



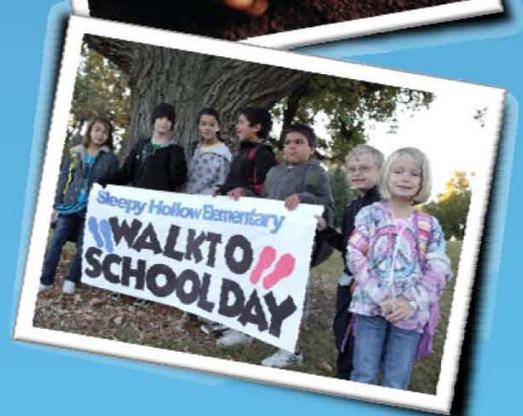
# Quality of Kane

*Healthy People, Healthy Living, Healthy Communities  
- Its about Quality of Life*



## Kane County 2040 Plan

Adopted by the Kane County Board on  
May 8, 2012



# **DRAFT KANE COUNTY 2040 PLAN**

## ***Healthy People, Healthy Living, Healthy Communities***

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## 1.1 PLANNING FRAMEWORK - PREFACE

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On August 4<sup>th</sup>, 2010, the Kane County Regional Planning Commission adopted and forwarded to the Kane County Board a 2040 Conceptual Land Use Strategy Report. The report provided the Board with some background regarding the Commissions previously recommended comprehensive plans; reviewed the conceptual planning strategy and the challenges and opportunities for the future of the County; and made 12 recommendations for proceeding with the preparation, review and adoption of the Kane County 2040 Plan (2040 Plan). The twelfth of these recommendations was that the County's next plan, the *2040 Plan* be titled, *Then (1840), Now (2010), and Tomorrow (2040): 200 Years of Settlement, Development, Preservation and Planning for a Safe and Healthy, Liveable Kane County, Illinois.*

**This Planning Framework Section of the 2040 Plan includes:**

**Planning in Kane County** – a chapter that highlights 50 years of comprehensive planning in the County guided by the Regional Planning Commission and supported by the Kane County Board as well as the Commissions most recent efforts to prepare this plan document;

**Kane County Then, Now, and Tomorrow** – provides a 200 year outlook at the settlement, development, preservation and planning in the County, beginning with the County's first 1840 Census, followed by the most recent 2010 Census, and a look into the County's future through 2040 projections;

**2040 Planning Perspective** – presents a 2040 planning perspective based on the 2040 Conceptual Land Use Strategy Map and incorporating ideas and comments received during the public review process and the most recent updates and reports from the land use, resource management, transportation, and healthy living programs.

## 1.2 PLANNING FRAMEWORK – PLANNING IN KANE COUNTY

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Comprehensive planning has been a continuous function of Kane County government for over 50 years. Planning-related activities began when Kane County adopted a zoning ordinance in 1937 and a building ordinance in 1954. Formal county planning began in 1958 when the County Board of Supervisors created the Kane County Regional Planning Commission and a Planning Division in what was then called the Building and Zoning Department.

Today, comprehensive planning, building, zoning and subdivision review remain important functions of the County Development and Community Services Department. The department's planning responsibilities are primarily twofold: (1) preparing and maintaining a long-range county land use plan; and (2) providing planning and resource management assistance to communities and individuals. In addition, the department provides staff services to the Kane County Regional Planning Commission, the Zoning Board of Appeals, the Historic Preservation Commission, the Community Development Block Grant (CDBG) Commission, the Economic Development Advisory Board and the Farmland Protection Commission. Another important role for the department is planning coordination with: (1) the Kane County Division of Transportation regarding the fundamental importance of the relationship between land use and transportation, the 2040 Transportation Plan, and opportunities to expand transit systems, improve walkability, reduce vehicle miles traveled, and improve energy efficiency and conservation; (2) the Kane County Health Department regarding the Healthy Kids, Healthy Communities project – Making Kane County Fit For Kids, the effort to make the health of children and adults a key factor in all phases of County planning and community development actions, and to implement the strategies of the *Fit Kids 2020 Plan*; and (3) the Kane County Facilities, Subdivision, and Environmental Resource Department regarding the Kane County Water Supply Report (2009), the Northeastern Illinois Regional Water Supply/Demand Plan (2010), and water resource-driven land use decisions.

Since 1958, the Regional Planning Commission responsibilities have been defined as:

1. To cooperate in the preparation of a comprehensive plan for the County and to make recommendations to the County Board with respect to the plan.
2. To cooperate in the preparation of plans for specific improvements in accordance with the adopted comprehensive plan and make recommendations to the County Board with respect to the improvements.
3. To give aid to the municipal and County offices with the direction of projects for improvements embraced within the comprehensive plan, to further the development of these projects and generally to promote the realization of the comprehensive plan.
4. To report to the County Board on the status of the comprehensive plan and on the effectiveness of County ordinances and regulations as they relate to the comprehensive plan.

5. To transmit to the County Board reports on the important problems, conditions, and proposals pertinent to the future development of the County.

In April 1967 the Regional Planning Commission recommended a five-point general development policy, which was adopted by the County Board. This five-point general development policy statement indicated development goals to be used as a basis for countywide planning. The five adopted development goals addressed employment, people, housing, the environment, and natural resources and have been reflected in every subsequent planning report and land resource management plan leading to this 2040 Plan.

In 1970 a five-year work program was developed to provide direction to County planning efforts. These efforts resulted in the 1976 adoption of the *Generalized Land Use Plan and Planning and Development Policies*. The 1976 Comprehensive Plan (1976 Plan) spelled out goals and policies for future development within the Urban Corridor along the Fox River and adjacent to the outlying municipalities. It also called for a countywide open space system to protect and preserve natural areas and connect existing public land with future acquisitions.

During the next few years, the Planning Commission and County Board determined that two additional issues – the protection of farmland and guidelines for managing rural development – needed to be addressed by the County plan. In 1980, the County Board amended the 1976 Plan, stating as a matter of public policy that the best farmland should be conserved and protected from premature development. The amendment also recognized that the development of rural land could no longer be ignored and deemed that unguided rural development:

- Propagates the irreversible loss of prime farmland;
- Creates conflicts between agricultural and residential land uses; and
- Impacts the cost of providing educational, public safety, and road maintenance services.

The 1980 plan amendment encouraged new rural subdivisions on vacant parcels near existing residential developments and discouraged new subdivisions where they would be detrimental to the goal of preserving prime agricultural land. It noted that Kane County's challenge was to balance additional rural residential development with environmental, conservation, and energy goals, as well as to guide new subdivisions into areas consistent with the County's adopted development goals.

In 1982 these plan amendments were reinforced when the Regional Planning Commission recommended and the Kane County Board adopted the Kane County Comprehensive Land Use Plan 1982-2000 (1982 Land Use Plan). The major purpose of the 1982 Land Use Plan was to provide comprehensive planning and development policies with a detailed plan map to guide balanced growth in the County. The 1982 Land Use Plan recognized that development pressures would intensify in coming decades and, if uncontrolled, would be detrimental to the quality of life in Kane County.

Two of the greatest accomplishments of the 1982 Land Use Plan were the preservation of agriculture and the management of conventional suburban sprawl in the western and central parts of Kane County. Prime agricultural lands outside of the Urban Corridor were identified and development was discouraged in those areas. Medium and high density land uses were concentrated in the eastern portion of Kane County. The plan stressed the need to preserve remaining natural areas, to provide connections between open spaces, and to ensure a full range of recreational opportunities in a countywide open space system.

In 1988 the Kane County Board unanimously adopted the Historic Preservation Ordinance as an amendment to the 1982 Land Use Plan. It was the state's first county preservation ordinance and was soon followed by the adoption of the Kane County Historic Preservation Plan in 1989. That Plan continues to this day to serve as a guide to public improvement and land use decisions as they relate to historic preservation.

Between 1982 and 1994, the County initiated a substantial number of land use planning and resource management related documents (Figure 2, 2030 Plan). At least half of these documents addressed resource and environmental topics such as watersheds, wildlife, and natural areas. Other publications include village land use plans and historic preservation reports.

On September 23, 1985, Illinois adopted the Local Land Resource Management Planning Act, Illinois State Statutes, Chapter 50 ILCS 805. This important legislative initiative added strength to the ability of counties and municipalities to engage in intergovernmental planning activities and to develop joint land resource management plans that address critical land and water resource issues. The Land Resource Management Planning Act states: "It is the purpose of this Act to encourage municipalities and counties to protect the land, air, water, natural resources and environment of the State and to encourage the use of such resources in a manner which is socially and economically desirable through the adoption of joint or compatible Local Land Resource Management Plans."

As Kane County entered the 1990's, growth pressures increased and agricultural preservation, open space acquisition, growth management, environmental protection, and intergovernmental cooperation continued to be viewed as critical issues. As a result, the County Board recognized the need to review the 1982 Land Use Plan and directed the Planning Commission to address the challenges of the future by utilizing the Land Resource Management Plan Act authority.

In February of 1994 the County Board adopted by unanimous vote a Conceptual Land Use Strategy for Kane County recommended by the Planning Commission. With the adoption of the 2020 Strategy, the County Board took an important step to address growth challenges by utilizing the Land Resource Management Planning Act authority. The strategy served as a basic policy guide to the Regional Planning Commission and Development Department staff in working towards the completion of the 2020 Land Resource Management Plan. The strategy findings were as follows:

1. For the purpose of comprehensive planning, Kane County is comprised of three distinct land use strategy areas: the Urban Corridor, the Critical Growth Area, and the Agricultural/Rural Village Area.
2. Different intensities and types of development are appropriate for each area.
3. Open space protection and water resource management must be the foundation of land use planning.
4. Balanced development should be encouraged.
5. Agriculture must continue to be a desired land use.
6. A strong relationship must exist between land use and transportation planning.
7. Eight Partnership Planning Areas (PPAs) should be established to facilitate cooperative planning and project review with the municipalities.

On June 11, 1996, the Kane County Board unanimously adopted the Kane County 2020 Land Resource Management Plan (2020 Plan) as recommended by the Commission. The 2020 Plan went beyond conventional land use planning by aggressively addressing the issues of quality of life, water resource management, open space preservation, and environmental protection. Based on the adopted 2020 Strategy, the 2020 Plan established a strong link between County and municipal land use planning. Subsequent planning successes stemming from the 2020 Plan include the Stormwater Management Plan, the Agricultural Conservation Easement and Farmland Protection Program, the Rustic Roads program, and the Economic Development program.

A major implementation component of the 2020 Plan was the establishment of eight Planning Partnership Areas (PPAs). Recognizing that the majority of land use decisions were made by the municipalities, the PPAs were used to develop a more effective working relationship between the County and the municipalities. Over the years, the County's Regional Planning Commission hosted several joint planning commission meetings in each PPA. The purpose of the meetings was to share information, to identify common goals, and to develop a shared vision for cooperatively managing land resources in a growing and developing Kane County.

As part of the 2020 Planning Program, the County developed a five year series of "Making it Work" workshops. The purpose of each workshop was to provide the municipalities with detailed planning related material, as well as tools for managing growth and protecting natural resources. Including local and national speakers, the workshops addressed the topics of conservation design (1999), land use and transportation (2000), greenways and stormwater (2001), water supply (2002), and smart growth (2003).

In recognition of its merit and success, the 2020 Plan received a number of awards from a variety of groups including, The Landmark Preservation Council of Illinois, the Illinois Chapter of the American Planning Association, and the American Institute of Architects. More importantly, the 2020 Plan served as an effective statement of County Board policy and demonstrated how the County and municipalities could work together to achieve common goals.

Figure 1

KANE COUNTY'S PLANNING BENCHMARKS	
1937	Zoning Ordinance adopted
1954	Building Ordinance adopted
1958	Creation of the Regional Planning Commission and the Planning Division
1967	Five-point general development policy recommended by the Commission – Addressed issues of employment, people, housing, the environment, and natural resources.
1976	Generalized Land Use Plan and planning and development policies adopted – County's first comprehensive plan called out goals and policies for future development within the Urban Corridor along the Fox River and adjacent to municipalities and called for a countywide open space system.
1980	1976 Plan Amendment –Encouraged new rural subdivisions toward existing residential developments and discouraged new rural subdivisions where they would be detrimental to the goal of preserving prime agricultural land.
1982	Kane County Comprehensive Plan 1982-2000 adopted –Comprehensive plan/map and development policies were provided to guide balanced growth in the County
1988/9	Historic Preservation Ordinance and Plan
1994	2020 Conceptual Land Use Strategy adopted by the County Board
1996	2020 Land Resource Management Plan –Three distinct land use strategy areas were introduced
2001	Agricultural Conservation Easement and Farmland Protection Program –County Board adopts Illinois' first Farmland Protection Program
2003	2030 Conceptual Land Use Strategy adopted by the County Board
2004	2030 Land Resource Management Plan and 2030 Transportation Plan –Adopted concurrently; first time a county in IL addressed land use and transportation issues and challenges jointly.
2008	2030 Plan Amendment – –A Protected Agriculture – Limited Development land use category was added that allows for a unique conservation development in a working farm setting.
2010	2040 Conceptual Land Use Strategy adopted by the County Board
<b>Date</b>	2040 Plan –First County policy document integrating health, land use, and transportation plan

Between 1996 and 2004, the County initiated additional land resource planning and growth management programs stemming from the 2020 Plan. Examples included developing village comprehensive plans, purchasing 1,400 acres in agricultural development rights, creating a new Land Evaluation and Site Assessment (LESA) for

Kane County, establishing a County CDBG program, initiating a new series of "Priority Places" workshops (2004), and designating the County's first Rustic Road.

As Kane County entered the 21st century, growth pressures increased and agricultural preservation, open space protections, growth management, traffic congestion, water resource planning and intergovernmental cooperation continued to be viewed as critical issues. Appropriately, the County Board recognized the need to review the 2020 Plan and initiate preparation of the 2030 Plan to address the challenges facing the County and municipalities.

On February 11, 2003, the Kane County Board unanimously approved the 2030 Conceptual Land Use Strategy as presented by the Regional Planning Commission. Building upon the principles of the 2020 Plan, land use policies were re-examined and fine-tuned in light of changing demographics, changes in state and federal policies, major infrastructure improvements, major shifts in the regional employment base, and local public policy and land use decisions. The 2030 Conceptual Land Use Strategy affirmed that for the purpose of comprehensive planning the County is comprised of three distinct land use strategy areas: the Urban Corridor Area, the Critical Growth Area, and the Agricultural/Rural Village Area. In addition, each land use strategy area was assigned a specific theme:

- Renaissance - Urban Corridor
- Refinement - Critical Growth
- Recommitment - Agricultural/Rural Village

The 2030 Conceptual Land Use Strategy further directed the Regional Planning Commission to: (1) complete a draft 2030 Land Resource Management Plan, and (2) prepare a process for public review of the draft plan. In May 2003, the Planning Commission released the report "Kane County Land Resource Management Plan, 2030, *Planning for Safe, Healthy and Livable Communities*". That report identified the need for a 2030 Plan, reviewed the plan strategy, identified the 10 recommendations for the 2030 Plan, and outlined a proposed public review process.

During the summer of 2003, the Planning Commission presented that report in a series of public meetings in the Planning Partnership Areas (PPAs). The purpose of those meetings was to communicate to citizens and public officials the direction Kane County was taking towards preparation of a 2030 Plan. These public meetings were attended by hundreds of concerned citizens and officials, many voicing questions and concerns about the challenges and issues facing Kane County, including: traffic congestion, water supply, need for more active recreation parks, concerns about flooding, desire to preserve community character, and housing for aging parents who want to live close to their grandchildren. These public meetings confirmed the need for Kane County to proceed from the Conceptual Strategy to a more detailed Land Resource Management Plan replacing the highly effective, but out of date 2020 Plan.

The next step in the planning program was the completion of "Renaissance of the Urban Corridor," a report highlighting the importance of the historic Urban Corridor along the

Fox River and the opportunities for downtown revitalization, neighborhood preservation, redevelopment and infill development. The publication spotlighted exemplary plans, projects and policies in the Urban Corridor that were at the forefront of the "renaissance", and how those plans and projects demonstrated the 10 Smart Growth Principles. The response to the report from the cities and villages affirmed the Renaissance theme and substantiated the infill, redevelopment and revitalization opportunities in the greenfields, greyfields, and brownfields along the Fox River and Randall Road.

After that, the planning process produced "Recommitment, Preserving Farmland and Agricultural in Kane County," a report completed early in 2004 and focusing on preserving farmland from premature conversion to other land uses. The theme of "recommitment" reflected a desire, a dedication to aggressively pursue farmland preservation and protection through land planning and zoning initiatives, the Kane County Farmland Preservation Program and the Illinois Farmland Preservation Act, and policy decisions regarding public infrastructure investments.

The "Recommitment" report introduced the slogan "50-50-50" for the conceptual land use strategy map. The "50-50-50" slogan reinforced the land use strategy for 2030: Kane County can preserve 50% of its total land area in farmland and open space, but only if 50% of the projected population increase is contained as compact, mixed-use development in the Urban Corridor and Critical Growth Area. Also reported was the LESA system for determining the quality and suitability of land for agricultural economic viability. In addition, the report presented the status of another important "recommitment," the Kane County Agricultural Conservation Easement Program and the Federal Farm and Ranch Lands Protection Program.

The Renaissance and Recommitment Reports served as bookends for the final report in the planning series, "Refinement, Challenges for the Critical Growth Area". The "Refinement" report consisted: a review of the primary issues and challenges for the Critical Growth Area, the 50-50-50 Land Use Strategy endorsed by the Commission; and a recap of the opportunities for implementing the 10 Smart Growth Principles in the "Priority Places" of the Critical Growth Area. With the completion of that report the Regional Planning Commission had prepared what would serve as a solid foundation for proceeding to finalize and recommend the 2030 Land Resource Management Plan.

Adopted unanimously by the County Board in 2004, the 2030 Land Resource Management Plan, *Planning for Safe, Healthy and Livable Communities (2030 Plan)* was a product of all of these preceding plans and efforts. The 2030 Plan bolstered the County's commitment to water resource management, open space preservation, environmental protection, and intergovernmental cooperation. In addition, it recognized the fundamental importance of the relationship between land use and transportation and the opportunity to plan for expanded transit systems, improved walkability, reduced vehicle miles traveled and improved energy efficiency and conservation. The 2030 Plan also introduced the three challenges: transportation, water resources, and housing, to meet the changes of a growing county. Adopted concurrently, the 2030 Land Resource

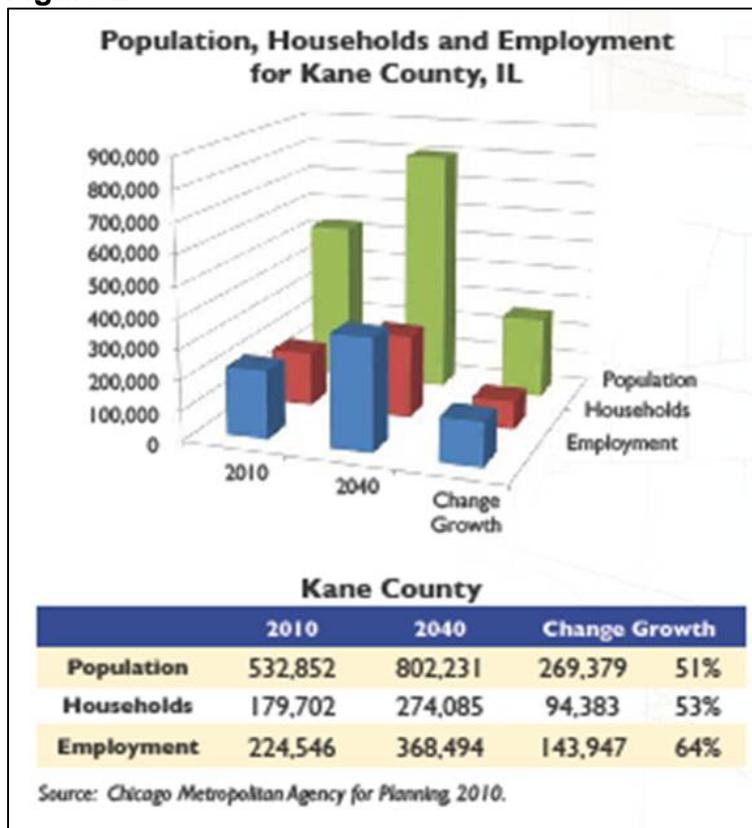
Management Plan and the 2030 Transportation Plan (2030 Plans) represented the first time in Illinois that a county addressed land use and transportation issues and challenges as a package.

Since adoption in 2004, the 2030 Plans have proven to be an effective statement of Kane County public policy on issues related to community development, land and water resource management, open space protection, farmland preservation, transit improvements, highway and intersection investments, and expanded bicycling and improved walkability.

The 2030 Plans have been well received by the citizens of Kane County, have had strong County Board support, have been used effectively by the Planning Commission to articulate the need for cooperative planning initiatives, and have been recognized at regional, state, and national levels as effective county planning documents addressing sensible, managed growth. But with that success, there was also recognition by the Planning Commission and the County Board that the 2030 Plan was a dynamic, not static, statement of public policy. There was a clear commitment that it be "reviewed every five years, with citizen input, in light of changing demographics, changes in local, state or federal policies, major infrastructure improvements, public policy decisions, and economic and employment activities." The review and update process was initiated in November, 2008, which also marked the 50th anniversary of the Kane County Regional Planning Commission being created by the County Board, and five years after the Commission submitted to the Board the recommendations of the 2030 Conceptual Land Use Strategy and Map.

Two major factors in the Planning Commission's review of the 2030 Plan and extending out another decade were the Census Bureau's 2010 estimates of population, households and employment; and the Chicago Metropolitan Agency for Planning (CMAP) 2040 projections of population, households, and employment. The challenge to the Commission was how best to plan, encourage, facilitate and design more compact, mixed use development for a 2040 Kane County with about 270,000 more people, approximately 95,000 additional households and an estimated 145,000 more jobs spread across 30 municipalities and the large unincorporated area (Figure 2).

**Figure 2**



Other review factors included municipal annexations and approved development plans, major open space acquisitions, new municipal incorporations, i.e., Villages of Campton Hills, Big Rock, and Kaneville, updates and revisions to municipal plans, the Route 47 Corridor Study, the Randall Road Bus Rapid Transit (BRT) Study, the Making Kane County Fit For Kids project, the current recession, housing foreclosures and record unemployment, the collapse of the housing boom, and other changes and trends.

The Commission also reviewed the three strategy areas of the 2030 Plan and the themes assigned to each. They considered the Randall Road

BRT Project funded by the U.S. Department of Energy and other KDOT Transit initiatives. The Commission identified the success of the Farmland Preservation Program and the adoption of the Protected Agriculture – Limited Development amendment to the 2030 Plan as important update factors. The Commission reviewed the citizen input since 2004 from the “Priority Places” workshop series. Especially important to the update was the input and information from the last in that series, the May 8, 2009 workshop entitled “Smart Growth is Healthy Living” which focused on bringing the planning, transportation and health communities together to focus on changing the built environment to support healthy eating and active living.

And finally, Commission members participated in the Fit for Kids Project launched April 7, 2008, and the Leadership Summit which provided participants with an in-depth briefing on the childhood obesity epidemic and called for a sustained, countywide mobilization through implementation of the following strategic action principles:

1. Develop land use, planning and other public policies that foster and support physical activity for all our communities;
2. Assure that fresh fruits and vegetables are affordable and accessible to all families in our communities;
3. Support a culture of wellness and health promotion in our workplaces, schools, homes, communities and other institutions;

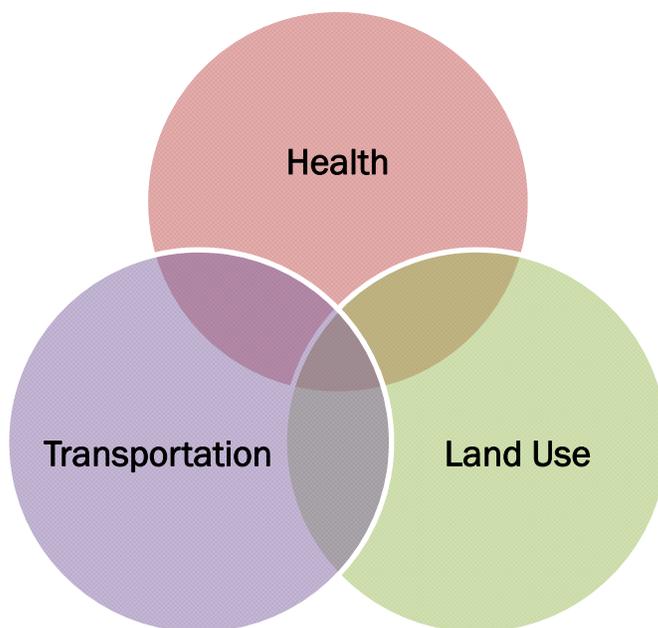
4. Provide parents and children with reliable, up-to-date information in multiple settings regarding healthy physical activity and eating habits.

After almost two years of reviewing and analyzing the 2030 Plan the Kane County Regional Planning Commission submitted to the County Board their report, “2040 Conceptual Land Use Strategy, *Then (1840), Now (2010), and Tomorrow (2040), Two Hundred Years of Settlement, Development, Preservation and Planning for a Safe, Healthy and Livable Kane County.*” On October 12, 2010, the Kane County Board unanimously approved Resolution No. 10-297, which adopted the above referenced report and directed the Kane County Regional Planning Commission to proceed with the preparation of a Kane County 2040 Plan (2040 Plan).

Two statements from the Commission’s report should be highlighted. First, “The Commission is proud of its previous role in preparing and recommending both the 2020 and 2030 Plans to the County Board and now accepts the challenge and responsibility of expanding the County planning horizon another decade and completing the 2040 Plan”. And, “We anticipate recommending to the County Board a 2040 Plan that will likely be the first in Illinois to mold the three disciples, transportation, health and land use planning into a single master plan.”

This 2040 Plan is the product of a unique convergence of three planning processes: transportation, health, and land use, within a comprehensive, countywide planning program supported by the Kane County Board (Figure 3). It builds on the successes of the past to meet the challenges of the future and is a powerful public statement of planning for a safe, healthy, and livable Kane County.

**Figure 3. Quality of Kane Model**



### 1.3 PLANNING FRAMEWORK – KANE COUNTY THEN (1840) NOW (2010) TOMORROW (2040)

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#### THEN - 1840 Kane County

The earliest recorded settler in Kane County, Christopher Payne, crossed the prairie heading west from Naperville and passed the north end of the “big woods” to establish his home just east of the present City of Batavia in 1833. A large boulder with a plaque on the north side of Wilson Street, just west of Kirk Road identifies the site of his first cabin. The *History of Kane County* records the first permanent settlers in Aurora and Geneva also arrived in 1833. The following year, 1834, witnessed settlers in Blackberry, Dundee, St. Charles and Sugar Grove, followed by the first permanent settlers in Big Rock, Burlington, Campton, Elgin, Kaneville, Plato and Rutland in 1835. By 1836 the first immigrants arrived in the last townships to be settled, Hampshire and Virgil.

By 1836 enough settlers had arrived in the area for the Illinois legislature to establish Kane County. The County was created on January 16, 1836, and was named after Elias Kent Kane (1794-1835) who was Illinois’ first Secretary of State (1818-1822), a United States Senator (1825-1835), and prime mover in achieving Statehood for Illinois. Shortly thereafter, Herrington’s Tavern and Inn on the banks of the Fox River in Geneva was selected to serve as the first Kane County seat and courthouse because it was also the site of the only post office in the new County. The new residents of Kane County then elected their first officials, three commissioners, a sheriff, a coroner, a surveyor, and a recorder of deeds, on June 4, 1836.

The early settlers found abundant hardwood forests, a flowing river to harness for waterpower, fertile lands to farm, springs of pure drinking water, and stone outcroppings for foundations and homes. Forests of oak and other trees bordered the Fox River while the areas west of the river were composed of woodlands and prairies. The wooded areas covered approximately one quarter of the County. The prairie consisted primarily of tall, tough grasses often growing ten to fifteen feet high. The soil below the grass was often wet and swampy and the grass roots were tangled and tough, making the land difficult to plough. The land was largely black soil with some clay, sand and gravel. Extensive tracts of low, marshy lands also covered portions of the County. Wildlife in the area consisted of deer, wildcats, lynx, wolves, wild pigeons, ducks and geese, quail, crows, robins, other small birds, and abundant fish. A variety of nuts and berries were also found here by early settlers.

Settlement of the area escalated after 1836, when the Native Americans were forced to relocate west of the Mississippi River. Increased settlement of the central and western sections of the County had begun by 1840. The beginnings of the urban area along the river were already established. Most of the desirable timbered land along the river was claimed. New settlers looked toward the groves of trees out on the prairies to the west as locations for their homes and farms. The names of these early settlement areas reflect the homesteaders’ reliance on wood: Sugar Grove, Pingree Grove, Pigeon

Woods (Hampshire Township), Lone Grove (Kaneville Township), Ohio Grove (Virgil Township), and Lances' Grove (Blackberry Township). Two important inventions, John Deere's Moldboard Plow (1837) and McCormick's Virginia Reaper (introduced in Kane County in 1846), enabled the settlers to expand their farming to the surrounding prairies.

The 1840 Landscape Map (Figure 4) is a composite of the original township plats of survey prepared by Surveyors James Thompson, John P. Thompson, James Galloway, Eli S. Prescott, and Ignatius Sprigg, between 1839 and 1842. The surveyors walked and measured section lines and recorded information about the land as they went. Their records were sometimes generalized and some physical and environmental features were missed, but, nevertheless, these surveys represent the first comprehensive inventory of the resources of Kane County.

In 1840 the County landscape was still mostly native timber and prairie. Many of the early fields were along the Fox River or on the edge or closely located to the woodlands. Today's Nelson Lake, labeled as "mud lake", appears west of what would be Batavia, and the Waubensee "swamp" south of Aurora, the Clanyard marsh in Rutland, the Rob Roy "slough" in Sugar Grove, and other major wetlands appear on the map. An area of "27 ancient mounds" is shown in what is now Sleepy Hollow, Dundee Township along the bluffs of the old oxbow bend of the Fox River. Ten dams and their mills and saw mills are located along the Fox River. Today's Montgomery dam is not identified but two dams between Aurora and North Aurora are shown which don't exist today. Associated with most of the dams are the earliest towns, Dundee, Elgin, Charleston (St. Charles), Geneva, Batavia and Aurora.

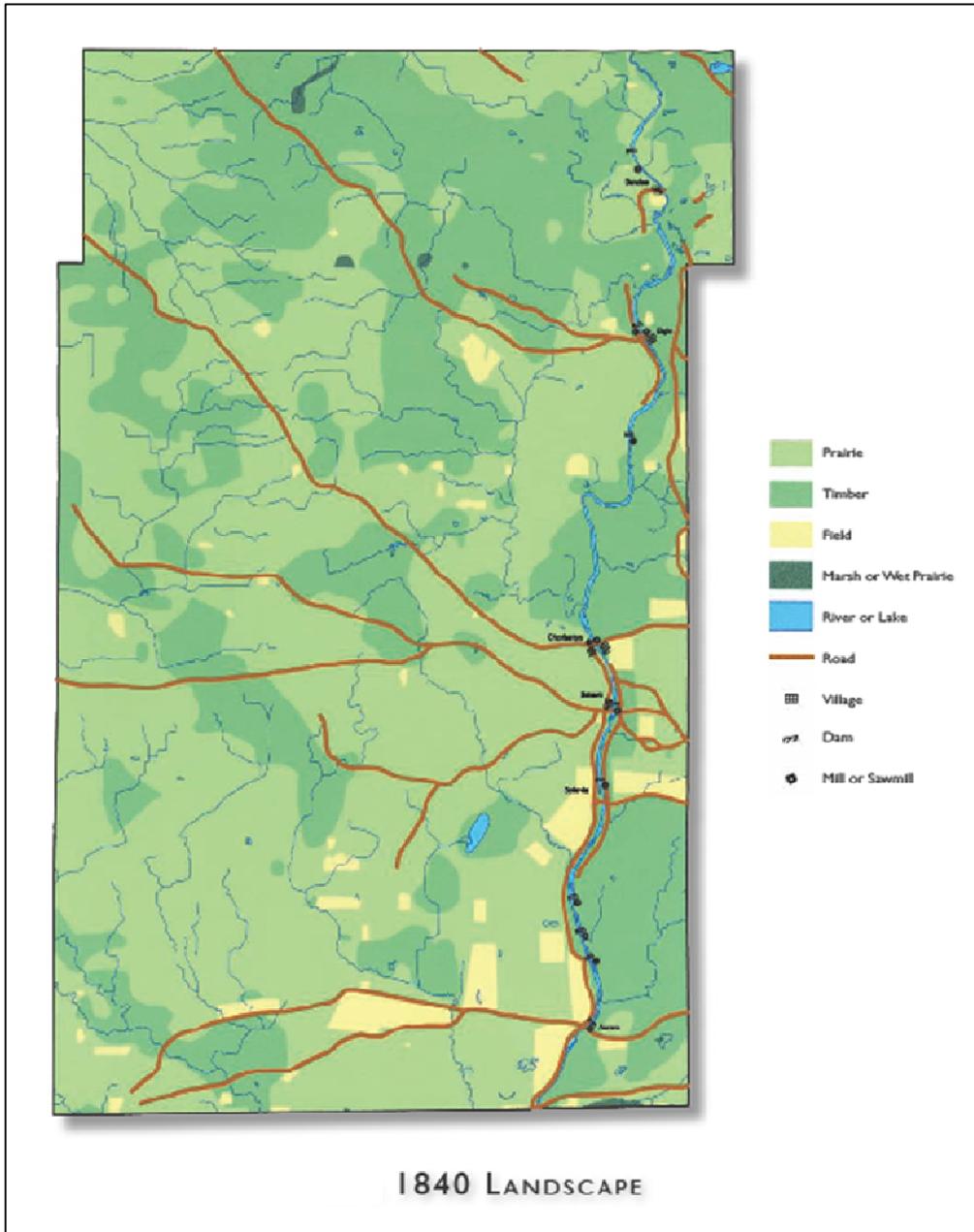
Linking these early settlements, towns and fields to each other and to counties and towns outside the Fox Valley is a network of trails and roads. For example, the survey identifies:

- in Dundee Township, "a road from Ottawa to Dundee"; in Elgin, "a road from Elgin to Chicago"; east from Geneva (IL Rt. 38) "a road to Chicago"; from Batavia (Wilson Street today) is "a road to Wareville" west from Geneva extending along what is Kaneville and Fabyan; and on into Blackberry Township is "a road to Orange", apparently a settlement west of Kane County.
- in Aurora Township, paralleling what is now Montgomery Road, is "a road to Chicago"; and crossing the township east to west and extending into Sugar Grove Township is "a road to Galena."
- Also, in Sugar Grove is a route called a "road from Dixon to Aurora". Heading northwest across Plato, Burlington, Rutland and Hampshire are two roads "from Chicago to Galena" which are today's Burlington Road, Big Timber Road, Reinking Road and U.S Route 20. Another road crossing Plato is identified as "a road from Charleston (St. Charles) to Belvedere."

Some of the 1840 roads are still in existence, many times in the same location as the roads and highways of today. There is a fork in a trail in Campton Township close to the Garfield Farm and Tavern which is now the general route of IL 38 heading west

across Virgil Township and Campton Hills Road. Portions of Jericho and Granart Roads in Sugar Grove and Big Rock were already trails in 1840. A fork in the 1840 road south of Bald Mound in Blackberry Township is today where Fabyan, Main Street and Bliss Roads intersect. These early road and trails of a fledgling transportation system linked the growing towns, brought people and goods to expanding markets, provided opportunities for early commerce and manufacturing, and gave access for more farmers and settlers.

**Figure 4. Kane County's 1840 Landscape**



## **THEN - 1840 Census**

By 1840 a still young nation, the United States of America, was conducting its Sixth Census as required every ten years by the Constitution. Kane County, as one of Illinois newest counties, was included in that 1840 Census which today gives us a first glimpse at the settlement and growth of the County in the first 5 or 6 years. The Compendium of the Sixth Census, Recapitulation of the Aggregate Amount of Each Description of Persons within the District of Illinois, By Counties and Principal Towns, records a total of 6,501 persons residing in Kane County (Compendium of the Sixth Census, pp. 84-87). The Census records 3,530, Free White Males: 586 who were under age 5, 814 over 20 and under 30, and 71 between 60 and 70. It recorded 2,967 Free White Females: 588 under age 5, 4 over 80 but under 90, and 562 between the ages of 20 and 30. There were 6 males and 4 females older than 80. The battle over slavery still lay ahead of America, so the 1840 Census recorded 4 "Free Colored Persons": 3 males and 1 female. There are no "Slaves" documented in the 1840 Census of Kane County although it records that in the entire state of Illinois there were 168 male slaves and 163 female slaves. The compendium also indicates that there were 3 pensioners for revolutionary or military services residing in the County.

In 1840 Kane County's population of 6,501 was greater than the 4,476 residents of Chicago, exceeded the 3,535 citizens of DuPage County, and of all the current Chicago metropolitan counties, only Cook and Will, 10,201 and 10,167 respectively, had a greater population. Kendall County did not yet exist and was still included in LaSalle County. DeKalb and McHenry had populations of 1,697 and 2,578. The most populous counties in Illinois were downstate and included St. Clair, (13,631) Sangamon, (14,716) Pike, (11,728) Morgan, (19,547) Madison, (14,433) Greene, (11,951) Gallatin, (10,760) Fulton, (13,142) and Adams (14,476) Counties. These were central and southern Illinois counties that were settled even before Statehood was granted to Illinois in 1818.

The Sixth Census reveals that Kane County's residents were already hard at work with settlement and development. The vast majority, 1,239 persons were engaged in agriculture, 40 employed in commerce, 317 in manufactures and trades, and 49 citizens worked as learned professionals and engineers. A fledging educational system was already in place with 39 primary and common schools educating 1,153 early scholars. While most adults apparently had some education, the record indicates there were 10 white people over 20 years of age who could not read or write.

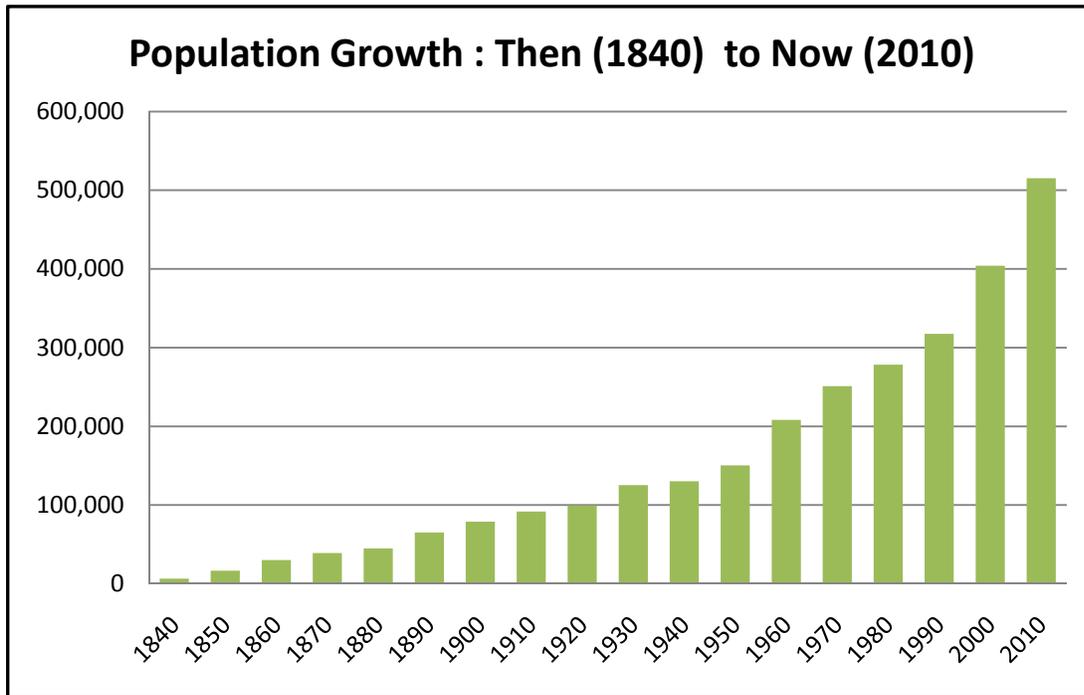
On the farms there were 1,658 horses and mules, 7,858 neat cattle, 1,262 sheep, an amazing 17,279 swine (pigs), and the estimated value of all kinds of poultry was \$2,811.00. The rich, fertile farmland was already producing 150,110 bushels of wheat, 5,980 bushels of barley, and 167,468 bushels of oats. The soybeans of today are not listed as a crop in 1840 but 151,310 bushels of Indian corn were harvested along with 1,363 and 737 bushels of rye and buckwheat. Various other crops included 1,961 pounds of wool, 77,372 bushels of potatoes and 6,592 tons of hay, much of it went to feed the dairy cattle that produced \$18,788 worth of milk and cream.

In the early cities and villages commerce was active. There were already 16 retail dry goods, grocery and other stores with a capital investment of \$60,746. There were 15 men employed making bricks and lime that had a value of \$2,530.00. Smaller manufacturing operations were lumber products, flax operations, hat, cap, and bonnet manufacturing, and leather, tanneries and saddleries. Two distilleries produced 18,000 gallons of distilled and fermented liquors and two men were employed making carriages and wagons. The 6 grist mills and 22 saw mills along the Fox River employed 59 men, produced goods worth \$22,360 and represented \$106,600 of investment. Additionally, 9 men were employed making furniture, and 7 brick or stone houses and 29 wooden houses were built with the value of constructing or building estimated at \$36,910.

In a few short years, the settlement and development of Kane County was well underway. Damming the river, cutting the woodlands, plowing the prairie and draining the wetlands was changing the 1840 landscape from the natural toward what exists today. The ponds above the dams on the Fox River, the early trails and roads and the first platting of the towns has influenced the forms of today's cities and villages. And the boundaries of the townships, sections and quarter sections created by the original surveys remain on the landscape as fence lines, civil borders, highways, and other physical features.

The 1840 population grew and prospered during subsequent decades. By 1850 the population had increased by more than 10,000 to 16,703, a change of 156.93%. The next decade brought the first 2 railroads to the Fox Valley, heading west from Geneva and Elgin, bringing new commerce and industry, and a 1860 population count of 25,906. Steady growth through the remainder of the century expanded the population to 78,629 by 1900. By 1950 the population had doubled again to 150,388. During the second half of the 20<sup>th</sup> Century, there was double digit percent change in population every decade. The construction of the interstate highway system and suburban growth westward from Chicago into the Fox Valley contributed to a population of 404,119 by the year 2000 (Figure 5).

**Figure 5**



### **NOW - 2010 Kane County**

The more than 10,000 population growth in that first decade, from 6,501 in 1840 to 16,703 in 1850, a change of 156.93%, represented the fastest numerical change and percent growth of early Kane County. For comparison in the first decade of the 21<sup>st</sup> Century, 2000 to 2010, the County witnessed population increases that averaged more than 10,000 per year for the entire decade. The population grew from 404,119 in 2000 to 515,269 in 2010, an increase of 111,150 persons, the greatest numerical growth by decade in Kane County's history (Figure 5).

The early settlers and leaders, Christopher Payne in Batavia, the McCarty's in Aurora, Herrington's in Geneva, William Beith in St. Charles, the Gifford's in Elgin and the Carpenter brothers in Carpentersville, would scarcely recognize many parts of the County after 160 years of settlement and development. And yet, along the banks of the Fox River, in the rolling hills and wooded creek bottoms, and out on the flatter, farmed plains, large areas of Kane County might still be recognized by these early residents. And their family names live on in our villages, streets, parks, buildings and other landmarks around Kane County. Much of this rich heritage has been preserved by the local historic preservation organizations and museums around Kane County for the education and enrichment of today's residents.

Figure 6 superimposes over the 1840 landscape map the 2010 map with present day open space, the current road network, and the developed areas. Notice that many of the early trails and roads are the highways of 2010. Burlington Road, Illinois Route 38,

Galena/Granart, Big Timber/Route 20, Illinois Routes 25 and 31, and Fabyan/Hughes are some of the best examples of today's roads following yesterday's trails.

