action 6:** Incorporate Total Maximum Daily Loads (TMDLs) into appropriate watershed plans, when established by the IEPA, to reduce pollutants to impaired water bodies in the county, including in-lake remediation efforts.

**Action 7:** Increase efforts to reduce pollutants discharged into streams in unincorporated areas via FPA agreements and watershed best management practice implementation.

**Action 8:** Encourage strategies to reduce contamination from wildlife sources (e.g. geese, gulls).

**Action 9:** Work with the Health Department and homeowners to reduce contamination from onsite wastewater treatment systems (septic) systems.

**Action 10:** The Lake County Division of Transportation will continue to explore ways to implement native landscaping and manage invasive species along County roadways.

**Action 11:** Continue to support the Des Plaines River Watershed Workgroup and analogous organizations as an efficient, collaborative way to improve water quality.

**Policy 7:** Enhance Integrated Water Resource Management strategies by combining planning and regulatory initiatives to improve water quality in Lake County.

**Policy 8:** Implement projects that will improve and protect water quality and aquatic habitat.
**Action 4**: Educate homeowners on land use practices that will improve water quality and habitat.
**Action 5**: Encourage water infiltration through the use of green infrastructure and native landscaping.
**Action 6**: Continue programs to remove flood-prone buildings and convert property to open space.

**Indicators**

While the policies in this Chapter will be implemented on an ongoing basis, each indicator will be monitored on an annual basis and evaluated every five years. “Lake County Indicators” include indicators that are within the County government’s purview, while “Community Indicators” relate to activities within the County at large.

**Lake County Indicators:**
- **Indicator 1**: Water conservation ordinances will be evaluated and updated by 2018.
- **Indicator 2**: The County will update its regulations to reflect the Illinois Plumbing Code rainwater harvesting amendments within one year of their adoption at the State level.
- **Indicator 3**: The County will adopt amendments to the existing Water Well Ordinance that require the regulation of supplemental irrigation wells by 2018.
- **Indicator 4**: The County will provide a source of funding for a cost-sharing program to seal abandoned water wells by 2018.
- **Indicator 5**: Volume reduction standards will be adopted, as necessary, within one year of state and federal regulatory updates.
- **Indicator 6**: The SMC will continue to develop sub-watershed plans with a goal of completion by 2028.
- **Indicator 7**: The SMC will continue to hold educational workshops on an annual basis.

**Community Indicators:**
- **Indicator 1**: Chloride concentrations will not increase in surface waters by 2020.
- **Indicator 2**: Phosphorous levels will not increase in surface waters by 2020.
- **Indicator 3**: The number of impaired waterways on the 303(d) list will decrease by 2020.
- **Indicator 4**: The number of community water suppliers adopting outdoor water conservation policies will increase by 2018.
### Implementation Approach

<table>
<thead>
<tr>
<th>Policy</th>
<th>Inter-governmental</th>
<th>County Departments and Agencies</th>
<th>Non-County Agencies</th>
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</thead>
<tbody>
<tr>
<td>1 Encourage water conservation through potential regulatory amendments and incentives.</td>
<td>County, Municipalities</td>
<td>LCPW, PB&amp;D</td>
<td>CMAP, NWPA</td>
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<td>2 Facilitate the use of water reuse systems.</td>
<td>State, County, Municipalities</td>
<td>LCHD, PB&amp;D</td>
<td>IDPH</td>
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<td>3 Consider opportunities to balance water supply and demand in land use planning and development decisions.</td>
<td>State, County, Municipalities</td>
<td>PB&amp;D, LCHD</td>
<td>ISGS, USGS</td>
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<td>4 Protect the County’s groundwater resources by facilitating the sealing of abandoned water wells.</td>
<td>State, County, Municipalities</td>
<td>LCHD, PB&amp;D</td>
<td>ISGS, USGS</td>
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<tr>
<td>5 Update stormwater management practices and performance standards to meet State and federal requirements, as they occur.</td>
<td>State, County, Municipalities</td>
<td>SMC, PB&amp;D</td>
<td>IEPA, US EPA</td>
</tr>
<tr>
<td>6 Encourage or require innovative practices to reduce point and nonpoint sources of pollution of water resources.</td>
<td>State, County, Municipalities</td>
<td>SMC, PB&amp;D</td>
<td>IEPA, US EPA</td>
</tr>
<tr>
<td>7 Enhance Integrated Water Resource Management strategies by combining planning and regulatory initiatives to improve water quality in Lake County.</td>
<td>State, County, Municipalities</td>
<td>SMC, PB&amp;D</td>
<td>IEPA, US EPA, IDNR, watershed planning groups, WWTPs</td>
</tr>
<tr>
<td>8 Implement projects that will improve and protect water quality and aquatic habitat.</td>
<td>State, County, Municipalities</td>
<td>SMC, PB&amp;D</td>
<td>IEPA, US EPA, USACE</td>
</tr>
</tbody>
</table>
Figure 4.2 (from RFP). Watersheds & Subwatersheds

1. Upper Fox River
2. Sequoit Creek
3. Fish Lake Drain
4. Square Creek
5. Lower Fox River
6. Matton Creek
7. Shagam Lake Drain
8. Tower Lake Drain
9. Flint Creek
10. North Mill Creek
11. Mill Creek
12. Newport Drainage Ditch
13. Upper Des Plaines River
14. Bull Creek
15. Indian Creek
16. Lower Des Plaines River
17. Buffalo Creek
18. Arguski Creek
19. Kellogg Creek
20. Dead River
21. Waukegan River
22. Pettibone Creek
23. Bull/Pavine
24. Skokie River
25. Middle Fork
26. West Fork

Source: Lake County Geographic Information System
F. Energy

The content of the Energy section of the Sustainability Chapter is most closely related to Regional Framework Plan Chapter 5: Infrastructure and Services, particularly the Energy section.

Significance
Encouraging alternative and renewable energy systems, and reducing demand through energy conservation measures, are vital to long-term sustainability, as costs, resource depletion, and negative environmental impacts associated with traditional energy sources continue to increase. Producing energy from fossil fuel combustion presents public health risks via increased production of greenhouse gases and particulate matter. Energy consumption in Lake County was responsible for 68.8 percent of greenhouse gas emissions in 2007 (see Table F-1).\(^{146}\) Air pollutants like carbon monoxide, nitrogen dioxide and particulate matter, have been linked to aggravated asthma.\(^{147,148}\)

In addition, energy costs attributed to electricity and natural gas consumption represent a significant portion of the budget for many Lake County families and businesses. Although financial instruments like municipal energy aggregation can reduce energy costs, overall consumption of electricity and natural gas has risen and is expected to continue to increase. Major contributors to growing energy consumption include population growth—Lake County’s population has increased 9.2 percent since 2000\(^{149}\)—along with greater adoption of household electronics and other power-hungry electrical equipment.

Many communities are addressing energy issues by facilitating the use of alternative, cleaner energy generation methods, including renewable energy sources like wind, solar, and geothermal. These technologies are becoming increasingly accessible and affordable through industry advances. In addition, energy consumption can be reduced by encouraging energy efficiency and conservation through retrofits and behavior changes. Businesses, residents, and governments are becoming increasingly aware of opportunities to improve energy efficiency through energy audits, building retrofits, and simple changes in behavior. As the demand for products and services related to energy efficiency grows, so does the market opportunity for new and innovative industry. In recent years, demand for energy efficient products and services has been driven by financial incentives through the Illinois Energy Efficiency Portfolio Standard, Energy Impact Illinois, and Illinois Department of Commerce and Economic Opportunity, and many new businesses have emerged to meet the demand for related services as a result.

Lake County has already begun to address these changes and opportunities. Through the Alternative Energy Task Force (AETF) of Lake County Communities, the County and over 20 participating municipalities have explored the potential for renewable energy sources, particularly solar and wind. The AETF prepared wind and solar model ordinances for reference and adoption by Lake County and its municipalities; the County and several municipalities have adopted renewable energy ordinances as a result.

\(^{146}\) CNT Municipal Energy Profile Project.
To increase energy efficiency, the County secured over $5.6 million in American Recovery and Reinvestment Act (ARRA) funds through the Department of Energy's "Energy Efficiency and Conservation Block Grant Program (EECBG)." Lake County is leveraging this federal funding with $5 million of capital funding to broaden the impact of this program and improve the energy efficiency of several buildings, including the Lake County Administrative Tower in Waukegan.

**Issues & Opportunities**

The following key issues and opportunities related to energy have been identified through the existing conditions analysis:

- Energy consumption (electricity and natural gas use in buildings) in Lake County was responsible for 68.8 percent of greenhouse gas emissions in 2007. Energy demand (especially for natural gas) is rising along with population growth.
- Lake County has the highest residential per-household electricity and natural gas consumption of any county in the region. As a result, residents of Lake County also have the highest energy bills in the region. The vast majority of the County’s electricity comes from nuclear power and coal-fired generation. However, there is growing interest in small renewable energy systems that could supplant traditional sources of power.
- The Alternative Energy Task Force has played a key role in promulgating alternative and renewable energy options. The AETF has researched alternative energy options, developed a renewable energy resource guide, and published model ordinances to permit renewable energy systems. Their efforts have already effected change, as the County and several municipalities have adopted their own ordinances to permit renewable energy systems.
- Electricity aggregation efforts may offer an opportunity to support clean energy sources through the purchase of renewable energy credits or certificates.
- There is great potential to increase the energy efficiency of the County’s building stock through system upgrades and retrofits, as well as through behavior changes. The County has led the way in this arena by implementing energy management and retrofits in its facilities, which has resulted in an energy savings of 16 percent per year.