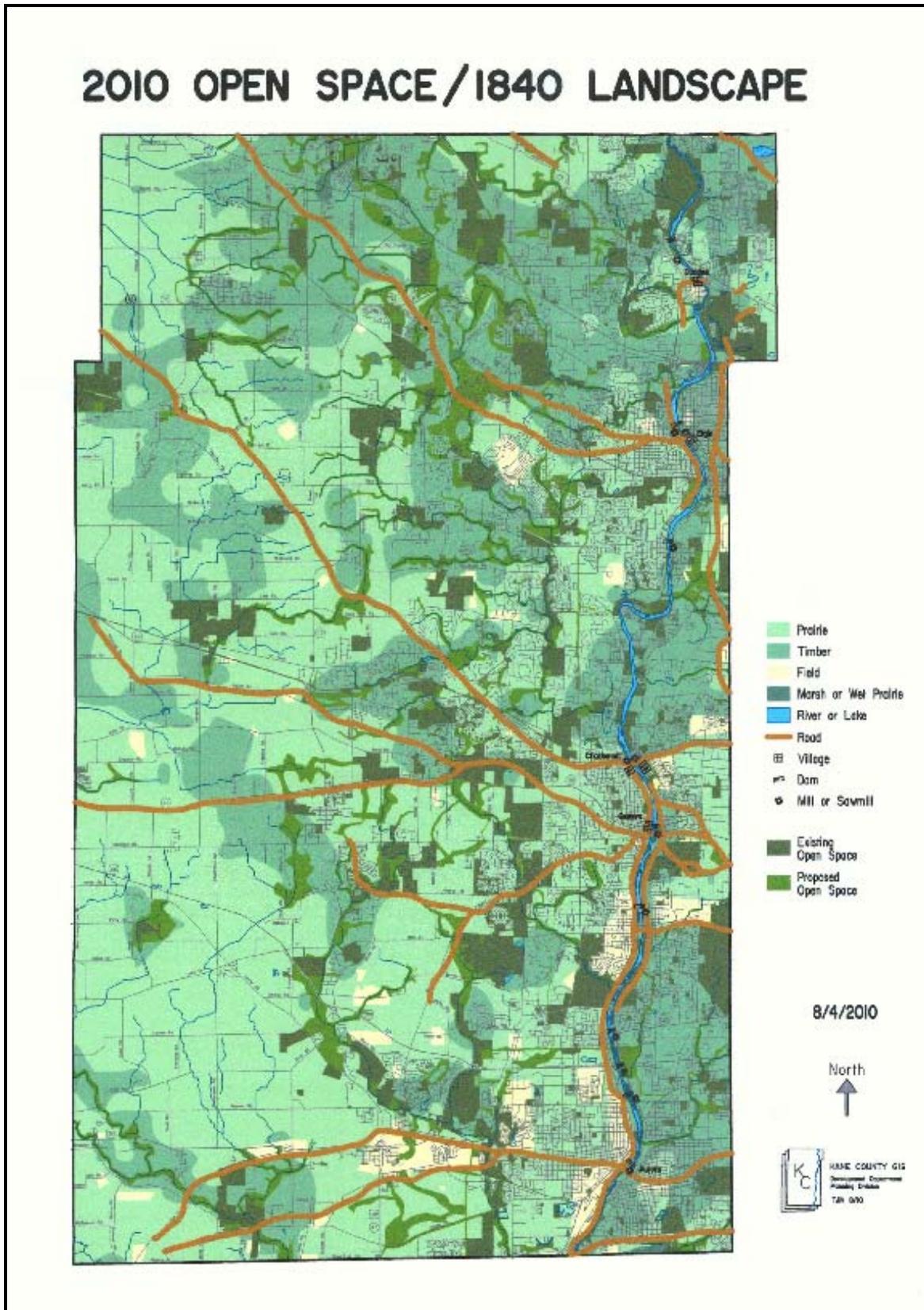
Also, notice how many of the Forest Preserve and park district land acquisitions over the years have protected and preserved the creek corridors, wooded areas, wetlands, marshes or wet prairies shown on the 1840 landscape map. Many 1840 timber areas show a current road pattern as a result of the low density, wooded lots developed over the years in parts of Big Rock, along Blackberry Creek, west of St. Charles in Campton Hills, and northwest of Elgin in the valley of Tyler Creek.

While many of the early 1840 fields have been subsequently platted, developed and annexed for County and municipal growth, some of the early farmed areas, especially west of Randall Road, are still in agricultural use today. Most of the prairie stands of 1840 that hold some of the most fertile soils in the world have now been filled and farmed for over 150 years. Although large acreages of the early prairies have been subdivided and developed over the decades for homes and businesses, well over 50% of Kane County is still in agricultural and open space use today.

During the last decade of rapid growth, there were unparalleled levels of commitment to preservation and planning. The Kane County Forest Preserve District received overwhelming support from the voters for \$85 million in referendum funds to acquire new preserves and expand and improve existing properties. The Brunner Family Forest Preserve, 741 acres along the Fox River in Dundee Township, has some of the highest quality wildlife habitat, creates a 3.5 mile stretch of Fox River waterfront, and preserves a landscape the earliest settlers would recognize. The Burlington Prairie, Muirhead Springs, Mill Creek Lake Run, Cardinal Creek, Tekakwitha Woods, LeRoy Oakes and Big Rock additions expand existing Forest Preserves and continue the plan and preservation of open space and natural areas for current and future residents. The New Haven Forest Preserve in Aurora and Elgin West Regional Park represent new partnerships and intergovernmental agreements with park districts and municipalities to meet the recreational and changing open space needs of growing communities.

The 200-2010 decade witnessed unparalleled numerical growth in big towns and small villages and the creation of several new municipalities. Big Rock (2001), Kaneville (2006), and Campton Hills (2007), incorporated as municipalities. Aurora became Illinois' second largest municipality during the decade and Pingree Grove became one of the fastest growing villages. Montgomery and Elgin grew west to Route 47. Elburn added a new Metra commuter rail station. In fact, more land was annexed to Kane County municipalities, more land was zoned and subdivided, and more building permits issued for new homes than any other decade in our history. Figure 7 indicates in grey the 2010 incorporated areas of the 524 square miles of Kane County. They range from the 40 acres of Hoffman Estates in Section 36 of Dundee Township, to approximately 27 square miles and just over 30 square miles of Aurora and Elgin respectively.

Figure 6



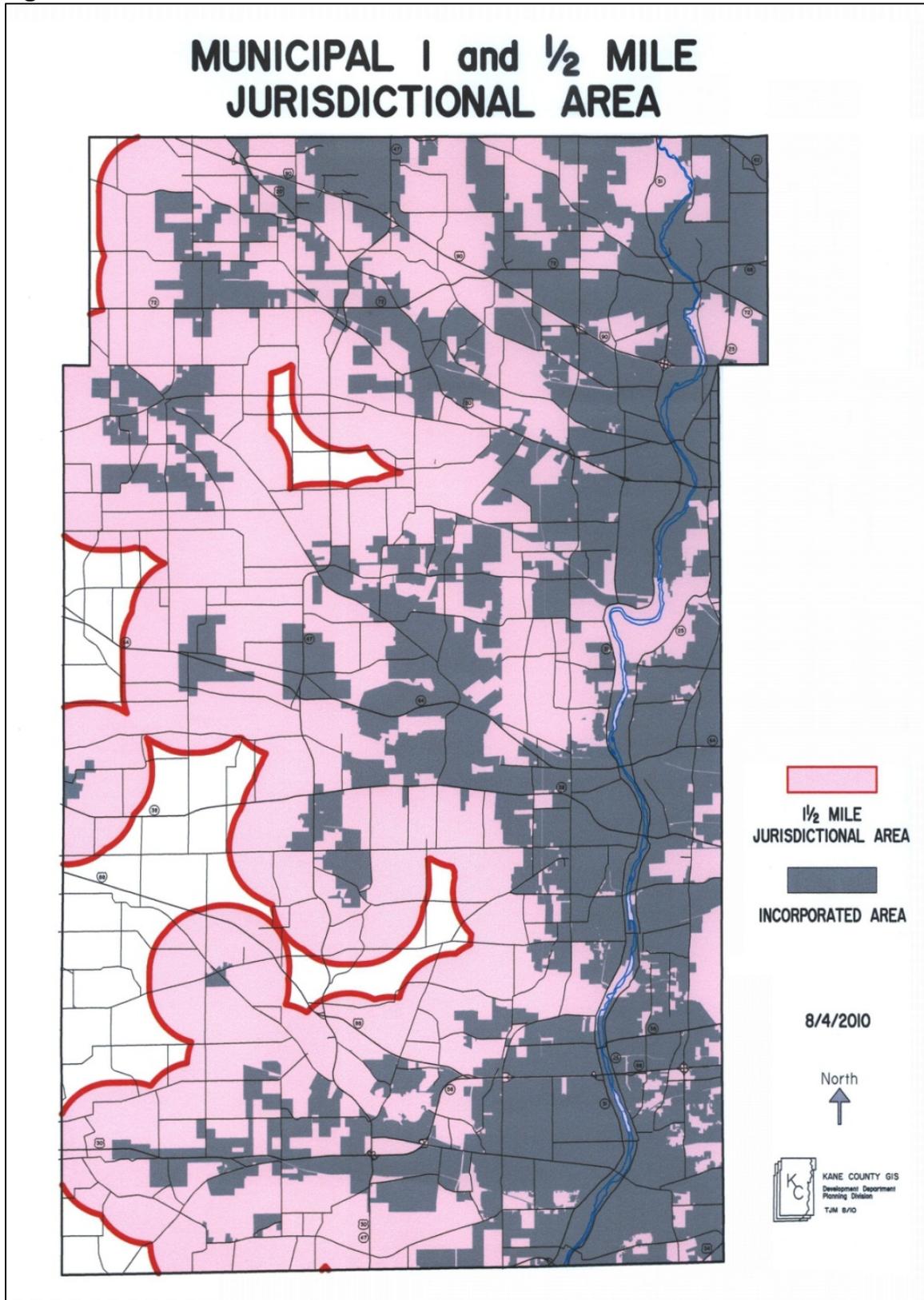
The same map clearly indicates the one and one-half mile extraterritorial jurisdiction of the municipalities beyond their incorporated limits. During the 2000-2010 decade of growth the extraterritorial areas grew significantly as municipal boundaries expanded and new municipalities like Campton Hills incorporated. Note that in 2010 all of the Sustainable Urban Area is incorporated or within the 1 ½ mile jurisdiction, almost all of the Critical Growth Area and all but two small stretches of the Route 47 Corridor fall within municipal jurisdictions. Only in the agricultural and small town area west of Route 47 are significant areas totally outside municipal limits and jurisdiction. The 2010 Census data clearly reflects a statement of the 2030 Plan which supported “the logical, orderly growth of the cities and villages, where 90% or more of the new population (emphasis added) will reside.”

Since the adoption of the 2030 Plan in 2004, municipalities have engaged in planning and community development efforts that have advanced the land use strategy (Figure 8). Cities and villages have engaged their communities to establish visions and ultimately policy guides for the future revitalization of their downtowns. Promoting downtown investment and redevelopment opportunities, preserving community assets and rich history, enhancing streetscapes and urban design or village character, and establishing a strong community and sense of place are all common themes in these downtown master plans and downtown revitalization plans. The Fox River has been a focus of downtown revitalization for many Sustainable Urban Area communities located along the river. Improvements to the riverfront, such as riverfront plazas, pedestrian bridges, enhanced landscaping and restored riverbanks, upgraded bikeways and pedestrian paths, and artwork are bringing civic pride and activity to the downtowns.

More focused sub-area plans or corridor plans have provided strategies for development and redevelopment, direction for enhanced landscaping and building designs, and recommendations to improve connections to a community’s downtown. Municipalities within the Sustainable Urban Area and Critical Growth Area, such as Elgin, Montgomery, Geneva, and Huntley, are also planning for redevelopment opportunities around existing or planned Metra Stations with transit-oriented-development (TOD) subarea plans. In addition, bikeway and pedestrian master plans have been prepared by municipalities to improve connectivity and recreational opportunities for their residents.

Municipalities within the Sustainable Urban Area are proactively planning for initiatives and programs that will ensure their communities are greener and more sustainable. Elgin, Aurora, and Algonquin have undergone significant community-focused efforts to prepare sustainable master plans or environmental action plans that will encourage energy conservation and the use of renewable energy, conserve ecological and natural resources, improve air quality, develop sustainable building and energy-efficiency policies, encourage recycling and rainwater harvesting, and engage public and private stakeholders on sustainability initiatives.

Figure 7



## **Figure 8. Municipal Planning Efforts Since 2004**

### **Comprehensive Plans:**

City of St. Charles (In Progress)  
Village of Campton Hills (In Progress)  
Village of Elburn (In Progress)  
Kaneville Comprehensive Plan (2009)  
Lily Lake Comprehensive Land Use Plan (2009)  
Village of Algonquin Comprehensive Plan (2008)  
Village of Carpentersville Comprehensive Plan (2007)  
City of Batavia Comprehensive Plan (2007)  
Village of Barrington Hills Comprehensive Plan (2005)  
Village of Burlington Land Use Plan (2005)  
Village of Big Rock Comprehensive Land Use Plan (2003 – to be updated in 2012/13)

### **Downtown Master Plans/Revitalization Plan**

City of Geneva, Downtown Station – Area Master Plan (In Progress)  
Village of Huntley, Downtown Revitalization Plan (2010)  
Village of East Dundee, Downtown Depot Redevelopment/Utilization (2008)  
Village of East Dundee, Downtown Revitalization Plan (2007)  
City of Aurora, A Master Plan for Downtown (2006)

### **Riverfront Master Plans:**

City of Aurora - RiverEdge Park Master Plan (2007)

### **Village Center Plans:**

Village of Carpentersville, Old Town Area Plan (In Progress)  
Village of Pingree Grove, Village and Heritage District Master Plan (2011)  
Village of South Elgin, Village Center Master Plan – update to comp. plan (2007)  
Village of Pingree Grove, Village Center Vision and Concept Plan (2006)

### **Sub-Area Plans:**

City of Geneva, Southeast Master Plan (In Progress)  
City of Aurora, Aurora Neighborhood Planning Initiative (2005-2009)  
Village of Montgomery, Western Development Subarea Plan (2008)  
Village of Montgomery, Montgomery Preserve Sub-Area Plan (2006)  
Village of Montgomery, Mill District Enhancement Project, Montgomery Village Center (2006)  
Village of Wayne, Rte. 25 Subarea Plan (2005)

### **Corridor Plans:**

Village of Carpentersville, Longmeadow Parkway Corridor Study (2009)  
Village of East Dundee, Route 72 Corridor Plan and Streetscape Enhancements (2008)  
Village of Bartlett, Bartlett Road Corridor Plan (2007)  
Village of Montgomery, Orchard Rd./Blackberry Creek Corridor Plan (2005)  
Village of Montgomery, Montgomery Road Corridor Plan (2004)

### **Main Street Plan:**

Village of Sugar Grove, Main Street Plan (2007)

### **Design Guidelines:**

City of Geneva, Design Guidelines for Historic Properties (2010)  
City of Batavia Historic Preservation Design Guidelines (2009)  
City of Aurora, Aurora Riverfront Vision and Design Guidelines (2006)

### **Mobility/Transportation Plans:**

St. Charles Circulator Study (2011)

City of Geneva, Downtown/Station Area Master Plan (2011)  
City of Elgin, CNU Connectivity Study (2010)  
City of Elgin, National Street Subarea Plan – TOD (2010)  
TOD Plan & Park and Ride Study, Village of Montgomery (2009)  
Village of Huntley, TOD Plan (2009)

**Bicycle or Bikeway/Pedestrian Master Plans**

Village of Hoffman Estate, Comprehensive Bicycle Plan (2010)  
Village of Montgomery (2010)  
City of Aurora, Bicycle and Pedestrian Plan (2009)  
Village of Algonquin, Parks, Trails, and Open Space (2008)  
City of Elgin (2008)  
City of Batavia (2007)  
City of Geneva, Bikeway Implementation Plan (2005)

**Sustainability/Environmental Action Plans**

City of Elgin, Sustainability Action Plan (draft 2011)  
City of Aurora, Sustainability Plan (2009)  
Village of Algonquin, Environmental Action Plan (2008)

**Green Infrastructure Plan**

Village of Campton Hills, Green Infrastructure Plan (2010)

**Comprehensive Open Space Master Plan**

Village of South Elgin, Comprehensive Open Space Master Plan (2009)  
Village of Algonquin, Parks, Trails, and Open Space Plan (2008)

**Watershed Plan**

Village of Algonquin, Woods Creek Watershed Protection Plan (2001)

## **Tomorrow - 2010 Census**

The 1840 Census count for Kane County of 6,501 persons was a county total that did not identify the number of citizens in any of the small towns and villages along the Fox River. In fact, that Census only enumerated the population of four principal towns in Illinois, Alton, Chicago, Springfield and Quincy. Chicago's population of 4,476 was almost twice that of the other three towns and the total Illinois population was only 476,183.

In contrast, the 2010 Census indicates for just Kane County a population of 515,269 and Aurora is now the second largest city in Illinois with almost 200,000 residents, spread across 46 square miles in portions of DuPage, Will, Kendall and Kane County. In Kane alone the Aurora 2010 population is over 130,000. All or portions of 29 other municipalities, along with the unincorporated areas account for our over half a million residents and standing as the fifth most populous County in Illinois.

Table 3 depicts the distribution of total Kane County population among the municipalities. After Aurora, Elgin and Carpentersville are the second and third most populated municipalities. Kaneville, newly incorporated in 2007, contains 484 persons, Hoffman Estates, has zero residents in its forty acres within Kane County, and Barrington Hills grew to 137 residents within Kane's borders.

**Table 1**

Geographic Area	2000 Population	2010 Population	Change, 2000 to 2010	
			Number	Percent
Algonquin Village	5022	8433	3411	40.45%
Aurora City	100290	130976	30686	23.43%
Barrington Hills Village	97	137	40	29.20%
Bartlett Village	2	0	-2	N/A
Batavia City	23866	26045	2179	8.37%
Big Rock Village		1126	N/A	N/A
Burlington Village	452	618	166	26.86%
Campton Hills Village		11131	N/A	N/A
Carpentersville Village	30586	37691	7105	18.85%
East Dundee Village	2948	2860	-88	-3.08%
Elburn Village	2756	5602	2846	50.80%
Elgin City	74013	84156	10143	12.05%
Geneva City	19515	21495	1980	9.21%
Gilberts Village	1279	6879	5600	81.41%
Hampshire Village	2900	5563	2663	47.87%
Hoffman Estates Village	0	0	0	N/A
Huntley Village	1107	5795	4688	80.90%
Kaneville Village		484	N/A	N/A
Lily Lake Village	825	993	168	16.92%
Maple Park Village	652	672	20	2.98%
Montgomery Village	3855	7871	4016	51.02%
North Aurora Village	10585	16760	6175	36.84%
Pingree Grove Village	124	4532	4408	97.26%
Prestbury CDP		1722	N/A	N/A
Sleepy Hollow Village	3553	3304	-249	-7.54%
South Elgin Village	16100	21985	5885	26.77%
St. Charles City	27727	32431	4704	14.50%
Sugar Grove Village	3909	8997	5088	56.55%
Virgil Village	266	329	63	19.15%
Wayne Village	834	861	27	3.14%
West Dundee Village	5428	7331	1903	25.96%
Total Incorporated	338691	456779	118088	25.85%
Total Unincorporated	65428	58490	-6938	-11.86%
Total	404119	515269	111150	21.57%

Aurora's leading numerical change of just over 30,000 was followed by Elgin, 10,143, Carpentersville, 7,105, North Aurora, 6,175, South Elgin, 5,885, and Sugar Grove, 5,088. The greatest percent change from 2000 to 2010 occurred in Pingree Grove, 97.26%, Gilberts, 81.41%, Huntley, 80.90%, Sugar Grove, 56.55%, Montgomery, 51.02% and Elburn, 50.80%. While the largest numerical municipal growth occurred in the Sustainable Urban Area of the Kane County Conceptual Land Use Strategy Plan, the greatest percent increases were in the municipalities developing within the Critical Growth Area.

Table 1 also indicates a decline in unincorporated population from 65,428 in 2000 to 58,490 in 2010. New unincorporated growth, in the Mill Creek PUD for example, was offset by the incorporation of Kaneville, 484, Big Rock, 1,126, and Campton Hills, 11,131, between 2000 and 2010. However, the total unincorporated population in 2010 continues to be the third largest, exceeded only by the incorporated populations of Aurora and Elgin.

The 1840 Census revealed that a majority of the Kane County workforce was then engaged in agriculture. While the earliest farmed areas have expanded over the decades to now include 192,372 of the total 335,448 acres of Kane County, the workforce engaged in agriculture as a primary occupation has drastically decreased to 759 persons operating farms. The total number of farms has slightly increased from 619 in 2002 to 759 in 2007.

While livestock were a big part of 1840 farming, in 2007 livestock sales make up only 11% or \$22,519,000 of the market value of production in the County. 89%, over \$175,000,000 is in crop sales. The total value of agricultural products sold, \$198,108,000, ranks Kane 20<sup>th</sup> out of 102 counties in Illinois and 325<sup>th</sup> out of 3,076 counties in the U.S. Corn for grain and soybeans for beans are now the principle crops accounting for over 90% of farm sales. Hay and silage, wheat and nursery stock are the other top crops in 2007. Kane's ranking as third in Illinois for the number of acres in tree and sod nursery stock is a key sign of being on the edge of metropolitan growth in the 21<sup>st</sup> Century. That proximity to developing areas is further emphasized by the value of nursery, greenhouse, horticulture, and sod sales which place Kane first among counties in Illinois.

Hogs and pigs top the livestock list in 2007 (35,426) as in 1840 (17,279). 8,908 cattle and calves were on Kane County farms in 2007 compared to 7,858 in 1840. Horses and ponies (3,271) are now used primarily for pleasure riding and racing, while back then the horses and mules (1,658) were used to work and expand the farms. Other crops reflected in the 2007 Census of Agriculture include raising pheasants, cut Christmas trees, sheep, goats, and their products, and a state rank of 13<sup>th</sup> in the value of sales of vegetables, melons, potatoes and sweet potatoes. Some of these farm products are indicative of the changing face of agriculture on the edge of the growing metropolitan area in 2010.

In March of 2010 the State of Illinois Department of Employment Security, indicated 185,561 persons employed by 13,024 different employers. Of the total number employed, 155,665 persons were employed in the private sector and the balance, 29,896 persons, were employed by state, local, and federal units of public government.

As previously noted, agricultural employment in 2010 is minimal compared to the other employment sectors. The other goods-producing sectors of construction and manufacturing employed 6,797 and 27,699 persons respectively. The service-providing sectors employed a total of 120,445 persons by 10,049 various units with 35,102 jobs in trade, transportation and utilities. The wholesale and retail trade categories indicate 15,261 and 20,202 persons employed. Another large category, professional and business services, employed 23,241 persons and finance, insurance and real estate employed another 8,850 persons. One of the largest categories of employment in Kane County is educational and health services, which indicates a total of 26,110 persons employed, 3,323 in educational services and 22,787 in health care and social assistance. A growing employment category in 2010 in leisure and hospitality with 18,274 persons employed in arts, entertainment, recreation, accommodations and food services.

The total number of employed, 185,561, in March of 2010 accounted for total annual wages of \$1,809,700,000. As of September, 2010 the number of employed had increased in Kane County to 191,253 with annual wages of \$1,942,034,000. The number of employed from March to September had increased in agriculture, manufacturing, service providers, business and professional services, construction, and most other categories. Declines in the number of employed were in finance, insurance, real estate, and state, local, and federal government.

## 1.4 PLANNING FRAMEWORK – 2040 PLANNING PERSPECTIVE

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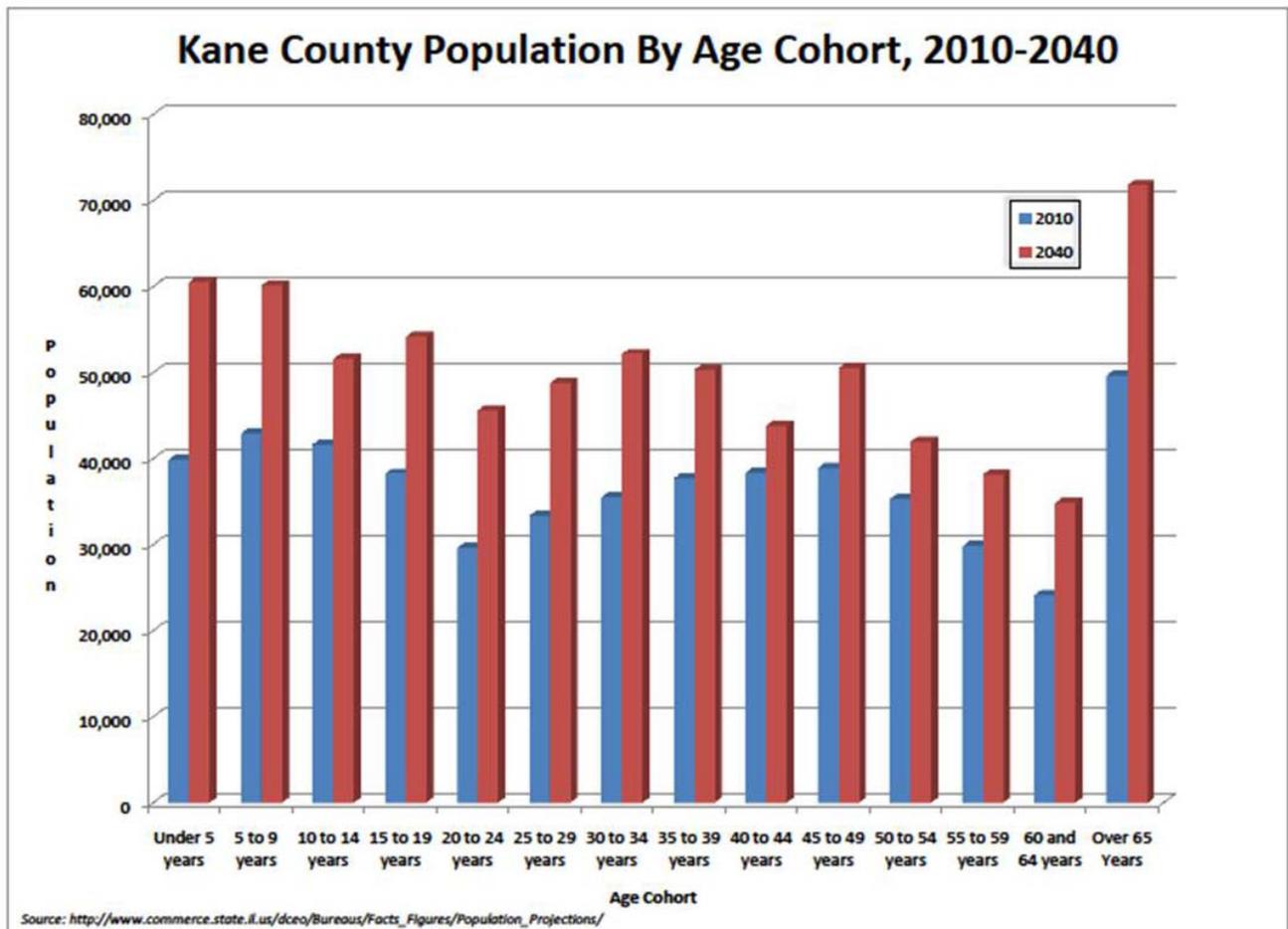
Almost 8 years have passed since the Kane County Board unanimously adopted the 2030 Plan on October 12, 2004. The 2030 Planning Perspective of the Plan was introduced with the statement “the Chicago region has begun the 21<sup>st</sup> Century in a position of strength. Our region is diverse, attractive, and prosperous. The City of Chicago and the surrounding 272 municipalities produce \$300 billion worth of goods and services annually” (The Metropolis Plan: Choices for the Chicago Region). It went on to state that the position of strength was “equally applicable to Kane County and its 28 municipalities. Our County is strong, our citizens diverse, our river valley and rolling farmland are attractive, our communities are prosperous and WE ARE GROWING!”

Now, more than a decade into the new century, the region and Kane County can still celebrate the diversity and strength of our citizens. From Lake Michigan to the Fox River and the fertile farmland, our region is still an attractive place to live and work. Northeastern Illinois remains an important center in the global economy, but is now faced with new challenges for long-term growth and economic prosperity during a time of economic uncertainty.

And, while growth has drastically slowed since the economic recession of 2008, the regional 2040 projections for population, households, and employment indicate that Kane County can expect almost 270,000 more residents, about 95,000 new households, and close to 150,000 additional employment opportunities during the next three decades.

In addition to growing, the overall population is also becoming more racially and ethnically diverse and is aging. In Kane County, the number of foreign-born residents increased from 4.0% in 1970 to 15.7% in 2000. From 2000 to 2010, the foreign born population increased to 18.2%. As of 2010 the Latin Americans and Asians make up the largest total population of foreign born residents in the County, 13.6% and 2.1% respectively. According to CMAP, “as the baby boomer generation continues to age, metropolitan Chicago will experience a significant increase in its senior population (residents who are 65 years of age or older), a dynamic that mirrors national trends. By 2040 the number of residents between 65 and 84 years of age is projected to double. Furthermore, the number of residents in the region who are over 85 years old is projected to triple.” In Kane County the senior population is estimated to increase by 154,601 people (Figure 9). Comprehensive planning for our growing county and the profound population, land use, transportation, housing, open space, natural resource and healthy living challenges we face has become more important than ever.

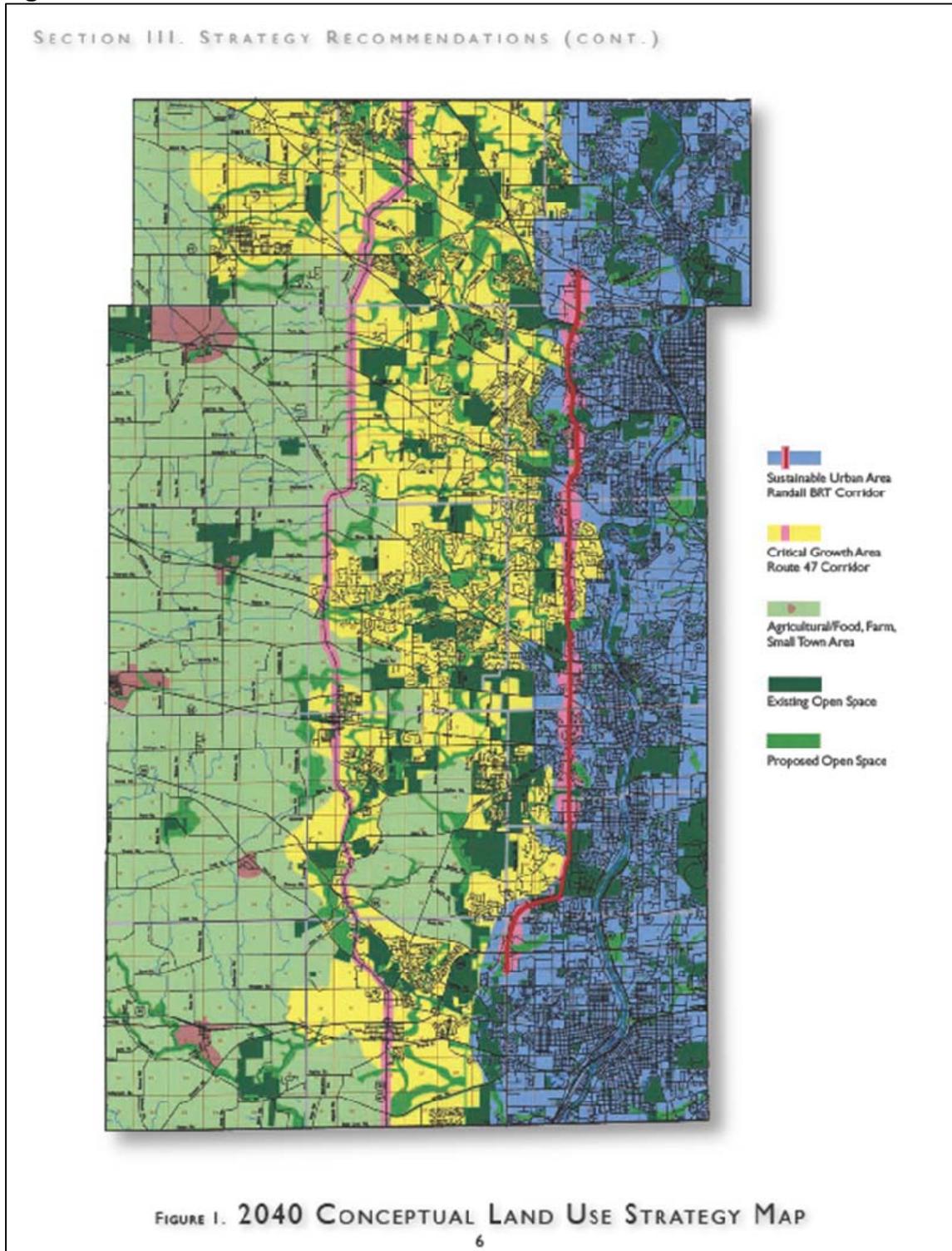
Figure 9



Like its predecessors the 2020 and 2030 Plans, the planning framework for this Plan is based on a Conceptual Land Use Strategy Map recommended by the Planning Commission and unanimously adopted by the County Board on October 12, 2010, to serve as a basis for the preparation of this 2040 Plan report. It presents what the “TOMORROW” could be for Kane County.

The three conceptual strategy areas have been carried over from the 2020 and 2030 Plans. The names of the three strategy areas, the Sustainable Urban Area, the Critical Growth Area, and the Agricultural / Food, Farm, Small Town Area, have been revised slightly to reflect a variety of changes in the County, and are depicted on Figure 8. While the three themes introduced in the 2030 Plan are still appropriate and remain applicable to the **Conceptual Strategy Areas**, the 2040 Plan adds a new, over-arching theme: **Healthy People, Healthy Living, Healthy Communities**.

Figure 10



The **Sustainable Urban Area** clearly reveals that there continues to be a **Renaissance**, a revival of the communities and neighborhoods along the Fox River. Since first used as a theme in the 2030 Plan, the Renaissance of the Sustainable Urban Area is evidenced by festivals, public art, beautification projects, renewable energy programs, redevelopment, resurgence, downtown revitalization, farmers markets, community gardens, place making, new public buildings, private preservation activities, a new sense of neighborhood and community pride, and the list goes on and on. All of these are indicative of what can be termed sustainable urbanism and it is alive and well in the Fox River Communities.

The **Critical Growth Area** title remains the same as in the 2020 and 2030 Plans and the theme of **Refinement** is more appropriate than ever. The Critical Growth Area continues to be where Kane County and the fast growing municipalities of the past decade face the greatest challenges to sensible, managed growth over the next three decades. The Planning Commission's report to the County Board stated "The Commission believes this (Critical Growth Area) is where Kane County still has a great opportunity to implement Smart Growth Principles and incorporate Priority Places into community development decisions." This 2040 Plan reflects a "refinement" by Kane County of the geographic area, the diversity and mix of planned municipal development, expanded transportation opportunities, additional open space initiatives, natural resource driven decision making and healthy living in the Critical Growth Area.

The fertile soil, productive farmland, agri-business investments and small towns of central and western Kane County are named the **Agricultural/Food, Farm, Small Town Area**. The first part of the title, "food and farm", reflects the County's policy of protecting productive farmland and the emergence of locally grown foods as a desirable goal. The second part of the title, "small towns", reflects the fact that Kaneville, Big Rock, and Campton Hills have incorporated as municipalities since 2001, and other villages have grown but they have all adopted municipal plans that emphasize the protection of farmland through the preservation of their small town characters. As these communities and the County face development issues in the future, as population increases and as demand and supply of locally grown farm product grows, no theme is more important or valid for the Agricultural/Food, Farm, Small Town Area than **Recommitment**.

The Sustainable Urban Area, the Critical Growth Area, and the Agricultural/Food, Farm, Small Town Area as depicted on Figure 10 incorporates an updated and expanded **Open Space Armature, the Green Infrastructure Network**. This countywide open space system, the green infrastructure, has been a prominent component of every single adopted County plan for over 4 decades. The 2040 Conceptual Strategy Map continues that tradition by highlighting and emphasizing the importance of open space protection, greenway implementation, and water resource management along the Fox River and in the developing watersheds. The 2040 map reflects the County's continued recommitment to preserving more than 50% of the County's land area in agriculture and open space uses three decades from now. The farms, locally grown foods, and open

space are an important component to the County's over-arching goal of the 2040 Plan, "Healthy People, Healthy Living, Healthy Communities."

New elements depicted on the 2040 Conceptual Strategy map are the Illinois Route 47 Corridor and the Randall/Orchard Road BRT Corridor. Both of these Corridors represent opportunities to link land use and transportation opportunities to create jobs and new economic development consistent with healthier communities. The Illinois Route 47 Corridor is where the municipalities and the County can cooperatively plan to meet the challenges of the future and accommodate significant population and employment increases in the Critical Growth Area. The same is true for the Randall/Orchard Road BRT Corridor in the Sustainable Urban Area and meeting the transportation, housing, and employment challenges of the next three decades.

## 1.5 2040 GOALS

### Introduction

The development of countywide **goals** begins with identifying shared **values**, which are then translated into **objectives** or more specific goals that serve as a guide for public policy and action. **Policies** then translate objectives into statements that set out standards and guidelines to inform decisions made by staff, Regional Planning Commission, Zoning Board of Appeals, and the Kane County Board.

### Values

Values are widely shared concepts of what is good. Examples of shared values commonly held by the residents of Kane County include a county:

- where residents enjoy the beautiful and scenic Fox River as part of their communities, as a clean drinkable water source, for the scenic biking and walking trails along the river, and other recreation activities, such as fishing or kayaking;
- where every resident can enjoy the benefits of the gently rolling countryside, fertile farmland, local farm products, a network of parks and Forest Preserves, and the scenic quality of the Midwest within a 10-15 minute drive from home;
- with a countywide biking and walking trail network that is second to none providing opportunities for exercise, transportation, and community connectivity;
- that has a sense of history from the preserved downtowns along the Fox River to the historic neighborhoods, small towns, rustic roads and centennial farms in the western townships;
- that has opportunities for healthy, active living and quality health care for all families;
- with strong neighborhoods to raise families with quality jobs and schools, ample parks and Park District programming; and
- with proximity to the world class City of Chicago with cultural, educational, and scientific opportunities, and accessibility to the regional and global center through a first class transportation network.

### Goals

Goals are an expression of values; they provide policy direction towards a final objective. Goals may not be specific but yet provide a means to measure the success of the desires of a community to maintain and improve the quality of life.

The 2040 Plan is based on the strong foundation provided by previously adopted plans and countywide goals contained within these plans. Adopted over 50 years ago, the five-point 1967 General Development Policy included countywide planning goals for employment, people, housing, environmental considerations and natural resources. Those original development goals were affirmed in 1976 with the adoption of the Kane County Planning and Development Policies and

the Generalized Land Use Plan and reaffirmed in the 1982 Comprehensive Land Use Plan.

The countywide planning goals from 1967, 1976, and 1982 are:

- **Employment**  
Kane County's present position as an economically balanced community (employment equal to labor force) should be maintained.
- **People**  
All types of people should be able to live in Kane County so that a labor force with diversified skills and training is available.
- **Housing**  
Housing of all sizes, types and prices should be available.
- **Environmental Considerations**  
Every person has the right to live and work in an attractive and healthful environment.
- **Natural Resources**  
All development decisions should consider the conservation and wise use of the soil, air, water resources and the natural environment of Kane County.

In 1993 the Kane County Regional Planning Commission reviewed the growth and development occurring across Kane County and expanded the countywide planning goals to include agricultural preservation, historic preservation, transportation and cooperative planning for the unanimously adopted and highly successful 2020 Land Resource Management Plan.

Those four additional goals are:

- **Agricultural Preservation**  
Support the conservation, protection, development and improvement of agricultural land for the production of food and other agricultural products.
- **Historic Preservation**  
Support the conservation, protection, development and improvement of agricultural land for the production of food and other agricultural products.
- **Transportation**  
Provide safe, efficient transportation systems that provide mobility choices and that are compatible with mixed land use patterns.

- **Cooperative Planning**  
Work with the various jurisdictions located within Kane County to achieve a shared community vision.

The subsequent 2030 Land Resource Management Plan, adopted in 2004, added a tenth goal to address population distribution and land use consumption at a time of unprecedented population growth and community development projected for the next 25 years.

- **Land Use**  
Work with the municipalities to ensure that 50% of the area of Kane County is in agriculture and open space land uses by 2030.

In preparing the 2040 Plan and reviewing the 10 planning goals that had evolved over 50 years, there was consensus among the Regional Planning Commission that the countywide planning goals had served a valuable purpose that needed to be revised, updated and modernized for the 21<sup>st</sup> century. In addition, the Commission's 2040 Conceptual Land Use Strategy report, adopted by the Kane County Board on August of 2010 addressed issues such as economic prosperity, jobs in a global economy, public health and active living/healthy eating, mobility and connectivity, sustainability and energy and other topics that needed to be more adequately articulated and more finely focused in order to effectively communicate to current and future residents of Kane County. Accordingly, 10 updated countywide planning goals, based on the previous plans but geared for the 21<sup>st</sup> century, were prepared by the Commission for the 2040 Plan.

The 2040 Countywide Planning Goals are:

- **Healthy Communities**  
Improve the health of Kane County's citizens, including its children, by consciously making changes to the environment that support active living, healthy eating, and local food production.
- **Economic Prosperity**  
Maintain and strengthen the County's economic edge and respond to demographic changes, workforce development, technology and the changing global economy.
- **Housing**  
Create a range of housing opportunities and choices that meet the needs of the projected population growth and changing demographics.
- **Mobility and Connectivity**  
Improve connectivity, construct needed infrastructure, and increase travel options that provide safe access to land uses for motorists, pedestrians,

cyclists and public transportation patrons, while enhancing and improving the health of the population.

- **Agriculture: Food and Farm**  
Expand production of locally grown foods, and support production agriculture and farmland preservation.
- **Green Infrastructure and Water Resources**  
Enhance and expand the County's green infrastructure, protect the local water supply, and improve water quality through best management practices.
- **Land Use and Built Environment**  
Collaborate with the municipalities to ensure that 50% of the area of the County is in agriculture and open space uses by 2040 by focusing compact, mixed use development within established urban areas, employment centers, and along transportation corridors.
- **Sustainability and Energy**  
Promote quality of life, financial prosperity, innovative ideas and technologies while improving energy efficiency; and reducing fossil fuel emissions and energy use.
- **Historic Preservation**  
Protect historic and cultural resources to preserve and revitalize community character.
- **Cooperative Planning**  
Partner with the Chicago Metropolitan Agency for Planning, municipalities, and other stakeholders to coordinate planning efforts to meet regional and local goals.

### **Objectives**

Objectives are the means to achieve stated goals. They are specific statements of purpose serving as a guide for public policy and action.

Although they are general in nature, these ten goals can be achieved through the more specific statements of purpose, the objectives, identified for the County in the Planning Issues section of the 2040 Plan. These Planning Issues are: Introduction: Healthy People, Healthy Living, Healthy Communities, Land Use and Built Environment, Mobility and Connectivity, Community Health, Housing, Agriculture: Food and Farm, Open Space and Green Infrastructure, Water Resources, Sustainability and Energy, Historic Preservation, and Economic Prosperity.

## **Policies**

Policies translate objectives into useful and understandable decision guidelines. Policies are to be fully considered and evaluated when allocating resources, making public improvements, directing growth and reviewing development proposals.

Similarly, these ten goals can be achieved through the more specific policies, the decision guidelines, identified for the County in the ten Planning Issues sections of the 2040 Plan.

The attainment of the 2040 Plan goals is a long-term process. As Kane County grows and develops, the **values, goals, objectives and policies** of its citizens and elected officials may evolve. The 2040 Plan will be reviewed every 5 years, with citizen input, in the light of changing demographics, changes in state or federal policies, major infrastructure improvements, major shifts in the regional employment base, public policy decisions and economic and employment activities. At that time, the Regional Planning Commission and elected officials of Kane County will revise the 2040 Plan as appropriate.



## 2.1 Introduction to Healthy People, Healthy Living, Healthy Communities

The Kane County 2040 Plan (2040 Plan) is the first Kane County plan to integrate planning for community health with land use and transportation issues. This new approach was included in the *2040 Conceptual Land Use Strategy Report* adopted by the Kane County Board on October 12, 2010. This report also set the overarching theme for the 2040 Plan as *Healthy People, Healthy Living, Healthy Communities*. This theme recognizes and emphasizes the connection between the most important resource in Kane County – its people – with the opportunities and barriers for healthy living created by the built and natural environment, and how together they shape the overall health of communities.

The chapters following this introduction directly relate to each other and to the theme of *Healthy People, Healthy Living, Healthy Communities*. Individually, the chapters focus on various aspects of planning and healthy, livable communities. Together, they describe the intricate mosaic which is the Kane County of today. Each chapter provides clear objectives and policies for land use, transportation and community health decision makers that are responsive to the future needs and vision of our citizens within the capacity of our resources.

- Land Use and Built Environment
- Mobility and Connectivity
- Community Health
- Housing
- Agriculture: Food and Farm
- Open Space and Green Infrastructure
- Water Resources
- Sustainability and Energy
- Historic Preservation
- Economic Prosperity

The 2040 Plan envisions *Healthy People, Healthy Living, Healthy Communities* in Kane County by advocating for a future where:

- the built environment promotes, rather than restricts, physical activity and mobility for residents of all ages
- all residents have convenient access to safe public parks, active recreation opportunities and open space areas
- access to healthy food choices and a safe water supply is not restricted because of where people live or social/economic factors
- planning for healthy results is standard practice for local governments
- healthy living is a part of our local culture and current trends in obesity and diseases have been reversed
- Kane County's residents are the healthiest people in Illinois

## *Healthy People, Healthy Living, Healthy Communities*

This new over-arching theme for the 2040 Plan is based on Kane County's *Making Kane County Fit for Kids* initiative. *Making Kane County Fit for Kids* was launched on April 7, 2008, with a Leadership Summit convened by the Kane County Board Chairman and attended by more than 100 executive leaders from Kane County municipalities, school districts, park districts, businesses, the faith community, health and social service agencies, as well as local and state elected officials. The Leadership Summit provided participants with an in-depth briefing on the childhood obesity epidemic and called for a sustained, countywide mobilization through implementation of four strategic action principles that go to the heart of the systems, policies, environmental and land use changes needed to reverse this epidemic.



1. Develop land use, planning and other public policies that foster and support physical activity for all our communities;
2. Assure that fresh fruits and vegetables are affordable and accessible to all families in our communities;
3. Support a culture of wellness and health promotion in our workplaces, schools, homes, communities and other institutions;
4. Provide parents and children with reliable, up-to-date information in multiple settings regarding healthy physical activity and eating habits.

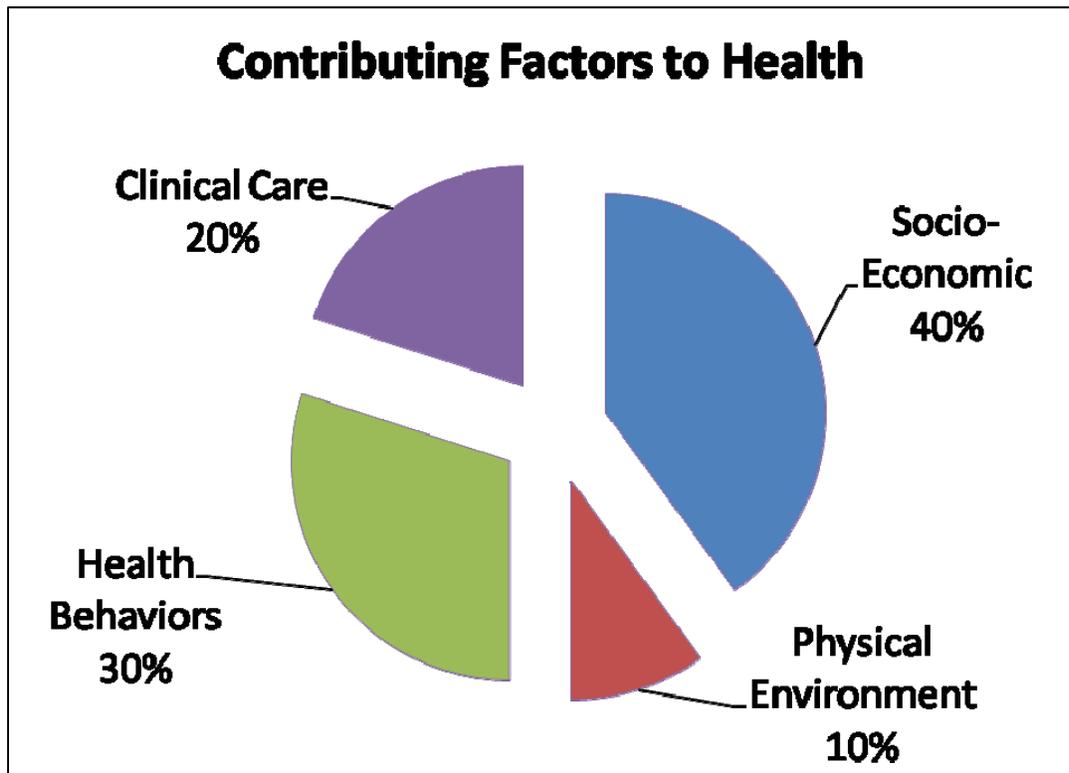
*Making Kane County Fit for Kids*, the Strategic Action Principles and the *Fit Kids 2020 Plan* are the fundamental building blocks for the 2040 Plan. Additionally, the 2040 Plan includes recommendations that integrate land use, transportation, community design and economic development planning with public health planning to increase active transportation and other recreational and physical activities which can help prevent childhood obesity, as well as many chronic diseases such as heart disease and high blood pressure.

During the start of the 20<sup>th</sup> century, many aspects of the built environment were considered in the design of urban areas, including water systems, sanitation, housing, transportation and working conditions. Since World War II and the spread of growth into suburban communities designed for the automobile, community health has operated in a separate sphere than land use and transportation planning. Such an approach limits both the input needed for good planning and decisions as well as limits the possibilities for the healthiest outcomes. Unless the professionals working in all three spheres share information and results, and the decision makers use facts and proven practices from both areas, the health of people and communities are shortchanged.

Community health planning has traditionally looked at health indicators and data across the community and focused on policies, systems and programs that effect changes at a

broad level. Most people recognize that personal health is affected by clinical care and behavioral factors, like tobacco use, excessive drinking, or living a sedentary lifestyle. However, there are other factors that affect our health and have a tremendous influence on health outcomes. Physical environments as well as social and economic factors also play a part in an individual's health (Figure 11).

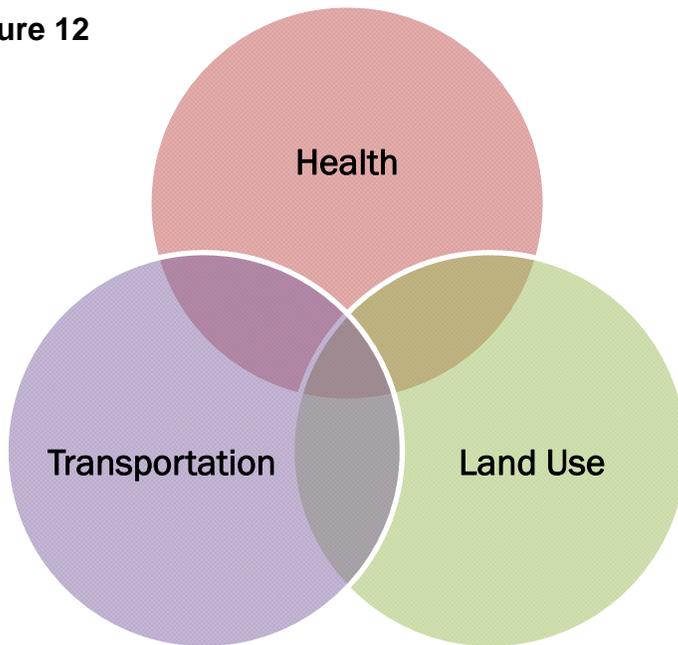
**Figure 11**



Modern land use and transportation planning examines many aspects of the physical environment, but only recently have the short and long term impacts on individual and community health re-emerged as considerations for making decisions about our built environment. As much as 40% of the above factors contributing to health are primarily addressed through land use and transportation planning, illustrating the link between the built environment and public health.

Kane County recognizes that all three areas, health, land use, and transportation, contribute to the quality of life and the health of our communities (Figure 12).

**Figure 12**



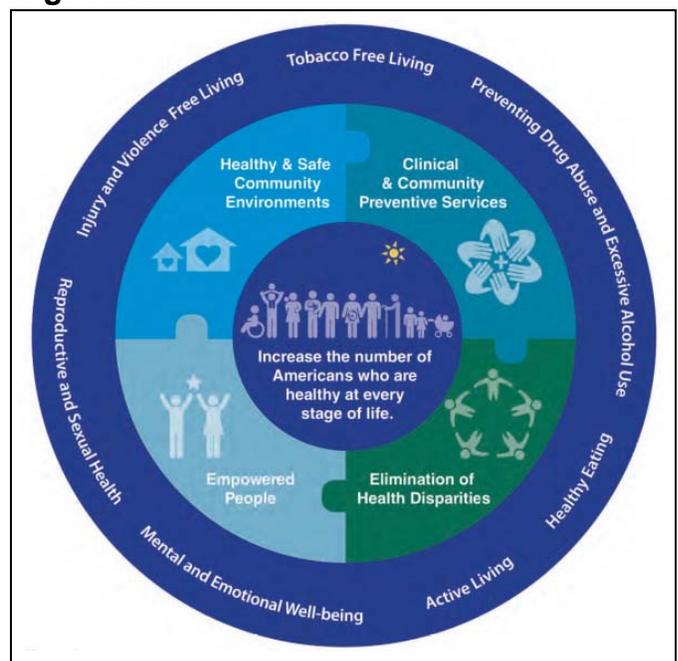
The 2040 Plan represents the convergence of planning for land use, transportation and health in Kane County.

*The National Prevention Strategy*

In June 2011, The U.S. Department of Human Services released the National Prevention Strategy. This Strategy is a plan for the federal government, but also is a call to action for various other state, county, and local governments as well as other organizations.

The Strategy outline recommendations for what can and must be done and includes specific actions for state and county health departments, non-profit organizations, health care systems, and private citizens (Figure 13).

**Figure 13**



Kane County is already responding to this national call to action with the 2040 Plan's theme of *Healthy People, Healthy Living, Healthy Communities*.

### *Healthy People*

The health of the people of Kane County is the cornerstone of who we are and the key to our continued success. Personal health depends on much more than the level and quality of health care; it includes personal behaviors, physical environment and social/economic conditions. The built environment – our neighborhoods and communities where we live, work and play – influence our personal behaviors such as physical activity, and reflects social/economic conditions. The impact of the built environment on people's health is undisputed in the public health profession, leading Kane County to emphasize this direct connection for the first time in its land use and transportation planning.

### *Healthy Living*

Healthy living is characterized by a lifestyle that includes regular exercise, a healthy diet, preventative health and dental care, social well being and maintaining a healthy weight. The built environment has a direct connection to healthy living by promoting physical activity rather than restricting it. Communities designed primarily for transportation by automobiles without other safe and viable opportunities to get around restrict physical activity.

Healthy living also reflects the need for a cultural shift from the lifestyles and personal habits of the recent past, which have resulted in the national and local epidemics of obesity and diabetes, among other negative health trends. The goals and strategies for confronting these national problems are outlined in The National Prevention Strategy. The National Prevention Strategy makes specific recommendations and actions including:

1. Providing people with tools and information to make healthy choices
2. Promoting positive social interactions and supporting healthy decision making
3. Engaging and empowering people and communities to plan and implement prevention policies and programs
4. Improving education and employment opportunities
5. Reducing disparities in access to quality health care

### *Healthy Communities*

Whereas healthy people and healthy living are the basic building blocks for measuring overall health, The 2040 Plan primarily addresses the need for visionary, coordinated planning and implementing policies that support healthy communities. The National Prevention Strategy perhaps describes it best;

*The strength and ingenuity of America's people and communities have driven America's success. A healthy and fit nation is vital to that strength and is the bedrock of the productivity, innovation, and entrepreneurship essential for our future. Healthy people can enjoy their lives, go to work, contribute to their communities, learn, and support their families and friends. A healthy nation is able to educate its people, create and sustain a thriving economy, defend itself, and remain prepared for emergencies.*

The chapters in the 2040 Plan include planning issues from the 2020 and 2030 Plans, plus new issues directly related to creating and maintaining healthy communities. For the first time, land use, transportation and health issues are integrated toward a common goal for Kane County – to have the healthiest people in Illinois.

## 2.2 Land Use and Built Environment Chapter

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### Objectives:

1. To encourage compact, mixed-use, multi-modal development that will increase travel options within existing urbanized areas, employment centers, and along transit nodes and corridors as a means to accommodate new population growth, reduce land consumption, preserve valuable open space, conserve ecosystem functions, protect water quality, and improve community health.
2. To promote County and municipal policies and regulations that facilitate the application of the Livability Principles, Smart Growth Principles, and Healthy Community Design criteria as an alternative to conventional suburban sprawl.
3. To promote reinvestment in underutilized vacant properties, opportunities for compact, mixed-use development, and possibilities for suburban retrofits as preferred alternatives to new development that consumes more farmland and open space.
4. To support a countywide open space and green infrastructure network by prioritizing its protection, restoration, and enhancement through careful evaluation of natural resources prior to new development and utilizing techniques such as conservation design and low impact development.
5. To support transit-supportive land uses and complete streets along and connecting to the Randall/Orchard Road Bus Rapid Transit (BRT) Corridor and the IL Route 47 Corridor as part of the transportation system that makes up the built environment.
6. To promote complete, walkable neighborhoods that provides proximity to daily goods and services in order to decrease automobile dependence, and enhance livability and build community cohesion.
7. To capitalize on existing investments in infrastructure by encouraging development in areas in where infrastructure is being underutilized or planned for expansion without straining fiscal budgets or creating new environmental impacts.
8. To develop land use and built environment policies in coordination with transportation improvements and community health strategies.

## Chapter Focus

The way a community is planned and developed – its land use patterns, transportation options, and community design- strongly influences the health of those living there. Land use and the built environment is a new planning issue in the 2040 Plan that provides policy direction for creating healthier communities supportive of active living and healthy eating. In planning for the new growth expected in the next 30 years, Kane County promotes compact mixed, multi-modal development in targeted areas that will increase travel options, such a transit, biking, and walking, allowing residents to lead more active, healthy lifestyles. Additionally, by focusing growth in strategically planned areas, land use consumption is reduced hereby preserving opportunities for expansion of the countywide green infrastructure network and increasing opportunities for protecting farmland and local food production. Kane County promotes accommodating new growth through infill and redevelopment in established communities that have readily available public infrastructure; retrofitting underutilized property and property with conventional auto-oriented land use patterns; and planning for opportunities to link transit, land use, and housing at nodes along transportation corridors. The County’s policy is to promote collaborative planning in partnership with the municipalities on future transportation corridors, such as Randall Road and IL Route 47, to improve energy efficiency, air quality, and mobility choices for healthier residents. Kane County endorses the use of nationally recognized growth management and design principles that include, Smart Growth Principles, Livability Principles, and Healthy Community Design Principles as tools to support municipal and County land use and development decisions.

This Chapter examines:

Introduction to the Built Environment

A Healthy Built Environment for Kane County

Sprawl Retrofit

Priorities for Accommodating Growth in the Three Strategy Areas

Community Design, Physical Activity, and Health

## Introduction to the Built Environment

Today, most Americans don’t get enough physical activity and do not meet the health recommendations set by public health agencies. There is an epidemic of obesity nationwide and Kane County is contributing to this epidemic – over 64% of the national population<sup>1</sup> and 64% of the County’s population is obese or overweight!<sup>2</sup> “Widespread inactivity is a major determinant of poor health in the general population in terms of premature mortality, the onset of chronic diseases, and poor quality of life.” Beginning in the 1980’s and continuing today, research reveals that moderate forms of physical activity could provide short- and long-term health benefits, contributing to a reduction in the risk of premature mortality, chronic disease, and a host of other preventable illnesses. Because moderate physical activity is lower in intensity, it is easier for a person who is sedentary or has disabilities to integrate into their daily living habits, and

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<sup>1</sup> Behavioral Risk Factor Surveillance System. 2010. <http://www.cdc.gov/brfss/index.htm>.

<sup>2</sup> Kane County Community Health Survey, 2011, Kane County Health Department.

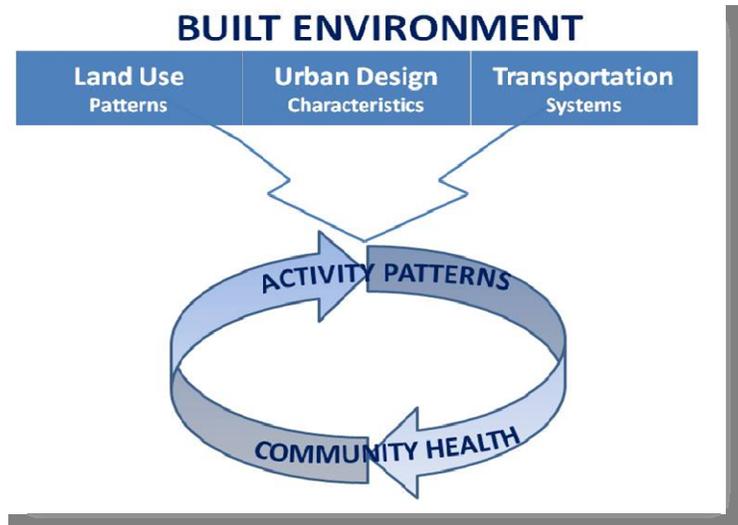
may be more attractive to those that don't have time to dedicate to the gym or outdoor recreation. Purposefully changing the way communities are designed and built allows residents to incorporate moderate physical activity into their daily lives, as a matter of course or as incidental to doing other things.<sup>3a</sup>

The built environment is critical to shaping communities that promote health, improve our quality of life, and are offer more sustainable choices for future generations. Dr. Richard Jackson, author or *Designing Healthy Communities*, delivered this key message to Kane County at the 2010 annual Healthy Communities workshop:

***“The built environment is not a community; it is the hardware to go with the software of the community.*** The way we build our neighborhoods can make it easier or harder to feel the sense of community within a geographic area by encouraging interaction or hindering it. This interactive engagement between people, nature, and the built environment creates the health of a community. There is not ‘ultimate’ healthy community as all communities can be improved upon. Instead all built environments lie along a continuum of supporting healthy choices.”

*More specifically, the built environment typically constitutes a city, village, or suburb and refers to aspects of our surroundings which are human-made or modified, including infrastructure designed to support our activities - buildings, roads, trails, parking lots, and recreational parks, as compared with the natural environment.*<sup>3,4,5</sup> At the macro level, the general pattern of development is determined by density, land use distribution (residential, commercial, industrial, etc.), amount and location of open space and conservation areas, transport infrastructure and development corridors. At the local level, the human scale is considered, including nature and scale of buildings, mix of buildings (purpose, type, etc), how pedestrians are accommodated, parks and open space and the transport network. Figure 14

**Figure 14**



Source: (Frank, Lawrence et al., 2003)

illustrates the relationships between physical activity, health, and the built environment. **Land use patterns, urban design characteristics, and transportation systems are**

<sup>3</sup> Frank, Lawrence D., Engelke, Peter O., and Thomas L. Schmid. 2003. *Health and Community Design: The Impact of the Built Environment on Physical Activity*. Washington D.C.:Island Press.

<sup>4</sup> Papas, Mia A., Alberg, Anthony J., Ewing Reid, Helzlouer, Kathy J., Gary, Tiffany L., and Ann C. Klaseen. The Built Environment and Obesity. *Epidemiologic Reviews*. 2007; 29:129-143.

<sup>5</sup> Robert Wood Johnson Foundation and University of Wisconsin Population Health Institute, County Health Rankings. ([www.countyhealthrankings.org/health-factors/built-environment](http://www.countyhealthrankings.org/health-factors/built-environment)) Accessed 11/2011.

**the basic elements that make up the built environment.** All of these elements impact the activity patterns of those that live, work, and play in these environments, either promoting or not promoting individual or community health. Kane County is making a commitment to promote a healthy built environment in order to have the healthiest residents in Illinois.

## **A Healthy Built Environment for Kane County**

Kane County supports a built environment that is carefully planned, promotes healthy choices, improves our quality of life, and enhances and preserves our natural resources. With careful planning, we can continue to improve our quality of life, thereby making our County a better place to live, by addressing factors that focus on “**Livability – what attracts people to a particular community.**” In order to achieve this, the comprehensive plan for the Chicago Region, GO TO 2040, recommends that communities “*seek to direct investment toward strengthening existing communities and finding opportunities to encourage new development and redevelopment in livable communities that are denser and designed for mixed uses*”, in addition to reducing land consumption, expanding and improving parks and open space, and promoting sustainable local food.<sup>6</sup> Kane County supports livable communities as promoted by the GO TO 2040 Plan.

In 2010, Kane County endorsed the six Livability Principles first introduced by the Partnership for Sustainable Communities as a guide for the new federal agency partnership, including HUD, DOT, and EPA. Kane County also supports a seventh livability principle proposed by a region-wide joint initiative of MPC, CNT, CMAP and RTA to advance the livability principles<sup>7</sup>. The seventh livability principle, conserve natural resources, “should protect air, water, open space, and other natural resources by investing in existing communities, green infrastructure, conservation, and efficiency strategies.”

The seven ***livability principles*** Kane County supports are:

1. Provide more transportation choices
2. Promote equitable, affordable housing
3. Enhance economic competitiveness
4. Support existing communities
5. Coordinate and leverage federal policies and investment
6. Value communities and neighborhoods
7. Conserve natural resources<sup>8</sup>

Long-term planning for growth and development should be coordinated with regional and local partners, especially municipalities who will make decisions on 90% of the County’s land area, to guide community investments toward the seven Livability

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<sup>6</sup> Chicago Metropolitan Agency for Planning. 2010. GO TO 2040 Plan.

<sup>7</sup> A Joint Initiative of CNT, CMAP, MPC. And RTA. Advancing Livability Principles: Federal Investment Reform Lessons from the Chicagoland Experience. Federal Investment Reform Recommendation Report. Fall 2009.

<sup>8</sup> HUD-DOT-EPA. Partnership for Sustainable Communities. <http://www.sustainablecommunities.gov/>

Principles. Implementation tools such as the proposed Kane County Planning Cooperative can help guide local decision making, foster collaboration, and initiate a process for tracking our progress. In order to best facilitate effective decision making and to measure the region's progress in implementing the GO TO 2040 Comprehensive Plan, CMAP tracks a number of regional indicators through MetroPulse, a customizable website that provides extensive data about issues that shape the livability of our communities. For example, one of the indicators that MetroPulse tracks is the *Number of Jobs Located Near Affordable Housing*. This indicator tracks the number of jobs within a 30-minute door-to-door travel time of block groups, with at least 50% of all housing stock considered affordable by Illinois Housing Development Authority definition. It is important to track the spatial mismatch between affordable housing and jobs because residents of these units are more likely to spend a greater percentage of household income on the combined cost of housing and transportation to work.<sup>9</sup>

In addition to the seven livability principles, Kane County also reinforces the Smart Growth principles adopted by the Kane County Board in the Kane County 2030 Plan as a growth management strategy (Figure 16). Smart Growth, or principles for guiding growth that result in more **compact, mixed, and multi-modal development**, "is an approach to development and urban design that encourages travel efficiency and improves accessibility while also providing more housing and travel options." Promotion of the Smart Growth principles began nationally in 2002. Application of the smart growth principles in communities around the nation has allowed time to gather evidence showing that pursuing smart growth principles can bring economic and quality of life benefits to families, businesses, and their communities in the following ways:

- **Returns on Investment**, such as increased property values and rents, job creation, higher tax revenues, attracting other investment to the area, and so on.
- **Savings on Expenditures** for households and local government, including reduced costs for transportation time and fuels, infrastructure construction and maintenance, health care, water, police and fire services, etc.
- **Quality of Life Improvement** – non-monetary benefits that raise the standard of living - including access to a diversity of restaurants and shops, parks and open space, street trees, lively public spaces, sidewalks, bike paths, and public transportation.<sup>10</sup>

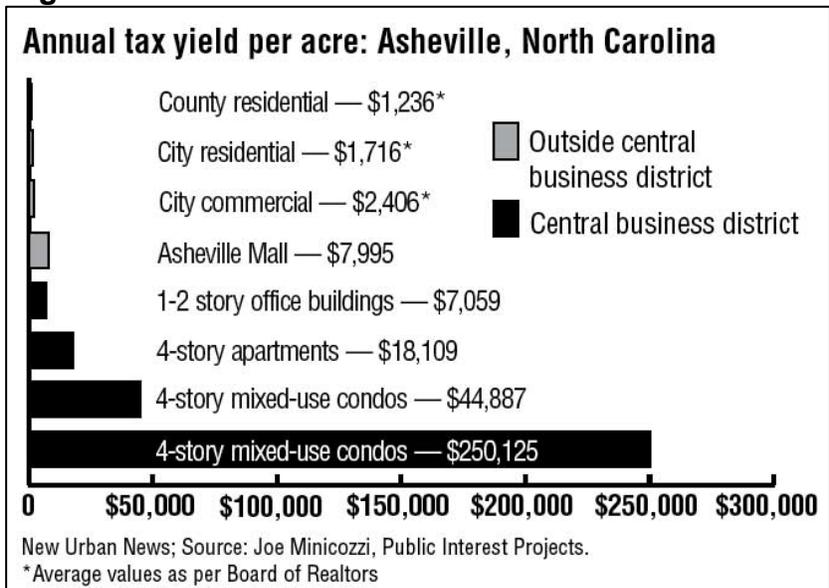
"Urban development produces a valuable yield, like that of a cash crop, while low-density suburban development is the equivalent of growing an acre of grass. By our estimates, suburban development doesn't cover the cost of the infrastructure that serves it in a reasonable period of time."  
-Joe Minicozzi, Public Interest Projects

<sup>9</sup> Chicago Metropolitan Agency for Planning. MetroPulse. <http://www.metropulsechicago.org>

<sup>10</sup> Kooshian, Chuck and Steve Winkelman. 2011. Growing Wealthier: Smart Growth, Climate Change and Prosperity. Center for Clean Air Policy. <http://www.growingwealthierinfo/>

“It has been shown that communities that do not pursue smart growth, but are proximate to ones that do, stand to benefit from improved access to jobs, services, and community spaces.” On the other hand, conventional, sprawling development patterns

**Figure 15**



result in higher infrastructure costs, higher fuel bills, hindered worker access to jobs, lower rates of walking, higher health care costs, lower air quality, and greater ecosystem disruption.<sup>10a</sup>

Faced with little to no new property tax revenues following the recession, local governments around the nation are seeking to improve their fiscal responsibility and are reevaluating how their communities will grow into the future. As an example,

Sarasota County and Asheville, North Carolina hired a consultant to analyze the tax revenue per acre realized by development type and location. The study found that dense, mixed-use developments, usually downtown or adjacent to transit, are far superior in generating tax revenue for their local governments than single-use developments, such as big-box stores. In the Asheville area, mixed-use in a dense, walkable area was the most productive development, in terms of paying for public services. As an example the 4-story mixed-use condos generated more than five times more per acre than the mall (Figure 15).<sup>11</sup>

<sup>11</sup> New Urban News Network. A New Urban News Publication. Langdon, Phillip. Best best for tax revenue: mixed-use downtown development. [www.newurbannetwork.com](http://www.newurbannetwork.com). Article accessed October 2011.

Figure 16

## Ten Smart Growth Principles – Fiscal, Economic, and Quality of Life Benefits

### **Principle 1: Create a Range of Housing Opportunities and Choices**

Locating households in varying types and income levels in accessible areas can reduce combined housing and transportation costs. In particular, opportunities for lower income families to live closer to jobs can result in better employment rates and higher incomes. Putting more people near jobs in general, i.e., achieving a jobs/housing balance, can also reduce vehicle miles traveled (VMT) through shorter trip lengths, and lessen exposure to congestion. Constructing housing for all price points has the potential to meet an untapped market demand, thus creating jobs in construction and attracting additional residents and employers.

### **Principle 2: Create Walkable Neighborhoods**

Attention to design of sidewalks and streetscapes can foster a sense of community by providing safe shared spaces for neighbors to interact. This is often reflected in property values. Walkable neighborhoods can also increase outdoor exercise rates by encouraging “active travel”, substituting walking or bicycling for trips otherwise made by car. Active travel not only reduces VMT but has been linked to better health, which in turn has its own economic benefits.

### **Principle 3: Encourage Community and Stakeholder Collaboration**

When citizens contribute to a plan they reveal their vision for the neighborhood city or region, while also gaining insight into the trade-offs associated with decision making. Economist David Lewis has argued that, “It is the procedures of deliberation, and the release of peoples’ communicative instinct to allow better arguments to come into play, that precipitate the formulation of values as a basis for collective, welfare-maximizing policy making.

### **Principle 4: Foster Distinctive, Attractive Communities with a Strong Sense of Place**

Many projects that create a sense of place using smart-growth principles demonstrate economic success in the form of increased tax revenue, more jobs, higher income levels, downtown revitalization, and business growth. In some regions, well-designed districts stand out because there is a relative scarcity of similar places with pleasing architectural design, public art, tree canopy, benches, fountains or other similar amenities, so they are able to command higher rents- what some have called the “place making premium.”

### **Principle 5: Make Development Decisions Predictable, Fair, and Cost Effective**

Streamlining the bureaucratic process for projects a community actually desires can attract investors, who value quicker turnaround and lower costs, and seek to minimize uncertainty. For a community to be successful in implementing smart growth, it must be embraced by the private sector.

### **Principle 6: Mix Land Uses**

A diversity of land uses can result in fiscal and economic benefits. Mixed-use developments can generate economic activity with less green house gases and energy use because they put businesses and customers close together. Demand for mixed-use development is increasing. For developers, mixed land uses can save costs for parking, which often can be shared between daytime and night-time uses, and can achieve savings on maintenance, energy, and even marketing. For communities, mixing land uses may also make sense from a fiscal point of view.

### **Principle 7: Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas**

Open space can raise the value of nearby property. Natural open space areas within or near cities can attract not only tourism but retirees and businesses wanting to relocate to attractive communities. Working farmland helps promote local food production and brings in more revenue than it costs in public services. Natural open space also provides a number of natural “services” that would otherwise either cost society money to provide artificially or cost society money due to their lack. Finally, open space can offer a psychological escape value for those seeking respite from the stresses of modern life.

### **Principle 8: Provide a Variety of Transportation Choices**

Public transit and non-motorized travel consume less energy, save on fuel and car costs, emit less pollution and make it possible for some auto drivers to drive less. Increases in accessibility can help workers get to better jobs and reduce household travel costs. There are additional economic benefits of enhancing travel choices. “Fixed guideway” transit – such as rail and rapid busways – generally increases nearby property values and attract private investors seeking to profit from the appeal of increased accessibility. Public transit can also provide jobs during construction and long term employment for operations. Walking and biking amenities can also spur economic activity by attracting tourists, commuters, and walkers.

### **Principle 9: Strengthen and Direct Development Towards Existing Communities**

Compact infill development can reduce VMT while supporting a vigorous economy. Directing growth to existing communities helps to reduce the cost of infrastructure on a per capita basis and helps to prevent abandonment and blight. Denser central cities have enhanced productivity due to agglomeration effects.

### **Principle 10: Take Advantage of Compact Building Design**

Compact building design results in a more compact regional footprint at the metropolitan scale. At the neighborhood and project scale, compact building design means higher built densities per acre of land. Together with compact regional design, this can save significant sums in infrastructure and services costs. In addition, urban buildings with shared walls and smaller floor areas consume less energy and water per household. There is also evidence that building within a smaller footprint is better for handling storm water runoff.<sup>10a</sup>

## **Sprawl Retrofit**

Sprawl has been the dominant growth pattern in most metropolitan areas in the United States for over 50 years. Sprawl, includes both residential and non residential land use development, expands outward from city centers in a noncontiguous/scattered land use pattern and is often beyond the reaches of urban infrastructure. Residential development primarily consists of low density, single family housing and is separated from non-residential development consisting of shopping centers, strip-malls along arterial roads, industrial and office parks, free standing industrial and office buildings, schools and other public buildings. Noncontiguous, separated land uses, and a lack of connectivity of street networks contributes to an increase in auto-dependence and results in rapid land consumption.

“Sprawl is also defined as:

- 1) a population widely dispersed in low-density residential development;
- 2) rigid separation of homes, shops, and workplaces;
- 3) a lack of distinct thriving activity centers, such as strong downtowns or suburban town centers; and
- 4) a network of roads marked by large block size and poor access from one place to another.”<sup>12</sup>

In communities across the country, auto dependent communities are recognizing that development patterns characterized as sprawl are haphazard, inefficient, and unsustainable. Successful sprawl retrofits are occurring in the United States to transform underperforming, auto-oriented suburban property into more livable, sustainable places, including those that reconnect people with nature (even in more dense urban environments), support car and bike sharing, enhance the environmental and energy performance of buildings, optimize areas served by transit with dense, mixed-use, and better accommodate the aging population. The authors of *Retrofitting Suburbia* state, “The ability of suburban retrofits to simultaneously address the overarching challenges [of for example, shifting demographics and an aging population, public health concerns, affordability, and climate change], while reviving local communities and making them more livable, has raised tremendous interest in the subject.”

*“America’s investment in automobiles and roads has resulted in an unprecedented rate of land consumption. During the past generation Americans have chosen to develop land at ten times the rate of population growth. The external harm from this pattern of development is its consumption of undeveloped land that would otherwise provide natural habitat or land for agriculture. Internally this low-density development increases the travel distance between any two destinations making it even more likely that people will drive.”*

Doug Farr

Sustainable Urbanism, Urban Design with Nature

Opportunities for retrofitting sprawling land use patterns include:

- **“Re-inhabitation:** The adaptive reuse of existing structures for more community-serving purposes, often referred to as “third places” - places other than home or work that provides for and contributes to civil society, democracy, civic engagement, social interaction, and creates a sense of place.
- **Redevelopment:** Replacing existing structures and/or building on existing parking lots, generally with a compact, walkable, connected mix of uses and public spaces that supports a less auto-dependent and more socially engaged lifestyle.
- **Regreening:** Demolition of existing structures and revitalization of land, as either parks, community gardens, or reconstructed wetlands.”<sup>13</sup>

<sup>12</sup> Ewing, Reid, Schmid, Tom, Killingsworth, Richard, Zlot, Amy, and Stephen Raudenbush. 2003. Relationship Between Urban Sprawl and Physical Activity, Obesity, and Morbidity. *American Journal of Health Promotion*, Vol. 18, No. 1., Sept/Oct. 2003, pp. 47-57.

<sup>13</sup> Dunham-Jones, Ellen, and June Williamson, *Retrofitting Suburbia*. 2011. New Jersey: John Wiley & Sons, Inc.

Figure 17

### Tactics for Retrofitting

- *Reuse the box.* Adaptive reuse of vacant commercial buildings for new, often community-serving uses, such as libraries or medical clinics, is both socially desirable and reduces waste.
- *Provide environmental repair.* Retrofits sometimes provide the opportunity to reconstruct wetlands and creeks, components in the metropolitan watershed that were erased or diminished by the suburban development pattern.
- *Revise zoning codes and public works standards.* Make it easier to build compact, mixed-use developments with complete streets, and make it harder to build single-use auto-dependent places.
- *Consider future connectivity and adaptability.* If desired street connections cannot be achieved when the retrofit is originally designed and constructed, because of NIMBY concerns or other barriers, provide easements for future linkages. If desired densities and parking decks cannot be justified yet, design parking lots as future building sites, with utilities placed in the future streets at the outset.
- *Use appropriate street types and real sidewalks.* The 2010 ITE manual on walkable urban thoroughfares provides recommended design guidelines for a broad range of context-sensitive street types.
- *Keep block size walkable.* Without careful modulation, the hybridization of suburban building types and parking into urban blocks and streets can lead to oversized blocks and monotonous building fronts.
- *Diversify housing choice and price.* The future success of suburbs will hinge on their ability to respond to changing demographics; provide more housing choices.
- *Add new units to existing subdivisions.* Infilling residential neighborhoods with accessory dwelling units (ADUs) can provide affordable housing choices for singles and seniors, and increase residential density without dramatically altering the morphological pattern.
- *Invest in quality architecture.* The most successful and sustainable retrofits *will be beautiful, durable, culturally significant, and built to meet high standards of environmental performance both in public spaces and buildings.*

Source: Adapted from Retrofitting Suburbia<sup>13a</sup>.

## Priorities for Accommodating Growth in the 3 Strategy Areas

### Reinvestment in Existing Communities

The location of the County at the edge of the Chicago metropolitan region, rich in culture and heritage, community pride, recreational and scenic amenities of the Fox River and other natural areas, and fertile, productive soils for agriculture, makes Kane County a highly desirable place to live. The Kane County Board and Regional Planning Commission have a 50 year history of creating a vision and strategically planning the County's future built environment. Growth pressures, over the past two decades,

identified a need to strategically manage the rapid, exponential increases in population growth. The County Board addressed these growth challenges by utilizing the Land Resource Management Planning Act authority and by adopting a robust conceptual land use strategy and land resource management plans. The 2040 Conceptual Land Use Strategy continues the three distinct land use strategy areas that originated with the 2020 Plan, and further redefines those areas:

- Sustainable Urban Area
- Critical Growth Area
- Agriculture: Food and Farm Area

In summary, as it relates to the Built Environment, the purpose of the three land use strategy areas is to direct growth toward the established cities and towns along the Fox River and encourage redevelopment of underutilized infill sites in the Sustainable Urban Area, to influence the design of new development, potential sprawl retrofits, and strengthen existing communities in the Critical Growth Area with the implementation of the Smart Growth and Livability Principles; and to preserve the rural character of our small towns while protecting our food production capabilities in the Agriculture: Food and Farm Area.

A carefully planned approach is in order if we are to accommodate a 51% population growth from 2010 to 2040, while at the same time minimizing land consumption. Kane County supports reinvesting in our existing communities as a strategy to accommodate the new growth in population, employment, and housing expected by 2040. Prioritizing growth in existing communities will minimize land consumption and help meet the 2040 goal of preserving 50% of the County land area in open space and working agriculture by 2040. In addition to preserving natural resources in undeveloped areas, redeveloping infill sites capitalizes on existing infrastructure and services communities have already invested in and can also revitalize stressed communities, increase tax revenues, and provide opportunities to create affordable and more diverse housing<sup>14</sup>. Reinvesting in existing communities, also a recommendation of the GO TO 2040 Plan, provides support to the goals of the 2040 Plan and support to local governments as they plan for livable communities.

CMAP's GO TO 2040 strategy is to redevelop underutilized acres:

*“A critical element of the GO TO 2040 is encouraging development in existing communities, where infrastructure to support it is already available. According to analysis of infill opportunities, there are over 100,000 acres of land within existing municipal boundaries that are available for redevelopment. These are parcels that are vacant or are “underutilized” commercial and industrial properties. By 2040, GO TO 2040 seeks to redevelop this land with a mix of residential and non-residential uses, and projects that it could accommodate around half of the region’s growth – or 1.2 million people.”<sup>6a</sup>*

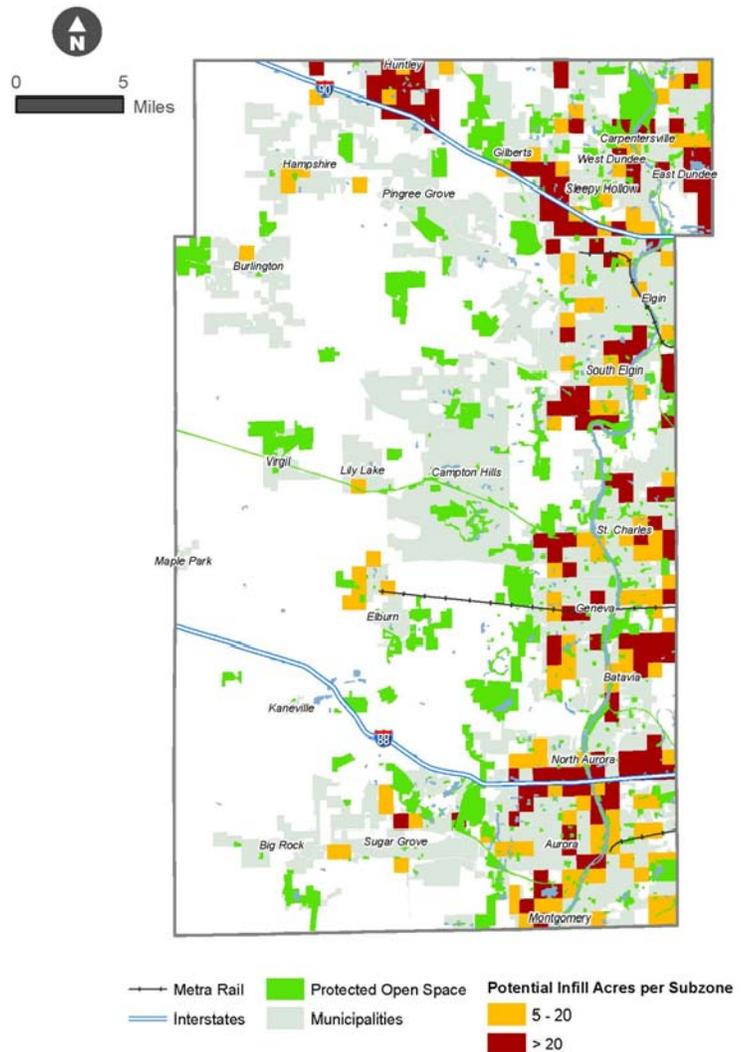
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<sup>14</sup> Chicago Metropolitan Agency for Planning. Infill: CMAP Regional Snapshot Opportunities Report.

According to a regional analysis of infill opportunities referenced above, Kane County's municipalities hold approximately 18,076 acres of potential infill acres, currently vacant or underutilized commercial and industrial properties (Figure 18). Fifty percent of Kane County's infill sites are located near transit and job centers and are within the Sustainable Urban Area. New growth within the municipalities should be directed toward these vacant and underutilized properties using existing or planned infrastructure.<sup>14a,6b</sup>

“Smart growth focuses growth in existing communities to avoid sprawl; and advocates compact, transit-oriented, walkable, bicycle, friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices. Its goals are to achieve a unique sense of community and place; expand the range of transportation, employment, and housing choices; equitably distribute the costs and benefits of development, preserve and enhance natural and cultural resources, and promote public health [community health].”<sup>15</sup>

**Figure 18**



Source: Chicago Metropolitan Agency for Planning Infill Analysis, 2010 using Kane County Assessor data, 2008.

Link Transit, Land Use, and Housing

The 2040 Conceptual Land Use Strategy (Figure 19) identifies two important transportation corridors: the Randall/Orchard Road BRT Corridor and the Illinois Route 47 Corridor. These categories are also identified on the 2040 Land Use Map and included in the land use categories of this section. It is critical to the long term development of these corridors that the County's policies are clear and generally

<sup>15</sup> U.S. Department of Transportation, Federal Highway Administration, Federal Transit Administration. Livability in Transportation. Planning Approaches that Promote Livability. Report FHWA-HEP-10-028.

consistent with municipal plans as well as related to the future availability of municipal sewer and water. Identification of these corridors is not to be interpreted as support for premature conversion of agricultural and other land uses without connection to existing or planned municipal infrastructure.

**The Randall Road/Orchard Corridor –**

The corridor has been studied to determine the land use conditions/patterns that are needed to support a Bus Rapid Transit (BRT) corridor and how incremental implementation of elements of a BRT corridor can be accomplished. While it is anticipated that new land uses and redeveloped areas at future station areas and stops would be approved through municipal decisions, Kane County will have a major role in coordinating station area access improvements to the County highway right-of-way in order to implement a BRT system. Kane County will coordinate with the municipalities and Pace officials in order to coordinate transit and land uses.

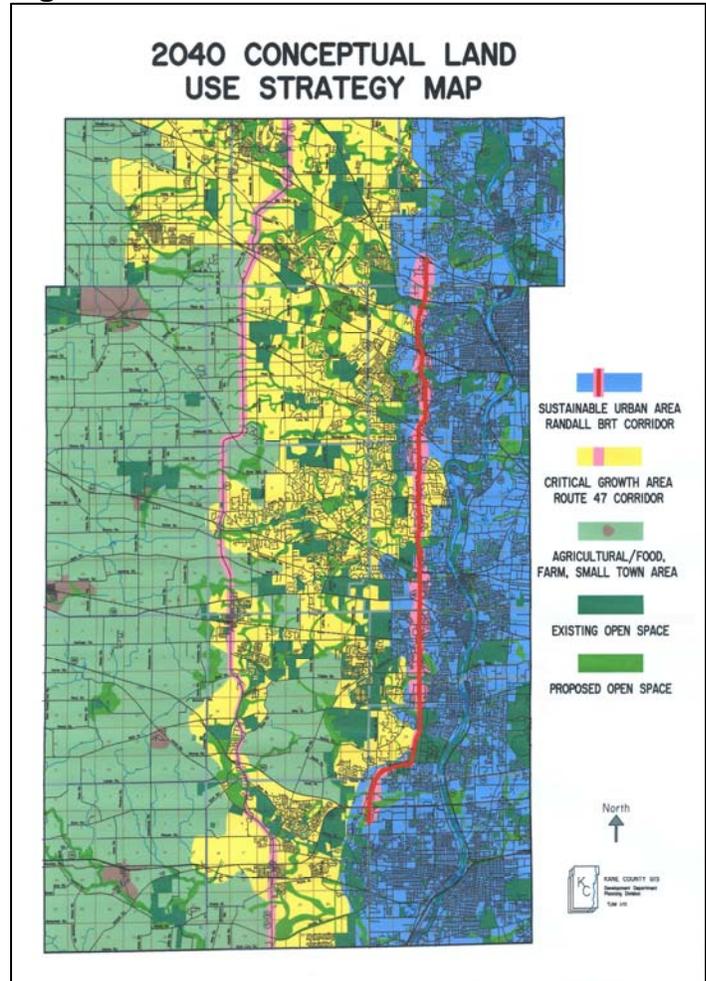
**The Illinois Route 47 Corridor –**

The vision for the IL Route 47 Corridor (Corridor) is to encourage a healthy population and economy through the promotion of sustainable land use practices, complete streets, and smart growth and livability principles. The Corridor presents an opportunity for local agencies along the corridor to work collectively to mitigate the impacts of growth and work towards commonly defined objectives as defined in the IL 47 Corridor Planning Study. The study aimed to address the following objectives established by stakeholders:

- Keep traffic moving
- Coordinate local, regional, and state decision-making
- Encourage growth nodes that promote transit and walking
- Protect natural areas
- Promote placemaking
- Strengthen existing developed areas

Recognizing that major roadway expansions are expensive and unlikely, local and regional coordination should focus on addressing the challenges associated with

**Figure 19**



accommodating growth in the corridor with land use practices and tools outlined in the IL 47 Planning Study toolbox (see link). Furthermore, IL 47 travels through agricultural areas as well as connecting the corridor's regional centers of Huntley, Elburn, and Sugar Grove. The County recognizes that more than conventional boundary agreements are needed to address the challenges associated with growth in the governmental agencies that influence the Corridor. Thus, the promotion of regional coordination is viewed as an especially important strategy.

The purpose of the state funded IL 47 Corridor Planning Study was to provide municipalities and other governmental agencies with an understanding of the planning challenges associated with growth and to recommend strategies or tools that can be used to address these challenges. The study included broad participation and input from the municipalities along Illinois Route 47. It is of paramount importance that the County prevents premature development of unincorporated areas to uses inconsistent with County or municipal plans by requiring annexation prior to future urbanization. Once annexation and extension of utilities have occurred, the municipalities can approve developments

consistent with the design guidelines and toolkit included in the Illinois Route 47 Corridor Study as well as to create livable, sustainable, and healthy communities.