**Analysis**

**Energy Sources**

Currently, Commonwealth Edison (ComEd) provides electricity to all of Lake County, which comes from a mixture of nuclear and coal generation. According to the US Energy Information Administration, about 48 percent of the energy generated in Illinois comes from nuclear power and about 46 percent comes from coal-fired generation. The remainder is generated by petroleum, natural gas, hydroelectric, and other renewables. Natural gas is supplied by People’s Gas and Northshore Gas. The County is home to the decommissioned Zion Nuclear Power Station, taken offline in 1998. The facility, originally owned by ComEd, was sold to ComEd’s parent company, Exelon, to be dismantled; its constituent parts were salvaged.

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Lake County is also home to a number of sites that utilize renewable energy systems. For example, Prairie Crossing Farm in Grayslake is home to a 100-foot wind turbine generating 20 kilowatts (kW) and a Chipotle restaurant in Gurnee houses a six kW Small Wind Energy System (SWES). The College of Lake County (CLC) has installed a large-scale geothermal system on campus for use in training students to work with the technology.

Energy Consumption

Energy consumption in Lake County is generally comparable with other counties and the Chicago metropolitan region as a whole (see Table F-2. Natural Gas and Electricity Consumption). In 2005, Lake County represented just over eight percent of the region’s population and was responsible for 7.8 percent of its natural gas consumption and 8.9 percent of its electricity consumption. Upon closer examination of energy consumption by sector, however, it is evident that Lake County’s residential sector consumed the highest amount of electricity and natural gas per household of any county in the region (see Table F-3. Residential Energy Consumption). The residential sector’s natural gas consumption was 13 percent higher than the regional average, while its electricity consumption was over 32 percent higher.

Table F-1. Greenhouse Gas Emissions by Sector (percentage of total emissions), 2007

<table>
<thead>
<tr>
<th>Sector</th>
<th>Cook</th>
<th>DuPage</th>
<th>Kane</th>
<th>Kendall</th>
<th>Lake</th>
<th>McHenry</th>
<th>Will</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>45.2%</td>
<td>50.8%</td>
<td>46.5%</td>
<td>43.1%</td>
<td>47.2%</td>
<td>45.7%</td>
<td>44.5%</td>
<td>46.1%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>24.6%</td>
<td>18.7%</td>
<td>22.5%</td>
<td>19.2%</td>
<td>21.6%</td>
<td>21.7%</td>
<td>24.6%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Transportation</td>
<td>21.0%</td>
<td>26.2%</td>
<td>24.5%</td>
<td>30.0%</td>
<td>25.4%</td>
<td>25.1%</td>
<td>25.5%</td>
<td>23.0%</td>
</tr>
<tr>
<td>Solid Waste</td>
<td>4.7%</td>
<td>0.7%</td>
<td>2.1%</td>
<td>3.1%</td>
<td>1.7%</td>
<td>2.7%</td>
<td>1.4%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Waste Water</td>
<td>0.9%</td>
<td>0.7%</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.9%</td>
<td>0.9%</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Product Use</td>
<td>3.6%</td>
<td>3.0%</td>
<td>3.5%</td>
<td>3.8%</td>
<td>3.3%</td>
<td>3.8%</td>
<td>3.2%</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Source: Center for Neighborhood Technology Municipal Energy Profile Project

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### Table F-2. Natural Gas and Electricity Consumption, 2005

<table>
<thead>
<tr>
<th>County</th>
<th>Total Population</th>
<th>Percent of Regional Population</th>
<th>Natural Gas Consumption (therms)</th>
<th>Natural Gas Consumption (% of region)</th>
<th>Electricity Consumption (kWh)</th>
<th>Electricity Consumption (% of region)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cook</td>
<td>5,288,161</td>
<td>62.5%</td>
<td>3,565,888,888</td>
<td>65.3%</td>
<td>51,000,097,200</td>
<td>59.7%</td>
</tr>
<tr>
<td>DuPage</td>
<td>928,086</td>
<td>11.0%</td>
<td>551,843,159</td>
<td>10.1%</td>
<td>11,642,109,688</td>
<td>13.6%</td>
</tr>
<tr>
<td>Kane</td>
<td>489,641</td>
<td>5.8%</td>
<td>292,265,089</td>
<td>5.4%</td>
<td>4,936,700,065</td>
<td>5.8%</td>
</tr>
<tr>
<td>Kendall</td>
<td>87,808</td>
<td>1.0%</td>
<td>48,280,317</td>
<td>0.9%</td>
<td>723,687,762</td>
<td>0.8%</td>
</tr>
<tr>
<td>Lake</td>
<td>703,706</td>
<td>8.3%</td>
<td>425,822,712</td>
<td>7.8%</td>
<td>7,573,847,852</td>
<td>8.9%</td>
</tr>
<tr>
<td>McHenry</td>
<td>309,448</td>
<td>3.7%</td>
<td>174,814,538</td>
<td>3.2%</td>
<td>2,783,917,642</td>
<td>3.3%</td>
</tr>
<tr>
<td>Will</td>
<td>654,540</td>
<td>7.7%</td>
<td>401,485,665</td>
<td>7.4%</td>
<td>6,837,876,039</td>
<td>8.0%</td>
</tr>
<tr>
<td>Region</td>
<td>8,461,390</td>
<td>100.0%</td>
<td>5,460,400,368</td>
<td>100.0%</td>
<td>85,498,236,248</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: 2005-2007 American Community Survey, U.S. Census Bureau; Center for Neighborhood Technology

### Table F-3. Residential Energy Consumption, 2005

<table>
<thead>
<tr>
<th>County</th>
<th>Electricity Consumption</th>
<th>Natural Gas Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total (kWh)</td>
<td>Residential Sector (kWh)</td>
</tr>
<tr>
<td>Cook</td>
<td>51,000,097,200</td>
<td>15,376,395,958</td>
</tr>
<tr>
<td>Kane</td>
<td>4,936,700,065</td>
<td>1,454,100,543</td>
</tr>
<tr>
<td>Kendall</td>
<td>723,687,762</td>
<td>280,921,972</td>
</tr>
<tr>
<td>Lake</td>
<td>7,573,847,852</td>
<td>2,699,023,830</td>
</tr>
<tr>
<td>McHenry</td>
<td>2,783,917,642</td>
<td>1,197,956,940</td>
</tr>
<tr>
<td>Will</td>
<td>6,837,876,039</td>
<td>2,271,873,428</td>
</tr>
<tr>
<td>Total</td>
<td>85,498,236,248</td>
<td>26,296,220,043</td>
</tr>
</tbody>
</table>

Sources: 2005-2007 American Community Survey, U.S. Census Bureau; Center for Neighborhood Technology

Regional Energy Snapshot
Table F-4. Number of Bedrooms in Housing Units, 2010 estimate

<table>
<thead>
<tr>
<th>Area</th>
<th>Total Units</th>
<th>0-2 Bedrooms</th>
<th></th>
<th>3 Bedrooms</th>
<th></th>
<th>4+ Bedrooms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>% of Total</td>
<td></td>
<td>Count</td>
<td>% of Total</td>
<td>Count</td>
<td>% of Total</td>
</tr>
<tr>
<td>Lake County</td>
<td>260,363</td>
<td>86,232</td>
<td>33.1%</td>
<td>87,942</td>
<td>33.8%</td>
<td>86,189</td>
<td>33.1%</td>
</tr>
<tr>
<td>Chicago region</td>
<td>3,372,505</td>
<td>1,527,732</td>
<td>45.3%</td>
<td>1,137,893</td>
<td>33.7%</td>
<td>706,880</td>
<td>21.0%</td>
</tr>
</tbody>
</table>

Source: 2010 American Community Survey 1-Year Estimates, U.S. Census Bureau

Some of the geographic difference in per-household energy consumption may be explained by physical differences, including building type, age, and use. Lake County’s residential housing stock consists primarily of single unit detached homes, with over 75 percent of its housing built in the last 50 years. Compared to the region as a whole, Lake County’s housing stock is newer and consists of more detached homes and fewer multifamily homes. While newer homes are typically more energy efficient than older homes, floor area may play a factor in the amount of energy consumed. The housing stock in Lake County appears to be split almost evenly between units with zero to two bedrooms, units with three bedrooms, and units of four bedrooms or more (see Table F-4. Number of Bedrooms in Housing Units). However, the regional average trend shows a significantly higher share of smaller (zero to two bedroom) units. Lake County’s proportion of large units consisting of four or more bedrooms is over 12 percent higher than the regional average, which may account for some tendency toward increased energy consumption.

Along with the rest of the region, Lake County’s energy consumption has been going up in recent years. Natural gas and electricity consumption are on the rise in the residential, commercial, and industrial sectors. Data used for CNT’s Regional Energy Snapshot report (see Table F-5. Energy Consumption...
Trends) represents 2005 and 2007 electricity and natural gas consumption. The trends illustrated are consistent with current usage patterns and can be updated when finalized data sets are made available by the electric and natural gas utilities.