Enhancing our neighborhoods or creating new neighborhoods that are complete, walkable neighborhoods - within existing communities and within corridor nodes that link transit, land use, and housing - is important to achieving livable, healthy, and sustainable communities.

Elgin's Sustainability Action Plan describes a **great urban neighborhood** as one that: *"functions well when residents can meet their daily needs, such as getting to work and shopping. This means having the right neighborhood mix of housing, retail, open space, and transit, with new housing located near reliable transit lines. We need to accommodate cars without having to rely on them. A great neighborhood also needs a full range of City services, safe and vibrant streets, gathering places, and an appreciation for its special character."*

Source: City of Elgin, Sustainability Action Plan. [www.cityofelgin.org](http://www.cityofelgin.org).

## Community Design, Physical Activity and Health

Community design – the way streets are laid out, the distance between destinations, and the mix of homes and stores –is linked to physical activity because it influences whether people must drive or are able to choose more physically active travel such as walking. **Kane County promotes community design and development that is more compact, mixed, and multi-modal.** Community design that integrates smart growth principles, including compact, mixed-use and multi-modal development, has the potential of reducing vehicle ownership and travel 20-40%, and significantly increase walking, cycling, and public transit.<sup>16</sup> It's imperative that Kane County's municipalities focus on design and development that encourage healthy living, foster a sense of

<sup>16</sup> Litman, Todd. 2011. Victoria Transport Policy Institute. Land Use Impacts in Transit.

community, builds social cohesion, and allows greater opportunities for civic engagement. As introduced in this chapter the built environment consists of three elements: land use patterns, urban design characteristics, and transportation systems (Figure 1). Together, these elements influence the health promoting behaviors of those that live, work, and play in Kane County.

“Compact, connected communities encourage regular walking, wheeling, and transit use, reducing the need for auto travel – while making trips shorter for those who choose to drive. Less driving helps reduce green house gases (GHGs) and other pollution, lowering energy use and reducing dependence on foreign oil. Compact connected development patterns require less land and pavement, reducing stormwater runoff, groundwater pollution, and loss of wildlife habitat, fields, and forests. The daily exercise associated with more active transportation choices has been shown to improve human health, reduce obesity and health care costs, and encourage community social interactions. Even those who drive to a mixed-use “park-once” district (or traditional downtown) find they can get exercise and social connections without having to drive between every destination – if a safe walking and wheeling network is in place.”<sup>14a</sup>

**Land use patterns** or the arrangement of land uses such as, residences, offices, restaurants, grocery stores, parks and other places, determines the proximity between trip origins and destinations, regardless of street network connectivity or public transit options. *Density* or degree of compactness is a requirement for shortening distances between destinations, reducing the need to use a vehicle and increasing the odds that a person will shift from driving toward walking, bicycling, and transit use.<sup>17</sup> Activities located closer together increase the attractiveness of bicycling and walking, as well as proving the “mass” of population that is necessary for transit to be viable. *Land use mix* is the degree to which different types of uses (residential, commercial, or retail) are located within close proximity of one another. Mixed-use development

describes the co-location of multiple uses over the same area. “Mixed use can be measured both in terms of vertical and horizontal mix. Vertical mix occurs when different land uses are stacked one on top of another, such as housing located over commercial or retail establishments. Horizontal mix is when different land uses are located within close proximity to each other – these uses are mixed together, as the term implies.”<sup>18</sup> Mixing uses decreases distances between destinations and is believed to be an important strategy for increasing walking and bicycling. Older neighborhoods, built before single-use zoning became dominant, are scaled for pedestrians and have visually attractive shopping districts within them. These neighborhoods have been shown to produce the greatest amount of physical activity, especially walking. Single-use development, the dominant form of development in the United States, offers little

<sup>17</sup> Apogee Research Inc. 1998. The Effects of Urban Form on Travel and Emissions. A Review and Synthesis of the Literature. Washington D.C.: Draft report prepared for the United States Environmental Protection Agency. HBIX Reference C611-005.

<sup>18</sup> Frank, Lawrence D. and Peter Engelke. Year. How Land Use and Transportation Systems Impact Public Health: A Literature Review of the Relationship Between Physical Activity and the Built Form. Georgia Institute of Technology.

opportunity for running errands on foot or bicycle because there are few destinations within easy reach of housing. Kane County promotes the use of compact, mixed-use, multi-modal development that incorporates other smart growth and livability principles. A comparison of the smart growth and conventional, sprawling development patterns is shown in Table 2.

**Table 2. Comparing Smart Growth and Sprawl**

	Smart Growth	Sprawl
Density	Higher-density, clustered activities	Lower-density, dispersed activities
Growth pattern	Infill (brownfield) development	Urban periphery (greenfield) development
Land use mix	Mixed land use	Homogeneous (single-use, segregated) land uses
Scale	Human scale. Smaller buildings, blocks and roads. Designed for pedestrians	Large scale. Larger blocks, wider roads. Less detail, since people experience the landscape at a distance, as motorists
Services (shops, schools, parks)	Local, distributed, smaller. Accommodates walking access.	Regional, consolidated, larger. Requires automobile access
Transport	Multi-modal transport and land use patterns that support walking, cycling and public transit	Automobile-oriented transport and land use patterns, poorly suited for walking, cycling and transit
Connectivity	Highly connected roads, sidewalks and paths.	Hierarchical road network with numerous dead-end streets, and unconnected paths and sidewalks
Street design	Streets designed to accommodate a variety of activities. Traffic calming	Streets designed to maximize motor vehicle traffic volume and speed
Planning process	Planned and coordinated between jurisdictions and stakeholders	Unplanned, with little coordination between jurisdictions and stakeholders
Public space	Emphasis on the public realm (streets, sidewalks and public parks)	Emphasis on the private realm (yards, shopping malls, gated communities, private clubs)

Source: Victoria Transportation Policy Institute. 2006. Online TDM Encyclopedia. [www.vtpi.org](http://www.vtpi.org).

**Urban design characteristics** of the built environment, such as the streets, parks, squares, plazas, buildings, lawns, sidewalks, bus stop shelters, crosswalks, trash bins, curbs, fences, billboards, plantings, and other elements define the communities we live in. “Urban design characteristics influence how people perceive the built environment. Design [such as building design, orientation, setback, along with other aesthetic considerations] plays a large role in determining whether an environment is perceived as hostile or friendly, attractive or ugly, and vibrant or dull.<sup>17a</sup> Urban design denotes small-scale features of the built environment that impact how people feel about being in specific places.”<sup>2a</sup> As Dr. Jackson, author of *Designing Healthy Communities*, explains:

*“The built environment is not a community. Community is the **software** for the hardware of the built environment, as anyone who has struggled with an overloaded, outdated, or failing computer knows, both “wares” need to be working or the system crashes. The **hardware**, the way we build our neighborhoods, urban centers, cities, and states can make it easier or harder to feel the sense of community within a geographic area. We choose some of our communities and others are imposed on us; in either case, the built environment can entice us to*

increase our participation or can create barriers that we must choose to overcome.<sup>19</sup>

Healthy Community Design, an initiative of the Center for Disease Control, promotes the importance of the way we design and build our communities as they can affect our physical and mental health. According to the Centers for Disease Control (CDC), the purpose of Healthy Community Design is to “integrate evidence-based health strategies into community planning, transportation, and land-use decisions.” In 2010, with the adoption of the 2040 Conceptual Land Use Strategy, the Kane County Board adopted the key planning objectives promoted by the CDC for Health Community Design in an effort to reduce the epidemic of obesity and foster healthier communities:



- Integrating physical activities into residents’ daily lives by developing communities that promote walking to and from places of education, recreation, shopping, work and workshop
- Encouraging the building of communities with residences and businesses located closer together to shorten vehicle trips and encourage the use of other modes of transportation, such as biking and public transit, when walking may not be an effective option
- Creating streets and public areas that are interconnected that provide an appealing, safe and comfortable environment for walking and biking
- Providing transit services that are within walking distance of homes, businesses and other facilities.<sup>20</sup>

Healthy Impact Assessments (HIA) are a tool that is increasingly being used in communities to identify the health impacts of proposed and implemented policies, programs, and projects. HIA can be used to integrate community health into the decision-making process and enhance communication between multiple stakeholders, including health and planning practitioners and policy makers.

**Transportation systems** are the aggregate results of investment in transportation infrastructure and, in part, include the network of streets in a city, the design of individual streets and highways, transit systems, and separated systems for nonmotorized users, such as jogging and bike paths. “Transportation systems connect places to each other, determining how feasible it is to use different types of transportation, including walking and bicycling, to get from one place to another.” Transportation systems influence travel behavior in at least three ways:

- **“Street Networks** influence [travel] mode choice and trip frequency in the ways they connect trip origins and destinations. Street networks are rated as either *high in connectivity*, where there are a *large number of blocks and intersections per some unit of area*, or *low in connectivity*, where there are *fewer blocks and intersections over the same area*. A “highly connected” street network is one that has many possible routes between destinations, which means that the trip between any two destinations is reasonably direct. The grid pattern is the archetype of the high

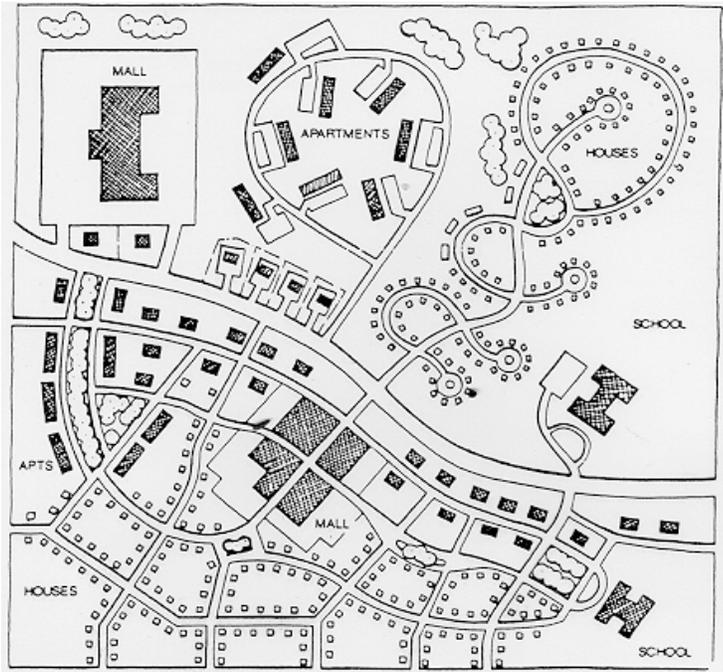
<sup>19</sup> Jackson, Richard. 2012. *Designing Healthy Communities*. San Francisco. John Wiley & Sons, Inc.

<sup>20</sup> Centers for Disease Control. Healthy Community Design.  
[http://www.cdc.gov/healthyplaces/healthy\\_comm\\_design.htm](http://www.cdc.gov/healthyplaces/healthy_comm_design.htm).

connectivity network. Traditional street networks such as the grid pattern reduce trip distances and increase route choices, factors believed to increase biking and walking. [Development characterized as sprawling], in contrast, minimizes the degree of connectivity between trip origins and destinations through the heavy use of T intersections, cul-de-sacs and reduced access to subdivisions (Figure 20).

- **Street Design** “facilitate[s] either automobile travel or nonmotorized travel. Streets that are wide, smooth, and straight encourage automobile travel at fast speeds and discourage travel by foot or bicycle. Additionally streets that incorporate pedestrian and bicycle facilities (bike lanes, sidewalks, crosswalks, etc.) and that are calmed (i.e., streets that contain traffic-slowing obstacles and devices) are believed to facilitate more walking and bicycling. Street design impacts route quality for different [travel] modes. Streets can have amenities such as shade trees, crosswalks, and bike paths, for example, which will make walking and biking more attractive.
- **Physically separated biking and walking systems** can increase walking and biking with dedicated bicycle and pedestrian facilities such as bike paths and walking trails. While these systems are increasingly popular, it is generally not feasible to create dense networks of them in existing urban areas.”

**Figure 20. Comparing Connectivity of Street Networks**



In summary, “higher densities, a greater mixture of land uses, a balance between housing and jobs, pedestrian- and bicycle friendly site and street design, grid street networks, and the presence of separated facilities for bicycles and pedestrians all have been shown to increase walking and biking.”<sup>18b</sup> Kane County supports healthier choices for its residents and encourages community design that includes attention to all three elements of the built environment as described in this section: land use patterns, urban design characteristics, and transportation systems.

**Policies:**

1. Identify incentives that will attract investment to new development, redevelopment, and suburban retrofits in existing, urban areas, employment centers, and transit nodes and corridors.
2. Seek funding opportunities that provide support to municipal plans and projects that implement the 2040 Plan.
3. Assist municipalities in removing barriers within local comprehensive plans or regulations that hinder implementation of the Livability Principles, Smart Growth Principles, and Healthy Community Design criteria.
4. Identify and target/support priority areas for transit-supportive land use, pedestrian-oriented design and complete streets along and connecting to the Randall/Orchard Rd. Bus Rapid Transit Corridor and the IL Route 47 Corridor.
5. Encourage the use of compact and mixed-use, multi-modal development that minimizes the need to drive, prioritizes infill and redevelopment, and avoids sprawling land use patterns.
6. Promote public health through coordinated land use and transportation planning and project implementation.
7. Establish land use policies and guidelines to ensure consistent, transit-supportive land use and development along the Randall/Orchard Road Corridor.
8. Support the Built and Natural Environment Strategies adopted in the Fit Kids 2020 Plan.
9. Promote land use patterns that create sustainable, energy efficient communities.



## 2.3 PLANNING ISSUES – MOBILITY AND CONNECTIVITY

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### Objectives:

1. To develop and implement transportation objectives and strategies in coordination with land use and community health objectives.
2. To coordinate local and regional strategies for transit-supportive land use investments, policies, and programs that increase the propensity to use transit in Kane County communities, increase overall demand for transit service, and reduce barriers to using public transportation.
3. To advocate transportation mobility and connectivity programs or planning projects that will encourage greater physical activity among children and adults in Kane County.
4. Support the objectives of the 2040 Transportation Plan.

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### 2040 Transportation Plan Objectives

#### Safety Objective

1. Provide a multi-modal transportation system that is safe for all users.

#### Personal Mobility Objective

2. Develop a balanced multi-modal transportation system that adds to the available travel options, increases personal mobility and offers alternatives to the Single Occupancy Vehicle (SOV).

#### Cooperative Planning Objective

3. Coordinate local and regional transportation planning to provide a transportation system that accommodates both existing and future travel demands and supports County and regional land use plans and policies.

#### Quality of the Environment Objective

4. Maintain and improve the quality of the environment while providing transportation services and facilities.

#### System Efficiency Objective

5. Reduce the growth in congestion and vehicle miles traveled, while preserving the County's transportation system and its carrying efficiency.
-

## **Chapter Focus**

The Mobility and Connectivity planning issue in the 2040 Plan emphasizes the importance of providing more opportunities for Kane County residents to use health promoting travel options, such as transit, walking, and biking. Kane County already has an extensive transportation system, including bicycle and pedestrian facilities, local roads and highways, bus and rail networks, and interstate highways. By integrating land use, transportation, and community health planning, Kane County can more effectively develop a multi-modal transportation system that adds to the available travel options, increases personal mobility and offers alternatives to driving.

Kane County will focus on improving mobility and connectivity by preserving the existing transportation system and its carrying capacity while also developing needed infrastructure to increase travel options that provide safe access to land uses for all users. The projected population and employment growth in Kane County will challenge this transportation system unless there are changes to our land use decisions and a decrease in our current automobile dependency. Minimizing traffic congestion, supporting a variety of transportation options, and strategically planning for transit supportive land uses will not only increase mobility choices and improve the health and quality of life for residents, but will also play a vital role in the region's economic vitality.

This chapter examines:

- Regional and Local Mobility
- Kane County 2040 Transportation Plan
- Corridor Planning
- Reducing the Growth in Congestion through Land Use Decisions

### **Regional and Local Mobility**

Our region's economic prosperity depends on inter-governmental collaboration and strategic investment in a modern, world-class transportation system for a new century. All the jurisdictions within the Chicago region – the federal, state, regional agencies, counties, townships, and municipalities – play a role in providing and maintaining transportation facilities and services, and also share the cost. Transportation networks are interconnected and traffic impacts go beyond jurisdictional boundaries. Long-range planning for regional transportation helps provide the coordination needed to achieve the efficient movement of people and goods, while prioritizing environmental stewardship (Figure 21). Kane County's transportation system includes an extensive network of regional multi-use trails, local roads, bridges, highways, tollways, and bus and rail networks. The continued enhancement and expansion of this existing multi-

modal system will play a key role in obtaining regional mobility, a high priority recommendation in the Go To 2040 Plan.<sup>1</sup>

Kane County's primary transportation planning goal focuses on improving mobility and connectivity. The County plans on attaining this through constructing needed infrastructure and increasing travel options that provide safe access to land uses for motorists, pedestrians, cyclists and public transportation patrons, while enhancing the environment and improving the health of the population. To ensure success and endorsement in its planning efforts, the County collaborates

**Figure 21**

### **Stearns Road Bridge Corridor**

The Stearns Road Bridge Corridor is the largest infrastructure project in Kane County's history. This 4.6-mile new road and bridge corridor connects DuPage and Kane Counties, providing an east-west corridor across the Fox River. The bridge corridor opened to the public on December 15, 2010, and is the culmination of over 20 years of planning, coordination, design and construction. In total, eight highway bridges, four pedestrian bridges including a much needed new bike/pedestrian crossing over the Fox River, interconnects to three regional bike trails, and nearly three miles of a new multi-use path were built as part of this project.

This award winning corridor is located in an environmentally sensitive area of the region and required extensive collaboration among many agencies and stakeholders. The Stearns Road Bridge Corridor is a true innovation in the area of integrating environmental concerns into regional planning and meeting challenges creatively. Additional property, 216 acres, was acquired as part of the project to protect precious groundwater recharge areas from development, restore former native savannahs that had been nearly destroyed back to their original grandeur, build 65 acres of wetlands and natural storm water treatment areas to protect the environmentally sensitive Fox River and Brewster Creek watersheds, and create additional green space and trails throughout the corridor.

with local, state, and federal agencies on regional transportation initiatives through the Chicago Metropolitan Agency for Planning and the Kane/Kendall Council of Mayors. To address the goals on a finer scale, the County has also coordinated planning efforts that include the consideration for *local* collector roads, which serve a dual function of providing mobility and access to abutting land uses. Collector road improvements are components in sub-regional planning area studies conducted in the West Upper Fox, Elgin Far West, Sugar Grove- Aurora-Montgomery, and North West Kane County areas.

One of the County's three main challenges, identified in the 2030 Plan and now reaffirmed in the 2040 Plan is the traffic congestion challenge. In order to continue to provide a high quality of life in Kane County, we need to **minimize the growth in traffic congestion by supporting a variety of transportation options, thereby improving air quality**. Based on current traffic volumes, high levels of congestion are evident on over half of the County's roads. By 2040, congestion is projected to spread west into the northern area of Kane County, the village of Sugar Grove, and west of the Tri-Cities to

<sup>1</sup> Chicago Metropolitan Agency for Planning. 2010. GO TO 2040 Plan.

Elburn. Approximately three quarters of the County's transportation system will experience congestion by the year 2040, with extreme congestion virtually throughout the Sustainable Urban Area (source: 2040 Transportation Plan) (Figure 24).

The relationship between land use and transportation planning in Kane County is of fundamental importance in meeting our traffic congestion challenge. In October 2004, by concurrently preparing and adopting the County's 2030 Land Resource Management Plan and the 2030 Transportation Plan, the County Board formalized the collaboration of land use and transportation planning in Kane County. Building on that effort, the 2040 Transportation Plan identified opportunities to expand transit systems, improve walkability, reduce vehicle miles traveled, focus on maintaining and improving the highway system and improve energy efficiency and conservation. While multiple travel options are available, most of Kane County residents are currently dependent on the automobile for travel. Furthermore, land use densities and patterns in the western and central parts of the County predominantly do not support fixed route transit service and in the urbanized areas of the County there are not adequate opportunities for transit use. Reducing automobile dependence and fostering land use patterns that support 'active' forms of transportation like walking, bicycling, and transit are now increasingly recognized as key elements of healthy living and sustainability, and support efforts to mitigate the growth in congestion.

The County has promoted healthy living through its transportation, bike/pedestrian and transit planning efforts. The County's bicycle and planning efforts have been recognized by the American Planning Association with honorable mention in 2002 for the Bicycle and Pedestrian Plan. Through the coordination on land use decisions, and improvements to the transportation system that promote the concept of complete streets (Figure

**Figure 22**

**Randall Road Pace Route 529 Plan**

Pace Route 529 serves Randall Road and five growing communities in Kane County: Aurora, North Aurora, Batavia, Geneva, and St Charles. Recognizing the transit potential of the Randall Road corridor, the Randall Road Pace Route 529 Plan was prepared to improve bus access and ridership along the corridor from Sullivan Road to IL 38. The plan identifies improvements associated with access to transit and provides a set of recommendations to:

- Optimize transit operations
- Support transit-oriented land use within the corridor
- Improve ridership
- Implement cost-effective measures

Short and long-term recommendations include installation of bus shelters, waiting pads, connecting walkways, crosswalks, and access ramps at bus stop locations that have high ridership. Additional stops are recommended at strategic locations to enhance transit service without major impacts to existing roadway operations. Future land use guidelines were developed in an effort to encourage long term transit oriented development and capture future riders. These guidelines encourage mixed-use development; connect residences to the corridor; orient buildings to the street; create public and open spaces; recreate the parking environment; and design for the pedestrian experience. Short-term and a long-term strategies were identified in the implementation plan and included potential funding sources. Through partnerships with Pace and the RTA, Kane County is ready to take the first steps in improving transit and pedestrian access to the Randall Road corridor and seize the opportunity to promote transit service along a major corridor connecting the northern and southern parts of the County. Many of the recommended infrastructure improvements are programmed for implementation in 2012.

**Figure 23**

### **Complete Streets**

As the County continues to move forward with roadway improvements, safety and access for all users is considered. Commonly known as *Complete Streets*, this movement results in roadways and infrastructure improvements that enable safe, attractive and comfortable access and travel for all users, including motorists, pedestrians, bicyclists, public transit riders, and people of all ages and abilities. Complete Streets improvements provide a variety of transportation options and reduce reliance on the single occupancy vehicle, thereby improving the efficiency and capacity of existing roads.

The characteristics of a complete street depend on the context of the roadway. For instance, a complete street in a rural area will look quite different from one in a highly urban area, but both are designed to balance safety and convenience for every traveler. Complete Streets can include one or more of the following elements: sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transit stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, roundabouts, traffic calming measures such as narrower travel lanes, and more.

Complete Streets also promote a healthy population by encouraging walking, bicycling, and transit use (transit users are typically pedestrians or cyclists for a portion of their trip). They also contribute to strong walkable and livable communities, provide opportunities for increased social interactions, and lower transportation costs for users who don't travel by automobile.

23), the County continues to integrate public health into land use and transportation planning (Figure 22). These decisions more effectively and efficiently improve the quality of life in Kane County, including reducing the epidemic of obesity in the County. The Quality of Kane initiative, in 2010, formalized the integration of land use, transportation, and public health planning in the County. One of the first projects that supported this integrated approach is the Making Kane County Fit for Kids campaign and Fit Kids 2020 Plan. The Mobility Workgroup, one of nine workgroups for the Plan, provided strategy recommendations for providing options that allow children, including those with disabilities, to walk and bicycle throughout the community. These recommendations can be implemented by individuals, neighborhoods, schools, and communities.

***Strategy 1: Implement Safe Routes to School programs in all schools throughout Kane County.***

***Strategy 2: Create a countywide bicycle recycling program***

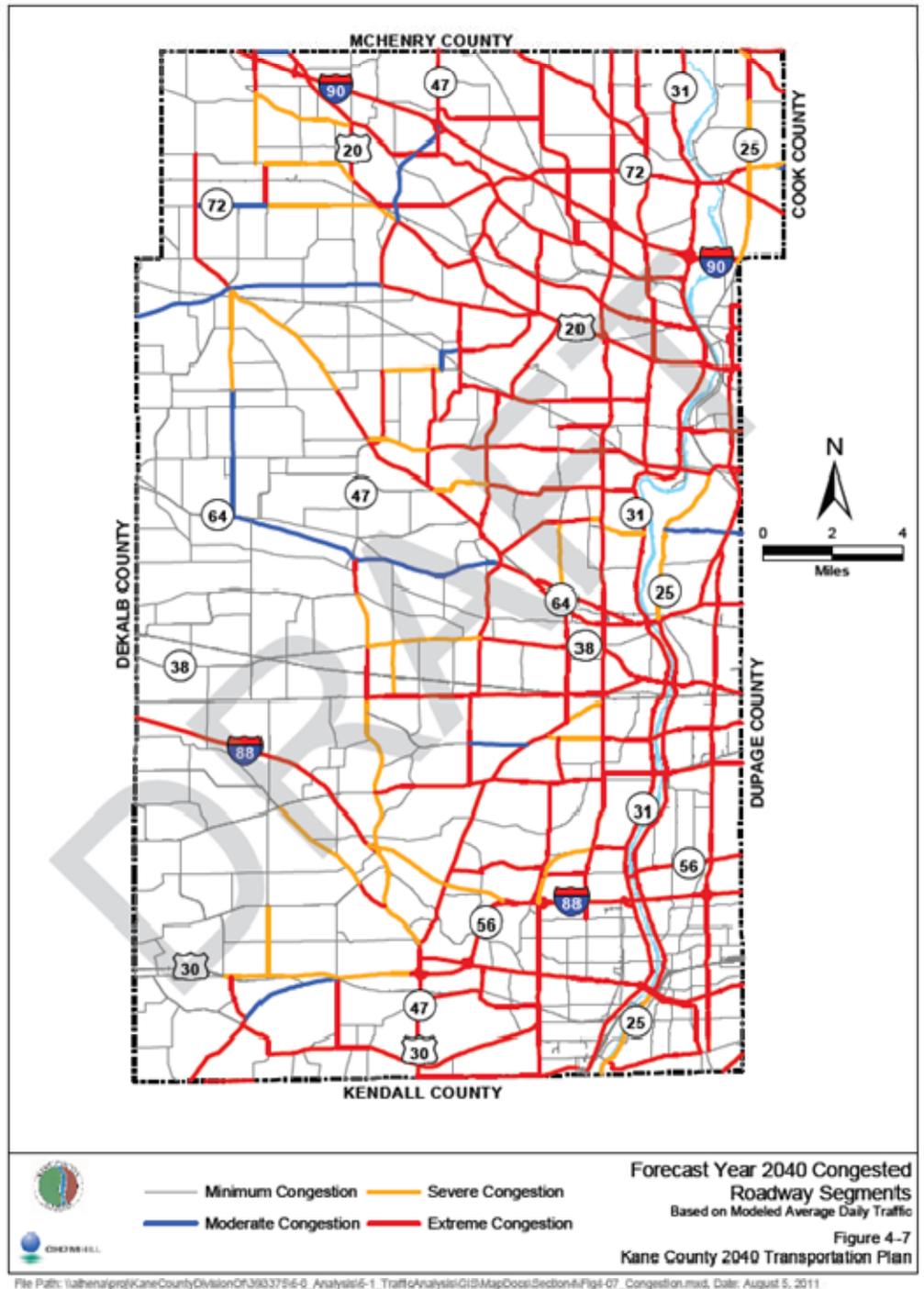
***Strategy 3: Create/implement walking and bicycling incentive programs in schools and communities in the County***

***Strategy 4: Create child-friendly mobility maps for communities***

***Strategy 5: Implement complete streets throughout the County***

***Strategy 6: Address school policies that prohibit or discourage students from walking or biking to school***

Figure 24



## **Kane County 2040 Transportation Plan**

The 2040 Transportation Plan is the long term vision for Kane County that guides transportation infrastructure development through the year 2040. Mandated by Illinois State Statute, a long range transportation plan is imperative for the safety of Kane County residents and visitors, and an essential planning and implementation tool to support viable economic development. The plan is based on projections of growth and travel demand and seeks solutions on how to accommodate an additional 270,000 new residents and 144,00 new jobs by the year 2040. The plan addresses existing deficiencies, projected countywide development trends, and personal mobility needs for all users of the transportation system. Accordingly, the plan is multi-modal and provides a comprehensive suite of improvement recommendations contained in the roadway, bicycle, pedestrian and transit elements of the plan.

The 2040 Transportation Plan was developed for the forecast year 2040 in concert with Kane County's 2040 Plan. In support of the County's goal of *Healthy People, Healthy Living and Healthy Communities*, the Transportation Plan incorporates a variety of past and recent planning initiatives to formulate a transportation framework capable of supporting future development in Kane County. The plan also includes revenue and expenditures forecasts to assist with the determination of roadway improvement projects that are to be incorporated in the transportation improvement program.

The 2040 Transportation Plan recognizes the role of the Smart Growth and Livability Principles, in providing more transportation choices, and creating active and convenient communities that link people to jobs as well as to commercial, retail and entertainment centers. Communities are taking innovative approaches to land use and transportation planning, such as planning for land uses and densities that support higher quality transit service; creating connectivity within the transportation networks and between pedestrian, bike, transit and road facilities. The County encourages communities to embrace the Smart Growth and Livability Principles to support and create more livable communities, and to reduce the growth in congestion.

The 2040 Transportation Plan includes a Recommended Roadway Plan, Transit Plan, Bike and Pedestrian Plan, and special planning projects, such as the IL Route 47 Corridor Plan and the Bus Rapid Transit Plan. The following is a brief description the elements of the transportation plan (see link to the full 2040 Transportation Plan).

- **Recommended Roadway Plan**

The Recommended Roadway Plan includes a list of highway improvements identified from the transportation modeling effort that focuses on expanding the highway system and includes improvements to the Tollways, Strategic Regional Arterials (SRAs), other arterials, new

bridge and road corridors, and new roadway alignments. The resulting roadway improvement list incorporates recommendations from CMAP's *GOTO 2040 Plan*, Kane County's 2015 Impact Fee Comprehensive Road Improvement Plan (CRIP) and most of the recommendations from the 2030 Transportation Plan. Given limited revenues projected for capital improvements, priorities have been established as follows:

- Improvements that address public safety
- Capacity enhancements on the Randall/Orchard Corridor
- Anderson Road Overpass
- Longmeadow Parkway Bridge Corridor
- IL 47 / I-90 Interchange
- Various Intersection Improvements

- **Long Range Transit Plan**

The Kane County Long Range Transit Plan (LRTP) is the transit element of Kane County's long-range comprehensive planning efforts, building upon previous plans that addressed transit, including the County's 2030 Transportation and Land Resource Management Plans, and 2002 Transit Opportunity Assessment. Today, most Kane County residents who have access to a car depend on it for travel. The LRTP identifies the need to address automobile dependence in Kane County in order to accommodate projected population and employment growth while mitigating increased traffic congestion and its adverse impacts on air quality and quality of life. It also recognizes the relationship between existing land use patterns in the County and the challenge of providing efficient transit service.

In the public outreach conducted for the LRTP, numerous stakeholders articulated the importance of providing quality transit service for people who depend on it by making transit a more convenient, reliable travel option for County residents. Current economic conditions make it hard for private and public entities to invest in new services and sustain existing ones. Pace, along with other public transit providers, has struggled to maintain existing bus routes and has had to cut some services in the past or realign routes. Strategies to make transit a viable travel option for County residents must recognize these fiscal constraints in the short term.

With this in mind, the short and medium term strategies in the LRTP focus on:

- Implementing non-traditional transit services sponsored by municipalities and employers
- Improving transit marketing and information
- Creating local transportation demand management programs to reduce automobile dependency and change travel behavior
- Integrating transit with land use planning by:

1. Enacting a Primary Transit Network (PTN) policy that identifies corridors with the highest potential ridership and where the County and municipalities aspire to have the highest level of transit service over time
2. Developing a model transit overlay zoning ordinance for adoption around transit nodes and PTN corridors

Longer term recommendations address the need for increased fix route transit services, including Bus Rapid Transit for the Randall/Orchard Road Corridor.

- **Bicycle and Pedestrian Plan**

The broad objectives of the *Kane County Bicycle and Pedestrian Plan* are to collect all previous bicycle and pedestrian planning studies, comprehensively identify all existing, proposed, regional and conceptual bikeways, and strategically plan for bikeway projects to expand the countywide network. This network will improve public safety, encourage alternative modes of transportation, and increase recreational opportunities in the County. The recommended plan recognizes that no single type of bicycle facility accommodates all types of bicyclists and therefore recommends design standards for various types of facilities. The plan also contains design recommendations for pedestrian facilities. Additionally, it investigates various design options to reduce conflict and improve safety both at intersections and mid-block crossing locations.

- **Corridor Planning**

IL Route 47 Corridor Planning Study

IL Route 47 travels through agricultural areas as well as connecting the regional centers of Woodstock, Huntley, and Sugar Grove. The *IL 47 Corridor Planning Study* provides economic, land use and transportation strategies and tools to address the planning challenges associated with growth and development. The goal of the study is to encourage a healthy population and economy through the promotion of sustainable land use practices, complete streets, and smart growth principles.

The study recognized that more than a boundary agreement is needed to address the challenges associated with growth, and demonstrated how municipalities and other agencies need to work collectively to mitigate the impacts of growth and work towards commonly defined objectives. A regional vision can also help to mitigate congestion, which can be achieved in part by the local land use practices addressed in the study. The formation of a corridor planning council, consisting of the governmental agencies that influence the corridor, was seen as an important strategy to promote regional coordination. The study focused on the planning challenges that the municipalities will face as the corridor develops. A significant challenge being that public sector roadway

expansion likely will not keep pace with private sector land use growth. Multiple agencies with overlapping jurisdiction of economic development, land use, infrastructure, and transportation in the corridor creates unique challenges. The study promoted regional thought and coordination in improving and reducing the growth in traffic congestion along the corridor.

The intent of the study was to identify challenges associated with planning and accommodating corridor growth. The study aimed at addressing the following objectives, established by stakeholders:

- Keep Traffic Moving
- Coordinate Local, Regional, and State Decision-Making
- Improve Economic Development
- Encouraging Growth Nodes that Promote Transit and Walking
- Protect Natural Areas
- Promote Placemaking
- Strengthen Existing Developed Areas

The study includes a toolbox of resources, best practices, and strategies to help municipalities address the identified planning challenges, and a valuable market analysis which provided data to suggest the type of industry that could be supported in the corridor (The IL Route 47 Toolbox can be viewed by linking to [www.qualityofkane.org](http://www.qualityofkane.org)).

- **Bus Rapid Transit for the Randall/Orchard Road Corridor**

The Randall/Orchard BRT Feasibility Study focuses on an examination of the land use conditions required to support a higher level of transit service and the potential benefits in terms of traffic congestion, air quality improvements, increased land values, job creation and economic development. Today, the Randall Road corridor has difficulty supporting fixed route transit services, but our vision is that over the next 30 years redevelopment along the corridor could include mixed-use, higher density, transit supportive land use patterns with improved pedestrian linkages and access to the corridor. These conditions, along with the major medical and employment centers would have the ability to accommodate an enhanced transit service that offers many of the same attributes as rail transit, such as fast, frequent, and reliable service, specialized vehicles and high-amenity stations.

While it is anticipated that new land uses and redeveloped areas at future station areas and stops would be approved through municipal decisions, Kane County will have a major role in coordinating station area access improvements to the County highway right-of-way in order to accomplish a BRT system (Figure 25).

**Figure 25**

### **Bus Rapid Transit**

Bus Rapid Transit (BRT) is a roadway-based rapid transit system offering the fast operating speeds and service reliability of a rail system while providing the flexibility of automobiles. BRT systems can range from a low-cost, mixed traffic BRT system running on arterial streets to a fully developed system operating on its own exclusive right-of-way and include attractive stations, high-frequency service, convenient routes, variety of vehicle options, opportunities for economic development, and Intelligent Transportation Systems.

The County's BRT study focuses on creating a regional vision for transit, changing the current mindset regarding land use along Randall Road, and constructing incremental infrastructure improvements to ultimately support a proposed future BRT. The Randall/Orchard BRT Study examines the land use conditions required to support a higher level of transit service and the potential benefits in terms of traffic congestion and air quality improvements, increased land values, job creation, and economic development.

Today, the Randall Road corridor has difficulty supporting fixed route transit services, but the County's vision is, that over the next 30 years, (re) development along the corridor could include mixed-use, higher density, transit supportive land use patterns with improved pedestrian linkages and access to the corridor. These conditions, along with major medical and employment centers, would have the ability to accommodate an enhanced transit service that offers many of the same attributes as rail transit, such as fast, frequent, and reliable service, specialized vehicles and high-amenity stations. While municipalities will have jurisdiction over new land uses and redevelopment at future station areas and stops, Kane County will have a major role in accommodating BRT service throughout the corridor and coordinating station area access improvements to the highway right of way in order to accomplish a BRT system.

### **Reducing the Growth in Congestion through Land Use Decisions**

The shape, density, and design of developments play an important role in how much people travel by car. When neighborhoods are compact and many of a person's daily needs can be accommodated by transit, bicycle, or within a few minutes' walk, vehicle trips per household decline rapidly. Supportive land use patterns and site design can result in:

- Reductions in the growth of Vehicle Miles Traveled (VMT), pollutant emissions, and energy consumption;
- Increased transit use and productivity; and
- Walkability of activity centers<sup>2</sup>

At higher densities the use of alternative modes of transportation, particularly transit and pedestrian travel, is higher, and per capita passenger vehicle trips and Vehicle Miles Travelled (VMT) are lower.

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<sup>2</sup> Transit Cooperative Research Program, Report 95. 2003. Transit Oriented Development. Traveler Response to Transportation System Changes.

There is general consensus regarding the positive relationship between land use density and transportation, and a number of studies have shown a relationship between population density and per-capita auto travel, with less per-capita vehicle travel at higher densities. Higher densities are associated with lower proportions of travel by single occupancy vehicle, lower VMT, and most strongly linked with higher use of transit and walking modes. However, the success of density in reducing vehicle trips is *also* dependent on the following factors:

1. **Distance to transit** – the location of a development relative to transit can result in an increase in transit ridership and therefore reduce the number of vehicle trips or VMT. Typically, Transit Oriented Developments (TODs) include residential and commercial centers designed around a rail or bus station and should consider the following design features to optimize vehicle trip reduction:
  - a. A transit station/stop located within a 5-10 minute walk (approximately ¼ mile); or
  - b. A rail station located within a 20 minute walk (approximately ½ mile)

*Effects of TOD on Housing, Parking, and Travel* (TCRP Report 128, 2008) reports that Transit Oriented Developments (TODs) have 47% lower vehicle trip rates and have 2 to 5 times higher transit mode share.

2. **Location** – the location of a development relative to urban/suburban contexts influences the amount of VMT. Density has a negligible impact on VMT reduction in a rural environment (or Greenfield site, unless it's a master planned community) because jobs and amenities may not be accessible without the use of a vehicle. *Growing Cooler*<sup>3</sup> reviewed 10 studies that consider the affect of location on VMT and found that infill locations generate substantially lower VMT per capita than do Greenfield locations, ranging from 13-72% lower VMT.
3. **Mix of uses** – typically residential and commercial development and the degree to which they are balanced in an area (jobs-housing balance). A mixture of land uses reduces the number of vehicle trips by reducing travel distances and allowing more trips by alternative modes (i.e. cycling, walking and transit). Trip reduction is further reduced when affordable housing is located in job-rich areas.<sup>4</sup>

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<sup>3</sup> Ewing, Reid, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. *Growing Cooler*. 2008. *Growing Cooler*. The Evidence of Urban Development and Climate Change.

<sup>4</sup> Moderres, 1993. Kuzmyak and Pratt, 2003; Ewing et al., 2010; Spears, Steven, Marlon G. Boarnet, and Susan Handy. 2010. *Draft Policy Brief on the Impacts of Land Use Mix Based on a Review of the Empirical Literature, for Research Impacts of Transportation and Land Use-Related Policies*, California Air Resources Board.

4. **Design and Walkability** – Neighborhood layout and street characteristics, particularly connectivity, block size, presence of sidewalks and other design features (e.g. shade, scenery, presence of attractive homes and stores) that enhance the pedestrian and bicycle friendliness of an area.

**Figure 26**

### **Impact Fee Discount Program**

Kane County has had many policy challenges related to growth--one of which is current and future traffic congestion. The need to reduce travel demand and encourage land use decisions that support vehicle trip reduction and alternative forms of transportation (such as transit, biking and walking) is apparent.

As part of Kane County's Road Improvement Impact Fee Ordinance, the Discount Program allows for a reduced impact fee if smart growth principles are utilized to reduce traffic impacts. The Program is based on several LEED-ND (Leadership in Energy and Environmental Design – Neighborhood Development) smart growth principles, such as Smart Location and Linkage, and Neighborhood Pattern and Design, which reduce traffic impacts. When a new development meets 4 basic requirements--transit availability, proximity of multiple land uses, density, and walkability--a developer can receive an Impact Fee discount. Bonus discounts can be earned for new developments that meet additional location efficiency and/or density criteria. Specific requirements of the program can be found in the 2040 Transportation Plan or the Kane County Road Improvement Impact Fee Ordinance.

#### **Policies:**

1. Support the strategies in the Kane County 2040 Transportation Plan.
2. Kane County should take a leadership role and coordinate with municipalities and RTA, Metra, and Pace officials in order to develop a Primary Transit Network (PTN) Policy to coordinate transit and land uses.
3. To support the six Mobility Strategies as adopted in the Fit Kids 2020 Plan.



## 2.4 PLANNING ISSUES – COMMUNITY HEALTH

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### Chapter Objectives:

1. To develop and implement health objectives and strategies in coordination with land use and transportation objectives.
2. To support the priorities in the Community Health Improvement Plan.

### 2011 Community Health Improvement Plan priorities:

- Support health behaviors that promote well-being and prevent disease
- Increase access to high quality, holistic preventive and treatment services across the health care system
- Support and create health promoting neighborhoods, towns, and cities
- Promote social, economic and educational environments that optimize health

### Chapter Focus:

Community Health is a new planning issue in the 2040 Plan that provides an overview of community health, Kane County health planning, and strategies to reach the County's goal of having the healthiest residents in Illinois. The overall theme of the 2040 Plan is *Healthy People, Healthy Living, and Healthy Communities*, illustrating the vital importance of health when considering community design and the overall quality of life. Preventing disease before it starts is critical to helping people live longer, healthier lives and keeping health care costs down. Poor diet, physical inactivity, tobacco use, and alcohol misuse are just some of the challenges we face. We also know that many of the strongest predictors of health and well-being fall outside of health care. Our housing, transportation, education, workplaces, and environment are major elements that impact the physical and mental health of Kane County residents.

By considering the health impact of all plans, programs and policies, the County and local government can ensure that all residents have the opportunity to live longer, healthier lives. Most land use and transportation decisions are made at the local level, not state and federal. By working with local and regional government policy makers and land use and transportation planners, Kane County can reach our goal of having the healthiest residents in Illinois.

This chapter examines:

- Overview of Public Health
- Community Health Assessment
- Kane County Community Health Improvement Plan
- Kane County Health Planning

## Overview of Public Health

What is Public Health? Most people think about going to the doctor or receiving individual services when asked about health. Public Health is focused on entire populations, not just individuals. It examines trends and looks for methods to prevent disease, while medicine tends to focus on treating disease. Using a wave as an example, public health looks at the wave as a whole, but in medicine the focus is on the individual drops of water. Figure 27 gives more examples of how public health differs from medicine.

Public Health has had a substantial impact on the health of residents over the past 100 years. Overall life expectancy has increased by 30 years, with 4.5 years of that attributed to advances in medicine. The remaining 25.5 years are attributed to advances in Public Health: sanitation, water quality, vaccines, prevention, protection, and promotion of healthy living.<sup>1</sup> Public Health planning in Kane County follows this population-level focus, where services are focused on entire populations rather than individuals and emphasizes the social determinants of health.

There are many factors, or determinants, that affect health and have a tremendous influence on health outcomes. The physical environment, social and economic factors, and clinical care all play a part in an individual's health. Figure 28 demonstrates how these factors influence health and represent areas where the department can concentrate efforts to eliminate health disparities in the County.<sup>2</sup>

Several factors are primarily addressed through land use and transportation planning, illustrating the link between the built environment and public health. For example,

### Figure 27

#### Medicine:

- Health is defined as the absence of disease
- Prevention is focused on changing attitudes and beliefs of individual patients to change their actions
- Focus is at an **individual** level

#### Public Health:

- Health is defined in terms of social, physical, and mental health
- Prevention means restructuring how people live so the easy choice is the healthy choice through policy, environment, and systems change
- Focus is at the **population** level

<sup>1</sup> Turnock, B.J. Public Health: What it is and How it Works. 3<sup>rd</sup> Ed. Sudbury, MA: Jones and Bartlett Publishers, 2004.