Table F-5. Energy Consumption Trends, 2005 and 2007

<table>
<thead>
<tr>
<th>Energy Indicator</th>
<th>Consumption, 2005</th>
<th>Consumption, 2007</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity Consumption (kWh)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Sector</td>
<td>2,699,023,830</td>
<td>2,712,001,587</td>
<td>0.5%</td>
</tr>
<tr>
<td>Commercial and Industrial Sectors</td>
<td>4,874,824,022</td>
<td>4,909,885,018</td>
<td>0.7%</td>
</tr>
<tr>
<td>Total</td>
<td>7,573,847,852</td>
<td>7,621,886,605</td>
<td>0.6%</td>
</tr>
<tr>
<td>Natural Gas Consumption (therms)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Sector</td>
<td>273,917,101</td>
<td>289,179,708</td>
<td>5.6%</td>
</tr>
<tr>
<td>Commercial and Industrial Sectors</td>
<td>151,905,611</td>
<td>169,622,009</td>
<td>11.7%</td>
</tr>
<tr>
<td>Total</td>
<td>425,822,712</td>
<td>458,801,717</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

Source: Center for Neighborhood Technology Regional Energy Snapshot, Municipal Energy Profile Project

Table F-6. Average Residential Natural Gas Consumption and Cost, 2005

<table>
<thead>
<tr>
<th></th>
<th>Therms per Household</th>
<th>Annual Cost per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake County</td>
<td>1,180</td>
<td>$1,384</td>
</tr>
<tr>
<td>Chicago Region</td>
<td>1,044</td>
<td>$1,224</td>
</tr>
</tbody>
</table>

Sources: 2005-2007 American Community Survey, Center for Neighborhood Technology Regional Energy Snapshot
Natural Gas Consumption

In Lake County and the region at large, natural gas is primarily used to heat buildings, but is also used in other processes, such as water heating, clothes dryers, and industrial processes. While natural gas consumption has increased with population increases, the rate of per capita consumption has decreased, primarily due to gains in building efficiency. Lake County consumed a total of 458,801,717 therms of natural gas in 2007, an increase of 7.7 percent over 2005; the commercial and industrial sectors in particular saw an 11.7 percent increase in natural gas usage in just two years (see Table F-5). The County’s natural gas consumption in general is broadly in line with the rest of the region. As noted earlier, the County’s per household natural gas consumption was about 13 percent higher than the regional average in 2005. Since Lake County’s per-household consumption rate is the highest in the region, it is also home to the highest per-household natural gas costs in the region, which amounted to about $1,384 per household in 2005, $160 higher than the regional average (see Table F-6. Average Residential Natural Gas Consumption and Cost).

Electricity Consumption

Though its electricity consumption has not increased as rapidly as natural gas consumption, Lake County is consuming electricity at an increasing rate. In 2007, the County consumed 7,621,886,605 kilowatt hours (kWh) of electricity, an increase of 0.6 percent over 2005 rates. While Lake County’s overall electricity consumption is on par with the rest of the region – it consumes just under nine percent of the region’s electricity while accounting for just over eight percent of the population – its residential sector electricity consumption rate is significantly higher than the rest of the region. Lake County’s annual per-household electricity consumption was 11,631 kWh in 2007, which is about 32 percent higher than the regional household consumption rate of 8,795 kWh per household. As with natural gas, Lake County

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residents pay more per year for electricity than other residents of the region. The annual household cost for electricity in Lake County was $1,000 in 2005, $244 higher than the regional average.

Table F-7. Average Residential Electricity Consumption and Cost, 2005

<table>
<thead>
<tr>
<th></th>
<th>kWh per Household</th>
<th>Annual Cost per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake County</td>
<td>11,631</td>
<td>$1,000</td>
</tr>
<tr>
<td>Chicago Region</td>
<td>8,795</td>
<td>$756</td>
</tr>
</tbody>
</table>

Sources: 2005-2007 American Community Survey, Center for Neighborhood Technology Regional Energy Snapshot

In March 2012, 26 communities in Lake County passed referenda to permit the pursuit of “opt-out” electricity aggregation. This enables municipalities to purchase energy on behalf of residents and small businesses. Under such a system, an alternative retail electricity supplier (ARES) purchases energy in bulk to be delivered to the electric utility (ComEd will serve as that utility in Lake County). ComEd will still deliver electricity, but will no longer sell it directly to customers. Since an ARES purchases electricity in the market place, it can typically purchase it at a lower cost than the Illinois Power Authority does for utilities such as ComEd.

To secure lower rates, municipalities can include more consumers in their aggregation. For example, four Lake County communities (Deerfield, Lake Bluff, Highland Park, and Lake Forest) have joined the North Shore Electricity Aggregation Consortium (NSEAC), which estimated that their customers would save between 26 and 47 percent on the supply portion of their electricity bills during the program’s first year in 2012. The NSEAC offers a “100% Green Power Program,” in which residents and small businesses can opt to pay a nominal increase in price to purchase Renewable Energy Certificates to

156 [http://www.icc.illinois.gov/ormd/municipalaggregation.aspx](http://www.icc.illinois.gov/ormd/municipalaggregation.aspx)
cover up to 100 percent of their energy consumption. Some communities in the region (such as Oak Park and Lombard) are even opting to purchase 100 percent renewable energy through their aggregation contracts.

Alternative/Renewable Energy Generation Opportunities

Regional Framework Plan Goal 5.19 advocated for the creation of the Alternative Energy Task Force (AETF). Since then, the AETF has done extensive work around wind, geothermal, and solar opportunities in Lake County. The AETF is a cooperative effort between representatives from over 20 local jurisdictions of local municipalities and unincorporated areas of Lake County. It has researched alternative energy options for the County; developed an extensive solar, geothermal, and wind generation resource guide; and published solar, geothermal, and wind power model ordinances for use by County municipalities.

The AETF’s “Alternative Energy Devices: Wind Energy, Solar Energy & Geothermal Energy” document is meant to serve as a resource guide for a broad audience, including government officials, planners, consultants, and residents. It provides basic information on the operation of wind, solar, and geothermal systems and guidance on the local implementation considerations for each. While it is not intended to be a comprehensive guide or policy document, it establishes a strong technical grounding from which the County can build its alternative and renewable energy capacity.

The AETF’s model ordinances establish the groundwork for consistent adoption of renewable energy solutions across the County. Each outlines the characteristics, including benefits and concerns, of each alternative energy solution. The model ordinances also cover zoning requirements, permit applications, and definitions. The County has amended its development ordinance to include language on wind energy. In addition, the model ordinances have been adopted by a number of communities, including Deerfield, Gurnee, Grayslake, Lincolnshire, Long Grove, Wadsworth, Bannockburn, and Highland Park.

Potential for Efficiency and Conservation Gains

Lake County has expressed its support for measures that conserve energy through efficiency gains and conservation. To date, the County has completed a thorough internal energy audit of all its facilities, which in turn prompted the implementation of energy management and retrofit programs. These programs have reduced energy consumption across these facilities by 16 percent per year. While the

160 http://www.oak-park.us/aggregation/
County plans to continue internal evaluation through its EECBG funding, there are also opportunities to take advantage of residential, commercial, and industrial energy programs. ComEd, People’s Gas, Northshore Gas, Energy Impact Illinois, the Illinois Home Weatherization Program, and many more provide opportunities for private sector participants to implement cost-saving energy efficiency measures in their homes or facilities.

**Goal & Policies**

**Goal:** Conserve energy resources.

**Policy 1:** Model energy conservation by continuing to increase the energy efficiency of County facility buildings.
[Ref.: Goal 5.19; Pol. 5.19.4; Pol. 5.19.2]

- **Action 1:** Continue to explore grant opportunities to retrofit County facilities to improve energy efficiency.
- **Action 2:** Where possible, utilize building automation controls to enhance energy efficiency, such as networking lighting sensors and HVAC devices to control occupancy run schedules and monitor outlet energy use to explore usage patterns.
- **Action 3:** Encourage County staff to change energy consumption behavior through helpful reminders, such as signage to turn off lights or shut down computers.
- **Action 4:** Continue to report energy efficiency gains in annual strategic plan progress reports and participate with ICMA Performance Measures.

**Policy 2:** Promote the Alternative Energy Task Force of Lake County Communities’ (AETF) model ordinances for wind, solar and geothermal energy systems.
[Ref.: Pol. 5.19.1; Pol. 5.19.4]

- **Action 1:** Adopt the remaining AETF model ordinances for unincorporated areas.
- **Action 2:** Continue to encourage Lake County communities to adopt the AETF model ordinances.
- **Action 3:** Track successful model ordinance implementation case studies.

**Policy 3:** Continue to develop methodologies to collect and maintain data on energy use in order to evaluate progress.
[Ref.: Goal 11.1]

- **Action 1:** Continue to monitor energy consumption trends for County facilities.
- **Action 2:** Explore establishing data sharing agreement with the appropriate utilities to access aggregated county-wide energy consumption data.
- **Action 3:** Continue to collect and aggregate data on a quarterly basis.