<sup>2</sup> "Overcoming Obstacles to Health" Robert Wood Johnson Foundation  
<http://www.rwjf.org/files/research/obstaclestohealth.pdf>

**Figure 28**



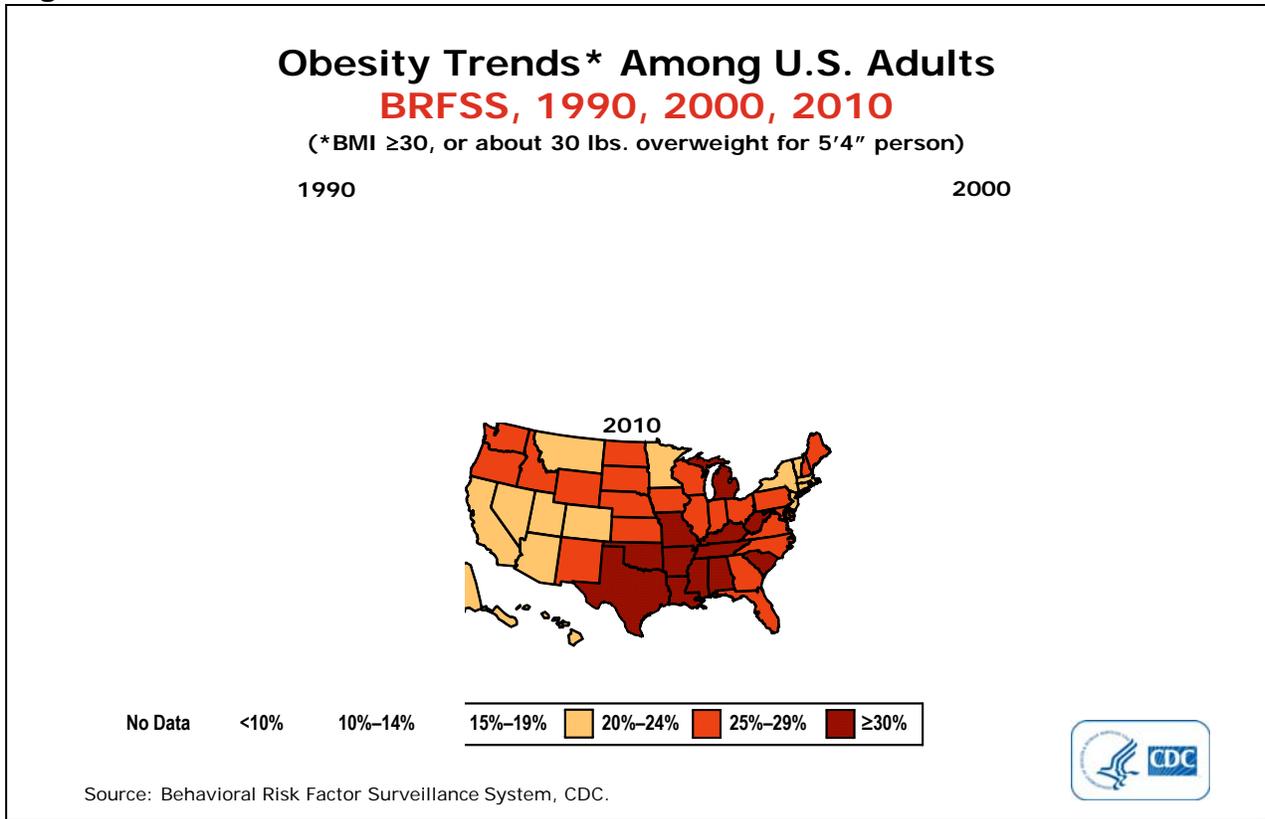
neighborhoods that are designed to make walking the easy choice encourage people to walk to their destinations instead of drive. Conventional auto-oriented land use patterns generally require residents to drive to destinations, and limited or no walking/biking infrastructure additionally minimizes opportunities for alternative means of travel.

Local elected officials can encourage development that provides amenities for walking and biking either through policy or codes. Local policies that increase opportunities for physical activity improve the health of residents and eventually lead to a decrease in chronic diseases related to being overweight or obese.

Figure 29 illustrates the epidemic of obesity in the United States. The first map shows the percentage of adults that were considered obese in 1990. The percentage has increased dramatically, with many states having greater than 30% of adults falling into the obese category by 2010. Without a multi-disciplinary approach to reversing the toll of obesity, the numbers will continue to rise.

A principal focus of future health planning in Kane County is aligning planning efforts with land use and transportation planners in the County. Through the Quality of Kane initiative, the Kane County Board has made a formal decision to integrate the three planning disciplines and highlight the importance each has on the community. By including a chapter on community health in the Kane County 2040 Plan, Kane County is demonstrating a commitment to integrating the planning efforts of the three disciplines and ensuring that public health is considered in land use and transportation planning. The health of all residents in Kane County is vital because they are our most important resources; they should have the ability to enjoy the healthy communities created as a result of this plan.

Figure 29

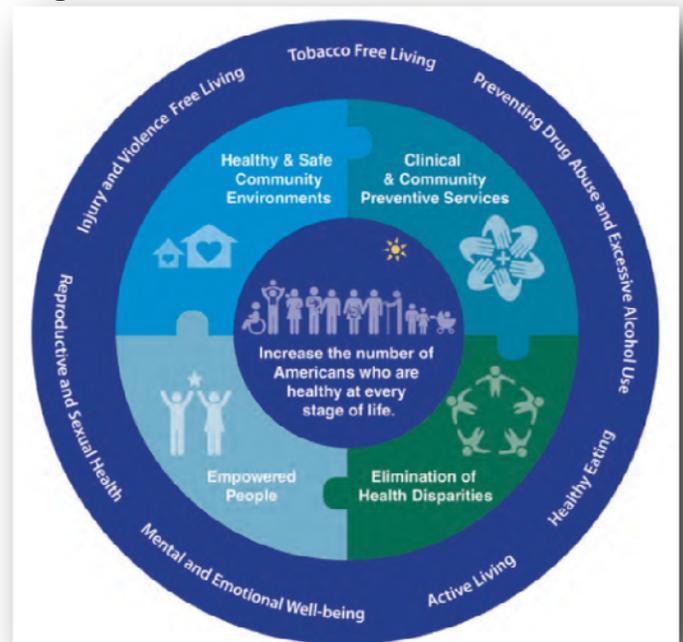


In June 2011, the U.S. Department of Human Services released the National Prevention Strategy.<sup>3</sup> This Strategy is a plan for the federal government, but also is a call to action for various other organizations to focus on four strategic directions (Figure 30):

- Healthy and Safe Community Environments
- Clinical and Community Preventative Services
- Elimination of Health Disparities
- Empowered People

The strategic directions outline recommendations for what can be done, provides key indicators to measure

Figure 30



<sup>3</sup> National Prevention Council, *National Prevention Strategy*, Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General, 2011  
<http://www.healthcare.gov/prevention/nphpphc/strategy/report.pdf>

progress, specific actions for federal agencies, and specific actions for partners including state and County health departments, non-profit organizations, health care systems, and private citizens.

The Strategy takes a holistic approach to helping people live healthier lives and encourages cross-sector collaboration in community planning and design to promote health and safety. A key component is the elimination of health disparities. All residents should have the opportunity to live long, healthy, independent, and productive lives, regardless of their race or ethnicity; religion; socioeconomic status, or other characteristic. Health disparities are often closely linked with social, economic, or environmental disadvantage. Clear evidence exists that with appropriate focus and investment, health disparities can be eliminated while simultaneously improving the health of all Americans<sup>4</sup>.

The National Association of County and City Health Officials (NACCHO) created the *Ten Essential Services for Public Health*, which serves as a framework for local health departments. The department uses it as a model for serving and supporting County residents, with all positions aligned with these services. Figure 31 provides a description of the essential services. A key component of the services is a focus on population level health. This focus helps guide and strengthen the department's commitment to looking at the health needs of the entire community and guided work on the community health improvement plan update.

**Figure 31**

### ***Ten Essential Services of Public Health***

- 1. Monitor health status and understand health issues facing the community,*
  - 2. Protect people from health problems and health hazards.*
  - 3. Give people the information they need to make healthy choices.*
  - 4. Engage the community to identify and solve health problems.*
  - 5. Develop public health policies and plans.*
  - 6. Enforce public health laws and regulations.*
  - 7. Help people receive health services.*
  - 8. Maintain a competent public health workforce.*
  - 9. Evaluate and improve programs and interventions.*
  - 10. Contribute to and apply the evidence base of public health.*
- National Association of County and City Health Officials (NACCHO)***

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<sup>4</sup> National Prevention Council, *National Prevention Strategy*, Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General, 2011

## **Community Health Assessment**

### ***Introduction***

A community health assessment is an important tool in setting priorities, guiding health, land use and transportation planning, program development, coordination of community resources, and creation of new partnerships to improve the health of the population. The results are used to define improvement areas and guide a community toward implementing and sustaining policy, systems, and environmental conditions that improve community health. The results also assist the community in prioritizing needs which lead to the appropriate allocation of available resources. The health assessment provides an evidence-based core foundation for improving the health of a community.

To understand what the major health issues are in the County, an examination of health data provides a snapshot of where planners and policy makers must focus their efforts. In 2011, the department completed the Kane County Community Health Assessment and started updating the 2006 Community Health Action Plan. The five hospitals in Kane County, the INC Board, United Way of Elgin, Fox Valley United Way, and the Kane County Health Department initiated a formal partnership to jointly fund and participate in the 2011 Kane County Community Health Assessment. The partners worked together to identify community health improvement priorities and strategies. A comprehensive collection of health, economic and community data was assembled through a variety of methods. These included a phone survey of 2,000 residents, data sets from local, state, and federal agencies, and input and feedback from nearly 250 residents through focus groups, community meetings and an online survey.

The results were used to define improvement areas and guide the department and community toward implementing and sustaining policy, systems, and environmental conditions that improve community health. The results will also assist the community in prioritizing needs which lead to the appropriate allocation of available resources. The 2011 Kane County Community Health Assessment provides an evidence-based core foundation for improving the health of a community.

### ***Process***

To begin the assessment, the department selected key indicators which were important in updating the health action plan and aligned with the determinants of health. The County Health Rankings model for measuring health includes several determinants of health including:

- Physical Environment
- Social and Economic Factors
- Clinical Care
- Health Behaviors

**Figure 32. Contributing Factors to Health**

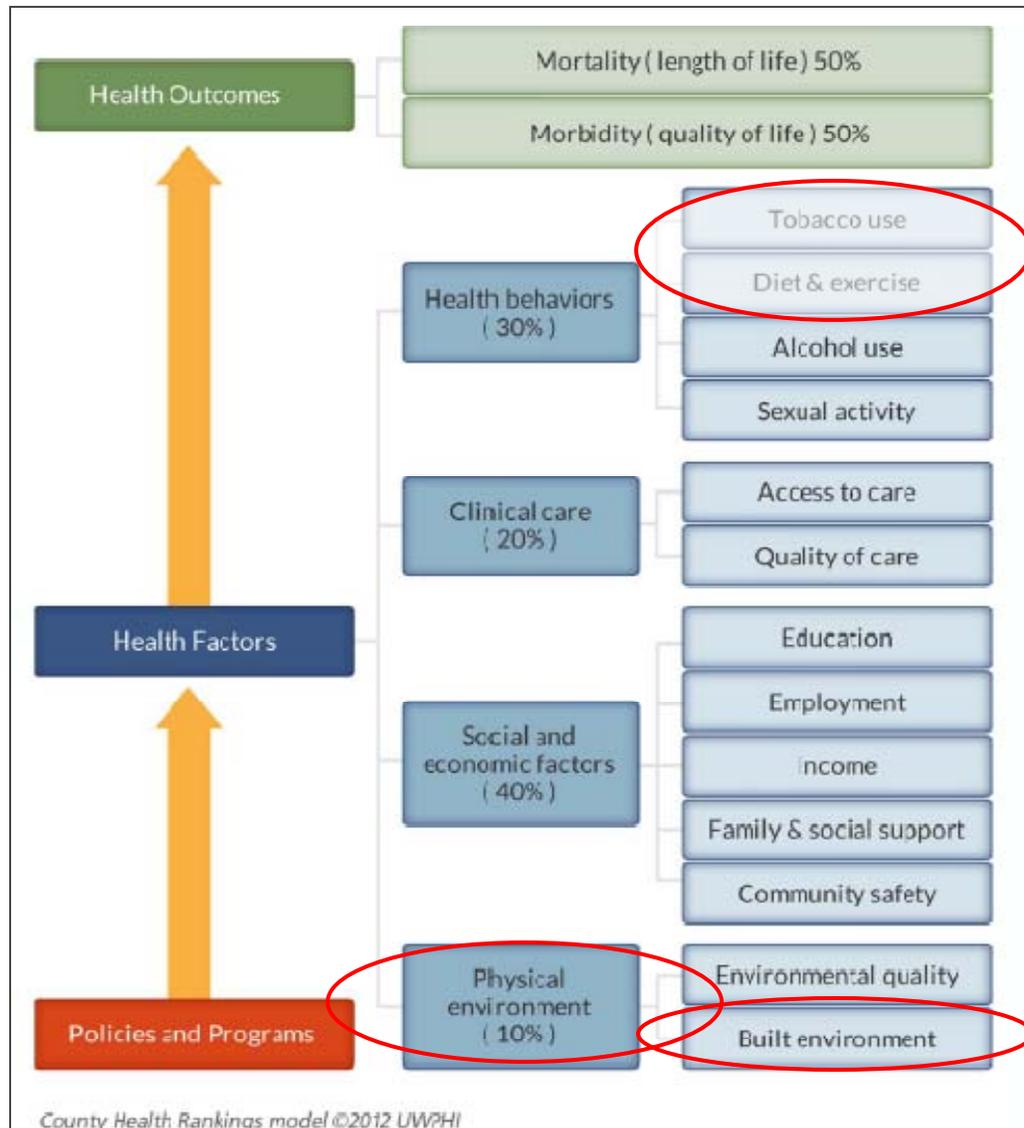


Figure 32 identifies the measures used in the County Health Rankings. A full 50% of the health factors considered in the rankings is made up of non-traditional health factors: physical environment and social and economic factors.

The factors highlighted by the circles demonstrate how land use and transportation are considered when determining overall health. For example, the Centers for Disease Control and Prevention (CDC) states that the way for people to maintain optimum weight is through regular physical activity. A complete streets policy which ensures that streets are designed and operated with all users in mind – including bicyclists, public transportation vehicles and riders, and pedestrians of all ages and abilities – provides a means for residents to engage in physical activity. Likewise, land use policies that promote open space, playgrounds, parks, and trails will contribute to recreational opportunities for residents.

Looking at Figure 32, health behaviors like tobacco use, alcohol consumption, and diet and exercise can be directly related to the physical environment and are affected by various land use policies and zoning regulations. For example, by increasing the number of outlets that offer fresh fruits and vegetables, the healthy choice is easier than if there is limited access to fresh produce in a neighborhood. People living in food deserts may not easily find healthy food options and often choose the unhealthy, easily accessible food prevalent in their community (ex. fast food). With tobacco and alcohol use, the density of outlets that offer tobacco and alcohol can be limited, making it more difficult to access these products which are known to have a detrimental effect on health. Local decision makers can ensure plans include walkable neighborhoods which provide residents with the necessary amenities (sidewalks, access to trails, complete streets) to incorporate exercise into a daily routine.

The Healthy Food Financing Initiative (HFFI) defines a food desert as “a low-income census tract where a substantial number or share of residents has low access to a supermarket or large grocery store” Low access is defined as living more than a mile from a supermarket or large grocery store.

<http://www.ers.usda.gov/data/fooddesert/about.html>

The County Health Rankings results were considered in the 2011 Community Health Assessment and helped shape the update to the Community Health Improvement Plan. More information about the rankings is available on the County Health Rankings website: <http://www.countyhealthrankings.org/> including specific data sources for the health factor measures.

Another source of data for the assessment came from a comprehensive phone survey. Beginning in March 2011, the Northern Illinois University Public Opinion Laboratory conducted a phone survey of over 2,000 adults and a separate child survey with over 400 parents of children under 18. The results of this survey were used to develop questions for focus groups held in October of 2011 and as part of the prioritization process for the community health improvement plan. In addition to the survey, the department used secondary data from a variety of sources (see sidebar). The data showed emerging issues in the County, and through targeted surveys and a recorded webinar, stakeholders and the public were invited to comment on the data and help identify priorities, or focus areas for the community health improvement plan. In addition, members of the Kane County Board and Health Advisory Committee participated in a retreat to review the data and discuss the results.

### Secondary Data Sources

- 2010 U.S. Census
- Centers for Disease Control and Prevention
- Illinois Department of Public Health
- Illinois Department of Employment Security
- Kane County Health Department
- Youth Risk Behavior Survey
- Other Kane County Offices & Departments

The 2011 Community Health Assessment (CHA) provided the department with rich, current data and this level of detail was previously unavailable. For the first time we were able to look at specific planning areas as a whole and at individual provider service areas so we could provide customized reports for all the community health assessment partners. The results yielded some startling information, including the mortality and obesity data for the County, which are detailed next.

### ***Key Results***

Analysis of the 2011 Community Health Survey data, secondary data, online survey results, and qualitative data, the 2011 Kane County Health Assessment results point to six major threats to community health and well-being:

- **Obesity**
- **Chronic Disease**
- **Infant Mortality**
- **Childhood Lead Poisoning**
- **Communicable Disease**
- **Poor Social and Emotional Wellness**

These issues contribute to a lower quality of life for many Kane County residents, as well as increased spending on health care costs. A selection of key results from the assessment follows.

Prior to 1900, most people in the U.S. died of infectious disease like influenza, pneumonia and tuberculosis. Over time, the number of those deaths decreased as public health environmental advancements increased water and air quality, made milk and food safer, and improved sanitation. Now there is an increasing threat to the health of communities in the form of chronic disease. The vast majority of deaths in Kane County in 2007, the most recent year for which we have complete data, were from non-communicable diseases. Non-communicable diseases include chronic diseases like cancer, heart disease and diabetes. Figure 33 shows how chronic disease accounts for 81% of all deaths in Kane County.

**Figure 33**

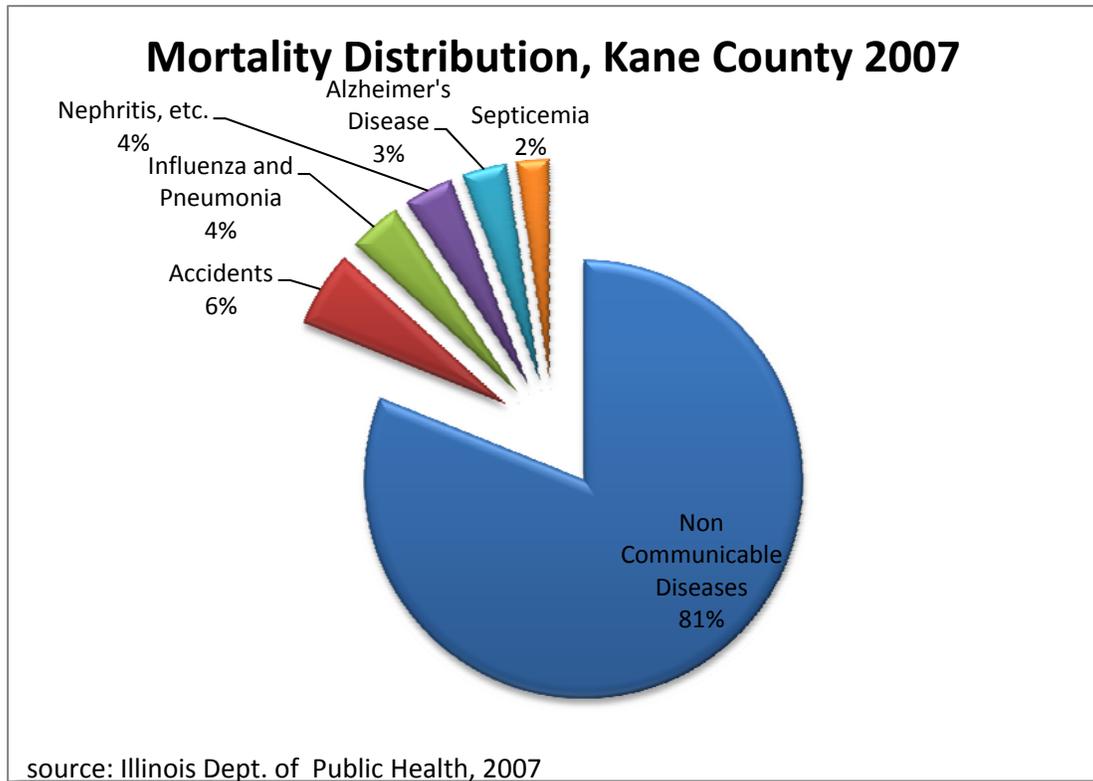
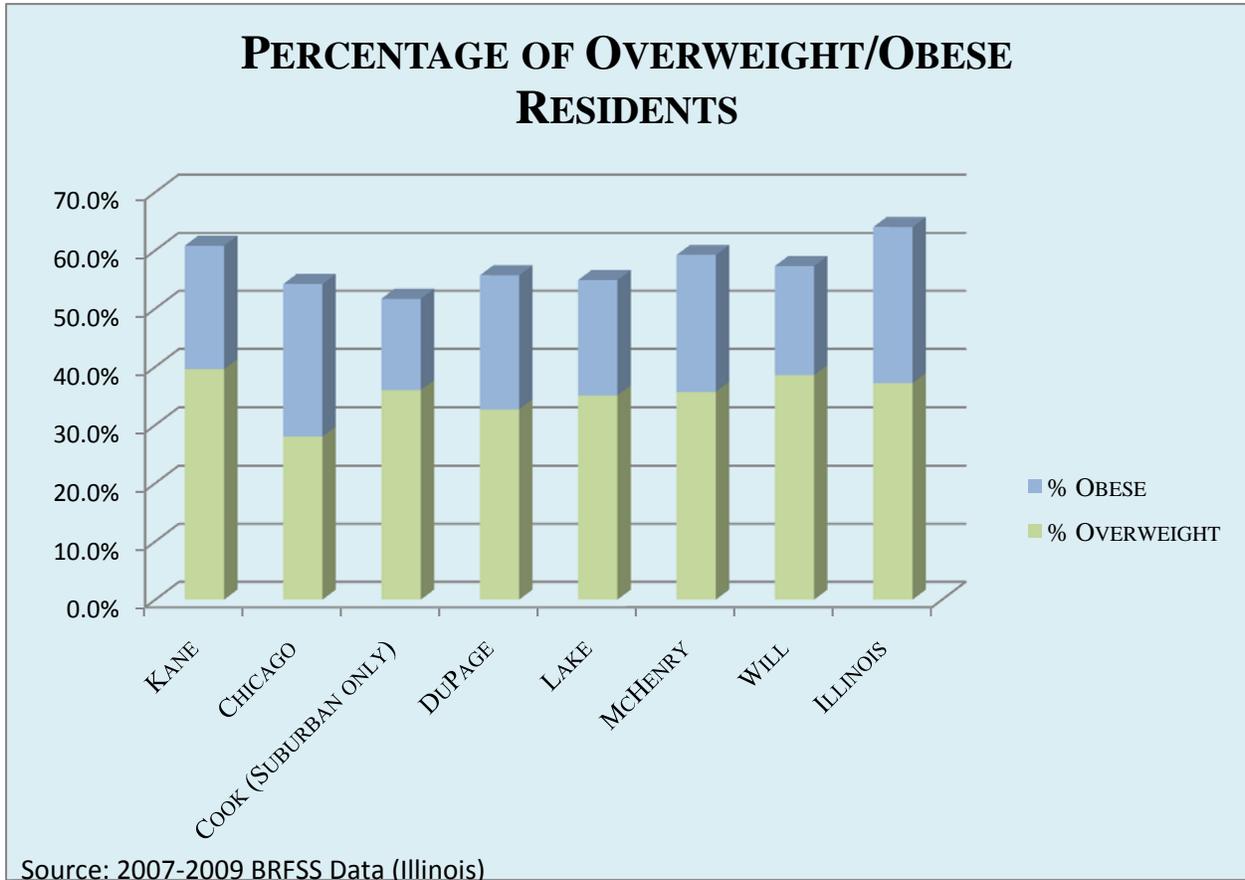


Figure 34 shows adult obesity in Kane County as compared with other counties in the Chicago area. Kane County has the highest percentage of overweight adults and second highest percentage of adults who are overweight and obese. According to the County's 2011 Community Health Assessment, the number of adults who are considered overweight or obese<sup>5</sup> in the County has risen from 60.8% in 2008 to 63.9% in 2011. Obesity and overweight are major contributors to the development of chronic diseases such as diabetes, high blood pressure, heart disease, and some cancers.

<sup>5</sup> Overweight is defined as having a Body Mass Index (BMI) between 25 and 29.9. Obese is defined as having a BMI greater than 30. <http://www.cdc.gov/obesity/defining.html> (Last accessed October 11, 2011)

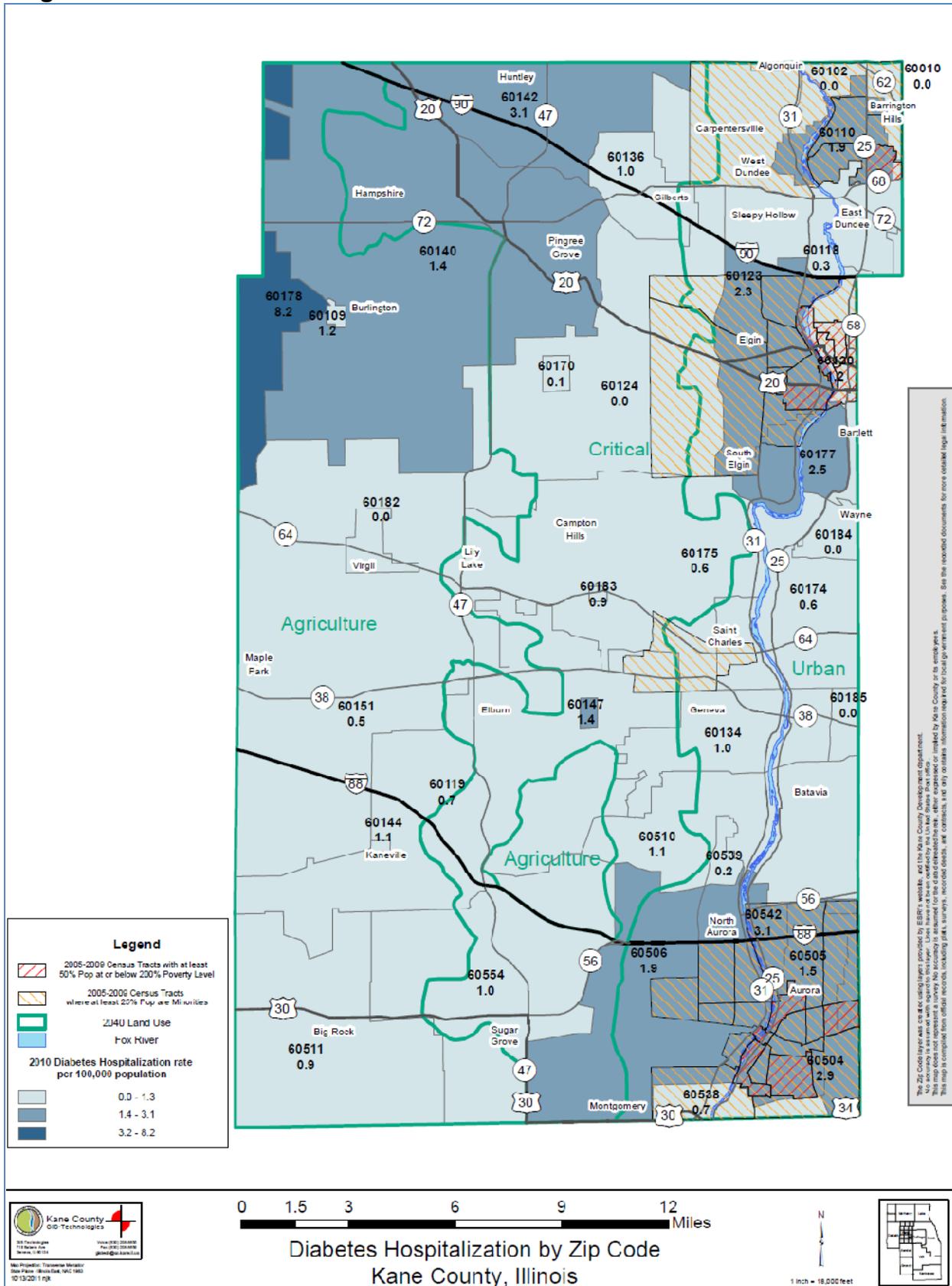
Figure 34



Using maps that overlay demographic information over health data or that divide the County into geographical sections helps the department identify areas that are disproportionately affected by health issues and allows it to concentrate efforts where assistance is most needed. It can highlight population differences and see disparities by geography and education and income levels. The following map (Figure 35) shows Diabetes Hospitalizations by ZIP code. It also indicates the areas of the County with low-income and minority residents.

**THE RAPID GROWTH OF CHILDHOOD OBESITY IS THREATENING TO MAKE THE CURRENT YOUNGER GENERATION TO BE THE FIRST IN HISTORY TO HAVE A SHORTER LIFE EXPECTANCY THAN THEIR PARENTS.**  
*ROBERT WOOD JOHNSON FOUNDATION*

Figure 35



**Figure 36**

### **Kane County Fit for Kids**

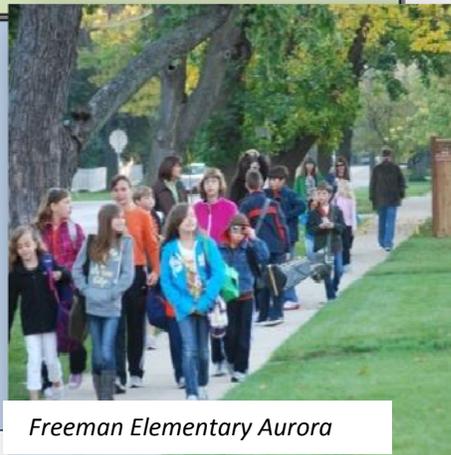
A major planning initiative to reverse the toll of childhood obesity was started in 2008 with the launch of the Fit for Kids campaign. This campaign brought together leaders of nine sectors (Schools & Education, Mobility, Food Policy, Faith Community, Economic Strength, Family, Culture & Community, Built & Natural Environment, Healthcare & Medicine, Recreation & Lifestyle) to shape the Making Kane Fit for Kids initiative to reduce childhood obesity. In the three years since the County Board launch, it established a public-private funders' consortium to secure funding and authorize grants for local change efforts and released its Fit Kids 2020 Plan of 54 endorsed community-focused strategies to promote policy, environmental, and infrastructure change, with a focus on families disproportionately affected by obesity and chronic disease.

In 2009 the department was awarded a \$360,000 multiyear grant by Healthy Kids, Healthy Communities, a program of the Robert Wood Johnson Foundation. More than \$330,000 has been awarded to the community to support policy and environmental change strategies such as worksite wellness, joint use agreements, community gardens, and comprehensive municipal plans. Through financial assistance and technical expertise, the department is committed to implementing the policies and strategies outlined in the Fit Kids 2020 Plan. To learn more, visit: <http://www.makingkanefitforkids.org/>

#### **Select Grantees**

##### **Making Kane County Fit for Kids Funders' Consortium**

- Four Farmers' Markets that received equipment to accept Link cards for the SNAP program
- Food Bank consortium to purchase refrigeration units, allowing them to offer fresh produce to clients
- New playground equipment, climbing wall at several parks, schools
- Employer-based wellness program
- Support for creating, improving church, school, community gardens



*Freeman Elementary Aurora*



*Bike Train, Fabyan Elementary Geneva*

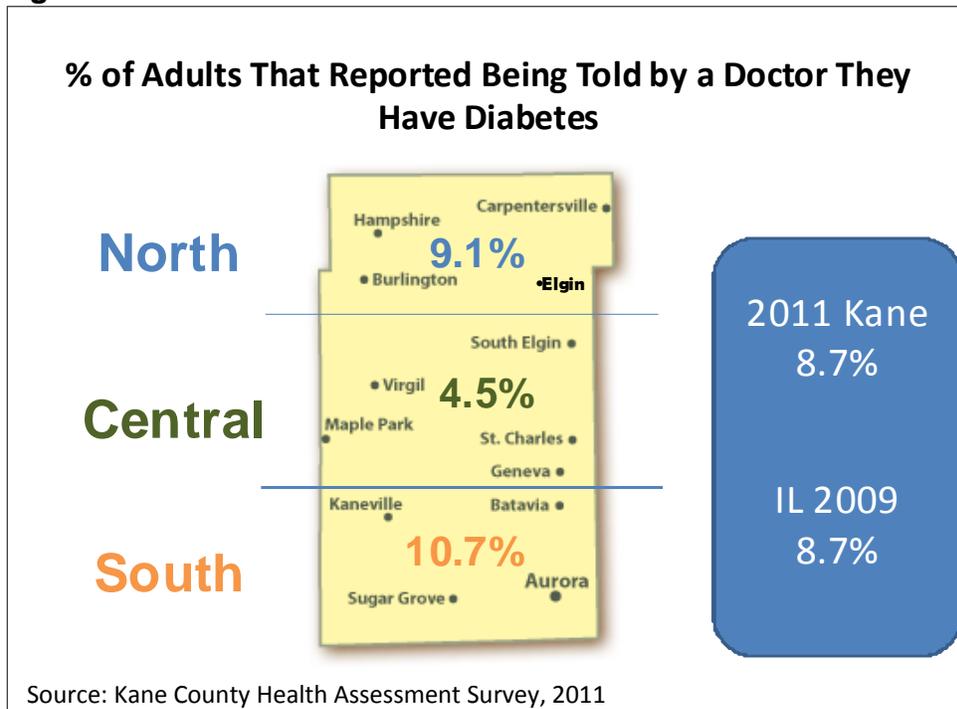


*Empty Car Line, Storm Elementary Batavia*

International Walk to School Day promotes the idea of providing children with more physical activity while at the same time reducing traffic and the results of traffic such as pollution and automobile accidents. Walk to School Day can plant a seed that walking can be fun, promote friendship and bonds for both students and parents, and lead to increased physical activity at school and at home. In Kane County, 49 schools were awarded mini-grants for participating in Walk to School Day through the Making Kane County Fit for Kids Funders' Consortium.

In Kane County, there are communities which are disproportionately affected by health problems, including diabetes, stroke, infant mortality, and heart disease. Figure 37 shows the percentage of adults in each planning area who have been told by a doctor that they have diabetes. There is a striking difference between the Central area and the North and South areas. The overall rate is the same as the state, but breaking down the information by planning area shows that certain sections of the County are higher than the state.

**Figure 37**



Another difference identified in the assessment is the diagnosis of angina/coronary heart disease and income, seen in Figure 38. The highest rate is found in people with the lowest household incomes. This information can be used when analyzing areas of the County where residents may need more physical activity and/or access to fresh produce. Coronary heart disease is associated with a lack of physical activity and a poor diet, both factors that are part of health behaviors, but tie in with the built environment.<sup>6</sup> If people live in a community with plenty of options for exercise and access to fresh produce, they have more opportunities to choose health-promoting behaviors.

<sup>6</sup> "Heart Disease: Prevention: What you can do" Centers for Disease Control and Prevention [http://www.cdc.gov/heartdisease/what\\_you\\_can\\_do.htm](http://www.cdc.gov/heartdisease/what_you_can_do.htm)

**Figure 38**

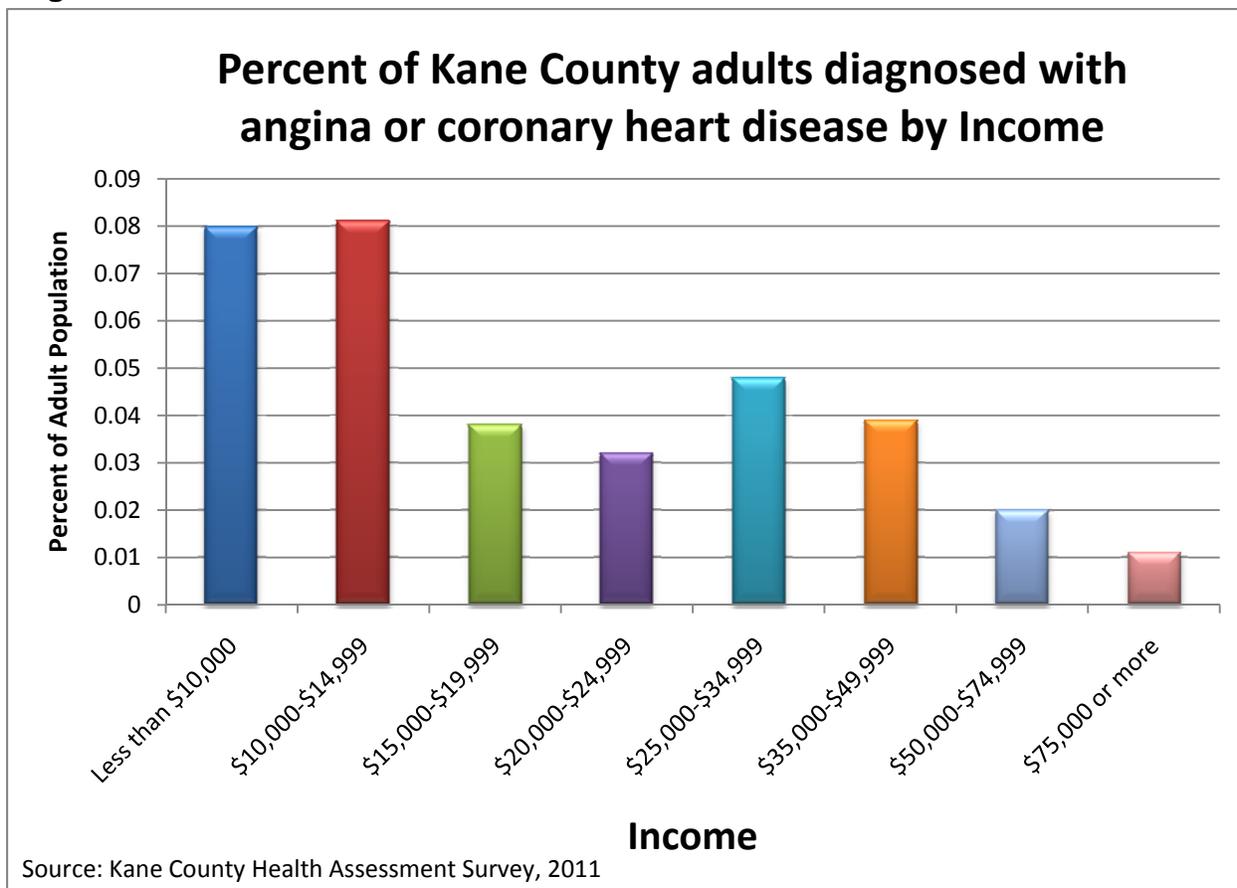


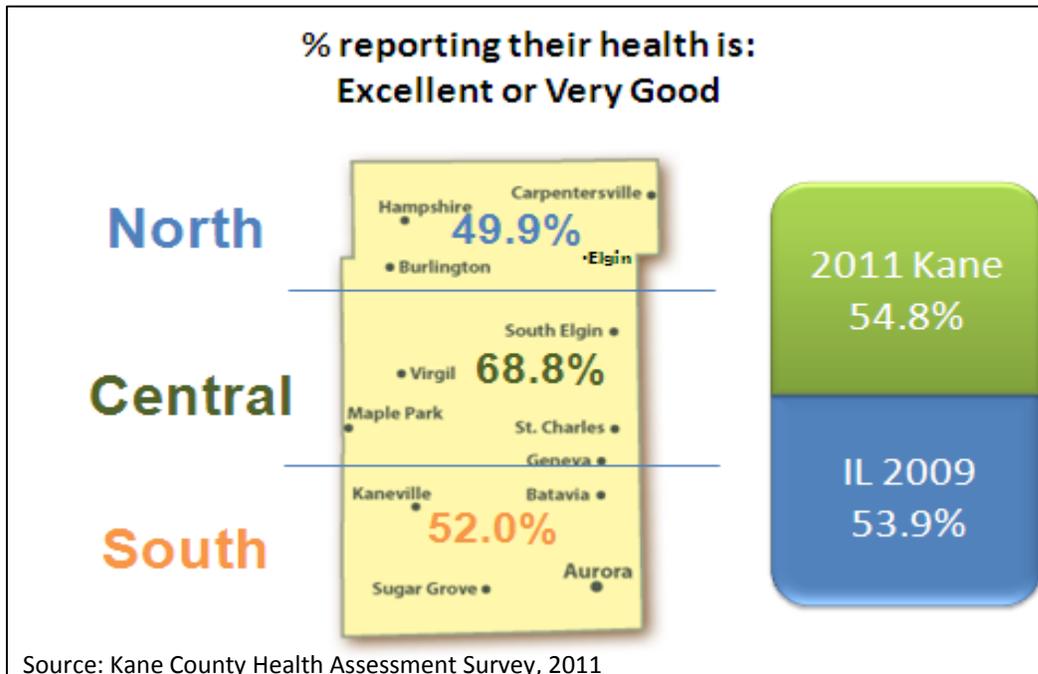
Figure 39 provides another example of the disparities found through the analysis of the data collected in the 2011 CHA. The question asked people if, in general, their health was poor, fair, good, very good, or excellent. The difference between the three planning areas of the County is striking, again demonstrating how the robust CHA provided more in-depth information than ever before and significantly improved the update to the Community Health Improvement Plan.

According to the 2011 CHA, results, 1% of children under 6 years old in Kane County have elevated levels of lead in their blood, which is the second highest percentage of Illinois counties. The housing infrastructure plays a key role in the health of residents as well. Providing affordable housing for all residents throughout the County will allow many people to live in healthier communities and lower their risk for health problems caused by the environment. Residents who live in substandard housing have an increased risk of being exposed to pollution, which can lead to health problems like asthma. In addition, homes built before 1970 may have lead paint, exposing families to lead. Lead exposure has negative impacts on the growth

To see the results of the 2011 Community Health Assessment, visit <http://www.kanehealth.com/planning.htm>

and development of young children and can be prevented by a combined effort of the health department, medical community, parents, landlords, contractors, and local decision makers.

**Figure 39**



### Kane County Community Health Improvement Plan

Once the assessment was completed, work started on updating the Kane County Community Health Improvement Plan (CHIP). Part of the process included working with key members of the local health system and community to review the results of the assessment and determine the most pressing community health needs. The results pointed to six major threats to community health and well-being: obesity, chronic disease, infant mortality, childhood lead poisoning, communicable disease, and poor social and emotional wellness.

The plan includes four overarching priorities which address each of the six top health threats and complement the goals and theme of the Kane County 2040 Plan **Healthy People, Healthy Living, Healthy Communities**. The priorities were developed by considering the root causes contributing to the health issues we face. In order to successfully address the health threats, we must focus our efforts not only on better access to medical care or personal behaviors but also on assuring that our social, economic and built environments contribute to good health. The priorities recognize the interconnectedness of our personal behaviors with the systems and environments we live in. To be successful in improving population health, we believe we have to address issues in each of these areas. The four priorities are:

- **Support health behaviors that promote well-being and prevent disease**
- **Increase access to high quality, holistic preventive and treatment services across the health care system**
- **Support and create health promoting neighborhoods, towns, and cities**
- **Promote social, economic, and educational environments that optimize health**

Within each priority, several strategies are identified to address major contributing factors to premature illness and death. The recommended strategies are supported by evidence of success or “evidence-based practice.” The Community Guide<sup>7</sup> published by the Centers for Disease Control and Prevention, includes more information about each of these strategies and the careful study and research that supports these strategies as being effective. Each strategy includes a measure as well as baseline data and the goal for the next five years. These measures and goals were determined and reviewed by stakeholders including the Community Assessment Partners, Kane County Health Advisory Committee, Kane County Board of Health, and Kane County staff members. Each measure will be tracked and reported on each year to provide an update on the progress made towards the 2016 goals. See Table 3 for an example:

**Table 3**

<b>Strategy</b>	<b>Measure</b>	<b>Outcome Objectives</b>	<b>Data Source</b>
Increase access to and consumption of fresh fruits and vegetables	Percentage of Kane County Adults who report eating at least five servings of fruits and vegetables per day. 2011 Baseline: 14.4% adults 25.5% children	Increase percentage by 2016 to 30% for adults and 40% for children	2011 Kane County Community Health Survey, Illinois BRFSS

Working collaboratively with partners in the assessment process, local elected officials, community residents and community based organizations, the CHIP is truly the community's plan for health improvement. All partners will be able to identify strategies that are most relevant to their work and can work to implement changes that will help Kane County be a healthier place to live, work, and play. The final plan will be approved by the County Board in spring 2012 and shared with the entire community. The plan will be evaluated and updated yearly to ensure there is progress toward the selected goals and objectives.

<sup>7</sup> <http://www.thecommunityguide.org/index.html>

## Kane County Health Planning

Health planning is a new undertaking for the health department and a full-time health planner position was created in 2010. The planning position is responsible for organizing a community health assessment and updating a community health improvement plan based on the assessment results. The planner also works with other departments and divisions at the County, through the Quality of Kane initiative and by serving on working committees to create and update plans. The department's vision is to have the healthiest people in Illinois by 2030 and the various health planning initiatives, focus on county-level programs, and community partnerships are driving forces leading to the achievement of that vision.

A key objective for health planning is to integrate Health Impact Assessment as part of projects, plans, and policies at the county and municipal level. Health Impact Assessment (HIA) helps policy makers analyze potential health impacts by bringing together scientific data, health expertise and public input to identify the potential—and often overlooked—health effects of proposed new laws, regulations, projects and programs. It offers practical recommendations for ways to minimize risks and capitalize on opportunities to improve health. HIA is a new tool that is gaining favor with planning professionals nationwide because it emphasizes the connection between the built environment and health. Although the assessments are focused on health, they can be most effective in the non-health field: building a new transit system, developing an agricultural plan, planning a city's growth or deciding where to locate a new school.