**Policy 4:** Continue to explore ways the County can encourage energy efficiency and high performance buildings for its residents, businesses, and member communities.
[Ref.: Goal 5.19, Pol. 5.19.3]

- **Action 1:** Assist in gathering and distributing information related to energy efficiency to property owners and implementation of other energy-related recommendations in this Chapter.
Action 2: Create a set of communication and education strategies related to energy efficiency, identify opportunities for economic gain through energy efficiency, and assist parties interested in exploring cooperative energy efficiency gains.

Action 3: Work through partners, such as the Lake County Municipal League, to provide information about the 2012 International Energy Conservation Code to municipalities and encourage them to adopt the standards.

Action 4: Request usage data from utilities to record usage rates and track energy usage across the county.

Policy 5: Seek funding to construct a renewable energy demonstration project on a County facility.
[Ref.: Pol. 5.19.2]

Action 1: Explore potential funding sources and applying for grants\textsuperscript{165} as opportunities arise.

Policy 6: Provide information about the Renewable Energy Portfolio Standard to municipalities and townships that are choosing to pursue electricity aggregation.

Action 1: Work through partners, such as the Lake County Municipal League, to provide information related to best practices for aggregation to municipalities.

Action 2: Encourage municipal leaders to incorporate renewables in their aggregation bid documents and “plan of governance,” as required by aggregation legislation.

Policy 7: Explore opportunities to work with ComEd, other electric utility providers, and municipalities to raise public awareness and evaluate cost-effective strategies to modernize the electric utility infrastructure or “Smart Grid” system.

Action 1: Explore opportunities to communicate with the public about the benefits associated with Smart Grid implementation.

Action 2: Explore opportunities to encourage residents to upgrade their own homes with up to code wiring and faceplates to ensure adequate electrical capacity.

Action 3: Explore opportunities for using Smart Grid technology to promote energy efficiency, as it becomes available.

Commentary: According to the Illinois “Energy Infrastructure and Modernization Act” \textsuperscript{97-0616}, it is the policy of the State of Illinois to encourage investments to modernize and upgrade the transmission and distribution of electric utility service known as the Smart Grid.

Policy 8: Explore opportunities to support alternative fuel vehicles.

Action 1: Support community efforts to encourage alternative fuel vehicles.

Action 2: Explore opportunities to procure electric vehicles and install electric charging stations at County facilities’ parking lots.

\textsuperscript{165} DCEO, Utility Program, Illinois Clean Energy Foundation
Indicators

While the policies in this Chapter will be implemented on an ongoing basis, each indicator will be monitored on an annual basis and evaluated every five years. “Lake County Indicators” include indicators that are within the County government’s purview, while “Community Indicators” relate to activities within the County at large.

Lake County Indicators:

1. Indicator 1: Lake County will adopt the remaining model AEATF ordinances by 2018. (PBD)
2. Indicator 2: Analyze energy usage for County facilities and with weather adjusted data establish attainable energy reduction goals by 2018. (Facilities)
3. Indicator 3: Communication and education resources for energy efficiency will be developed for posting to the County website and distribution to County municipalities by 2018. (Communications)

Community Indicators:

1. Indicator 1: 50 percent of county municipalities will adopt the model ordinances for Alternative Energy Systems by 2018. (PBD)

Implementation Approach

<table>
<thead>
<tr>
<th>Policy</th>
<th>Inter-governamental</th>
<th>County Departments and Agencies</th>
<th>Non-County Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Model energy conservation by continuing to increase the energy efficiency of County facility buildings.</td>
<td>County</td>
<td>Facilities</td>
<td></td>
</tr>
<tr>
<td>2 Promote the Alternative Energy Task Force of Lake County Communities’ (AETF) model ordinances for wind, solar and geothermal energy systems.</td>
<td>County, Municipalities</td>
<td>PB&amp;D</td>
<td></td>
</tr>
<tr>
<td>3 Continue to develop methodologies to collect and maintain data on energy use in order to evaluate progress.</td>
<td>County, Municipalities</td>
<td>CAO, Facilities</td>
<td>ComEd, North Shore Gas</td>
</tr>
<tr>
<td>4 Continue to explore ways the County can encourage energy efficiency and high performance buildings for its residents, businesses, and member communities.</td>
<td>County, Municipalities</td>
<td>PB&amp;D</td>
<td>LCML</td>
</tr>
<tr>
<td>5 Seek funding to construct a renewable energy demonstration project on a County facility.</td>
<td>County</td>
<td>Facilities</td>
<td></td>
</tr>
<tr>
<td>6 Provide information about the Renewable Energy Portfolio Standard to municipalities and townships that are choosing to pursue electricity aggregation.</td>
<td>County, Municipalities</td>
<td>CAO</td>
<td>LCML</td>
</tr>
<tr>
<td>7 Explore opportunities to work with ComEd, other electric utility providers, and municipalities to raise public awareness and evaluate cost-effective strategies to modernize the electric utility infrastructure or &quot;Smart Grid&quot; system.</td>
<td>County, Municipalities</td>
<td>CAO</td>
<td>LCML</td>
</tr>
</tbody>
</table>
G. Waste

The content of the Waste section of the Sustainability Chapter is most closely related to Regional Framework Plan Chapter 5: Infrastructure and Services, particularly the Solid Waste section.

Significance

Effective waste management is integrally important to a sustainable County, as the core notion of sustainability revolves around the wise use of resources. The amount of waste generated by a community reflects how efficiently its inhabitants are utilizing resources. In addition, the way that products and food are produced, consumed, and disposed of has a large impact on greenhouse gas emissions (comprising about 42 percent of emissions in 2009 at a national level).166

It is desirable to both minimize waste and dispose of or reuse it in intelligent ways. Reducing the amount of waste that is landfilled reduces associated costs, and also makes the most of the space available in landfills, which have finite capacity. Facilities within Lake County, Countryside Landfill and Zion Landfill, are likely to reach capacity by 2022 and 2032, respectively, unless they are expanded.167 This is a particular challenge in light of expected increases in demand as the County’s population grows. The continuation and broadening of recycling, composting, and hazardous and electronic waste management programs is necessary to lessen the strain on available facilities.168

The Solid Waste Agency of Lake County (SWALCO) has been a leader in the region and beyond with regard to waste management. SWALCO represents 85 percent of the County’s population and has members from 43 municipalities.169 Its activities are primarily related to the implementation of the Lake County Solid Waste Management Plan, which includes recommendations on waste management, landfills, recycling, household chemical waste management, and many other pertinent issues.170 Most recently, the Lake County Board, in conjunction with SWALCO’s Board of Directors, took action on the Plan’s recommendation to appoint the 60% Recycling Task Force. In December 2011, the Task Force published its report, which included recommendations to help the County meet its goal of a 60 percent recycling rate by 2020. The 60% Recycling Task Force Report and Solid Waste Management Plan are considered SWALCO’s principal planning documents.171

Issues & Opportunities

The following key issues and opportunities related to waste have been identified through the existing conditions analysis:

- From 2007 to 2010, the amount of solid waste produced per capita per day fell, but the total amount of waste increased. This is a reflection of population growth. The majority of the reduction in waste produced per capita per day may be attributed to the residential and commercial sectors.

---

167 Note: the EPA recently approved permit application for an expansion at Zion
168 Willis, 2012
169 [http://www.swalco.org/AboutUs/History](http://www.swalco.org/AboutUs/History)
171 Willis, 2012
Lake County’s waste is sent primarily to two landfills, Countryside Landfill and Zion Landfill, which are expected to reach capacity by 2022 and 2032.

The County reported an increase in recycling from 2009 to 2010, with an impressive 39 percent recycling rate -- or 511,368 tons of municipal weight (MW tons) -- in 2010. This already exceeds the national average recycling rate of around 34 percent; the County and SWALCO have committed to achieving a 60 percent recycling rate by 2020.

SWALCO is widely recognized as a leader in the region and beyond in the field of waste management and has been leading the charge to increase recycling rates and composting in the County. In addition, the 60% Recycling Task Force has developed various recommendations to help the County achieve its goals.

Volume-based pricing, or pay-as-you-throw service, which charges customers based on the volume of waste produced, offers an opportunity to significantly reduce the amount of waste sent to landfill.

The collection and composting of food scraps presents an opportunity to divert over nine percent of the County’s waste stream from landfill.172

Analysis

Waste Generation

In recent years, the amount of solid waste produced per capita per day (PCD) has declined in Lake County. In 2007, the County’s waste production was about 11.6 pounds PCD; by 2009, the rate fell to 10.2 pounds PCD and remained stable through 2010 (see Figure G-1. Solid Waste Produced PCD). For Lake County as a whole, 1,309,495 MW tons of waste was produced.173 However, because the population of the County continues to grow, the amount of waste has increased by approximately 15,000 tons. The economic recession is likely to have helped reduce consumption and subsequent waste generation.

The total waste generated per capita per day includes residential, commercial, construction and demolition (C&D) debris, landscape, and non-municipal solid waste such as industrial processes and special waste (see Table G-1. Waste Generation and Diversion). A comparison of waste generation rates denotes a reduction in residential and commercial waste generated per capita per day from 2007 to 2008, with diversion rates (i.e. the amount of waste diverted to recycling or composting) staying essentially the same.