The County's commitment to the Quality of Kane initiative demonstrates the importance of aligning health, land use and transportation planning goals to bring us to a place where we have **Healthy People, Healthy Living, Healthy Communities**. Through the health planning position and

**Figure 40**

### Health Impact Assessment (HIA)

The Kane County Health Department and Development and Community Services Department jointly applied for and were awarded a grant in 2011 to undergo training and conduct an HIA. The HIA team is examining an amendment to the county's Farmland Protection Program. In 2012-2013, the Kane County Farmland Protection Commission and the Kane County Board will consider an amendment to Ordinance 01-67, the Farmland Protection Program. The proposed amendment, an implementation strategy of the 2040 Plan, will expand eligibility criteria to include small food producing farms, and ensure that acreage remains available for local food production. At present, 100% of participants in the farm protection program are conventional row crop and livestock producers situated in rural Kane. This policy balances investment in permanent farmland protection in all planning areas (agriculture: food and farms, critical growth, and sustainable urban corridors) and encourages local food production for the benefit of population health.

commitment to expanding the use of HIA, the department is working toward integrating health into all decisions (Figure 40).

In 2012, the Kane County Health Department is applying for voluntary accreditation through the Public Health Advisory Board (PHAB), to help meet our vision of having the healthiest residents in Illinois by 2030. According to PHAB, “The goal of the national public health accreditation program is to promote and protect the health of the public by advancing the quality and performance of all health departments in the United States through national public health department accreditation.”<sup>8</sup> This is the first time that public health departments can demonstrate their performance against a set of national criteria which aligns with the Ten Essential Services of Public Health. Accreditation will benefit residents because it will ensure the health department is meeting specific standards which were created to protect and improve their health. Three main requirements for accreditation are a community health assessment, a community health improvement plan, and department strategic plan, all of which were addressed in 2011.

In January 2011, the department started a formal Quality Improvement initiative, which is an integral part of the accreditation application and creates a culture of improvement within the agency. Quality improvement is a way that programs and procedures can be examined and improved to increase efficiency and improve outcomes. This benefits residents and the community because programs and services will utilize financial and staff resources more effectively, leading to an enhanced ability to meet the demand for services. The Health Department’s dedication to quality improvement is evidenced in several initiatives throughout the agency, ranging from improving staff response to emergency call-out drills, to reducing violations at food establishments, to tracking activities with community partners.

Ultimately, the health of Kane County depends on the health of all residents. The Community Health Improvement Plan calls on individuals, organizations, employers and communities to take action using the recommended policies and strategies to improve the health of Kane County residents and reach the County’s goal of having the healthiest residents in Illinois.

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<sup>8</sup> <http://www.phaboard.org/about-phab/> (Last accessed October 13, 2011)

## Chapter Policies

1. Support the actionable measures identified by the department and based on the results of the 2011 Community Health Assessment.
2. Promote the use of Health Impact Assessments with new or updated land use, transportation, and health policies, programs, and plans.
3. Increase access to and consumption of fresh fruits and vegetables.
4. Reduce tobacco use and exposure to environmental tobacco smoke.
5. Assure access to safe food and clean and safe water and air.
6. Coordinate the effective communication of tailored, accurate, and actionable health information to Kane residents across the lifespan.
7. Create environments that prevent excessive consumption of alcohol.
8. Increase the availability and variety of high quality, safe and affordable housing and compact, mixed-use developments.
9. Assure access to safe playgrounds, parks, trails, and open space.
10. Promote the implementation strategies in the Fit Kids 2020 Plan by encouraging municipalities and other organizations to consider them when creating or updating plans and policies.
11. Promote cross-sector collaboration to achieve community-wide wellness through partnerships with school districts, colleges, social service agencies, the faith-based community, non-profit organizations, hospitals, physicians, employers, park districts, municipal staff, elected officials and other organizations.

## 2.5 PLANNING ISSUES – HOUSING CHAPTER

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### Objectives:

1. To promote a balanced supply of housing types and prices countywide in order to meet the profound changes and shifts in the socio-demographic profile of Kane County residents.
2. To provide support to municipalities seeking to stabilize their communities through foreclosure prevention strategies, and code enforcement and rehabilitation programs.
3. To encourage the preservation and development of diverse and affordable housing near existing employment centers and public transportation.
4. To maintain and create a diverse and affordable housing stock in communities that have existing or planned infrastructure.
5. To encourage the removal of barriers in regulations that unnecessarily increase housing costs and discourage housing diversity.
6. To maintain, enhance, and create neighborhoods that are safe, free from environmental and public health hazards, provide a sense of community, and offer a choice of housing.
7. To prioritize housing in locations that offer infill and redevelopment opportunities, encourages compact, mixed-use, multi-modal development, and enhances community livability, increases walkability and decreases auto dependence.

### Chapter Focus

One of the major housing challenges for the County and municipalities over the next 30 years, and carried over from the 2030 Plan, is to meet the housing needs of a more diverse and aging population by creating a range of housing opportunities and choices that promote equitable affordable housing. Since the adoption of the 2030 Plan, municipalities have been making significant progress meeting this challenge, but are now faced with new challenges as a result of the mortgage foreclosure crisis. As we plan for the growth in population and households, Kane County promotes development patterns that prioritize housing in locations that have existing or planned infrastructure, preserve the existing housing stock, utilize infill and redevelopment opportunities, incorporates compact, mixed-use development, and increases mobility choices, such as walking, biking, and transit in Kane County. Meeting the needs for attractive housing of a diverse and aging population is also necessary to attract a

competitive workforce and innovative employers. Recognizing that the majority of the County's future housing stock will be the result of municipal decisions, the County is committed to engaging in a leadership role to promote the 2040 housing objectives – those that lead to a more livable, sustainable, and healthy Kane County.

This chapter examines:

- Housing Patterns in the Region
- State of Housing Developments in Kane County
- Kane County's Housing Needs for a Changing Demographic
- Responding to the Mortgage Foreclosure Crisis
- Addressing Housing and Community Development Needs
- The Housing, Jobs, Transportation Connection

## Housing Patterns in the Region

The GO TO 2040 Plan developed for our region and adopted by the Chicago Metropolitan Agency for Planning (CMAP) in 2010 describes the problem with the current housing and land use patterns in the region,

*“The region's development over the last several decades has resulted in a pattern of land use that is not sustainable. Development in the last half of the 20th Century has overall been a story of outward expansion, consuming vast amounts of land and requiring huge investments in water, wastewater, and transportation infrastructure.*

*During this time, much development occurred unevenly, resulting in an imbalance between where jobs are located and where people live. As population expanded, many people moved to low-density, solely residential neighborhoods accessible only by car. At the same time, jobs shifted from major concentrations in the region's industrial hubs to dispersed and less accessible employment centers across the region. These changes were driven by diverse factors, including infrastructure investment decisions, tax policies, resident preferences for larger homes and lots, and movement toward areas with lower crime and better schools, to name a few.*

*... the result of these major shifts is a disparity in where people work and where people live, and more particularly where affordable housing is located in relation to job centers. Further, this imbalance has hindered access to transit, increased energy use and household costs related to transportation, and helped to fuel the region's increasing traffic congestion. The environmental impacts of rapid growth in undeveloped areas are also severe, and the region has lost much of its former open space and agricultural land. **Recognizing these issues, CMAP concludes that the region should alter the trend of land use that emerged over the past several decades, in favor of a development pattern that promotes livability.**”*

The GOTO 2040 Plan goes on to advocate,

*“What is perceived as cheaper “greenfield” development is, in the long run, more costly by many measures. Infrastructure costs increase as new roads, sewer, water, and utilities must cross significant distances to accommodate spread-out development. National and regional research shows that compact development patterns can significantly reduce the cost of local roads and other infrastructure, with the cost savings accruing to local governments and developers. The*

cost of providing services such as fire and police protection or garbage pickup is also generally lower in a denser area.

*A regionally balanced range of housing can also reduce the need for long-distance travel, as it gives residents more options to live near where they work. Currently, housing is limited near many of the region's job centers, forcing lower-income workers to make long commutes from more-affordable residential areas. While many residents may still choose to make long commutes due to lifestyle or occupation choices, GO TO 2040 seeks to make this decision a choice, rather than a necessity.”<sup>1</sup>*

## **State of Housing Development in Kane County**

After agriculture, housing remains the second largest land use in Kane County. Between 2000 and 2010, Kane County gained 43,049 households for a total of 182,047. However, 88.7% (161,559)<sup>2</sup> of the total households in Kane County reside in the 30 municipalities, now including three new municipal incorporations since 2001: Villages of Big Rock (2001), Kaneville (2006), and Campton Hills (2007). The Chicago Metropolitan Agency for Planning projects the number of households in Kane County to increase by 94,383 (53%) to accommodate an additional 269,379 people in the next 30 years<sup>1a</sup>. By 2040, over 90% of all households in Kane County will reside within municipal incorporated areas.

Kane County and its municipalities have contributed to the current problem of housing and land use patterns described in CMAP's GOTO 2040 Plan. Table 4 shows the 2011 numbers for housing developments in the region. As one of six counties in the region, Kane County has a high percentage in almost every category, including almost one quarter of all future lots.

*“During decades of rapid but largely uncoordinated expansion, the region grew in patterns that were not sustainable. New homes cropped up in areas that were difficult to reach by automobile and virtually impossible by public transit. Jobs created were often far from the region's residential centers, keeping commuters tied up in traffic and wasting billions of dollars in lost time and fuel. Patterns of development consumed land at a rapid rate, with serious implications for natural resources – including less open space, potential water shortages, and diminished air quality.”*  
-CMAP, GO TO 2040 Plan.

<sup>1</sup> Chicago Metropolitan Agency for Planning. 2010. GO TO 2040 Plan.

<sup>2</sup> U.S. Census Bureau. www.census.gov.

**Table 4.<sup>3</sup> Housing Developments in the Chicago Region and County Market**

	Chicago Region Market	Kane County Market	Kane County % of Market
Total Subdivisions	2,443	689	28.20%
Active Subdivisions	1,328	175	13.18%
Future Subdivisions	1,115	196	17.58%
Furnished Model Homes	596	146	24.50%
Finished & Vacant Homes	1,569	302	19.25%
Homes Under Construction	1,557	331	21.26%
Vacant Developed Lots	47,757	7,425	15.55%
Future Lots	215,447	47,428	22.01%

Finished Vacant Home: A home which is completely constructed, but shows no signs of occupancy.

Home Under Construction: A house is considered UC when the slab (or basement) is poured. It is carried as UC until all signs of construction are gone and the house is ready for occupancy.

Vacant Developed Lots: Lots are considered to be VDL when one can drive down the street in front of them.

Future Lots: When a preliminary plat is submitted to a city or county for development approval.

When the data is sorted by the Conceptual Land Use areas (Table 5) and the Public Participation Areas (PPA) (Table 6), the results are striking as to where new single family development is continuing the housing and land use patterns of the recent past.

**Table 5.<sup>3a</sup> Housing Developments in Kane County by Strategy Area**

	Finished Vacant Homes	Lots Under Construction	Vacant Developed Lots	Future Lots
Sustainable Urban Area	165	88	1,911	8,965
Critical Growth Area	160	220	5,332	34,743
Food, Farm and Small Town Area	0	0	73	3,955
<b>Kane County Total</b>	<b>325</b>	<b>308</b>	<b>7,316</b>	<b>47,673</b>

**Table 6.<sup>3b</sup> Housing Developments in Kane County by PPA**

	Finished Vacant Homes	Lots Under Construction	Vacant Developed Lots	Future Lots
North PPA	161	164	3,921	29,698
Central PPA	96	60	1,702	9,543
South PPA	68	84	1,693	8,422
<b>Kane County Total</b>	<b>325</b>	<b>308</b>	<b>7,316</b>	<b>47,673</b>

<sup>3</sup> Metrostudy, 2012. Third Quarter Data.

The Fox River communities in the Sustainable Urban Area contain the majority of the County's population and the richest diversity of housing due to history, available infrastructure and years of neighborhood investment. This is attributed to communities having established sewer and water services, transportation networks, and a variety of businesses with employment opportunities. The urban communities of Algonquin, Aurora, Batavia, Carpentersville, East Dundee, Elgin, Geneva, Montgomery, North Aurora, Sleepy Hollow, South Elgin, St. Charles, Wayne, and West Dundee have achieved remarkable accomplishments in downtown revitalization, stimulated reinvestment in historic buildings and have created a market for residential condos, townhomes and apartments helping to preserve and enhance the character of their community and neighborhood quality of life. While growth has slowed, this has allowed the Sustainable Urban Area communities time to plan for future housing that meets the need of our changing population and that builds on the successes they have already achieved in creating places that are sustainable, livable, compact, bicycle and pedestrian friendly, respectful of nature, and with a stronger sense of place. Due to the recession and the mortgage foreclosure crisis, the Sustainable Urban Area communities are facing challenges of abandoned homes and code enforcement. Sustainable Urban Area communities previously experiencing rapid new residential housing development in the western fringes extending into the Critical Growth Area are now faced with an oversupply of vacant lots that have already been improved with roads, utilities, stormwater infrastructure, and sometimes landscaping. The Sustainable Urban Area and the Critical Growth Area have a 23.8 and 12.9 year supply of new completed, vacant homes, respectively<sup>3c</sup>.

The Critical Growth Area communities include Campton Hills, Elburn, Gilberts, Pingree Grove, Hampshire, Huntley, and Sugar Grove. Many of these communities are looking to enhance or create their town center in order to provide a community focal point and gathering places for their residents. While the dominant housing type in the Critical Growth Area is single-family detached homes on large lots, many municipalities are offering more diverse housing choices within walking distance to their town center. In unincorporated Kane County, the Mill Creek master planned community offers a good example of more diverse housing in a walkable neighborhood, a village center with condos, townhomes, and apartments. In addition, future housing in unincorporated areas of the County should restrict the subdivision of land with severe physical limitations for septic systems, buildings, and roads, as well as require development to preserve and enhance natural features such as vegetation, wildlife, waterways, wetlands, topography, and scenic vistas. The Critical Growth Area will continue to face challenges of traffic congestion and a sustainable water supply.

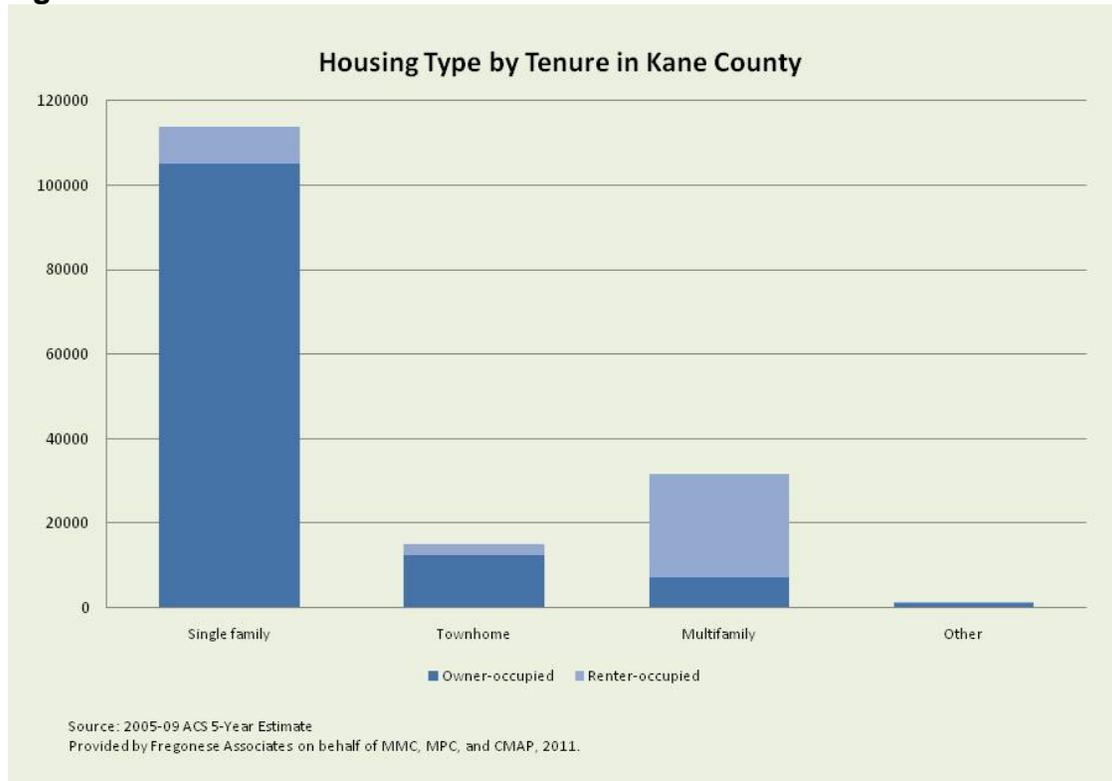
The Agricultural Villages in Kane County include Big Rock, Burlington, Kaneville, Lily Lake, Maple Park, and Virgil. These villages are attractive due to the area's rural character, small-town charm, and small size with populations between 326 and 1,126 residents<sup>2a</sup>. New growth pressures may be faced by these agricultural

villages in the next 30 years. As growth is accommodated, it will be important to incorporate a variety of housing choices while preserving rural character and maintaining the existing features that define the town’s community character in order to maintain an alternative to the typical suburban sprawl.

### Kane County’s Housing Needs for a Changing Demographic

The Kane County’s housing stock today is approximately 77% owner-occupied and 23% rental-occupied. Between 2000 and 2010, the County gained more than 28,831 owner-occupied housing units and 7,747 rental-occupied housing units.<sup>2b</sup> The predominant housing type by tenure is owner-occupied single-family (105,134 units), followed by rental-occupied multi-family housing (24,303 units), and then owner-occupied townhomes (12,335 units)<sup>4</sup> (Figure 41). The majority of homeowners in Kane County are White and Latino, while a majority of renters in Kane County are Black/African-American and Latino<sup>5</sup>

**Figure 41**<sup>4a</sup>



The housing needs of Kane County residents in the next 30 years will be as varied as the population. For years the single-family detached home suited the primary needs and desires of homebuyers. Because single-family detached

<sup>4</sup> Fregonese Associates on behalf of Metropolitan Mayors Caucus, Metropolitan Planning Council, and Chicago Metropolitan Planning Agency. 2011. 2005-2009 ACS 5-Year Estimate.

<sup>5</sup> Claritas – Economic Planning Systems, Kane-Elgin Consortium Comprehensive Housing Market Study.

housing is the primary housing type, it is expected to continue to fill much of the demand. However, Kane County's population over the next 30 years is projected to have more 20 something's and seniors, and will be more racially and ethnically diverse with a greater number of single-parent households, shifting demands for housing type and price.<sup>1a</sup>

Kane's Latino population, in the last 10 years, has increased 7%. The Village of Pingree Grove and the Village of Montgomery have experienced the largest increase in the Latino population during this same time period, a 17.94% and 13.16% increase, respectively (Tables 7 and 8). By 2040, CMAP's projects a 30% increase in the Latino population for the Chicago region. In addition, "growth among all racial and ethnic groups is projected to continue to shift toward suburban areas."<sup>1b</sup> According to the report, *Homes for a Changing Region (2005)*, a mismatch was found between the kind of housing likely to be needed by the Chicago region's growing population and the kind of housing being planned. A look at the region's housing patterns by race and ethnicity showed that "Whites in the Chicago region live in single-family detached homes at almost double the rate that minorities do. Minorities are more likely to reside in attached single-family homes and apartments" (Figure 42).

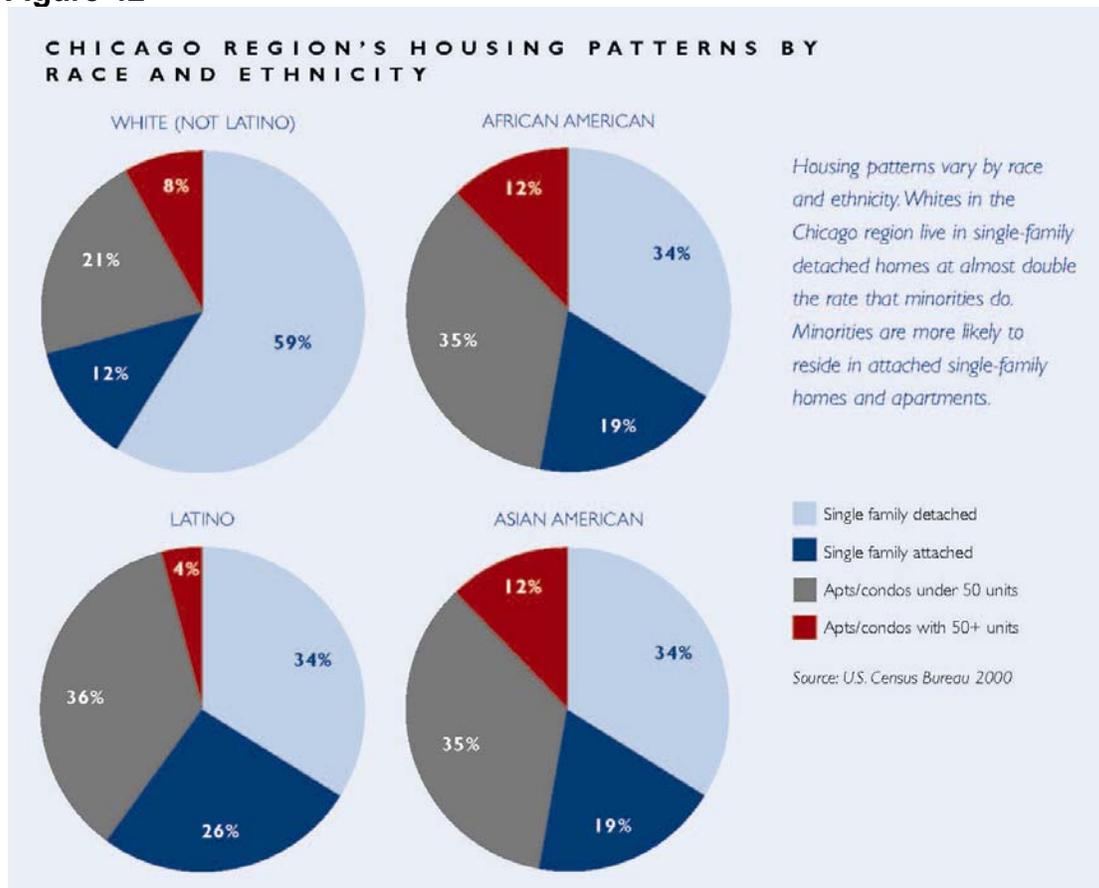
**Table 7<sup>2c</sup>**

<b>Top 5 Kane County Municipal Increases in Hispanic or Latino Population, 2000-2010</b>			
<b>GEOGRAPHY</b>	<b>2000 Hispanic or Latino</b>	<b>2010 Hispanic or Latino</b>	<b>Change, 2000-2010</b>
<b>Kane County</b>	95,924	158,390	62,466
<b>Aurora city</b>	46,557	81,809	35,252
<b>Elgin city</b>	32,430	47,121	14,691
<b>Carpentersville village</b>	12,410	18,877	6,467
<b>Montgomery village</b>	741	4,923	4,182
<b>St. Charles city</b>	1,535	3,349	1,814

**Table 8<sup>2d</sup>**

<b>Top 5 Kane County Municipal Percentage Increases in Hispanic or Latino Population as a part of Total Population, 2000-2010</b>			
<b>GEOGRAPHY</b>	<b>2000 Hispanic or Latino</b>	<b>2010 Hispanic or Latino</b>	<b>Percent Change, 2000-2010</b>
<b>Kane County</b>	23.74%	30.74%	7.00%
<b>Pingree Grove village</b>	4.03%	21.98%	17.94%
<b>Montgomery village</b>	13.54%	26.70%	13.16%
<b>Carpentersville village</b>	40.57%	50.08%	9.51%
<b>Gilberts village</b>	3.36%	12.71%	9.34%
<b>Elgin city</b>	34.32%	43.55%	9.23%

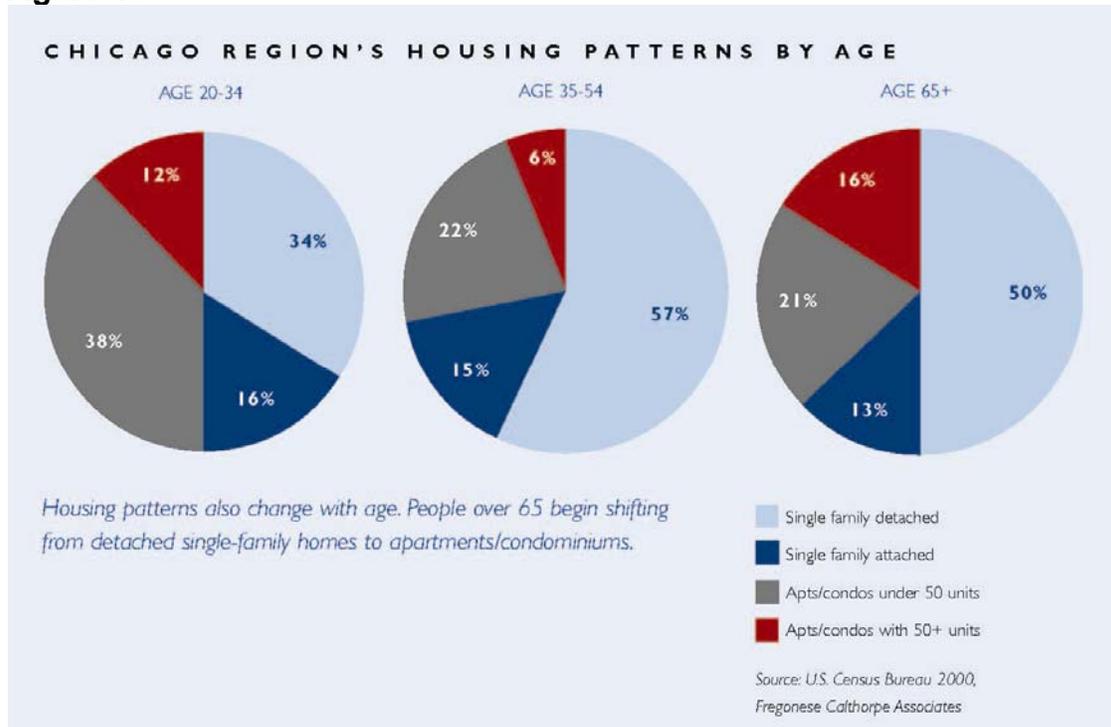
Figure 42<sup>6</sup>



Nationwide, by 2011, the baby boomer generation will begin to enter the senior population, 65 years and older<sup>2e</sup>. Following regional and national trends, Kane County's senior population is expected to dramatically increase. By 2040, those between the ages of 65 and 84 years are expected to double, and those between the ages of 85 and older are expected to triple<sup>1c</sup>. According to the report, *Homes for a Changing Region (2005)*, "people over 65 increasingly want to live in more compact communities, including those with apartment buildings of 50 or more units, small apartment complexes, duplexes, town homes, and in small homes designed to be relatively maintenance free" (Figure 43). Seniors living in suburban homes will most likely choose to live in mixed-age living environments that cater to active lifestyles, including walkable suburban town centers. By offering a variety of affordable housing choices within Kane County's existing communities, seniors will have the opportunity to "age in place" –having access to amenities, public services, and live near their families.

<sup>6</sup> Chicago Metropolis 2020 and the Metropolitan Mayors Caucus. 2005. Homes for a Changing Region.

**Figure 43<sup>5a</sup>**



Generation Y, approximately the ages between 10 and 29, also known as the Echo Boomers or children of the Baby Boomers, make up on average 25% of the municipal population in Kane County. Generation Y exceeds the Baby Boomer generation and by 2040 in Kane County, Generation Y is expected to outnumber the Baby Boomers by 34,707<sup>1d,2f</sup>. With less of an interest in homeownership, this generation will largely be renters. Rather than a lifestyle in the suburbs with a long commute, the Echo Boomers are showing a desire for urban living with public transportation options and opportunities and to live a more sustainable, “green” lifestyle. A community that offers housing in close proximity to work, shopping, and entertainment; a place that is walkable and offers alternative modes of transit will play an important role in their housing decisions. According to a report by the National Association of Realtors, even a community in the suburbs that offers a “compact, walkable lifestyle that is affordable will be attractive... especially if it has transportation alternatives.”<sup>7</sup>

### **Responding to the Mortgage Foreclosure Crisis**

The housing boom in the nation from 2000 to 2007 drove new development and increased homeownership rates. During this time period in Kane County, over 94% of all building permits per unit were issued when compared to decade totals. On average, between 2000 and 2007, 5,072 building permits per unit were issued annually (Table 9). The recession of 2008, ended the housing boom affecting individuals, neighborhoods, local governments, and communities in

<sup>7</sup> National Association of Realtors. June, 2010. On Common Ground.

Illinois and across the nation. By 2009, Illinois ranked fourth in foreclosures nationwide<sup>8</sup>. The percentage of mortgage foreclosures in Illinois from 2000 to 2006 was around 2 percent, rising to 4.25 percent in 2007 and 2008, and by the end of 2009 the percentage of mortgage foreclosures rose to 5.5 percent.<sup>9</sup> In 2010, Kane County had over 150% more foreclosure filings than it had in 2007. However, the rate at which these filings have taken place, during this same time frame, has consistently decreased on a yearly basis.<sup>2h</sup>

**Table 9<sup>2g</sup>**

<b>Kane County Building Permits, 2000-2010</b>					
	<b>Number of Units</b>				
	<b>Single Family</b>	<b>Two Family</b>	<b>Three and Four Family</b>	<b>Five or More Family</b>	<b>Total</b>
<b>2000</b>	4,351	14	166	1253	5,784
<b>2001</b>	4,705	14	209	864	5,792
<b>2002</b>	4,734	6	264	889	5,893
<b>2003</b>	4,807	4	183	638	5,632
<b>2004</b>	4,586	2	100	119	4,807
<b>2005</b>	5,455	22	0	22	5,499
<b>2006</b>	4,390	0	0	133	4,523
<b>2007</b>	2,562	12	0	72	2,646
<b>2008</b>	1,047	2	4	48	1,101
<b>2009</b>	519	0	4	0	523
<b>2010</b>	527	12	4	22	565
<b>Decade Total</b>	<b>37,683</b>	<b>88</b>	<b>934</b>	<b>4,060</b>	<b>42,765</b>

Note: Inclusive of Kane County's 30 municipalities

Kane County communities have been impacted by the high foreclosure rates, leading to vacant, abandoned, and sometimes vandalized properties, often leading to a rise in criminal activity.<sup>10</sup> According to the Woodstock Institute (2009), "while foreclosure filing activity remains highly concentrated in lower-income communities and communities of color, some of the largest increases in foreclosure activity were seen in middle- and upper- income suburban communities."<sup>11</sup> In 2010, the number of vacant housing units in Kane County totaled 11,568, an increase of 6,471 housing units since 2000<sup>2i</sup>.

For the purpose of stabilizing communities and mitigating housing problems, Kane County and the cities of Aurora and Elgin altogether received more than \$7.5 million in Federal Neighborhood Stabilization Program funds, which have

<sup>8</sup> Bloomquist, Daren. 2010. A record 2.8 million properties receive foreclosure notices in 2009. <http://www.realtytrac.com/landing/2009-year-end-foreclosure-report.html>

<sup>9</sup> Federal Deposit Insurance Incorporation. Conventional subprime mortgage delinquencies, Illinois.

<sup>10</sup> Campos, Leslie and Timothy Collins. Sept. 2010. Impacts of the Mortgage Crisis on Rural Illinois. Illinois Institute for Rural Affairs.

<sup>11</sup> Woodstock Institute. 2009.

been put to use purchasing and rehabilitating vacant and foreclosed homes. These dilapidated properties would otherwise adversely affect neighborhood living conditions and the value of surrounding properties. Foreclosed houses up-and-down the Fox Valley are being renovated and are available for purchase to eligible homebuyers. Long-term, sale proceeds finance the purchase of additional homes and are reinvested into additional activities, helping to encourage additional investment in the Sustainable Urban Area.

While many Kane County homeowners have felt the effects, both directly and indirectly of the rise in foreclosures, renters have been impacted as well. With the loss of a job, or a cutback in hours, lower-income renters face difficult financial decisions and can become “at-risk” for homelessness. The Homelessness Prevention and Rapid Re-Housing Program, funded under the American Recovery and Reinvestment Act of 2009, provides financial and legal assistance to either prevent low-income individuals and families, only in renter households, from becoming homeless or help those who are experiencing homeless to be quickly re-housed and stabilized. Under the program, more than \$2 million have been put to use by area non-profit agencies to provide short-term assistance to approximately 77 households as of March 31, 2011. The County also facilitates coordination among five non-profit agencies selected to administer the program and have access to additional federal funding in excess of \$1.5 million.

Proactive efforts on behalf of Kane County and some municipalities have helped manage the surge of vacant and foreclosed properties. In 2010, the County began requiring the registration of all vacant residential dwellings. Having reliable contact information for vacant properties has facilitated the swift remediation of nuisance and property maintenance code enforcement issues. The Village of South Elgin created a Vacant Dwelling Management Program that requires owners of vacant properties to register their property with the Village. The Program has helped establish relationships with those responsible for vacant properties to ensure code compliance. As a result, in 2010, the Village did not have to maintain private lawns, saving tax payers approximately \$5,000. The City of St. Charles is using Geographic Information Systems (GIS) to track foreclosed properties and ensure code enforcement of vacant and foreclosed properties. The Village of Carpentersville has implemented a “Follow-the-Paver” Program that focuses code enforcement activities in areas with recent street repairs. Each area is thoroughly inspected, property maintenance violations are corrected and unregistered residential units are brought into compliance and licensed. Kane County has invested in many of the Village’s street improvement projects.

## **Addressing Housing and Community Development Needs**

As the municipalities respond to the housing needs for the next 30 years, Kane County will support municipalities in meeting CMAP's regional strategy of housing preservation. The County has been and continues to be committed to housing preservation in order to maintain the existing housing stock to meet housing market demands, maintain and increase housing affordability, maintain community character, promote sustainable development by constraining the expansion of the urban footprint, and to contribute to the region's economy.

Federal programs, such as the Community Development Block Grant (CDBG) and Home Investment Partnerships (HOME) programs, assist Kane County in addressing housing and community development needs. While CDBG funds are used to improve housing quality, build neighborhood infrastructure, and expand economic opportunities for residents, HOME funds assist in the development of quality affordable housing for low-income households, including workforce and senior housing. The Home Investment Partnership (HOME) Program is the largest Federal block grant to State and local governments that support a wide range of activities that build, buy, and/or rehabilitate affordable housing for rent or homeownership to low-income people. Combined these two programs provide the County \$1.8 million in these services. These programs provide gap financing for projects that strengthen the livability of communities.

As a precursor to receiving federal funds, the County must complete a planning document known as the "Consolidated Plan". Once adopted by the County Board, the Consolidated Plan is submitted to the U.S. Department of Housing and Urban Development and will guide the use of federal housing funds over a five year period. The plan identifies the most-urgent housing and community development issues facing our area and establishes a strategy for using available federal resources to tackle those issues. Included in the plan is a housing market analysis, which will take into account the varying market conditions in a number of areas within the County. Based in part on the results of the analysis, the plan will identify the housing needs specific to each of those areas. Federal funds will then be used to make strategic investments in projects and activities that address the housing needs in each area of Kane County. The 2010-2014 Housing and Community Development Consolidated Plan for the Kane County/City of Elgin Consortium identified the following high-priority needs to be addressed with the CDBG and HOME Program funds: affordable housing services, neighborhood infrastructure, public facility improvements, emergency shelter services, planning and capacity-building.

Kane County's Community Development Fund was established in 1998 by the County Board to receive and distribute an estimated \$1.25 million in funding provided annually by the United States Department of Housing and Urban Development (HUD) under its Community Development Block Grant (CDBG) Program. The overall goal of the County's Community Development Program is

to foster viable urban communities by providing decent housing, creating suitable living environments, and expanding economic opportunities, principally for low- and moderate-income persons. Kane County provides Community Development Funds to units of local government and non-profit organizations for a wide array of activities/projects, including affordable housing, neighborhood infrastructure, public facility improvements, homelessness, and planning.

The Kane County/Elgin HOME Consortium is a city-county partnership authorized by HUD for the purposes of receiving Federal HOME Program funds. In order to access HOME funds, Kane County and the City of Elgin formed a Consortium – or partnership – in 2004. The Consortium consists of twenty-three municipalities (that participate in the County’s CDBG program), and the City of Elgin. The City of Aurora also participates in the HOME Program independently. Regardless of the conduit, HOME funds may be used to finance the construction of new affordable housing units, rehabilitate existing housing, and provide both homebuyer and rental assistance to low-income people. Each consortium determines the specific uses for HOME funds after evaluating the housing needs of their citizens and prioritizing the types of activities and projects that will best meet those needs. The HOME program addresses the highest priority identified in the Consolidated Plan, affordable housing, by supporting a variety of housing initiatives.

The County generally takes a two-pronged approach when addressing housing needs with federal funding. It aims to preserve units of affordable housing throughout the County, and to expand the supply of affordable housing in areas where it is lacking and near employment centers. The County addresses the first goal by providing income-eligible homeowners with loans to rehabilitate and maintain their homes. The second goal is met by providing gap financing, under flexible terms, for the development or redevelopment of new units of affordable housing.

### **The Housing, Jobs, Transportation Connection**

An integrated approach to planning for housing, jobs, and transportation can help create more sustainable, livable communities, improving residents’ quality of life. A balance of housing options countywide located near public transportation, can allow residents to live closer to their jobs, reduce commute times, and improve air quality. Maintaining and developing a diverse and affordable housing stock with compact, mixed-use development near employment centers and accessible to public transportation, can provide residents with transportation choices or alternatives to driving. Time typically spent in the car can now be spent on leisure time with family and friends, and allows residents to lead more active lifestyles by walking or biking to work, shopping, or other daily activities. According to the American Planning Association in their report *Jobs-Housing Balance (November 2003)*, “land-use patterns, which have increased travel distances because of the separation of homes, jobs, and other destinations – can

be blamed for approximately one-third of the increase in driving. Better-planned communities with balanced jobs and housing can help reduce travel distances and thus limit the growth in trip lengths.” Achieving a balance between housing and jobs without straining the transportation system is a growing concern within the Chicago metropolitan region. The majority of workers drive to their place of employment, often with long commute times, resulting in traffic congestion. This decreases the overall livability, desirability, and affordability of an area.

***“Most places are unaffordable when it comes to combined housing and transportation costs. 72% of American communities are unaffordable for typical regional households when transportation costs – the second largest expense in a family budget- are considered along with housing costs. Under the traditional definition of housing affordability, where a rent or mortgage payment consumes no more than 30 percent of household income, three out of four (76 percent) US communities are considered “affordable” to the regional typical household making their area’s median income. However, under an expanded definition of affordability, where housing and transportation costs consume no more than 45 percent of income, the number of affordable communities decreases to 28 percent, resulting in a loss of 86,000 neighborhoods that are within reach for a typical family.”***<sup>12</sup>

Transportation costs are determined by community characteristics, including proximity to jobs, access to services, housing density, walkable destinations, and extent and frequency of transit service. Compact, mixed-use, multi-modal development can help reduce transportation costs, improving affordability. In the nine county Chicago region, low-density towns located in areas on the urban edge are spending approximately 30 percent of their income on transportation costs, while those living in compact urban communities spend as low as 12 percent of their income on transportation costs. For lower income households, transportation costs are even higher. Households earning 80 percent average median income in the Chicago area (income of \$41,344) spend 22 cents of every dollar of income on transportation costs (Figure 44).<sup>12a</sup>

Location Efficiency is a term used to describe the conditions under which households devote substantially less of their income to meet their day-to-day transportation needs. Location efficiency can be as significant as housing costs when determining overall affordability, often making more location efficient neighborhoods less expensive than relatively inefficient areas despite higher housing costs. According to Center for Neighborhood Technology, a leading think-and-do tank in Chicago:

***“Low transportation cost, location-efficient neighborhoods are compact, mixed-use, transit-rich places, with homes located near***

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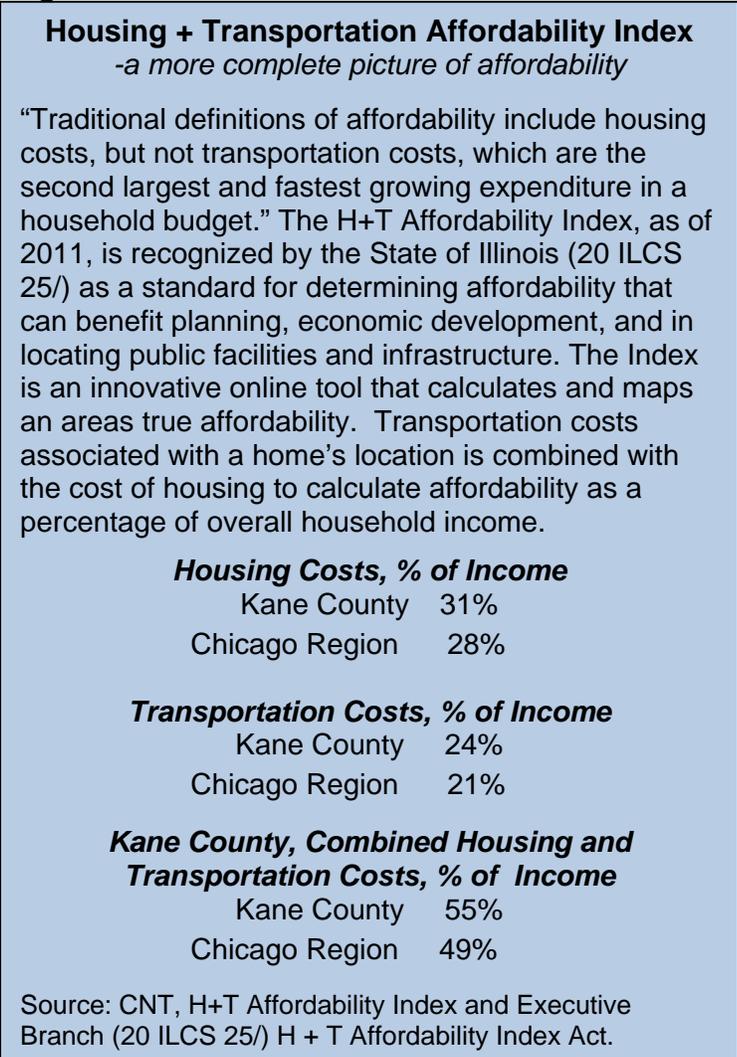
<sup>12</sup> Center for Neighborhood Technology. Housing + Affordability Index. <http://htanindex.cnt.org/> (note: data based on U.S. Census Bureau. 2005-2009 American Community Survey data.)

shopping, schools, and jobs. In these neighborhoods, public transportation is an attractive option and streets are designed with pedestrians in mind, with smaller blocks, stores, and community destinations located within walking distance. In contrast, less efficient communities feature lower residential densities and homes that are separated from commercial and institutional uses. Most households in these communities own multiple cars and must drive longer distances to complete daily routines, adding substantially to their transportation expenditures.”<sup>12a</sup>

In Kane County, the greatest percentage of residential development is not within a mass transit node. Supporting preservation of the County’s existing housing stock is one way to increase resident access to public transportation. Approximately 60% of neighborhoods with older housing have public transportation services available to the residents, whereas 75% of housing built after 1994 has no public transportation available<sup>13</sup>. Preserving the existing housing stock therefore also helps to preserve housing affordability, when transportation costs are taken into account.

Reduced employee commute times and a nearby supply of reasonably priced housing are advantages to employers. Employer Assisted Housing (EAH) is a strategy initiated by employers that provides incentives for employees to live closer to work. Participating employers provide direct financial help to employees for rent, closing costs, or mortgage payments; counseling for employees about housing choices and financing; or other savings program for employees. The Metropolitan Planning Council, who helped launch EAH initiatives in communities throughout the region, has found proven benefits of these programs to employers:

**Figure 44**



<sup>13</sup> Chicago Metropolitan Agency for Planning. 2008 Housing Preservation Strategy report.

- Reduced turnover and absenteeism and improved loyalty and productivity.
- Strengthened financial stability for workers, including foreclosure prevention, when employers provide housing counseling and financial assistance to buy or rent homes near jobs.
- Reduced commutes, improved quality of life, increased real estate taxes, and reduced traffic.
- Increased political, business, and community support for housing options.

System Sensor, one of the largest manufacturers of fire detection and notification products in the world and headquartered in St. Charles, was one of the first companies to pilot an EAH program in the Chicago region. System Sensor not only recouped its initial investment in the program, which began in 2000, but ultimately saved approximately \$100,000 per year in the form of workforce stability. Participating Illinois corporations can receive a credit toward their state income tax for cash, land or property donated for the creation of workforce housing. The state's goal is to generate private sector investment in workforce housing<sup>14</sup>.

## **Policies**

1. Encourage infill, preservation and rehabilitation of housing in communities that have existing or planned infrastructure.
2. Encourage the development of a diverse and affordable housing stock near public transportation nodes and employment centers.
3. Prioritize housing resources to areas with existing or planned access to alternative modes of transportation.
4. Require that residential developments preserve and enhance natural features such as vegetation, wildlife, waterways, wetlands, topography, and scenic vistas.
5. Consider code revisions reflecting new techniques and innovations to facilitate housing development, rehabilitation, and construction and to reduce the annual cost of homeownership and increase energy efficiency and waste reduction.
6. To increase collaboration and cooperation with the state, CMAP, municipalities, and non-profit groups in order to more efficiently and effectively allocate available resources to address existing and future housing issues.