In addition to residential and commercial contributors, several other types of waste are substantial factors in Lake County’s waste stream, including C&D debris, waste from industrial processes, and landscape waste. C&D materials are largely non-hazardous, non-contaminated solid waste by-products generated from construction, remodeling, renovation, or demolition conducted on buildings and other built structures. Such materials include brick (masonry), rock, concrete, lumber, gypsum board, plumbing and lighting fixtures, roof shingles, siding, appliances, and flooring. Most often, these materials pose little environmental threat due to their largely non-hazardous content, but in rare instances, C&D materials may contain hazardous content, such as asbestos, lead, and other heavy metals. C&D debris represented 17 percent of waste generation in 2008. As of January 2014, Lake


County requires the recycling of 75 percent of C&D debris from buildings of 1,500 square feet area or more. There was an eight percent increase in the diversion rate for this type of waste from 2007 to 2008.

Figure G-1. Solid Waste Produced (PCD), 2007-2010

Table G-1. Waste Generation & Diversion, 2007-2008

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Municipal Solid Waste</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>4.00</td>
<td>32%</td>
<td>3.84</td>
<td>31%</td>
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<tr>
<td>Commercial</td>
<td>5.16</td>
<td>35%</td>
<td>4.24</td>
<td>36%</td>
</tr>
<tr>
<td>Construction/Demolition</td>
<td>1.81</td>
<td>40%</td>
<td>1.81</td>
<td>48%</td>
</tr>
<tr>
<td>Other Landscape</td>
<td>.2</td>
<td>-</td>
<td>.27</td>
<td>-</td>
</tr>
<tr>
<td>Subtotal</td>
<td>11.17</td>
<td>-</td>
<td>10.16</td>
<td>-</td>
</tr>
<tr>
<td><strong>Non-Municipal Solid Waste</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Process/ Special Waste</td>
<td>.4</td>
<td>-</td>
<td>.46</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Solid Waste PCD</strong></td>
<td>11.57</td>
<td>10.62</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Solid Waste Management Plan, 2009

Regional Landfills and Related County Facilities
Currently, 87 percent of disposal for waste generated in Lake County is disposed of in Lake County landfills. The majority of waste is disposed in two County landfills that have finite capacity. The Countryside Landfill near Grayslake is expected to close in 2022. At Zion Landfill, a proposal for a vertical expansion to provide an additional ten years of solid waste disposal capacity (7.23 million cubic yards of air space) was approved by the IEPA in June 2011. Separate to the permit application, Zion Landfill was expected to close in 2019, although a facility expansion has extended capacity to 2032. Demand for

175 Solid Waste Landfill Capacity Certification, IEPA, January 1, 2012 for Zion Landfill.
landfill space is likely to continue to grow as the County’s population increases.\textsuperscript{176} Beyond landfills, Lake County hosts a number of waste service facilities and providers for businesses and residents, \textsuperscript{177} including:

- 30 commercial waste and recycling collection providers
- 12 public recycling and/or scrap facilities
- Six residential curbside providers
- Five compost facilities
- One municipal drop-off facility

Recycling

Lake County’s reduction and stabilization of per capita waste can be attributed in part to SWALCO’s recycling and diversion programs. The County reported an increase in recycling from 2009 to 2010, with an impressive 39 percent of waste (or 511,368 MW tons) recycled in 2010. For comparison, in 2009, Americans recycled and composted about 33.8 percent of their trash.\textsuperscript{178} To aid in boosting recycling rates, SWALCO has developed clear guidelines for recycling for Lake County residents. For example, to provide clarity to residents on which products are appropriate for curbside recycling, SWALCO provides an online guide, \textit{SWALCO’s Recycle & Redirect Guide}.\textsuperscript{179,180} In addition, SWALCO, in conjunction with a non-profit partner, Curbside Value Partnership (CVP), is broadening its efforts to increase participation in curbside recycling through resident outreach. This outreach partnership will focus early efforts on educating residents, incorporating use of modern media outlets, such as the web and social media.\textsuperscript{181}

In June 2010, the Lake County Board, in conjunction with the Board of Directors for SWALCO, established the 60% Recycling Task Force as the appointed County body to investigate and evaluate alternatives, and develop recommendations on how to achieve a 60 percent County recycling rate by 2020. Beginning in September 2010, the Task Force (a 27-member team of private citizens, waste hauler representatives, and municipal administrators) convened in monthly meetings to develop specific recommendations and identify challenges to achieving recommendations.\textsuperscript{182} The Task Force specifically analyzed the residential, commercial, and C&D sectors in Lake County, identifying opportunities to expand current programming, while developing new programs and ideas within each of these sectors.\textsuperscript{183} At the conclusion of the Lake County Recycling Task Force series meetings in October 2011, the Task Force developed 36 recommendations for material (waste) diversion, which were adopted by the Lake County Board. Lake County implemented several of those recommendations in June 2013.

Recycling & Waste Hauling Services

While SWALCO is responsible for implementing its Solid Waste Management Plan and provides some recycling services, municipalities are largely responsible for providing waste hauling and recycling

\begin{itemize}
\item \textsuperscript{176} (IEPA, IEPA - Landfill Certification Form for Zion, 2012) (Willis, 2012)
\item \textsuperscript{177} Note: A complete listing of Lake County disposal and recycling providers can be found on SWALCO’s website http://www.swalco.org/DisposalGuide/ServicesandFacilities
\item \textsuperscript{179} “Lake County Curbside Recycling Guidelines.” Retrieved 7/26/12 from http://www.swalco.org/Recycling/Documents/Swalco%20Recycling%20Guidelines%20Final%20April%202010.pdf
\item \textsuperscript{180} (SWALCO, SWALCO, 2010)
\item \textsuperscript{181} (Source: Source: Curbside Recycling News – June 15, 2012; CVP/SWALCO Partnership).
\item \textsuperscript{182} (SWALCO, 60% Recycling Task Force Report).
\item \textsuperscript{183} ibid
\end{itemize}
services for their residents. Most Lake County municipalities contract with a single private waste hauler to provide recycling and waste collection services for residents, including curbside pickup, within its respective geography. Some residents, such as those living within multifamily buildings over a certain size, and many businesses also contract for these services independently.

Recycling and waste hauling are handled through a variety of measures for Lake County unincorporated areas. Contracted private haulers that serve unincorporated areas are required to offer an option for volume-based pricing, or “pay-as-you-throw” (PAYT) service, which tracks the amount of garbage that households produce and charges them accordingly. \(^{184}\) One study estimates that PAYT communities generate about 49 percent less waste than those that charge traditionally (through taxes or fixed fees). \(^{185}\) The 60% Recycling Task Force Report also encourages the establishment of a hauler franchise pilot program to serve unincorporated areas, with a goal to determine effectiveness in increasing recycling rates and decreasing costs. \(^{186}\)

**Related Programs**

SWALCO provides or supports specialized recycling and waste disposal programs for aluminum, batteries, commingled recycling, construction/demolition debris, glass, landscape waste, metals, latex paint, paper, plastics, tires, and scrap electronics. To support diversion rates and proper management of such materials, SWALCO offers a number of educational initiatives and programs. To promote yard waste composting, the Lake County Planning, Building and Development Department is administering a pilot program to limit landscape waste burning in a designated area. For food waste, Lake County has begun to sell compost bins to encourage composting and has taken steps to authorize local non-profit organizations to distribute compost bins to residents. In addition, the City of Highland Park conducted a composting pilot program in a residential neighborhood to determine its feasibility on a city-wide scale. \(^{187}\)

SWALCO also offers education programming assistance to Lake County schools for recycling, waste management, and other environmental projects. The School Education Corner offers resources and information for educators, school administrators, and parents interested in initiating recycling and waste diversion education programs. \(^{188}\) To further broaden awareness around new C&D recycling pilot programs, Lake County has hosted a series of “C&D Handling Alternative Seminars” and focused on the goal of increasing awareness among the developer/building community. The 60% Recycling Task Force took a deeper evaluation of Lake County C&D debris, with resulting recommendations that focus on the development of a C&D ordinance to establish recycling requirements. A priority for SWALCO is increasing the local processing capacity.

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\(^{186}\) Under a franchise arrangement municipalities can allow multiple haulers to competitively bid out a specified scope of service within is a defined geography or “franchise” area. Once a hauler is determined to an appointed ‘franchise’ area, residents then contract directly with the hauler for waste collection services at the approved price under the franchise agreement. (EPA, Decision Maker’s Guide To Solid Waste Management – Vol. II (Chapter 4 – Collection and Transfer).


\(^{188}\) [http://www.swalco.org/Programs/SchoolResourceCorner/Default](http://www.swalco.org/Programs/SchoolResourceCorner/Default)
SWALCO also organizes and hosts recycling collection events. Electronics can be delivered to year-round drop-off facilities, and special one-day collection events are held as well. The Household Chemical Waste facility in Gurnee, IL serves as the permanent disposal facility for household hazardous waste. Residents can drop off waste at the facility year round, or at mobile collection events organized throughout Lake County. SWALCO also runs the “Reuse-A-Shoe” gym shoe recycling program. Some of the shoes are donated to the Share Your Soles Foundation, an Illinois-based charity that refurbishes shoes to give to those in need; the remainder are shipped to Nike to be processed as material for playgrounds and athletic fields.

Goal & Policies

Goal: Minimize waste.