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<sup>14</sup> Metropolitan Planning Council. [www.metroplanning.org](http://www.metroplanning.org)

7. Focus funding of the Housing and Community Development Consolidated Plan towards projects furthering the renaissance of the Sustainable Urban Area.
8. Continually analyze the effectiveness of Kane County and its municipalities in creating a diverse, affordable housing stock by tracking the regional housing indicators.
9. Discourage residential development in areas detrimental to County farmland preservation goals.
10. Encourage new residential development and redevelopment to be pedestrian, bicycle and transit friendly with links between housing, jobs, and retail.
11. Restrict subdivision of land with severe physical limitations for septic systems, buildings, and roads.



## 2.6 PLANNING ISSUES – AGRICULTURE FOOD & FARMS

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### Objectives:

1. To protect farmland as a valuable natural resource and economically productive land use through land use policy in both municipal and County land use and transportation decisions.
2. To discourage projects that will have a detrimental impact on the preservation of agricultural lands and discourage the use of public funds for such projects.
3. To support incentives, policies and programs, along with technical assistance in maintaining agricultural lands and structures to ensure an ongoing food supply and to support those who choose farming as a way of life.
4. To support national, state, regional and local policies and programs that promote agriculture as a means to support energy production, food supply and soil conservation goals.
5. To encourage and promote agriculture and local food production and their related businesses as a valued element of the Kane County economy through supportive land use and economic development policy, programs and practice.
6. To expand the purchase of agricultural conservation easements.

### Chapter Focus

Like much of Illinois, Kane County has some of the most productive farmland in the world. Also like much of Illinois and the nation, Kane County has critical challenges to the health of its citizens, specifically in the areas of childhood obesity and diabetes. Agriculture in Kane County plays a key role in addressing the County's land use strategy and the goals for a future that includes healthy people, healthy living and healthy communities.

Agriculture has been the dominant land use in the County for 150 years and still occupies almost 68% of its unincorporated land. Agriculture also plays a vital role in the County's economy, even as its historical structure and composition changes with the times. A continued threat to agriculture is the encroachment of development and the conflicts that arise between farm and non-farm land uses. Kane County strongly supports protective land use strategies that discourage premature conversion of farmland in the Critical Growth Area, protect farmland in the Agriculture: Food, Farm and Small Town area, guide new development toward planned growth areas, and encourage new agricultural uses and local food production in the Sustainable Urban Area.

This chapter examines:

Relationship of Agriculture to Healthy People, Healthy Living and Healthy Communities  
The Food System in Kane County  
Economic Role of Agriculture  
Agriculture and Land Use  
Food and Agriculture Policy and Legislation  
Kane County Farmland Protection Program  
Protected Agriculture – Limited Development

## **Relationship of Agriculture to Healthy People, Healthy Living and Healthy Communities**

Our nation and Kane County acknowledges that we face many challenges in improving the health of people and communities. In Kane County, we have the opportunity to expand a major asset, local agriculture - the land base and industry, to help meet the market for local food production. This effort will include the existing agricultural community as well as a burgeoning number of local food advocates.

Agriculture in Kane County already contributes to our economic health by providing corporate and private income, jobs and supporting local businesses. Yet the market for local foods and products offers a potential expansion to the industry while meeting the critical needs for healthy living, specifically locally grown fruits, vegetables and meats. Improving both the access to and affordability of locally and fresh products to our residents, schools, houses of worship, and institutions, will be a critical factor in improving Kane County residents' health.

The 2006 USDA Food Atlas data<sup>1</sup> indicates that there were 1,843 households with no car and greater than one mile to a store. Low income households living more than one mile to a store comprise greater than 5% of the population approximately 21,239 Kane County residents.

The Census of Agriculture for 2007<sup>2</sup> states that 1,180 acres of vegetables were harvested. Identifying and expanding the number of appropriate places to grow fresh produce for both personal and commercial purposes is a

### **Figure 45**

*Food assessments* can be a challenging and insightful process for a community to undertake and will lead all planners and their citizenry into a more broad based direction for a healthier future. They are a participatory and collaborative process that engages a diverse group of stakeholders to assess community food issues and develop a set of policy recommendations. According to the Community Food Security Coalition there are four key steps when conducting a community food assessment. This includes:

- Organize (stakeholders and participants)
- Research (collect and analyze data)
- Plan (decision making)
- Advocate (action documents and communication with the public)

<sup>1</sup> <http://www.ers.usda.gov/foodatlas/atlas/>

<sup>2</sup> <http://www.agcensus.usda.gov/Publications/2007/index.php>

new land use goal for Kane County. This future effort will require coordination with municipalities to address appropriate land use, zoning, and health codes. A food assessment for Kane County and its municipalities will help incorporate food policy into comprehensive and strategic plans for our communities' healthy future.<sup>3</sup>

The lack of availability of fresh produce in all neighborhoods has led to the coining of a new term, "food deserts". Food deserts, areas where no affordable source for fresh produce exists, can be mapped and targeted for new grocery stores and markets. Community gardens can be a source for fresh produce and education to recapture the art of backyard gardening. Farmers markets equipped with the ability for alternative payment methods for low income residents can help fill the gaps in location and affordability.

Community gardens, equestrian facilities, and other forms of agriculture that include volunteers and visitors in the "work" and "chores" of agriculture also provide opportunities for adults and children to be active and to be outdoors. "Eating the fruits of your labor" provides additional motivation as well as being a money saving option in tough economic times.

Local food production and agri-tourism is becoming an increasingly popular and important part of Kane County's agricultural economy and for filling local nutritional needs. "Discover the Bounty of Kane" ([bountyofkane.org](http://bountyofkane.org)) is a directory of 35 Kane County farms that sell direct to consumers and local farmers markets and includes a map and contact information for each farm and farmer's market. The HARVEST FOR ALL<sup>4</sup> program encourages local farmers to donate a portion of their harvest to benefit a local food pantry, as well as encourages Farm Bureau members and consumers to support hunger relief efforts. Community gardens and community supported agriculture (CSAs) are also becoming a growing part of meeting local needs for fresh produce. In part with the help of a grant from the Robert Wood Johnson Foundation in 2010<sup>5</sup> and funding from the Making Kane County Fit for Kids<sup>6</sup> Funders Consortium, the number of community gardens has increased dramatically in recent years. New locations for community gardens and CSAs include forest preserves, park districts, state and county owned lands, church properties, non-profits and privately owned lots.

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<sup>3</sup> "What's Cooking in Your Food System? A GUIDE TO COMMUNITY FOOD ASSESSMENT." Community Food Security Coalition. 2002.

<sup>4</sup> <http://www.kanecfb.com/HarvestforAll.html>

<sup>5</sup> <http://www.rwjf.org/grants/>

<sup>6</sup> <http://www.makingkanefitforkids.org/>

**Figure 46**

Food is at the core of everything we do. It is essential for health and part of daily living. It is also a very complex issue. Kane County has a rich agricultural heritage and a large proportion of land is still used for farming today. However, most of the food we eat is no longer local and instead is part of the global economy from production to consumption. All parts of the system, from production to consumption can be influenced by food policy – even at the local level. The topic of local food policy is so broad and all encompassing that it needs a broad based approach. To better understand the food system in Kane County, members of government, business, academia, community members, farmers and gardeners food banks, restaurants, retailers and faith communities need to join together for assessment and analysis. The Food Policy Workgroup established for the **Fit Kids 2020 Plan** set forth the following strategies to investigate the resources, impacts and regulations around food.

**Strategy 1:**

Create an ongoing work group to further study and assess the Food System in Kane County.

**Strategy 2:**

Increase access to healthy, affordable food beyond traditional grocers and restaurants.

**Strategy 3:**

Market Kane County grown products

**Strategy 4:**

Determine barriers to expanding production of locally grown fruits and vegetables

**Strategy 5:**

Encourage the expansion of community gardens

**Strategy 6:**

Create infrastructure to support direct sale growers

**Strategy 7:**

Promote food as an economic development opportunity

**Strategy 8:**

Support efforts to provide education for the growers, processors and consumers in

## **The Food System in Kane County**

The American Planning Association, American Dietetic Association, American Nurses Association and American Public Health Association announced the following shared statement:

*A healthy and sustainable food system emphasizes, strengthens, and makes visible interdependent and inseparable relationships between individual sectors (from production to waste disposal) and the characteristics (health promoting, sustainable, resilient, diverse, fair, economically balanced and transparent) of the system.<sup>7</sup>*

<sup>7</sup> “PRINCIPLES OF A HEALTHY, SUSTAINABLE FOOD SYSTEM.” 2010. [www.planning.org](http://www.planning.org).

Kane County's food system consists of all the people, process and places that are involved in moving food and agricultural products from the seed to the table or other end uses. This includes the businesses that provide the seed and other items necessary for planting, the farmers who plant, cultivate and harvest, the transportation of produce, and processing for market and distribution for wholesale and/or retail sales.

While Kane County is part of the larger Chicago region and its many markets and uses for agricultural products from northern Illinois, it also has even greater potential to utilize the abundance of rich farm land and Midwest climate to meet local needs for produce, meats and other farm products. In order to accomplish this, a greater understanding of what is needed to increase and encourage different scales and specialties for production, processing, distribution and sales should be encouraged and solutions for filling existing gaps developed. This is best accomplished by a countywide food assessment.

The business of agriculture at all scales takes planning, entrepreneurship, knowledge, investment and risk. Established farmers plan and adjust to changing markets and conditions. New would-be farmers have all of the challenges common to all start-up businesses, but often with an even longer time before the product goes to market. Creation of local market opportunities and filling the gaps processing and transportation of goods is critical to the success of smaller scale operations. Helping all those in or entering the business of agriculture in Kane County understand the process from start to finish will result in more successes and diversity in using our significant land resources.

Agricultural education, career awareness and job training for all ages are critical to developing a diversity of owners, operators, managers and workers in the agricultural environment. Educated consumers are important for creating local markets that understand the need for fresh produce as well as access and affordability for all levels of income.

**Figure 47**

### **Specialty Crops**

The United States Department of Agriculture and the National Agricultural Statistics Service have recently combined efforts to survey farmers in order to better measure the production of specialty crops in Illinois, in particular fruits and vegetables for human consumption. These efforts are a byproduct of growing interest in organic food production and in eating “locally”. Among all specialty crop growers in Illinois, the survey showed that the northern portion of the state had the highest percentage of organic crop growers with 13%. Within northern Illinois, 91% of fresh market specialty crop growers were able to find a reliable market for their product, while 70% were able to sell all of the specialty crops that they had produced. These sales often took place at 1 of 2 venues: 47% of sales took place on site (farm stand, u-pick, etc.) and 29% of sales took place at Farmer’s Markets. In addition, 5% of all specialty crop farms in the northern portion of Illinois sold their products through Community Supported Agriculture (CSA) shares. The vast majority (94%) of specialty crops produced in northern Illinois are first sold locally (within 100 miles of the farm). The survey also shows that the majority of existing farms in northern Illinois that grow specialty crops plan on continuing specialty food production, with 32% of farms declaring that they will increase specialty crop production and 44% of farms declaring that they will maintain their current level of production (11% weren’t sure, 12% planned on decreasing/discontinuing production).

Source: “2010 Specialty Crops Survey.” USDA – NASS – Illinois Field Office. 2010.

### **Economic Role of Agriculture**

Agriculture is an integral part of Kane County’s economy, landscape, natural resource base and local food supply. Agriculture continues to contribute to a stable and diversified economy, especially as the variety of agricultural crops and products including nursery and greenhouse crops, local fruits and vegetables, and livestock products increases in response to changing markets. Agribusiness services and facilities support the farm economy and need a strong agricultural base for their success. The farm economy creates jobs in cultivation and harvesting, equipment sales and service, seed research and sales, fertilizer and herbicide sales, finance and insurance, and food processing and distribution industries.

Since 1945, the number of Kane County farms has decreased. However, this decline has been offset by an increase in average farm size. In 2007 the average size of a Kane County farm was 253 acres, representing a decrease of 67 acres since 2002. In 2007 the average for the State of Illinois was 348 acres. In 2007, the market value of Kane County agricultural products sold totaled \$ 198,108,000 per year up 71% since 2002. Top crop items include corn, soybeans, forage, wheat and nursery stock. The average market value of products sold per farm was \$ 261,011, considerably higher than the statewide average of \$ 173,421.<sup>8</sup>

<sup>8</sup> <http://www.agcensus.usda.gov/Publications/2007/index.php>

According to the 2007 census, Kane County was the largest dollar producer of nursery, greenhouse, floriculture, and sod crops of all Illinois counties. Since that time however, the economic changes have reduced the number of nursery, greenhouse, and sod farms. Kane County encourages expansion of nursery and greenhouses and other agriculturally related businesses through the use of the F-2 (agriculturally related sales) zoning district.

**Figure 48**

**Illinois Farmers Are Ready to Meet  
\$23 Million Demand for  
Local Fruits and Vegetables<sup>9</sup>**

The demand for locally grown fruits and vegetables in Illinois far outstrips supply and a new Action Plan and Feasibility Study released today by FamilyFarmed.org gives strong recommendations on remedies. This work is the culmination of a six-month assessment in which 181 growers were surveyed, 14 trade buyers and 20 growers were interviewed, and over 60 stakeholders participated in two downstate strategy sessions. *Ready to Grow: A Plan for Increasing Illinois Fruit and Vegetable Production* was funded by the Illinois Department of Agriculture through a USDA Specialty Crop Block Grant.

"Buying local is the hottest trend in the food industry right now and Illinois is taking strides to capitalize on this movement," says Jim Slama, president of FamilyFarmed.org. "This report describes the opportunity in this niche and spells out concrete steps that need to happen in order to take local fruit and vegetable production and sales to the next level."

Despite high demand, promising economics, and the fact that four-fifths of Illinois land is farmland, 89% of which is prime farmland, Illinois wholesale buyers cannot currently meet their demand for fruits and vegetables from in-state production. The fourteen buyers interviewed for this report repeatedly stated that their demand for Illinois-grown fruits and vegetables far surpasses available supply, so they resort to purchasing produce grown outside the state. If they could, they would purchase over \$23 million in Illinois-grown produce on an annual basis. Participating buyers include a wide range of large and small companies including SYSCO, US Foods, Whole Foods Market, Goodness Greeness, Compass Group (Chicago Public Schools), Chipotle, Hy-Vee, Lettuce Entertain You, and more. The sampling was only a small percentage of Illinois retailers, restaurants and distributors, so overall demand is substantially greater.

"The state of Illinois is ready to step up and meet the demand for local food," says Tom Jennings, Director of the Illinois Department of Agriculture. "In today's economic climate it is imperative that we capture the economic value available in local food production, processing, sales, and distribution."

The Project Team concludes that Illinois fruit and vegetable growers interested in wholesale markets are for the most part *Ready to Grow*. The report presents concrete ways the Illinois Specialty Crop Industry can help them accomplish their goals to more closely meet the current and projected demand. One action the industry can begin pursuing immediately is the business planning process for the development of regional packing houses, which is the next step following a positive feasibility assessment. (source: reprinted with permission from Family Farmed)

<sup>9</sup> "READY TO GROW: A Plan for Increasing Illinois Fruit and Vegetable Production Action Plan and Feasibility Study." [www.familyfarmed.org](http://www.familyfarmed.org). 2010.

**Figure 49**

### **Equestrian Uses**

The keeping, training, breeding, raising, riding and/or sheltering of horses contributes to the economic, social, and cultural fabric of Kane County. It is important for the county to consider these issues when considering how to best guide development in Kane County through 2040. In Illinois alone, horses are a \$1.3 billion industry, and the northern half of the state has the most horses per square mile in the country, according to the horseman's council of Illinois. Fortunately, we do not need to look very far to find examples of equine-centric ordinances. Barrington Hills permits the boarding of horses through their Home Occupation ordinance<sup>1</sup>. In addition, Barrington Hills has an Equestrian Commission to ensure that equine activities remain within the local government's wheelhouse. In St. Charles, there are specialists in every method of horse riding, from Western to polo. Horses are even used locally as a form of therapy called equine assisted psychotherapy, which helps veterans, the disabled and even teens from the Kane County Juvenile Justice Center gain emotional growth.<sup>1</sup> Two nearby counties, Cook and Will, also have or are considering equine-based ordinances. In Cook County, horseback riding is allowed on the District's multi-use trail system. Residents have the option of riding their own horse or going on a guided tour from any of eight stables offering livery service.<sup>1</sup> Currently, Will County is considering altering their zoning to allow stables as permitted uses in 5 different zoning districts. They are also considering merging private stables, riding stables, and boarding stables to create one all-encompassing use category. Overall, recommended changes represent a significantly new approach to the regulation of equestrian-related uses through the removal of significant barriers with greater clarity.

Source: <http://www.renewingwillcounty.com/news/equestrian-related-uses>

### **Agriculture and Land Use**

Agriculture is the predominant land use in the County. The Development Department's 2011 land use survey indicates that almost 68% or 137,558 acres of unincorporated Kane County is in agriculture. The agricultural presence becomes stronger as one goes west across the County. Most of these agricultural uses are concentrated in the western and central townships. Within the townships, the percentage of unincorporated land in agriculture in 2011 was: western townships, 87%; central townships, 64%; and river townships, 19.5 %.

### **Legislation**

Kane County's commitment to agricultural protection has evolved over a twenty-year period. On July 22, 1980, Governor James R. Thompson signed Executive Order 80-4, Preservation of Illinois Farmlands.<sup>10</sup> This Executive Order eventually led to the Illinois Farmland Preservation Act<sup>11</sup> establishing a new state policy to promote the protection of Illinois farmland from unnecessary conversion and degradation. The act required state

<sup>10</sup> <http://www.ilga.gov/commission/jcar/admincode/008/00800700ZZ9996ER.html>

<sup>11</sup> <http://codes.lp.findlaw.com/ilstatutes/505/75>

agencies to develop an agricultural land preservation policy. In 1980, enabled by the new legislation and responding to an increasing threat to agricultural land in Kane County, the County Board amended the 1976 Land Use Plan. Objectives and policies were added to specifically protect agriculture as a valuable natural resource and an economically productive land use. These objectives and policies were reinforced in the 1982 Comprehensive Land Use Plan and were strengthened in the subsequent 2020 and 2030 Land Resource Management Plans.

In 1991, the County Board became the first in Illinois to adopt a Farmland Preservation Policy to minimize conflicts between farming and other land uses. The policy states Kane County will encourage development within the County to occur in such a fashion as to minimize conflict between farming and other land uses. It goes on to assert that Kane County does not intend to enforce any rule, regulation or ordinance in such a manner as to violate the “Farm Nuisance Suit Act<sup>12</sup>” (740 ILCS70).

In 2007, Public Act 095-0145 the **Illinois Food and Farm Act<sup>13</sup>** was signed into law which states the following findings:

Illinois should be the Midwest leader in local and organic food and fiber production. Food items consumed in Illinois travel an average of 1,500 miles, and agricultural products grown directly for human consumption comprise less than 0.2% of Illinois farm sales. Ninety-five percent of organic food sold in this State is grown and processed outside of the State, resulting in food dollars being exported. Illinois ranks fifth in the nation in loss farmland. The market for locally grown foods and for organic food is expanding rapidly. Consumers would benefit from additional local food outlets that make fresh and affordable Illinois grown foods more accessible in both rural and urban communities. Communities are experiencing significant problems of obesity and nutrition, including lack of daily access to fresh fruits and vegetables. Low-income communities that are currently “food deserts” lacking sufficient markets selling fresh fruits and vegetables would benefit from local food distribution systems. The State’s urban communities are showing renewed interest in growing food in urban areas. Rural communities would be revitalized by increasing the number of families in the State that live on small properties and by providing fresh high-value local food. Farmers who wish to transition from conventional agriculture to local and organic food would benefit from training and support to diversity their farming operations. Food consumers, farmers, and entrepreneurs would benefit from an expanded infrastructure for processing, storing, and distributing locally grown foods. The capture of existing food dollars within the State would help to revitalize the State’s treasury by creating a broad range of new in-state jobs and business opportunities with both rural and urban communities. For the purposes of this Act and for the retention of the greatest benefit from every food dollar spent in this State, support for local food means capturing portion of food production, processing, storing, and distribution possible.

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<sup>12</sup> <http://codes.lp.findlaw.com/ilstatutes/740/70>

<sup>13</sup> <http://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=095-0145>

## Kane County Farmland Protection Program<sup>14</sup>

The year 2011 marks the 10<sup>th</sup> anniversary of the Kane County, Illinois Farmland Protection Program. This award winning program which is the only fully funded County based program in Illinois, has permanently protected over 5500 acres of prime farmland in 30 family owned farms. The Kane County board and USDA/NRCS have invested over \$32.6 million dollars in the purchase and extinguishment of development rights along with placing agricultural conservation easement to protect the land from development in perpetuity. The program was established by Resolution of the County on April 10, 2001, which conforms to the USDA/NRCS Federal Farm and Ranchlands program based on conservation standards protecting soil and other natural resources.

As Kane County's population grows over the next 30 years and current economic and housing trends change, development pressure on the County's productive agricultural land will increase once again. The County is recommitting to protecting farmland in order to ensure the economic vitality of the agricultural sector and to preserve our agricultural communities and rural lifestyle.

### Protected Agriculture – Limited Development

Protected Agriculture/Limited Development is a form of conservation design which provides for clustering of residential lots of a portion of the property and permanently protecting the remainder of the land for agriculture and open space. This option for limited development is only offered in conjunction with permanent protection of the farmland and open space within the development by donation of development rights and corresponding deed of Agricultural Conservation Easement. Kane County will hold the perpetual Agricultural Conservation Easement. This special and unique development is restricted to certain geographic areas within the County and allowed when the location does not encourage any type of sprawling development. The project shall show sufficient respect and sensitivity to the agricultural component of the proposal and the larger agricultural setting of its context.

<sup>14</sup><http://www.countyofkane.org/Documents/Quality%20of%20Kane/commLivabilityLocalFoods.pdf>

## Figure 50

### Kane County Farmland Protection Program

2001 – 2011

Since the program creation in 2001 over 5,100 acres have been permanently protected in Kaneville, Big Rock, Virgil, Burlington, Plato and Campton townships. The Kane County Board and the Federal Farmland Protection Program have invested over \$ 32.6 million dollars to create Agricultural Conservation Easements to insure agriculture continues in perpetuity. It is a voluntary program whose purpose is to protect agricultural use and the conservation values of the land.

\$32,602,653.08  
Total Investment

5,132 Protected Acres  
\$ 19,977,477.76 - Kane County Riverboat Funded  
\$ 12,625,206.32 - Federal Protection Funded

Protected Agriculture/Limited Development is typically designed with sustainable features so as to minimize adverse impact on the surrounding farms and requires the design, scale and siting to respect the adjacent farm operations and agricultural heritage. It is likely that the agriculture component includes community supported agriculture, organics, and /or specialty crops.

The land use category will be identified geographically on the County's land use map after the project zoning is approved. Eligibility for this land use category is based on the following factors:

- A location where the County can create a desirable land use pattern for the benefit of long term community identity and rural heritage;
- One or more municipal jurisdictional areas in proximity with a strong likelihood of municipal land use conversion;
- Development in close proximity;
- A location near major transportation facilities;
- The subject property serves as a transitional area between the Critical Growth Area and the Agricultural Corridor;
- The subject property has a mix of soil types including some prime and non-prime, and a variety of topographic and geological features that create a unique setting that may include wetlands, streams, waterways, wooded areas, and wildlife corridors, all of which are well-suited for conservation design practices.

All proposals shall be examined and approved on a case by case basis to determine if the intent of the proposal matches the stated objectives and policies. These developments are most appropriate for the geographic areas located on the outskirts of municipalities and their planning areas or between the critical growth area and the agricultural corridor that are under development pressure, especially from the municipalities.

Design and development criteria for Protected Agriculture – Limited Development includes the following. It will result in fewer residential lots than a traditional development would provide; however, the benefit of developing some of the land while protecting most of it is achieved. In all cases, a significant portion of the property (typically two-thirds of the property) is protected for working agricultural land and open space by donation of development rights to the County's Farmland Protection Program and permanently protected by an Agricultural Conservation Easement. In the deed of easement, the rights to develop the identified protected lands are extinguished and limited to farming and open space. A Conservation Plan is created in conjunction with the local Natural Resource Conservation Service office and maintained on an annual

basis. Smaller scale specialty crops and/or organic crops are desirable in these locations. Community supported agriculture, farm stands, cooking schools and related retail and “farm to table” operations are appropriate ancillary uses. The following policies must be addressed prior to approval of any proposal within the Limited Development Protected Agriculture designation:

1. Protect the County’s best agricultural land for farming and encourage this unique development option only in suitable locations and where it will not undermine Kane County’s existing agricultural policies as stated in the 2040 Land Resource Management Plan, the Illinois Farmland Preservation Act and Executive Order 80-4 Preservation of Illinois Farmlands.
2. Use this development option in certain geographic locations such as the area between adjacent municipalities and their jurisdictional planning areas; at the edge of municipal planning areas as it transitions into the Agricultural Corridor.
3. Discourage use of this development option in the heart of the Agricultural Corridor or in areas where there are protected Agricultural Conservation Easements.
4. Consider this development option when the protected agricultural or natural resource area contributes to a linkage of protected agricultural or open space network.
5. Encourage this development option to use best management practices for agricultural production and soil and water conservation.
6. Encourage the overall design to provide significant demonstrable benefits including, but not limited to scenic, historic, natural or water resource protection.
7. Strongly encourage this development option to include green development, design and building practices.

**Policies:**

1. Protect land best suited for farming from premature conversion to other land uses and maintain agriculture as an integral part of the County's economy, landscape, and natural resource base.
2. Discourage sewer and water systems and other projects that would cause the encroachment of development into agricultural areas.
3. Encourage right-to-farm legislation, support incentives to retain farmland, and further limit the circumstances under which farming operations may be deemed a nuisance.
4. Support Executive Order 80-4, Preservation of Illinois Farmlands and the Illinois Farmland Preservation Act.
5. Encourage construction and maintenance of the infrastructure required to support agricultural operations such as roads, bridges, local drainage systems, and drainage districts.
6. Support the expansion of locally grown and produced food, farm and fiber products and the local, regional, national and international markets for those products.
7. Partner with the Natural Resource Conservation Service, the Farm Service Agency, and the Kane DuPage Soil and Water District in programs promoting good soil and water conservation and best management practices.
8. Continue to annually fund the Agricultural Conservation Easement and Farmland Protection Program and maximize the level of federal matching funds for farmland protection in Kane County.
9. Create an ongoing work group to further study and assess the Food System in Kane County.
10. Support Kane County grown food, farm and fiber products through increased training and certification programs at various locations throughout the County including existing farmland, brownfields and greenhouses.
11. Identify parcels throughout the County and its municipalities that are available for food, farm and fiber production and the necessary education, training and certification for growers and processors for a local, healthy and safe food supply.
12. Promote locally grown food, farm and fiber products as an economic development and job creation opportunity for Kane County and its municipal residents.



## 2.7 PLANNING ISSUES – OPEN SPACE AND GREEN INFRASTRUCTURE

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### Objectives:

1. To preserve and protect Kane County open space and green infrastructure as the cornerstone of natural resource protection and community well-being.
2. To continue the efforts in protecting the environment and restoring the unique and fragile environments associated with the geography of Kane County.
3. To enhance and expand Kane County's green infrastructure network by providing functional connections between water resources, natural areas, forest preserves, cultural and historic sites, and communities as part of the region's Green Infrastructure Vision.
4. To foster public awareness, education, and support of environmental and open space management.
5. To continue enhancing the County's visual identity and community character by preserving natural areas, landscapes, scenic vistas, and rustic roads and their historic, cultural and archaeological resources.
6. To support coordinated implementation of the Kane County Forest Preserve Master Plan, township, park district and other open space plans as a guide to the orderly and consistent preservation of the County's natural resources.
7. To provide a variety of open space opportunities and recreational activities in proportion to the needs of a rapidly expanding population of the next three decades.

### Chapter Focus

Open space is the armature of the 2040 Plan, as it was for the 2020 and 2030 Plan, providing the framework that complements all other land uses. The open space armature is a tapestry of undeveloped public and private lands, with the Fox River and its tributaries as its backbone. Open space can be acquired and preserved a number of ways through public and private efforts, including forest preserve, townships, and park district acquisitions as well as the through the development approval process and dedication of conservation easements. The open space armature and the greenway systems are the foundation for an expanded green infrastructure network as we look out to the year 2040. The green infrastructure network extends in and through developed areas, linking habitats and improving water and environmental quality.

This chapter examines:

- Continuing the Green Legacy
- Open Space Assets
- Open Space Armature and Greenways – the 2040 Green Infrastructure Network
- Planning for Open Space and Green Infrastructure

### **Continuing the Green Legacy**

Open space is the counterpart of the built environment. Open space often contains natural resources that are too valuable to lose. Protection of these resources ensures a continuity of nature for future generations. Along with environmental protection, open space provides “breathing room”, environmental protection, recreation opportunities, visual beauty, spiritual enrichment, educational opportunities, and other benefits.

Located at the western edge of the metropolitan region, Kane County has experienced and continues to experience pressure on land for conversion from agricultural land and open space. Since 1970, open land in the Chicago region has been consumed at an alarming rate. From 1970 to 1990, the metropolitan region’s population grew 4.1%, yet the land area devoted to residential use expanded an estimated 46%. In the last 20 years, from 1990 to 2010, the metropolitan region’s population grew an additional 15.5%, and the consumption of land for residential use has continued at an equally unsustainable pace. Responding to this alarming rate of open land consumption and recognizing the need for strong open space policies, the Chicago metropolitan region has proactively preserved or created, as of 2010, approximately 300,000 acres of open space including County forest preserves, township parks, municipal parks, private conservation easements, private nature preserves, and state and federal holdings.<sup>1</sup>

Kane County’s greenway preservation program is part of a long standing tradition in the metropolitan area that includes Chicago’s lakefront park system, the boulevard system, and forest preserve acquisition along the Chicago, Des Plaines, Du Page and Fox Rivers. The region is proud of carrying forward the Daniel Burnham legacy in his *1909 Plan of Chicago*. Burnham envisioned the creation of a large interconnected open space system extending from Lake Michigan westward. A 1956 follow-up plan co-authored by Daniel Burnham, Jr., recorded the accomplishments of the 1909 plan and sounded a call to continue its vision. The 1956 Burnham Plan recognized Kane County for its efforts in establishing a Forest Preserve District and in acquiring open space. Kane County began open space conservation in 1926 with the acquisition of Johnson’s Mount Forest Preserve. This was followed in 1928 by the acquisition of Bliss Woods, Elburn, and Tyler Creek Forest Preserves.

“Like winds and sunsets,  
wild things were taken  
for granted until  
progress began to do  
away with them.”  
-Aldo Leopold

<sup>1</sup> Chicago Metropolitan Agency for Planning. 2010. GO TO 2040 Plan.

Open space protection and the greenway network have strong roots in Kane County policy dating back to the 1967 Five Point General Development Policy. The 1976 Comprehensive Plan called for a countywide greenway system to protect natural areas. The 1982 Comprehensive Land Use Plan continued the greenway system and stressed the need to preserve remaining natural areas, to provide connections between open spaces, and to ensure a full range of recreational opportunities. The 2020 Land Resource Management Plan introduced a bold, comprehensive approach to open space preservation. The 2030 Land Resource Management Plan aggressively promoted and further implemented the countywide greenway planning tradition. A goal of the 2030 Plan was that 50% of the land area in Kane County will be in agricultural and open space uses in spite of the unprecedented population growth and community development.

Continuing our green legacy into 2040, ***Kane County commits to aggressively promote an open space armature and greenway system, sometimes referred to as the green infrastructure network. Kane County reaffirms the commitment to open space and farmland preservation with the general goal that by 2040 at least 50% of the land in Kane County should still be in farmland and open space uses.*** The 2040 Plan reflects a strong partnership with CMAP and supports a regional strategy of expanding the green infrastructure network by reducing land consumption and thereby helping to protect green infrastructure. Kane County endorses CMAP's key recommendations for expanding and improving parks and open space:

- Provide more parks in developed areas to increase park accessibility
- Preserve the most important natural areas in the region
- Provide functional connections between parks and preserves, using the green infrastructure network as a design concept<sup>2</sup>

As the County and municipalities continue to face growth pressures, the preservation and expansion of open space, particularly along the Fox River and its tributaries, and promoting compact, mixed-use development to reduce land consumption will be key to achieving livable, sustainable, and healthy communities.

## **Open Space Assets**

Kane County's greatest open space asset is the Fox River. The major natural feature of the region, the Fox River is a significant greenway or linkage within the green infrastructure network consisting of wildlife and aquatic habitat, as well as a recreational resource. The Fox River has served as a magnet for development and recreation since early settlement. The appearance of the riverfront has improved greatly since the time when heavy industries and junkyards were located along its shoreline. The municipalities have recognized the Fox River as an open space and community amenity by acquiring riverfront acreage and designing riverwalks to link housing, parks, shops, offices, and restaurants in their

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<sup>2</sup> Chicago Metropolitan Agency for Planning. 2010. GO TO 2040 Plan.

downtowns. Such development beautifies downtown centers as well as revitalizes the economy. Parkland along the river is a prime spot for picnicking and recreation, including bicycling and walking along the Fox River Trail. In some communities riverfront amenities also include boating and canoeing. A scenic driving route was established along the Fox in 1980. This route, designated as the Fox River Road established on parts of both Routes 31 and 25, accentuates the natural beauty of the Fox River Valley.

(Following two paragraphs to be updated with the availability of Forest Preserve - Vision Maps and Natural Resources Master Plan update. *FP has not provided update.*) The Kane County Forest Preserve District holds the largest portion of public open space in the County, presently over 19,000 acres. District owned Forest Preserves, open space, and natural areas serve four primary purposes: preserve natural resources, provide recreation and education resources, structure the form of urban development, and restore natural areas. Since 1999, Kane County has passed four open space referendums totaling \$260 million, which includes the most recent passage of a \$30 million referendum in 2010. The majority of Forest Preserve holdings are comprised of mixed grasslands (old farm fields, wetlands, turfgrass, hayfields), woodlands, and agricultural land. The Forest Preserve has restored over 1,137 acres of preserve land to native prairie grasses. Recognizing the importance of preserving and protecting the natural heritage of Kane County, eight areas within Forest Preserve holdings have been designated Illinois State Nature Preserve acreage: Bliss, Burlington, Freeman Kame, Helm Woods, Johnson’s Mound, Nelson Lake Marsh, LeRoy Oakes-Horlock prairie, and Underwood.

A 1993 Forest Preserve inventory determined only 736 acres of the County’s total 334,031 acres contain the undisturbed, original flora of the region. The remainder of the County has been disturbed through agriculture, urbanization, or other activities, which have permitted the invasion of non-native vegetation. Therefore, the District places its highest land acquisition priorities on land that contains natural features, especially land supporting mature forest/prairie or wetland and endangered/threatened species.

The Kane County bicycle/pedestrian trail system is comprised of a regional system of over 130 miles and a local system of over 180 miles (Figure 51). Established by the Kane County Forest Preserve, local municipalities and park districts, Kane County’s combined trail system of over 300 miles is one of the most extensive systems in the Midwest. Kane County’s four main regional trails are: the Fox River Trail, the Great Western Trail, the Virgil Gilman Trail, and branches of the Illinois Prairie Path. These four

**Figure 51**

A **regional trail system** is typically more than three miles in length and crosses into more than one municipal jurisdiction. A regional trail typically links bicyclists to destinations via long, street-separated trails that can be used for both community and recreational rides.

A **local trail system** is typically a smaller trail used for local recreation or destination, it is less than than three miles, serving one community or a single neighborhood.

trails account for approximately 85 miles of off-road paths. The most prominent trail is the Fox River Trail, a 35 mile greenway connecting the counties of Kane, Kendall, and McHenry and comprised of County forest preserves, local parks, rail-trail conversion, local streets and sidewalks. The trail, used for hiking, biking, cross-country skiing, and jogging is an excellent alternative commuter route or recreational trail that connects charming downtowns of historic river towns while also offering exceptional natural scenery. The Great Western Trail, mainly a recreational trail, is a 17 mile trail constructed on an abandoned railway. This popular trail, extending from Sycamore in DeKalb County east to the City of St. Charles and connecting to the Fox River Trail, offers hikers and bikers the opportunity to pass through woodlands, prairie, farmland, small streams, wetland, urban areas, and the County's agricultural villages. The Virgil Gilman Trail is an 11.2 mile trail constructed by the Fox Valley Park District and the Kane County Forest Preserve District on two abandoned railways. Its western terminus is in the Village of Sugar Grove and connects at its eastern terminus to the Fox River Trail in Aurora. The trail offers a variety of urban and rural landscapes to enjoy. The Illinois Prairie Path (IPP) was one of the first shared-use trails in the nation, constructed on the former Chicago, Aurora, and Elgin Railway. The IPP links many municipal parks and County forest preserves. Because of its long uninterrupted route, it is used as a commuter route for non-motorized travel.

Other significant open space acquisition efforts in Kane County include open space protection programs by Dundee Township and Campton Township. In 1996, Dundee Township residents voted to establish an Open Space Plan and sell more than \$18 million in bonds to fund the acquisition of open space. The township purchased 862 acres of open space on eight sites, comprised of wetlands, dry hill prairie, forest, fen and farmland. Purchase of open space was geographically distributed to provide township residents with nearby passive recreational opportunities. With grant money from Open Land Trust (State of Illinois) and restoration work on behalf of volunteer site stewards, including high school students, Dundee township open space has been transformed. A former gravel mine, the old Meadowdale Racetrack, farmland, remnant prairies, woodlands, and wetlands and other open areas are being restored to their former ecosystems of prairie, marsh, oak and hickory woodlands, and are now home to many rare native plants, birds, and animals. The Township added parking lots, trails and interpretive signage to encourage public use. Key objectives of the Dundee Township open space program are to enhance groundwater supplies by infiltrating the maximum amount of rainfall on each site, to improve habitat by planting native species, and to encourage passive recreational use and public appreciation of native Illinois flora and fauna.

In Campton Township, the citizens approved two referenda for open space preservation, \$18.7 million in 2001 and \$26 million in 2005. To prioritize potential open space acquisitions, the township created an *Open Space Plan*. The objective of the plan is to acquire open land for passive and active recreation purposes and to protect farmland, historic landmarks, scenic roadways, wetlands, woodlands, wildlife, and geologically significant features. Campton Township has preserved over 1,000 acres, providing the

community with space for baseball, softball, tennis, basketball, soccer, hiking, equestrian trails, bird watching, and nature photography. These efforts have preserved important environmental and historically significant features, such as the headwaters of Blackberry Creek, and the Corron Farm, a 442 acre farmstead that has been farmed by the Corron family for five generations and is listed on the Kane County Historic Register. The township has restored a number of purchased lands formerly in agricultural use to their former native prairie and wetland habitats, improving the health of local watersheds. To encourage children and adults to explore nature and become involved in conservation our resources for the next generation, the township hosts an annual Prairie Fest, at the historic Corron Farm.

The countywide open space system cannot be preserved solely by government. Private individuals or nonprofit organizations such as The Conservation Foundation may place conservation easements on a piece of land so that its natural features are permanently preserved. Through this legal technique the property owner retains ownership while waiving some of his/her development rights. Conservation easements can protect natural areas that function as greenways and habitat corridors, and other sensitive areas such as wetlands, floodplains, ridgelines, slopes, and viewsheds.

### **Open Space Armature and Greenways – the 2040 Green Infrastructure Network**

The Kane County open space system is the armature of the 2040 Plan – a combination of large and small green spaces with the Fox River and its tributaries as the backbone. A network of greenways connects the larger and smaller green spaces with the Fox River and its tributaries. Greenways are linear corridors that protect and manage natural resources, provide recreational opportunities, and enhance the aesthetics of the built environment.

The County’s open space armature and greenway system is part of a larger system/concept - a countywide green infrastructure network. The green infrastructure network is an interconnected system of natural areas and open spaces – woodlands, wetlands, trails, and parks - that is protected and managed for the ecological values and functions they provide to people and wildlife, supports native species, sustains air and water resources, and contributes to the health and quality of life for people and

**Figure 52**

**Green Infrastructure is not a new concept. In the 1860s landscape architect Frederick Law Olmsted included systems of open space in the plans he created for cities and towns across the United States. These systems preserved floodplains and riverbanks and protected water quality while providing recreational and scenic opportunities for residents and established connections between larger pieces of open space. A century and a half later the value of creating and protecting green infrastructure remains.**

*“A connected system of parks and parkways is manifestly far more complete and useful than a series of isolated parks.”*

**-John Olmsted and Frederick Law Olmsted Jr. 1903**

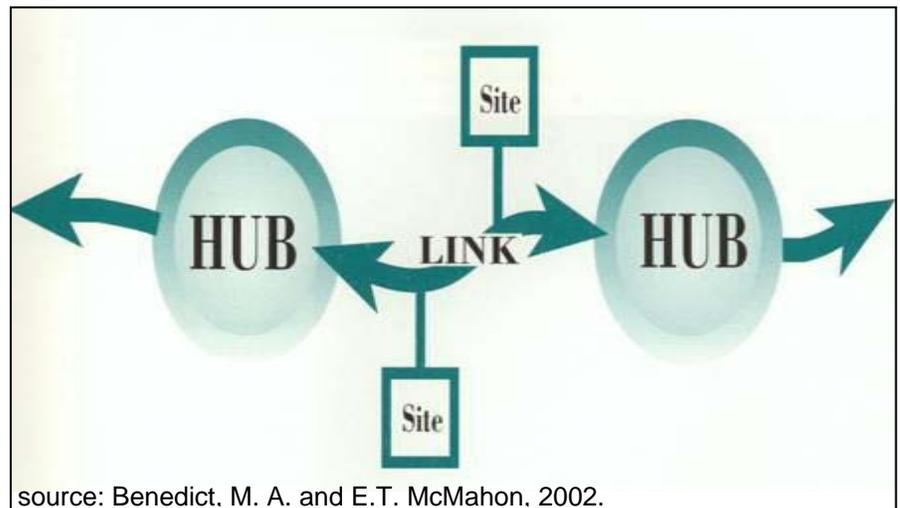
communities (Figure 52). Just as our society depends on gray infrastructure, such as our roads, pipes, wires and other manmade structures to support transportation, water, and energy systems; we depend on green infrastructure as “our natural life sustaining system” or “the ecological framework needed for environmental, social, and economic sustainability” In addition, just as the networks of gray infrastructure are planned, built and maintained to serve our communities, planning for our green infrastructure network needs to follow a “strategic approach and framework for conservation that can advance the sustainable use of land while providing an interconnected system of green spaces that benefit people, wildlife, and the economy. This approach is intended to help provide design, planning, acquisition, and other decision-making guidance for community-based sustainable development”<sup>3</sup>

Green infrastructure is composed of conserved natural areas and features, public and private conservation lands, working lands of conservation value, and other protected open spaces. Specifically, in Kane County, the green infrastructure network is composed of forest preserves, township open space, municipal open space, regional and local trails, recreational parks, working lands, including farms, waterways, green infrastructure applications of stormwater management, and conservation easements, non inclusively. Land ownership within the green infrastructure network varies and includes both private and public entities, and includes the Forest Preserve District, park districts, the County, townships, municipalities, home owners associations and other public and private bodies/entities.

The green infrastructure network consists of hubs, links and sites:

**Hubs**, large or small, are an “anchor for green infrastructure networks and provide space for native plants and animal communities, as well as an origin or destination for wildlife, [people], and ecological processes moving to or through it’ . Hubs of open space also provide scenic views, promoting a sense of place and community identity. The Forest Preserve District, Dundee and Campton Township, and Illinois State Nature Preserves properties are examples of hubs.

**Figure 53**



<sup>3</sup> Benedict, Mark A. and Edward T, McMahon, 2002. Green Infrastructure: Smart Conservation for the 21<sup>st</sup> Century. Sprawl Watch Clearinghouse Monograph Series. The Conservation Fund.

**Links**, also known as linkages, corridors, and greenways, connect the hubs and tie the system together, enabling the green infrastructure network to function. Links help maintain the County’s biodiversity and water quality, provide flood and stormwater control, and serve as the foundation for smarter growth and development. Along with environmental protection, links provide bicycle and pedestrian trail access between homes, shopping, schools, parks, and commuter rail and transit stations. When managed wisely, links or greenways along waterways are effective filter strips that trap sediment and pollutants that damage water quality. The vegetation in links or greenways also helps remove pollutants from the air, reduces noise, and moderates summer heats and winds. Links and greenways provide space for streams and wetlands to function naturally and accommodate stormwater flows. Links include stream corridors and trails, such as the County’s regional trail system.

**Sites** are smaller areas of green space that contribute important ecological and social values, but may not be attached to the network formed by the hubs and links. Sites are many and scattered, and may include community parks, recreation areas, and cultural sites<sup>3a</sup> (Figure 53).