Policy 1: Support and implement the recommendations of the 60% Recycling Task Force. [Ref.: 60% Recycling Task Force Report]

Action 1: Enhance existing residential recycling programs to increase rates of diversion, per the Task Force Recommendations.
Action 2: Enhance existing programs for commercial sector recycling.
Action 3: Support implementation of local ordinances to increase the rates of recycling of construction and demolition debris.
Action 4: Educate Lake County residents about ways to reduce waste by using social media and other tools to change behavior.
Action 6: Implement a procurement policy for the County to request, where applicable, sustainable alternatives for products and services.

Policy 2: Increase onsite scavenging in landfills and encourage markets for reusable materials.

Action 1: Encourage Lake County’s landfills to evaluate on-site scavenging of valuable recyclables prior to landfilling.
Action 2: Explore the feasibility of working with SWALCO and Lake County Partners to develop markets for recycled and refurbished products including finished compost, plastics, plastic film and glass.
Action 3: Encourage Lake County businesses, institutions, and local governments to purchase goods with recycled content in order to support local recycling businesses and the overall market for recycling.

Policy 3: Continue coordination between municipalities and other entities through SWALCO.

Action 1: Work with SWALCO and the Lake County Municipal League to identify opportunities for collaboration and coordination of services between the various communities for greater efficiency and evaluate the cost benefit of bidding waste hauler and recycling services together.

189 http://www.swalco.org/collectionevents/ElectronicsCollectionEvents
190 http://www.swalco.org/collectionevents/HouseholdWasteCollectionEvents
191 http://www.swalco.org/Programs/Reuse-A-Shoe
Action 2: Use communication tools (website, LCTV, e-newsletters) to communicate related information and best management practices.

Action 3: Evaluate model innovative recycling and diversion practices for County facilities to share with other jurisdictions.

Indicators

While the policies in this Chapter will be implemented on an ongoing basis, each indicator will be monitored on an annual basis and evaluated every five years. “Lake County Indicators” include indicators that are within the County government’s purview, while “Community Indicators” relate to activities within the County at large.

Lake County Indicators:

Indicator 1: The Solid Waste Hauling and Recycling Ordinance will be amended to be consistent with the 60% Recycling Task Force Report recommendations by 2016. (CAO/PBD)

Community Indicators:

Indicator 1: Lake County will achieve a 60 percent diversion rate by 2020. (SWALCO)

Indicator 2: One or both landfills will evaluate and implement an on-site scavenging or collection program for materials prior to landfilling by 2018. (SWALCO)

Indicator 3: The number of communities coordinating joint procurement of hauling services for refuse, recyclables, and organics will increase by 2018. (SWALCO)

Implementation Approach

<table>
<thead>
<tr>
<th>Policy</th>
<th>Inter-governmental</th>
<th>County Departments and Agencies</th>
<th>Non-County Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Support and implement the recommendations of the 60% Recycling Task Force.</td>
<td>County, Municipalities</td>
<td>CAO</td>
</tr>
<tr>
<td>2</td>
<td>Increase onsite scavenging in landfills and encourage markets for reusable materials.</td>
<td>County, Municipalities</td>
<td>CAO</td>
</tr>
<tr>
<td>3</td>
<td>Continue coordination between municipalities and other entities through SWALCO.</td>
<td>County, Municipalities</td>
<td>CAO</td>
</tr>
</tbody>
</table>
H. Economy

The content of the Economy section of the Sustainability Chapter is most closely linked with Regional Framework Plan Chapter 3: Economy and Employment.

Significance
The Regional Framework Plan’s Vision Statement for the Economy and Employment Chapter recognizes the importance of a balanced and diverse economy that provides high-quality jobs for all income strata. Traditional economic development strategies are discussed at length in the Regional Framework Plan and other County documents, including the Lake County Comprehensive Economic Development Strategy (CEDS) developed by the Lake County Partners in 2013.

To embed environmental sustainability in economic development, sustainable industries and jobs require a particular focus. To connect the topic of economic development with this Sustainability Chapter’s overall focus on environmental sustainability, the Economy section will focus on the local, sustainable economy. Sustainability-related sector(s) of the economy represent a growing opportunity for economic development. For the purposes of this document, a sustainable economy for Lake County is defined as an economy that:

- Attracts and fosters “green” businesses that offer sustainable products and services;
- Is supported by local job training and workforce development; and
- Protects and supports local food and farming.

Green businesses are those whose primary function is to produce goods and provide services that benefit the environment or conserve resources. Green businesses often relate to renewable energy sources, energy efficiency, pollution reduction and removal, greenhouse gas reduction, alternative transportation, recycling and reuse, natural resources conservation, environmental education and green job training. Many of these sectors have significant potential for economic growth, and jobs in these “green” industries are worth pursuing. Green jobs can be higher-quality for low- and middle-skilled workers, with median wages estimated to be 13 percent higher than traditional jobs. Better wages support the long term livability and sustainability of the County.

Issues & Opportunities
The following key issues and opportunities related to the economy have been identified through the existing conditions analysis:

- Since sustainability is a new economic development theme, there is not yet a well-defined system for tracking green jobs and businesses.
- Employment growth in some sectors is strong. For example, employment in the service sector has increased about 56 percent since 2000.
- Between 2008 and 2018, the total number of jobs in Lake County is expected to grow by 9 percent. The greatest growth is estimated to be in the health care and social assistance, professional and business services, and administrative and waste management services sectors. These professions are generally high value-added and have a relatively low environmental impact.

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192 BLS, 2012
193 “Sizing the Clean Economy.” The Brookings Institution.
194 IDES Employment Projections- Long-term Workforce
• Despite overall growth in employment, the County has recently seen sharp employment declines in most sectors, particularly in the agricultural sector (which has shown a 155 percent decline in employment since 1990). This challenging economic context makes it difficult to drive growth in new sectors of the economy or encourage investment in sustainability within existing sectors.
• There is concern about the County’s ability to compete for economic development with other jurisdictions, such as Kenosha County in Wisconsin.
• Waukegan and Libertyville are home to the greatest number of jobs in the County, followed closely by Deerfield, Gurnee, and North Chicago.
• The green sector of the economy represents an opportunity for the County, particularly as a part of the service and manufacturing sectors. Potential nodes for green economic development include Waukegan, Gurnee, Buffalo Grove, Deerfield, Lake Bluff, Lake Forest, Lake Zurich, Libertyville, and Wauconda.
• 42.2 percent of County residents also work within the County, and over 75 percent work within 25 miles of their home. By working close to home, County residents can reduce transportation-related pollution and emissions, support local businesses, and improve quality of life.
• Ecotourism is a notable feature of the Lake County economy. Developing this industry, and sustainable services and products for tourism providers and visitors, can be a source of economic growth while protecting the County’s natural assets.

Analysis
The sustainable economy may be approached in two main ways – through looking at the development of green businesses and jobs (as defined above), and also by looking at the potential for traditional businesses to incorporate green practices (such as recycling, green cleaning, cradle-to-cradle processes, etc.). However, it is first helpful to understand existing businesses and jobs in Lake County as a framework for estimating the green sector’s potential within the economy at large.

Local Business Profile
Lake County is positioned to host green jobs and currently has employment in job classification areas that can support green jobs. Roughly 50 percent of the County’s workforce is in the service sector, followed by 14 percent in both manufacturing and retail trade (see Figure H-1).195 Manufacturing in particular is considered an integral part of the green economy, comprising about 26 percent of green jobs (compared with just nine percent attributed to manufacturing in the broader economy).196

Historically, Lake County has hosted a diverse workforce (see Table H-1. Employment by Classification) and has added more jobs each year. However, between 2000 and 2009, job growth grew the slowest of the four decades included in the analysis. In prior decades, jobs generally grew in each sector. Between 2000 and 2009, jobs in all categories declined with the exception of service sector jobs, which increased by approximately 56 percent. Compared to regional and state employment, the County has a greater percentage of manufacturing, retail jobs, wholesale trade, and professional/management jobs, and fewer health and social service provider jobs. Interestingly, while the number of wholesale trade jobs is high, there are relatively few transportation and warehousing jobs.

195 According to U.S. Census Bureau, County Business Pattern for 2009,
196 “Sizing the Clean Economy,” The Brookings Institution.
Workforce patterns within Lake County vary greatly by town. Waukegan and Libertyville are home to the greatest number of jobs in the County, followed closely by Deerfield, Gurnee, and North Chicago. Almost a quarter of the jobs in Waukegan are related to administrative services and waste management. In Libertyville, the majority of jobs are in the fields of professional and scientific services and healthcare. Gurnee jobs are dominated by the retail sector, while North Chicago has a concentration of jobs in chemical manufacturing. Deerfield is more diverse with the largest number of jobs in wholesale trades and a relatively equal number of jobs in the retail, finance, and manufacturing sectors.

**Figure H-1. Employment by Classification, 2009**

![Employment by Classification, 2009](image)

Source: U.S. Census Bureau, County Business Patterns, 2009

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Services, Forestry, Fishing</td>
<td>383</td>
<td>3.0%</td>
<td>398</td>
<td>3.1%</td>
<td>1.5%</td>
<td>392</td>
<td>3.0%</td>
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<td>3.2%</td>
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<tr>
<td>Mining</td>
<td>29</td>
<td>0.0%</td>
<td>28</td>
<td>0.0%</td>
<td>1.1%</td>
<td>27</td>
<td>0.0%</td>
<td>27</td>
<td>0.0%</td>
<td>1.1%</td>
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<td>Construction</td>
<td>4,672</td>
<td>34.4%</td>
<td>5,065</td>
<td>39.0%</td>
<td>7.6%</td>
<td>5,324</td>
<td>41.4%</td>
<td>5,590</td>
<td>41.5%</td>
<td>2.8%</td>
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<tr>
<td>Mining</td>
<td>3,037</td>
<td>20.7%</td>
<td>3,318</td>
<td>25.1%</td>
<td>9.0%</td>
<td>3,332</td>
<td>23.8%</td>
<td>3,572</td>
<td>24.5%</td>
<td>6.9%</td>
</tr>
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<td>Transportation &amp; Public Utilities</td>
<td>1,513</td>
<td>11.1%</td>
<td>1,590</td>
<td>11.8%</td>
<td>4.9%</td>
<td>1,600</td>
<td>11.5%</td>
<td>1,659</td>
<td>11.6%</td>
<td>3.7%</td>
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<tr>
<td>Wholesale Trade</td>
<td>1,266</td>
<td>9.3%</td>
<td>1,379</td>
<td>10.3%</td>
<td>8.3%</td>
<td>1,370</td>
<td>9.4%</td>
<td>1,432</td>
<td>9.7%</td>
<td>4.5%</td>
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<td>Retail Trade</td>
<td>15,598</td>
<td>115.1%</td>
<td>16,000</td>
<td>120.4%</td>
<td>2.6%</td>
<td>16,000</td>
<td>120.4%</td>
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<td>120.4%</td>
<td>0.0%</td>
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<td>Finance, Insurance, &amp; Real Estate</td>
<td>2,639</td>
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<td>2,903</td>
<td>21.0%</td>
<td>3,053</td>
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<td>4.9%</td>
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<td>Services</td>
<td>10,270</td>
<td>77.7%</td>
<td>10,702</td>
<td>79.6%</td>
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<td>10,742</td>
<td>77.7%</td>
<td>11,087</td>
<td>79.3%</td>
<td>3.2%</td>
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<tr>
<td>Total</td>
<td>55,544</td>
<td>410.0%</td>
<td>57,260</td>
<td>430.4%</td>
<td>3.0%</td>
<td>57,260</td>
<td>430.4%</td>
<td>57,537</td>
<td>431.2%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

**Sources:** Regional Framework Plan Figure 3.1, U.S. Census Bureau, County Business Patterns

Note: NA- Exact employment figures not available due to employer confidentiality

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197 2012 Illinois at Work report
Commuter Travel Patterns

The distance (and associated travel time) that County residents commute to work has an effect on the County’s livability, potential fuel consumption and emissions associated with driving, and economic development. Currently, approximately 42.2 percent of Lake County’s workforce also resides within Lake County. The majority of County residents (about 75.6 percent) work within 25 miles of their residence (see Figure H-2. Commuting Distances for County Residents). However, as discussed in the Transportation and Mobility section, the average Lake County household drove approximately 61 miles per day in 2007, versus a regional average of about 48 miles per day. This indicates that despite the relative proximity of employment locations for many Lake County residents, most are still driving almost 30 percent more than the regional average.

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**Figure H-2. Commuting Distances for County Residents**

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2010)

**Table H-3. Green Sector Opportunities by Employment Classification**

<table>
<thead>
<tr>
<th>Employment Classification</th>
<th>Examples of Green Sector Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry, Fishing</td>
<td>Natural resources conservation; sustainable and organic food and farming</td>
</tr>
<tr>
<td>Construction</td>
<td>Green architecture and construction</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Energy and water efficient building systems; renewable energy systems; electric and hybrid vehicle production; green chemicals; green building materials</td>
</tr>
<tr>
<td>Transportation and Public Utilities</td>
<td>Alternative and non-motorized transportation; recycling, reuse, and waste management; renewable energy systems</td>
</tr>
<tr>
<td>Retail</td>
<td>Environmentally preferable products; organic and local products</td>
</tr>
<tr>
<td>Service</td>
<td>Remediation; organic services (restaurants, spas, etc)</td>
</tr>
</tbody>
</table>

Source: Sizing the Clean Economy, The Brookings Institution

**Green Businesses & Jobs**
The green sector of the economy is not represented by a single employment classification. Traditional classifications, such as manufacturing and construction, are likely to contain both green and traditional
jobs. A job classification system is used to group positions which have similar duties and levels of complexity and responsibility, require similar training and experience at the time of recruitment, and are compensated at the same general levels of pay. While green businesses are present in all employment classifications, there are some classifications, such as agriculture, manufacturing, and construction, where a more direct connection can be made (see Table H-3. Green Sector Opportunities by Employment Classification).

The green sector of the economy may encompass many traditional sectors but, as an emerging field, is not yet well tracked or quantified. To better understand the green sector within Lake County, it is helpful to look at how traditional employment sectors in the County (defined by the North American Industry Classification System or NAICS) may be linked with green jobs. Figure H-3. Potential Green Jobs Centers was developed by utilizing general NAICS codes that have been linked with the green sector. The Potential Green Jobs map indicates that Waukegan has the highest potential concentration of green jobs in the County, followed by Gurnee. Several other communities, including Buffalo Grove, Deerfield, Lake Bluff, Lake Forest, Lake Zurich, Libertyville, and Wauconda, have the potential of housing between 1,000 to 2,500 green jobs.

The U.S. Department of Commerce has developed a more detailed methodology for determining green jobs by using NAICS product and service codes, which delve into a finer grain of detail to classify businesses into very specific categories. The U.S. Department of Commerce combed through the product and service code classifications to identify over 700 that are strongly linked with the green sector. Unfortunately, the 2007 Economic Census (the source for NAICS product and service codes) does not provide the codes at the county level, which would be necessary to replicate the analysis for Lake County. However, were data to become available in the future, this methodology could represent a viable avenue for quantifying and tracking the County’s green jobs.

Another approach to approximate the number of green jobs in the County is to apply “broad” and “narrow” national green employment ratios, as determined by the Department of Commerce, to County employment by sector. The narrow ratio includes products and services that are widely accepted as green, while the broad ratio includes products and services that may be more contentious or open to debate about their classification. Table H-4 shows the narrow and broad percentages of each applicable sector’s green employment at the national level (for agriculture, manufacturing, construction, and services). These national ratios were applied to Lake County’s employment numbers from the 2000 and 2009 Economic Censuses (see Table H-5. Narrow and Broad Estimates for Green Jobs). This application suggests that roughly 4,800 to 6,400 jobs in Lake County are potentially green jobs. The trend observed from 2000 to 2009 shows very little growth in the number of green jobs and declines in all but the service sector. This trend reflects the overall Lake County employment picture, which illustrates significant growth in the service sector but declines in agriculture, manufacturing, and construction.

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Table H-4. Green Products’ and Services’ Share of the National Economy by Sector, 2007

<table>
<thead>
<tr>
<th>Sector</th>
<th>Narrow</th>
<th>Broad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1.5%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Construction</td>
<td>3.0%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Services</td>
<td>1.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>All Sectors</td>
<td>1.5%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

Source: Department of Commerce, Measuring the Size of the Green Economy (p.17)

Table H-5. Narrow and Broad Estimates for Green Jobs, 2000 and 2009

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>692</td>
<td>97</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>54,439</td>
<td>44,070</td>
<td>817 - 980</td>
<td>661 - 793</td>
</tr>
<tr>
<td>Construction</td>
<td>15,294</td>
<td>11,230</td>
<td>459 - 627</td>
<td>337 - 460</td>
</tr>
<tr>
<td>Services</td>
<td>100,871</td>
<td>153,576</td>
<td>1,513 – 1,917</td>
<td>2,304 – 2,918</td>
</tr>
<tr>
<td>All Sectors</td>
<td>309,313</td>
<td>319,399</td>
<td>4,460 – 6,186</td>
<td>4,791 – 6,388</td>
</tr>
</tbody>
</table>

Future Trends

Employment forecasts for Lake County expect moderate job growth within the next four to five years. Between 2008 and 2018, the total number of jobs in Lake County is expected to grow by nine percent. The greatest growth is estimated to be in the health care and social assistance (25 percent), professional and business services (22 percent), and administrative and waste management services (21 percent) sectors (see Table H-6. Employment Growth Sectors). The waste management services sector offers the greatest opportunity for green jobs growth. Lake County municipalities that are already showing employment in these growth sectors have the greatest likelihood of additional job creation. 2009 data shows that several municipalities in the County have high employment in the growth areas; Waukegan, Gurnee, Buffalo Grove, Libertyville, and Lake Forest have high employment in four or more growth sector categories (see Table H-7. County Municipalities with Greatest Number of Jobs in Growth Sectors). It should be noted that all of the communities shown in Table H-7, with the exception of Barrington, have the potential for 500 or more green jobs per the analysis in Figure H-3. This indicates that not only do these communities have the highest potential for job growth per the identified growth sectors, but they also have particular potential to capitalize on and grow existing green businesses relative to those sectors.

200 IDES Employment Projections- Long-term Workforce
Table H-6. Employment Growth Sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Expected Job Growth, 2008-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation and public utilities</td>
<td>19%</td>
</tr>
<tr>
<td>Professional and business services</td>
<td>22%</td>
</tr>
<tr>
<td>Administrative and waste management services</td>
<td>21%</td>
</tr>
<tr>
<td>Educational and health services</td>
<td>19%</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>25%</td>
</tr>
<tr>
<td>Leisure and hospitality (includes arts and</td>
<td>17%</td>
</tr>
<tr>
<td>entertainment and accommodations)</td>
<td></td>
</tr>
</tbody>
</table>

Source: IDES Employment Projections - Long-term Workforce

Table H-7. County Municipalities with Greatest Number of Jobs in Growth Sectors, 2009

<table>
<thead>
<tr>
<th>Sector</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Transportation, Warehousing &amp; Utilities</td>
<td>Grayslake</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Educational &amp; Health Services</td>
<td>Lake Forest</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Professional &amp; Business Services</td>
<td>Libertyville</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Administrative &amp; Waste Management Services</td>
<td>Waukegan</td>
</tr>
<tr>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Libertyville</td>
</tr>
</tbody>
</table>

Source: IDES Local Employment Dynamics - 2009

Economic Opportunities
Lake County has many opportunity areas related to the sustainable economy, including the agricultural sector, tourism and eco-tourism, and workforce development, particularly related to green jobs skills. The County’s agricultural sector has recently been declining both in acreage devoted to such uses and the number of associated jobs. However, substantial opportunities exist for remaining farms to capitalize on a growing trend toward locally produced food. Currently, only a fraction of dollars spent on food in Illinois annually is spent on locally-grown (in-state) products. This topic is explored in greater detail in the Open Space section of this Chapter.

Tourism
Tourism is a significant aspect of the economy worldwide, representing five percent of gross domestic product and six to seven percent of employment. The leisure and hospitality sector represents 31,000

201 Illinois Department of Agriculture
to 33,000 jobs for the metropolitan statistical area of Lake and Kenosha Counties. Lake County ranks third in Illinois travel expenditures behind Cook and DuPage Counties, with visitors spending over $1 billion, employment in the industry over 10,000, $23.3 million in local taxes, and $59.4 million in state taxes in 2010.

On a global level, there is increased demand for sustainable tourism (eco-tourism). Concurrently, the industry is responding to this demand partially by greening hotels and restaurants with use of green technology and building systems that conserve water and energy. Such facilities in Lake County include eco-friendly hotels such as Hotel Indigo in Vernon Hills, the Hyatt Deerfield, and various Marriott and Hilton properties. The Lake County Convention and Visitors Bureau actively markets these hotels, along with local farms, farmers markets, wineries, and noteworthy open space areas, such as state parks.

Tourism and ecotourism may present an opportunity for the County to take advantage of projected growth in tourism while utilizing existing natural assets. Visitors come to Lake County to see Illinois Beach State Park, Historic Long Grove, the Naval Training Center, Ravinia Park, Lake County Fairground events, the 37 golf courses located in the County, Cuneo Museum, and the Lake County Museum. Additionally, it should be noted that State Parks, State Natural Areas, and Lake County Forest Preserves attract a large number of visitors each year; in an average year, 2.5 million people visit the County’s forest preserves. In 2000, Illinois Beach State Park had around 2.5 million visitors, Chain O’Lakes State Park had 1.3 million visitors, and Volo Bog had almost 52,000 visitors.

Workforce Development Programs
Lake County has significant workforce development programs that support both local job seekers and local businesses. The Lake County Job Center connects potential employees with businesses. The Job Center’s Workforce Investment Board was established to, “create a workforce development system that meets the need of employers for qualified workers and by expanding employment opportunities for residents of Lake County.”

Housed at the College of Lake County, the Workforce and Professional Development Institute (WPDI) provides the community with training, consulting, and professional development courses in six areas: Center for Personal Enrichment, Client Solutions, Continuing Professional Development, Illinois Procurement Technical Assistance Center, Illinois Small Business Development Center, and Judicial Services. WPDI hosts a Small Business Development Center (SBDC) and a Procurement Technical Assistance Center (PTAC). The SBDC is focused on supporting small businesses in the region. The PTAC focuses on helping businesses secure government contracts. Each of these centers has the potential to support sustainable businesses through targeted technical assistance related to sustainable business practices as well as promoting and/or bringing sustainable products to market.

The Illinois Green Economy Network (IGEN) is also housed at the College of Lake County. IGEN was established to provide training to a variety of stakeholders on green economy issues. Most recently, IGEN and the College of Lake County have been providing training and job preparation services related

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202 http://www.bls.gov/eag/eag.il_lakecounty_md.htm
203 http://triblocal.com/gurnee/community/stories/2012/05/visit-lake-county-celebrates-national-tourism-week/
204 http://www.visitlakecounty.org/green.cfm
205 http://www.dnr.illinois.gov/cmp/Documents/ICMPPD.pdf
to green jobs in such fields as sustainable design and construction, sustainable agriculture, heating and air conditioning, energy efficiency, and renewable energy.\textsuperscript{206}

Goal & Policies

Goal: Promote growth of the local sustainable economy

Policy 1: As the U.S. Department of Labor and the Illinois Department of Commerce and Economic Opportunity further define the green jobs and businesses, work with Lake County Partners to attract green businesses and jobs and monitor the emerging green industry data. [Ref.: Goal 3.1; Pol. 3.4.2; Pol. 5.26.4]

\begin{enumerate}
\item \textbf{Action 1}: Once commonly accepted definitions of green jobs and green businesses are identified, work with Lake County Partners to establish a baseline number of green jobs and businesses as well as a target increase.
\item \textbf{Action 2}: Work with Lake County Partners to monitor green jobs and businesses on an annual basis.
\item \textbf{Action 3}: Assess creating opportunities to incent green business development.
\end{enumerate}

Policy 2: Work with the Illinois Green Economy Network (IGEN) to support green businesses through alignment of workforce development programs with current and future opportunities. [Ref.: Pol. 5.26.4]

\begin{enumerate}
\item \textbf{Action 1}: Research Illinois Department of Commerce and Economic Opportunities (DCEO) workforce development grant opportunities that would serve to bolster existing activities.
\item \textbf{Action 2}: Encourage IGEN and College of Lake County to convene an annual meeting with County high school guidance counselors on opportunities for green jobs and related workforce development in the County.
\end{enumerate}

Policy 3: Encourage businesses to adopt green practices.

\begin{enumerate}
\item \textbf{Action 1}: Work with chambers and other business associations to publicly recognize businesses that incorporate green practices by working with partners to create a green business recognition program.
\item \textbf{Action 2}: Encourage businesses to voluntarily achieve green building certifications.
\item \textbf{Action 3}: Encourage businesses and residents to pursue related financing opportunities, such as utility programs that provide rebates for energy efficiency programs.
\item \textbf{Action 4}: Inform residents and businesses of the benefits of green products and services.
\end{enumerate}

Commentary: Green building and development certification programs include USGBC’s LEED Rating System, Energy Star, and Green Seal etc.

Policy 4: Promote eco-tourism and agri-tourism activities as a way to enhance the economy and draw attention to the importance of natural resources.

\textsuperscript{206} http://www.igencc.org/about-us
**Action 1:** Encourage hotels, restaurants, and other entertainment venues to seek green building certifications such as LEED certification and Energy Star.

**Action 2:** Encourage the food industry to emphasize the use of local food.

**Action 3:** Coordinate with Lake County Convention and Visitors Bureau, Illinois Bureau of Tourism, and Chicago Convention and Tourism Bureau to promote eco-tourism and agri-tourism.

**Indicators**

While the policies in this Chapter will be implemented on an ongoing basis, each indicator will be monitored on an annual basis and evaluated every five years. “Lake County Indicators” include indicators that are within the County government’s purview, while “Community Indicators” relate to activities within the County at large.

**Lake County Indicators:**

**Community Indicators:**

- **Indicator 1:** The number of LEED certified commercial and office spaces will increase in the County by 2018.
- **Indicator 2:** The number of green jobs will increase by 2018.

**Implementation Approach**

<table>
<thead>
<tr>
<th>Policy</th>
<th>Inter-governmental</th>
<th>County Departments and Agencies</th>
<th>Non-County Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Work with Lake County Partners to attract green businesses and jobs and monitor the emerging green industry data.</td>
<td>County, Municipalities</td>
<td>CAO</td>
</tr>
<tr>
<td>2</td>
<td>Work with IGEN to support green businesses through alignment of workforce development programs with current and future opportunities.</td>
<td>County, Municipalities</td>
<td>CAO</td>
</tr>
<tr>
<td>3</td>
<td>Encourage businesses to adopt green practices.</td>
<td>County, Municipalities</td>
<td>CAO</td>
</tr>
<tr>
<td>4</td>
<td>Promote eco-tourism and agri-tourism activities as a way to enhance the economy and draw attention to the importance of natural resources.</td>
<td>County, Municipalities</td>
<td>CAO</td>
</tr>
</tbody>
</table>
Figure H-3. Potential Green Jobs Centers

Legend

<table>
<thead>
<tr>
<th>Potential Green Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake County</td>
</tr>
<tr>
<td>Municipalities</td>
</tr>
</tbody>
</table>

Source: Chicago Metropolitan Agency for Planning, 2012