The connectivity of the green infrastructure network, through the concept of hubs, links, and sites, helps direct and coordinate acquisition, restoration, and management efforts. Implementation and enhancement of a green infrastructure network can be accomplished through coordinated green infrastructure initiatives at the regional, countywide, and local planning level. Kane County’s open space and green infrastructure is a key component in the Northeastern Illinois Regional Greenways and Trails Plan, originally adopted in 1992 and updated in 2009, is a long-range multi-jurisdictional plan for the seven-county region. “The plan envisions a [regional] network of continuous greenway and trail corridors, linked across jurisdictions, providing scenic beauty, natural habitat, and recreational and transportation opportunities for our communities.” The 2009 updated plan has been adopted by the CMAP Board and the MPO Policy Committee. The Plan identified priority linkages to enhance the regional trail system. The priority linkages identified for Kane County includes additional east-west connections to the Fox River trail and increased access to the Blackberry and Virgil Gilman Trail, Mill Creek, the Great Western Trail, and the Illinois Prairie Path<sup>4</sup>. More recently, Chicago Wilderness, representing more than 250 organizations that work together to restore local nature and improve quality of life in the region by protecting lands and waters, has updated the Green Infrastructure Vision, which can be found in the 2010-2012 Strategic Framework report. The GIV “is informed by green infrastructure principles being used throughout the country to begin to place green infrastructure on an equal footing with

**“Connecting the trees, parks, and other urban green infrastructure at site and neighborhood scales to the surrounding waterways and other regional green infrastructure networks may well become the next great frontier in planning and government services.”**  
-American Planning Association

<sup>4</sup> Chicago Metropolitan Agency for Planning. 2009 Update. Northeastern Illinois Regional Greenways and Trails Plan.

traditional gray infrastructure”. The GIV is a graphic, placed based implementation strategy for the *Biodiversity Recovery Plan*.<sup>5</sup>

Implementation of a green infrastructure network can be accomplished at different scales. The County recognizes four scales of green infrastructure as they are referred in the GIV.

- REGIONAL, by working with the Chicago Metropolitan Agency for Planning and other regional partners such as Chicago Wilderness and Openlands.
- COMMUNITY, by incorporating principles of biodiversity conservation and sustainability into local land use plans and ordinances;
- NEIGHBORHOOD, by promoting the preservation of natural spaces, people-friendly design and access to nature in developing communities;
- SITE, by promoting the application of green infrastructure at the site or parcel scale through decentralized stormwater management practices, such as green roofs, tree plantings, rain gardens, and permeable pavement that capture and infiltrate rain where it falls reducing stormwater runoff and improving the health of surrounding waterways<sup>6</sup>.

**Figure 54**

**Benefits of a green infrastructure network** are numerous and serve as foundation for a healthy, livable, and sustainable Kane County.

- Preserves habitats and supports biodiversity for plants and wildlife
- Conserves natural ecosystem functions like water supply, flood storage, air and water purification, maintains soil health and waterways
- Improves public health by allowing and encouraging active, healthy lifestyles
- Provides a healthy environment and aesthetic beauty that enhances quality of life
- Provides economic benefits; such as, increases the local tax base and enhances surrounding property values, prevents flood damages; protects large and small farms, increases tourism, increases recreation related businesses, and increases retail and service occupations along greenways.
- Reduce erosion of topsoil, helping to sustain local farms.

## Open space and Green Infrastructure Planning

In order to enhance and expand the County’s open space armature and greenways - the green infrastructure network, the County recognizes the importance of regional and local partnerships to accomplish open space goals as watersheds and many hubs, linkages, and

<sup>5</sup> Chicago Wilderness.2010. Green Infrastructure Vision 2010-12, Strategic Framework.

<sup>6</sup> Chicago Wilderness.2010. Green Infrastructure Vision 2010-12, Strategic Framework.

sites overlap multiple jurisdictions. The overall goal of a green infrastructure network is to expand communities' abilities to incorporate natural resource information and conservation strategies into their land use planning, zoning, and land development practices and by doing so achieving the County's goal of at least 50% of farmland and open space uses by 2040.

Building on the successes of the County's aggressive approach to open space and green infrastructure planning, as we plan for the year 2040, the County needs to advance its approach to conservation planning by continuing to incorporate open space and green infrastructure into the planning and development process so our natural resources are protected from destruction or pollution while making them an integral and functional part of urban development<sup>7</sup>. As highlighted above, the benefits of a green infrastructure network are numerous and will serve as a foundation for a healthy, livable, and sustainable Kane County.

A successful green infrastructure network requires a strategic planning approach and framework for conservation that includes the following principles:

- Green infrastructure should be the framework for conservation and development.
- Design and plan green infrastructure *before* development.
- Linkage is key
- Green infrastructure functions across multiple jurisdictions and at different scales.
- Green infrastructure is grounded in sound science and land use planning theories and practices.
- Green infrastructure is a critical public investment.
- Green infrastructure involves diverse stakeholders

Kane County has the opportunity to collaborate with municipalities, townships, forest preserve, park districts, CMAP, and other local partners using this strategic planning approach to prepare a countywide Green Infrastructure Network map and plan. This map and plan can then be used to help prioritize future open space acquisitions, guide the preservation of open space with future development, identify additional linkages that can serve as wildlife corridors and expand opportunities for alternative modes of transportation. The plan will identify specific policies and implementation tools for expanding and improving the green infrastructure network as well as ensuring its protection with updated land use and conservation ordinances. Kane County will seek opportunities to coordinate with the Kane County Forest Preserve District, townships, municipalities and park districts to strategically provide public access, education and resource protection for the green infrastructure network.

The Kane County Forest Preserve District uses the "proposed open space" land use designation as shown on the County's future land use map as a guide for making decisions on future open space acquisitions. Current acquisition strategies include expanding existing existing Forest Preserve's and increasing the number of links or linkages between Forest

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<sup>7</sup> American Planning Association. 2011. Rebuilding America: APA National Infrastructure Investment Task Force Report.

Preserve properties. A countywide green infrastructure network map and plan would help direct the forest preserve towards natural areas most in need of preservation, opportunities for restoration, and key linkages needed. *Every 5 years the District updates the Forest Preserve District Master Plan. [Summary of the 2012-2017 Forest Preserve Master Plan to be included here. Need update from Forest Preserve.]*

Through planning projects and policies and development regulations, municipalities have made significant efforts to preserve additional open space, enhance greenways, and incorporate natural resources into new developments. Below are a few highlights:

Concerned about protecting and maintaining their natural resources, in 2010, the Village of Campton Hills prepared and adopted a Green Infrastructure Map with the help of a SWAT (Sustainable Watershed Action Team) grant, funded through Chicago Wilderness. The Map covers the village's mile and a half planning jurisdiction, and was prepared with GIS analysis using existing natural resource maps, including streams, wetlands, watersheds, floodplains, existing public and private open space, aquifer and fen recharge areas, etc. The map will be used to inform policies in the village's comprehensive plan update as well as a tool to help the village make wise development decisions with water recharge as a major component.<sup>8</sup>

The City of Elgin initiated a community wide urban forestry program, The Fit Forest, in 2009, initially funded through federal reinvestment grants (ARRA), to "improve the [city's] community forest and natural resources through sustainable management using state-of-the-art and comprehensive urban forest management tools and strategies". An Urban Forestry Master Plan will address this goal and will cover community outreach and education, tree risk reduction, invasive species readiness, street and park tree planting, urban wood waste utilization, and ecosystem analysis and restoration. The City of Elgin is educating its residents on the health benefits of trees which they highlight as: reducing air pollution, protecting water quality, reducing stormwater management costs, reducing noise, helping conserve energy costs, and increasing the value of property within Elgin.<sup>9</sup>

"According to the U.S. Forest Service Research, unlike other City assets, as a tree grows older it also grows in value. On average, trees return \$3 to \$7 in annual benefits for every dollar invested in their care."  
-City of Elgin Fit Forest *Program, 2011.*

In order to create a more livable and sustainable community, the Village of Algonquin has committed to preserving the integrity of its natural resources and to providing long-term ecological management, by adopting conservation design standards and procedures. In 2008, the Village adopted Conservation Design

<sup>8</sup> Green Infrastructure in the Village of Campton Hills. 2010. Prepared by Trotter and Associates, Inc. Adopted 2011.

<sup>9</sup> City of Elgin, Community Forestry Program. The Fit Forest. [www.cityofelgin.org](http://www.cityofelgin.org). Accessed 2011.

Standards and Procedures that encourages infill development and redevelopment and requires developers and consultants to work with the natural landscape of the land by developing around them rather than destroying them and recreating them elsewhere. These new development regulations would apply to proposed developments or redevelopment of one acre or larger in size that contain or abut sensitive nature resource areas, such as those designated in the McHenry County Natural Area Inventory or streams, rivers, and lakes designated as Advanced Identification (ADID) high quality habitats. Developers can voluntarily apply as a conservation development and can receive density bonuses if they offer a superior layout and quality of design that incorporates environmentally sensitive design features that exceed the minimum requirements of the ordinance.<sup>10</sup>

In 2007, the City of Aurora, adopted the River Edge Park Master Plan, a plan for a regional park located in the city's historic downtown business district. The Fox River greenway, referred to in the Plan as the "river's edge" is a 170 mile stretch that will receive a dramatic makeover, resulting in both built and natural environment improvements that complement each other and will bring a more sustainable future for the city's downtown. A new civic space with a riverfront boardwalk and performance venue will be complimented by environmental enhancements along the Fox River greenway, including remediation of contaminated soil, invasive species removal, stabilized river banks, and restored native habitats.<sup>11</sup>

Inherent in the value of open space and green infrastructure is the positive impact on Kane County's goals for healthy people, healthy living, and healthy communities. By continuing to aggressively pursue a more connected and enhanced green infrastructure network with our regional and local partners, Kane County will further improve the overall goal for healthy people, healthy living, and healthy communities.

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<sup>10</sup> City of Algonquin. Conservation Design...

<sup>11</sup> City of Aurora. River Edge Park Master Plan. <http://www.aurora-il.org>. Accessed 2011.

**Policies:**

1. Implement proposed open space as identified in the 2040 Map for its environmental, livability, educational and economic benefits.
2. Protect and enhance open space and green infrastructure using the goals of the Chicago Wilderness Green Infrastructure Vision Strategic Framework, CMAP GO TO 2040 Plan, and the Northeastern Illinois Regional Greenways and Trails Plan.
3. Coordinate with Forest Preserve District, townships, municipalities and park districts to strategically provide public access, education and resource protection for the green infrastructure network.
4. Encourage the coordinated implementation of the Forest Preserve District Master Plan and Natural Resource Master Plan, township, park district and other open space plans.
5. Incorporate conservation and sustainability criteria in development controls and County ordinances to protect natural, scenic, historic, archaeological and environmental areas when making land use and development decisions.
6. Implement County and local bicycle and pedestrian plans to encourage walking and biking.
7. Explore innovative opportunities to collaborate on the protection and enhancement of green infrastructure.
8. Encourage the increased use of non-acquisition techniques such as conservation easements, tax adjustments, and dedication as alternative methods for implementing local, County and regional open space plans.
9. Continue to partner with multiple jurisdictions in order to update and implement watershed-based plans in Kane County.



## 2.8 PLANNING ISSUES – WATER RESOURCES

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### Objectives:

1. To recognize an integrated system of land and water resources is a major component of our built and natural environment.
2. To preserve and protect the quantity and quality of drinking water supplies and to ensure sustainable yields for current and future generations.
3. To protect and improve the water quality and beneficial uses of surface waters for ecosystem habitat and healthy living.
4. To promote Integrated Water Resource Planning as a tool for water supply, stormwater management, and water reclamation and reuse in order to strategically link the beneficial uses of water over a broad spectrum of human and ecosystem needs.
5. To promote water conservation and efficiency, the reuse of gray water and the recycling of reclaimed water to reduce water demands and conserve energy.
6. To promote Green Infrastructure best management practices and technologies to filter and capture stormwater runoff for improved water quality, groundwater recharge and to enhance the health and livability of our communities and ecosystems.
7. To promote water resource driven land use decisions when updating land use policies and ordinances.
8. To promote drought management planning and the monitoring of aquifer levels and stream flows for decision making in the event of a drought.
9. To integrate water resource planning and management with energy, transportation, housing, wildlife habitat, open space and land use planning.

### Chapter Focus

The increasing demand for water due to a growing County population and finding adequate and sustainable water supplies for both human and ecosystem needs is one of the major challenges in the 2040 Plan. Lake Michigan water is not considered a viable option for Kane County in the future due to cost and national and international laws so the long term sources for drinking water are the Fox River, shallow groundwater, and deep aquifers. Kane County is proud to be one of the leaders in the region and in Illinois in recognizing these resources as our greatest natural assets and this plan emphasizes their protection and enhancement. Besides the increasing population, the drought of 2005 emphasized the need for additional efforts in working with the 30 municipalities of Kane County along with our neighboring counties and the region to meet future water supply demands. This Water

Resource Chapter incorporates the results of the *Kane County Water Resources Investigations* (2009) prepared by the ISWS, supports the efforts of CMAP to implement the *Northeastern Illinois Regional Water Supply/Demand Plan – Water 2050* (2010), reinforces the water resource recommendations in the *CMAP Go to 2040 Plan* (2010), and emphasizes the need to integrate water resources with land use-decision making.

This chapter examines:

- Regional Approach to Water Supply Planning
- Water Resources in Kane County
- Water Conservation and Drought Planning
- Water Resource Driven Land Use Decisions
- Integrated Water Resource Planning

### **Regional Approach to Water Supply Planning**

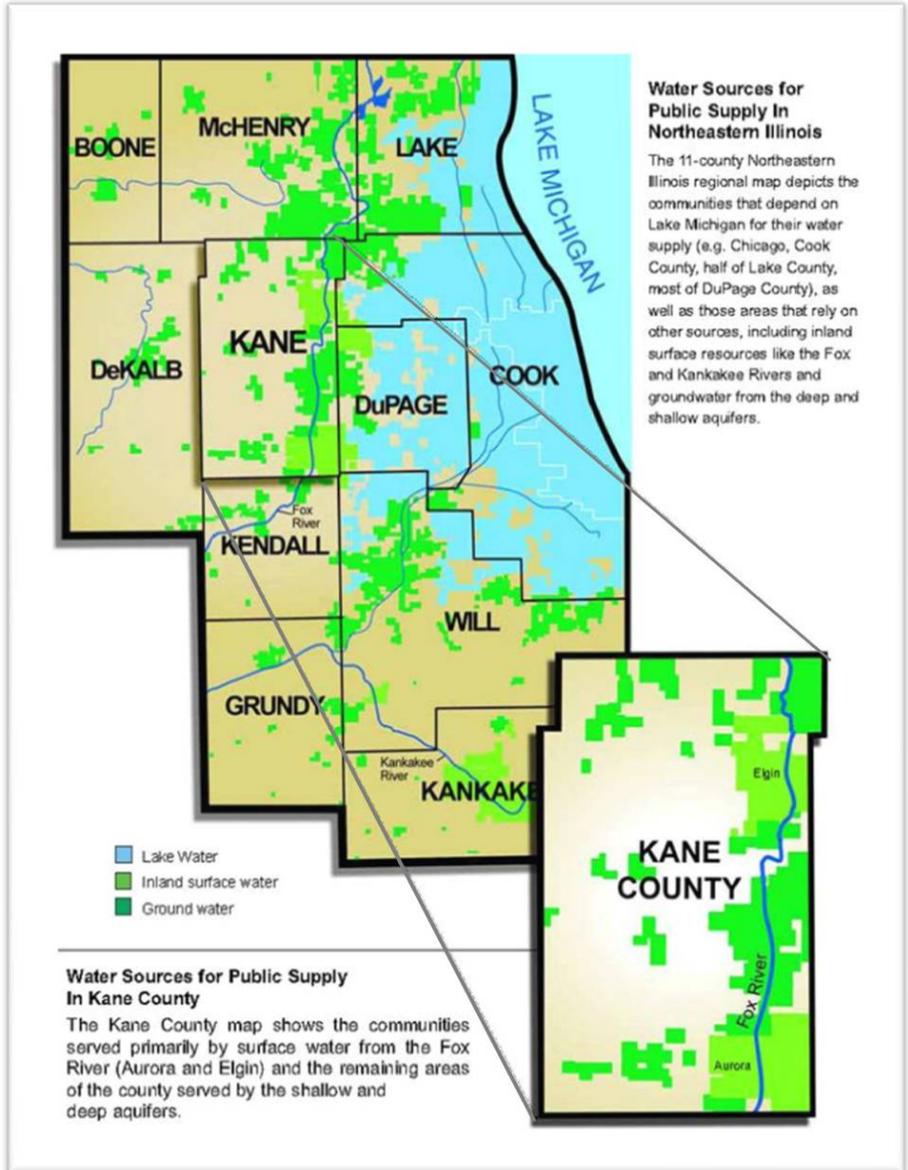
In the United States most people have easy access to drinkable tap water that is clean and plentiful. While the Great Lakes Region as a whole has not experienced any major water shortages, the future water available to our region is finite. Most important to Kane County in this regard is that Lake Michigan water, although available to 77-percent of the population in the metropolitan Chicago region, it is not likely to ever be available to our County and other outlying counties in the region due to the excessive cost to construct a Lake Michigan pipeline and storage facilities. This leads the County in this Plan to identify a drinking water supply for a growing population as one of the major challenges facing our citizens and decision makers. The 2040 challenge to Kane County is providing drinking water for a growing population by utilizing the Fox River and the shallow and deep aquifer systems during times of both adequate rainfall and times of drought.

Kane County's leadership and commitment to water supply planning in the region is evidenced by the extensive Illinois State Water Survey (ISWS) and Illinois State Geological Survey (ISGS) scientific investigations conducted for Kane County between 2002 and 2009. These investigations, the first of their kind in the State of Illinois, further defined the sources of Kane County's drinking water, the shallow and deep groundwater aquifers, and the surface water in the Fox River, and their ability to be utilized for a growing population. These investigations also projected the limitations to water withdrawals from each of the sources. They further served as a jump-start for the scientific investigations and water supply planning in the 11 county Northeastern Illinois Regional Water Supply Planning Area.

## Regional Water Supply Planning

In 1994 after numerous communities in northeastern Illinois abandoned their deep aquifer wells and began using Lake Michigan water, withdrawals from the deep aquifer system again began increasing beyond sustainable amounts. The minor drought of 2005 in northeastern Illinois raised additional concerns and caused the State of Illinois to initiate in earnest a program of long term water supply planning. In January 2006, the Governor signed Executive Order 2006-01, requiring the Illinois Department of Natural Resources (IDNR) to lead state and regional water-supply planning activities. To begin that effort, the ISWS prepared a report titled *Prioritizing Illinois Aquifers and Watersheds for Water Supply Planning*. The 11-county Northeastern Illinois Regional Water Supply Planning area was identified as one of the priority regions in that report. The State contracted with the Chicago Metropolitan Agency for Planning (CMAP) to initiate and facilitate the preparation of the 11-county *Northeastern Illinois Regional Water Supply/Demand Plan – Water 2050*, which was released in March 2010. The Plan recognizes that the water supply planning issues in Kane County and other collar counties that rely on inland surface water or groundwater for drinking water are different than in the Lake Michigan service area. Kane County is at the center of the Fox River Valley sub-region that will be dependent on groundwater and inland surface water in the future (Figure 55). Because of its projected population growth, Kane County will experience the impacts of over pumping of the deep aquifer and shallow aquifers more so than our neighbors to the north, west and south.

**Figure 55**



**Figure 56**

**CMAP WATER 2050 Plan  
Recommendations that Promote the  
Policies and Objectives  
of the Kane County 2040 Plan**

- Protect Groundwater Recharge Areas
- Promote Stormwater Retention
- Use of Green Infrastructure
- Encourage Conservation Design
- Integrate Water Supply Planning with Land Use Planning
- Watershed Planning
- Water Quality Protection/Chloride Reduction
- Nutrient Reduction
- Conservation Coordinator
- Residential Plumbing/Appliance Retrofit
- Large Landscape Conservation Program
- Public Information Plan
- School Education Program
- Water Rate/Conservation Pricing
- Graywater Use
- Wastewater (Brown Water) Reuse
- Drought Preparedness

The CMAP *Water 2050* Northeastern Illinois regional water supply/demand plan calls for improved water conservation and demand management, and includes more than 200 recommendations directed at state, regional, county, municipal, and other public agencies. It also has practical suggestions for how residential and commercial consumers can reduce waste and conserve water. Appendix B in the CMAP Plan contains the detailed list of the recommendations. The recommendations that are directed to counties and municipalities and that promote the objectives and policies of this Plan are listed in Figure 56. CMAP also incorporated the recommendations into their GO TO 2040 Plan (October 2010).

Northwest Water Planning Alliance

Because of the lack of authority from the State of Illinois for local government to regulate water withdrawals, the use of intergovernmental agreements for water supply planning among counties and municipalities is an implementation strategy

discussed in the CMAP *Water 2050 Plan*. Kane County initiated discussions in that regard with municipal leaders even before finalization of the recommendations of the *Water 2050 Plan*. Those discussions evolved into the Northwest Water Planning Alliance (NWPA) formed in September 2010, which utilizes the adoption of intergovernmental agreements among the counties of Kane, Kendall, DeKalb, McHenry and Lake County and five Councils of Government representing approximately 80 communities that will not rely on Lake Michigan water. The NWPA consists of county and municipal elected officials that serve in a leadership role as the Executive Committee and a Technical Advisory Committee made up of county and municipal non-elected water professionals to provide guidance to the Executive Committee on implementing the priority goals of the Alliance. One of the first goals being addressed by the NWPA is water conservation and efficiency.

**Water Resources of Kane County**

There are two groundwater aquifers below the ground surface in Kane County. The shallow aquifer formations are generally from 5 to about 400 feet below the ground surface and consist of sands, gravels and the upper portions of fractured limestone or shale bedrock. The shallow aquifers are replenished from local rainfall infiltration and streams. The

locations of the major shallow aquifers are concentrated in buried bedrock valleys and thick layers of sands and gravels throughout the County as shown in Figure 57.

The deep aquifer formations exist from about 600 to 2,000 feet below the ground surface and consist of different layers of sandstone and limestone that are separated from the shallow aquifers by a very hard layer of limestone that was considered by the ISWS in their scientific studies as impermeable. The deep aquifers are replenished by rainfall infiltration and streams in northwestern Illinois. However it takes several thousand years for the water to travel through the limestone and sandstone layers eastward into Kane County.

The Fox River is our largest surface water resource and supplies drinking water to the cities of Aurora and Elgin. The water quality of the Fox River has improved via major investments and improvements made to existing municipal sewage treatment plants and improved stormwater management. To further improve water quality, additional efforts are needed in removing nutrients and pharmaceuticals potentially harmful to aquatic life that are still being discharged into the river from these facilities. Also the pollutants carried in stormwater runoff from man's activities on the land (i.e.: fertilizers, pesticides, de-icing chemicals, oils and other non-biodegradable wastes) degrade water quality in the tributary streams and main stem of the Fox River. To meet drinking water standards these pollutants must be removed through very expensive treatment processes, the costs of which must be borne by the drinking water users. Future challenges will be to incorporate cost-effective advanced wastewater treatment technology to remove additional pollutants from wastewater and to incorporate Green Infrastructure on the land surface to further infiltrate or clean stormwater runoff.

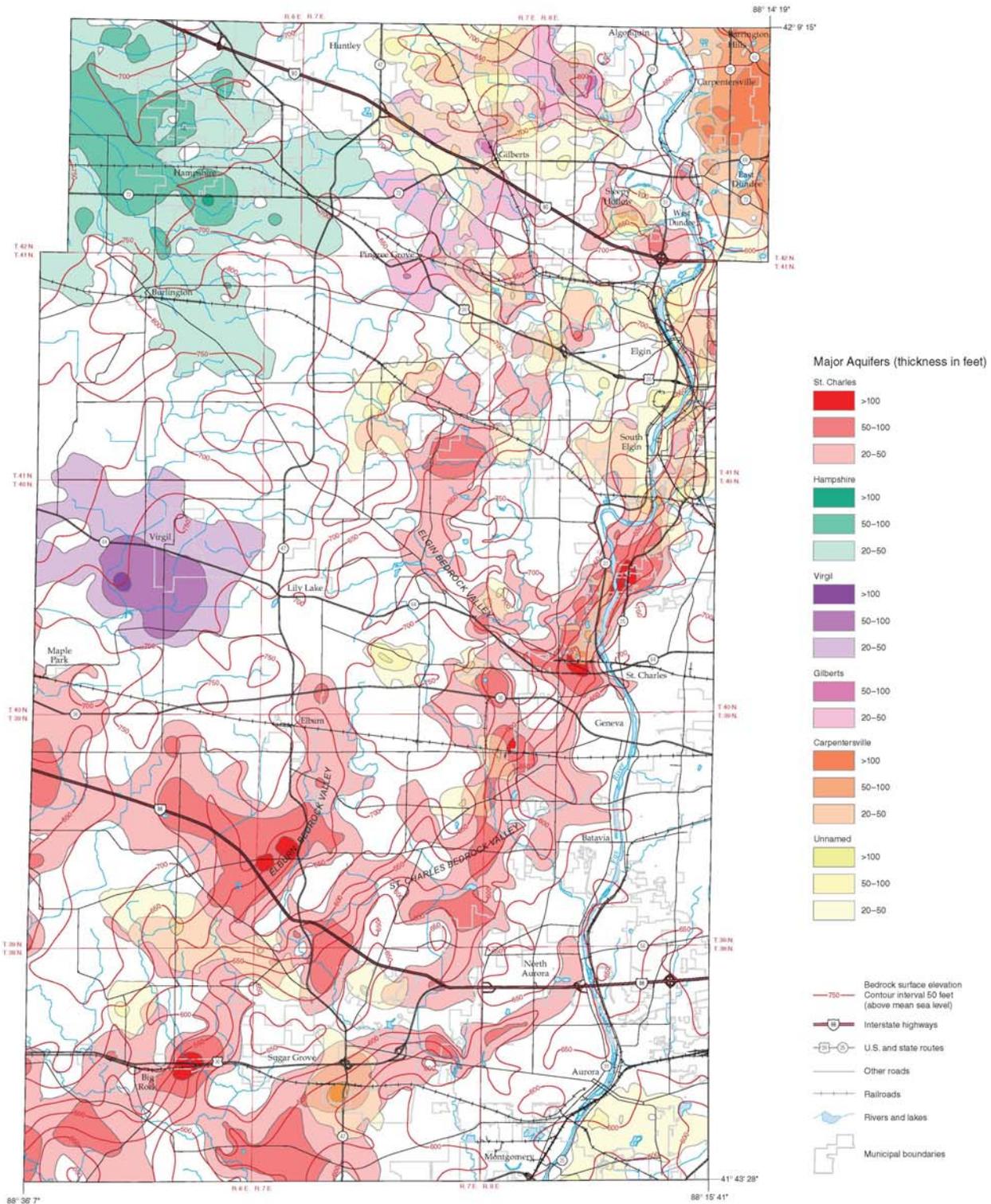
The aquifers and the Fox River within Kane County extend beyond our borders into neighboring counties and Wisconsin. Whatever water is added or withdrawn in these areas from the aquifers and the river has an impact on the quantity and quality of the water available in Kane County. Additionally, Kane County and its 30 municipalities do not individually control the water in either the aquifers or the Fox River. Accordingly, the aquifers and the Fox River need to be considered as shared resources that must be managed and utilized for the common good and the health of the entire County population. The ISWS reports and maps show where communities in Kane County share the same aquifers and in some locations compete for the same water. This competition continues to lower the pumping levels in both shallow and deep aquifer wells (Figures 58 and 59). The reports also demonstrate that the reclaimed water discharged into the upper portions of the Fox River is the same water withdrawn downstream and purified for drinking water supply.

Figure 57

# MAJOR QUATERNARY AQUIFERS KANE COUNTY, ILLINOIS

Illinois County Geologic Map  
ICGM Kane-QA

William S. Dey, Alec M. Davis, and B. Brandon Curry  
2007



Note: A full map with the scale and the associated map text, which must be referred to when interpreting this map, and other maps and references to the Kane County Water Resources Investigations by the ISWS and ISGS are available for viewing and downloading at the following web site as of January 2012: <http://www.isgs.uiuc.edu/maps-data-pub/county-maps/kane-co.shtml> “.

Figure 58

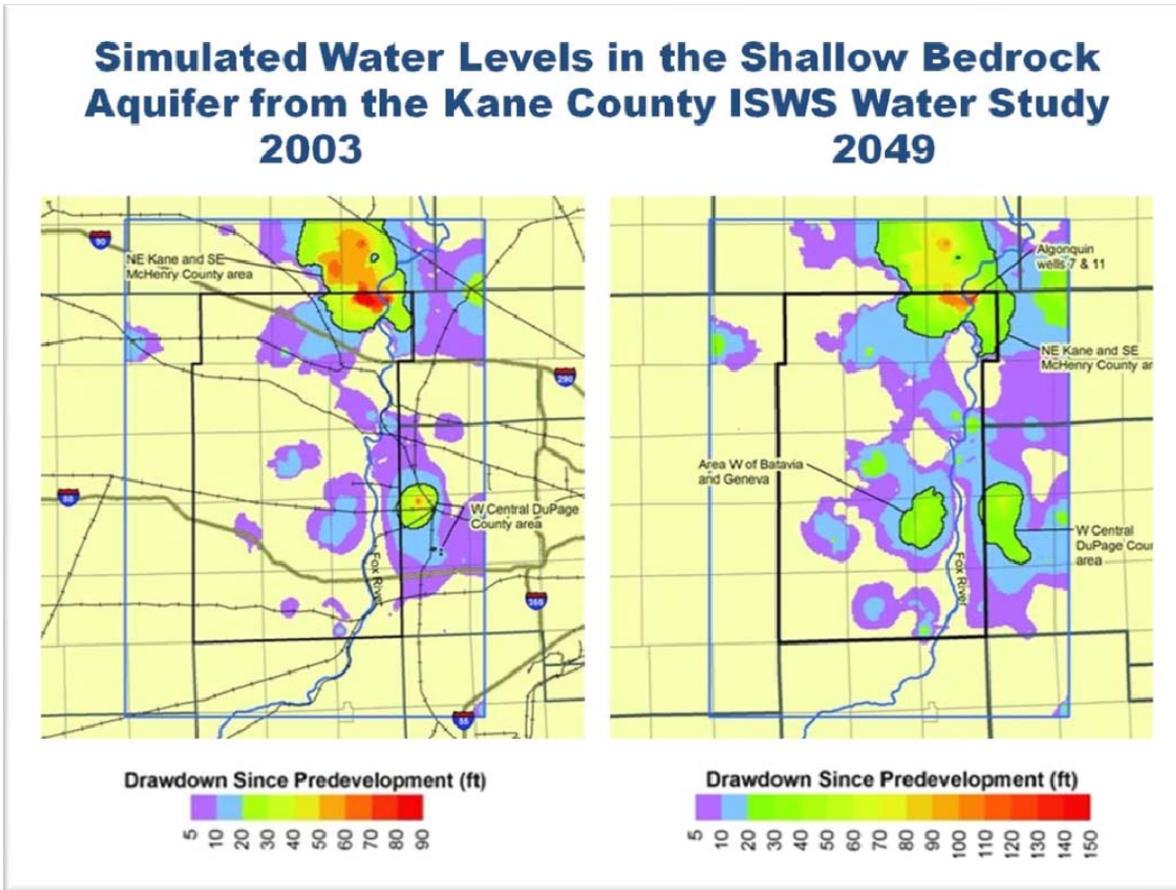
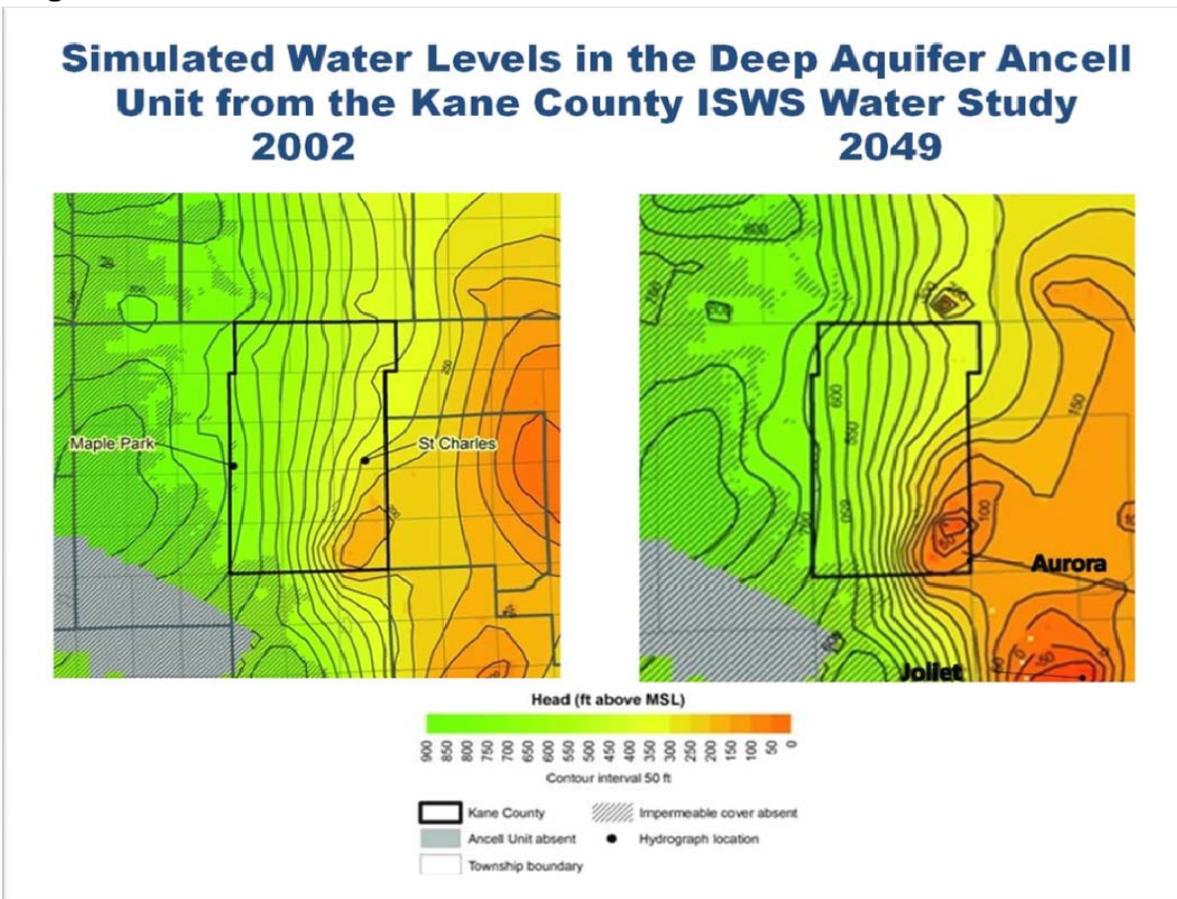


Figure 59



Current water withdrawal from the aquifers and the Fox River to meet population growth needs, without adequate conservation practices, will result in the County and adjacent portions of the region going beyond the long term safe yields and sustainable use of the aquifers and the Fox River. Furthermore, with future population growth water levels in wells will continue to drop, runoff will continue to be polluted and base flows in the Fox River and its tributaries will continue to diminish at an accelerated pace. This is a threat not only to the quality of life and healthy living in Kane County, but also to the ecosystems, open space and aquatic life that are highly valued by the citizens of Kane County. The Kane County Water Resources Investigations provide valuable tools for recognizing and predicting the limitations of our water supplies and projecting future withdrawal scenarios.

## Water Conservation and Drought Planning

### Benefits of Water Conservation and Efficiency

As Kane County's and the region's population continue to grow, water demand will continue to increase and must be balanced with conservation of available water supplies in order to attain sustainability. Water conservation is the term used when describing the demand side of the water supply/demand equation, and is related to good stewardship of the resource. A more suitable term when water supplies are limited in an area of growing population, such as in Kane County, is water efficiency, sometimes also called 'demand management'. It is related to the supply side of the equation, which can be directly translated to long-term savings in water system capital costs. The Alliance for Water Efficiency has determined that implementing water conservation and efficiency measures are the most cost-effective way of providing additional water supply and extending the service life of existing supplies and infrastructure. By reducing the demand for water, the construction of capital facilities can be delayed, existing water supplies will last longer, the total capacity of infrastructure facilities and water supplies will cost less, additionally, the quantity of water needed for a community's population growth will be less than without water conservation and efficiency programs. Figure 60 illustrates these concepts in a graph.

Seasonal water demands during the summer months also cause additional water storage and pumping systems to be constructed to meet peak water demands. Figure 61 illustrates how implementation of water conservation programs can greatly reduce these summer peaks and conserve drinking water for the future.

**Figure 60. Example of delaying or downsizing a capital facility, peak demand/capacity in million gallons per day**

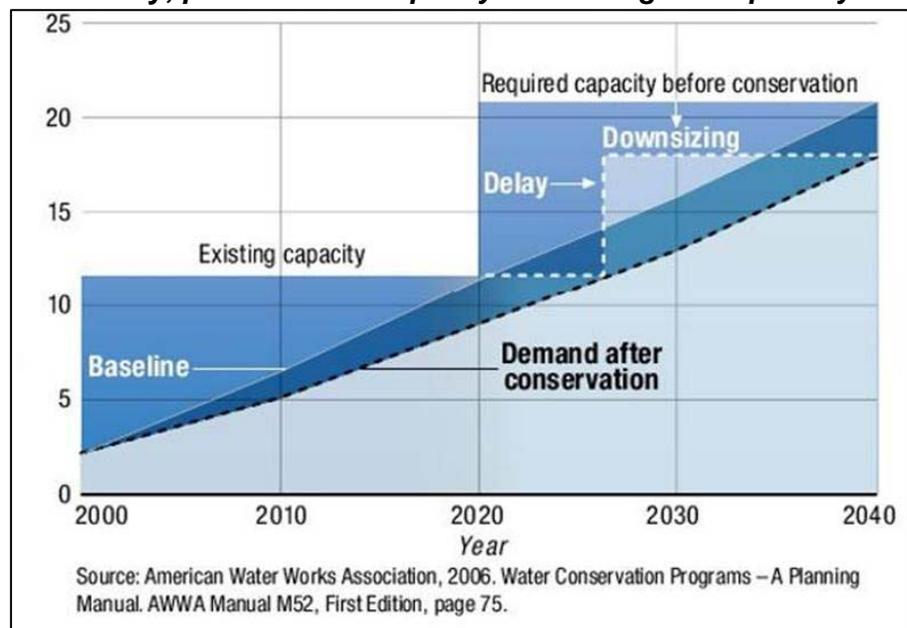
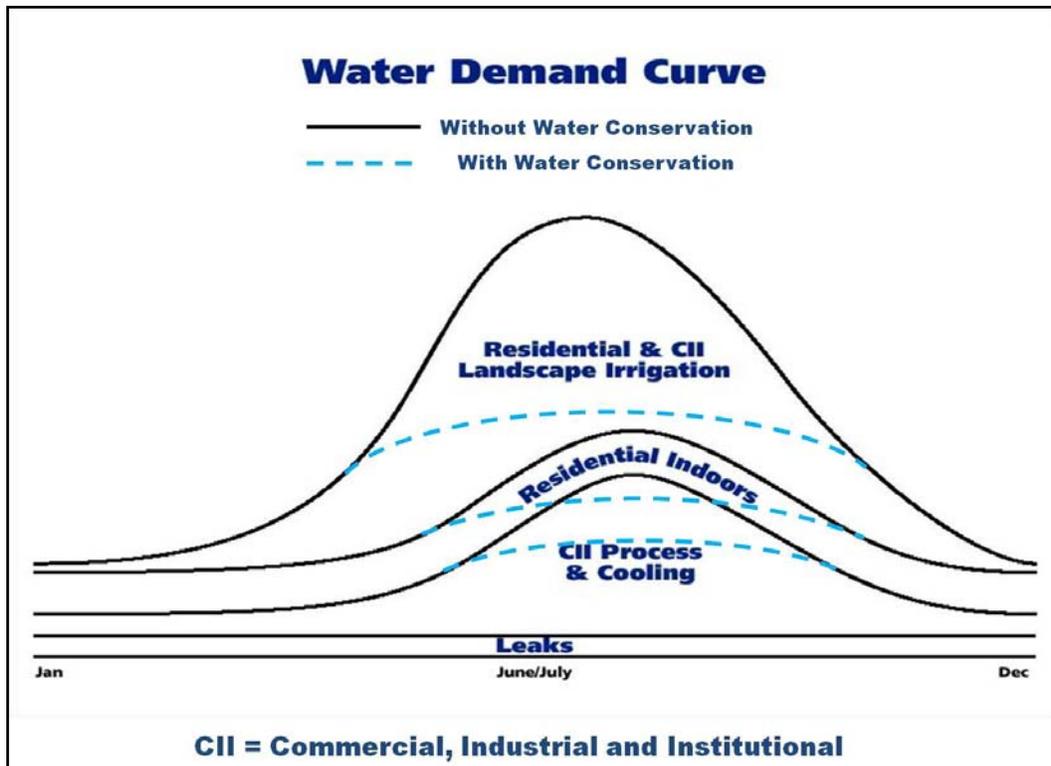


Figure 61



### Water Conservation Measures

There are many examples nationwide of various degrees of success with water conservation measures. The Alliance for Water Efficiency (AWE) is a nationwide support organization that is very familiar with the nation's progress in water efficiency and provided guidance to the Northeastern Illinois' Regional Water Supply Planning Group (RWSPG) and the Chicago Metropolitan Agency for Planning (CMAP) during the preparation of the *Water 2050 Plan*. CMAP used that guidance to conduct additional research on water efficiency programs and prepared a menu of thirteen water-use conservation measures for our region that are discussed in Chapter 4 of the *Water 2050 Plan* (Figure 62). These measures call for municipalities to invest up front in staff time, school education and public information campaigns even before implementing programs that actually demonstrate water conservation.

Figure 63 is a diagram of how water conservation measures can be implemented over time at the local and regional levels using a phased approach with four levels of implementation. Levels 1 through 4 are incrementally more difficult and more costly to implement. The higher levels also rely upon additional coordination with the regional entities outside of the local water utilities. Chapter 4 of the *Water 2050 Plan* gives additional guidance on the individual measures contained in each level and moving them forward to implement water conservation techniques at local and regional government levels.

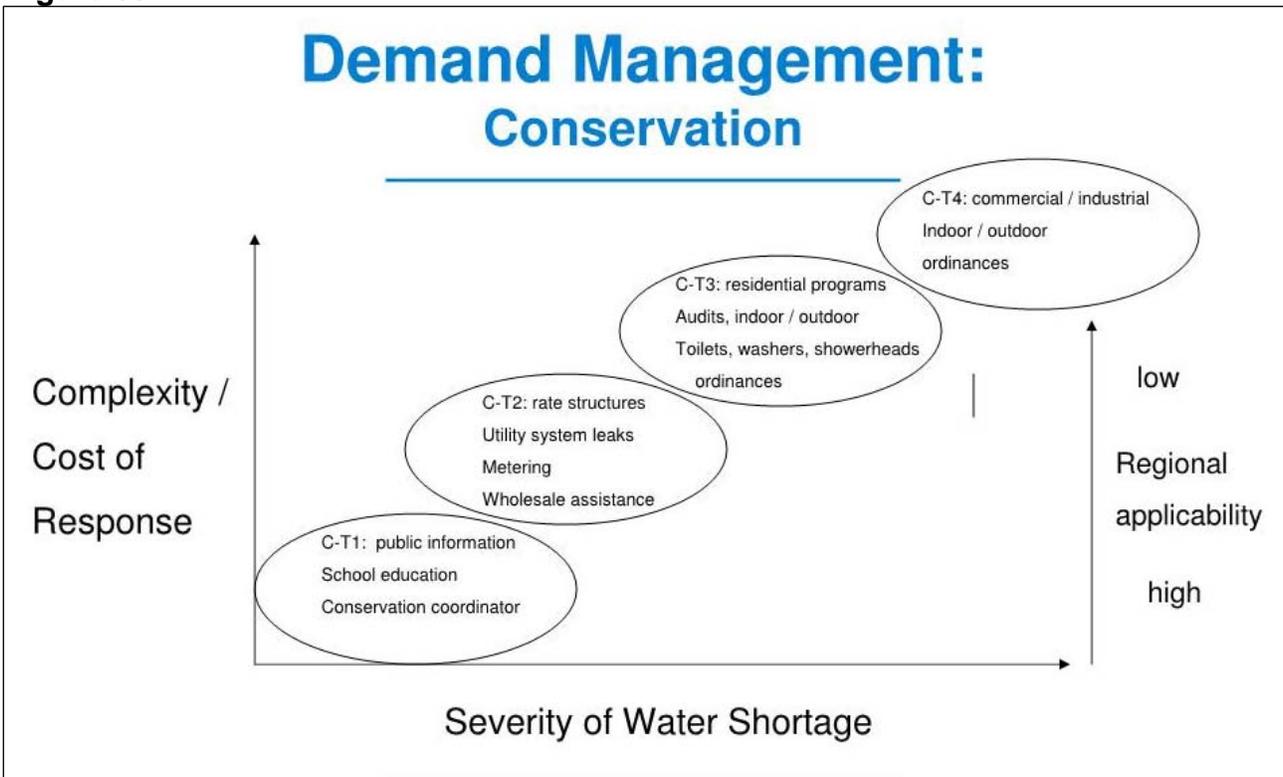
**Figure 62**

**Water-Use Conservation Measures for Chicago Region**

1. Conservation Coordinator
2. Water Surveys for Single-Family and Multifamily Residential Customers
3. Residential Plumbing Retrofit
4. Residential High Efficiency Toilet Program
5. High Efficiency Clothes Washer Program
6. System Water Audits, Leak Detection, and Repair
7. Metering with Commodity Rates for New Connections and Retrofit of Existing Connections
8. Water Waste Prohibition
9. Large Landscape Conservation Programs and Incentives
10. Conservation Programs for Commercial, Industrial, and Institutional Accounts
11. Wholesale Agency Assistance Programs.
12. Public Information
13. School Education

Source: CMAP, Water 2050, 2010.

**Figure 63**



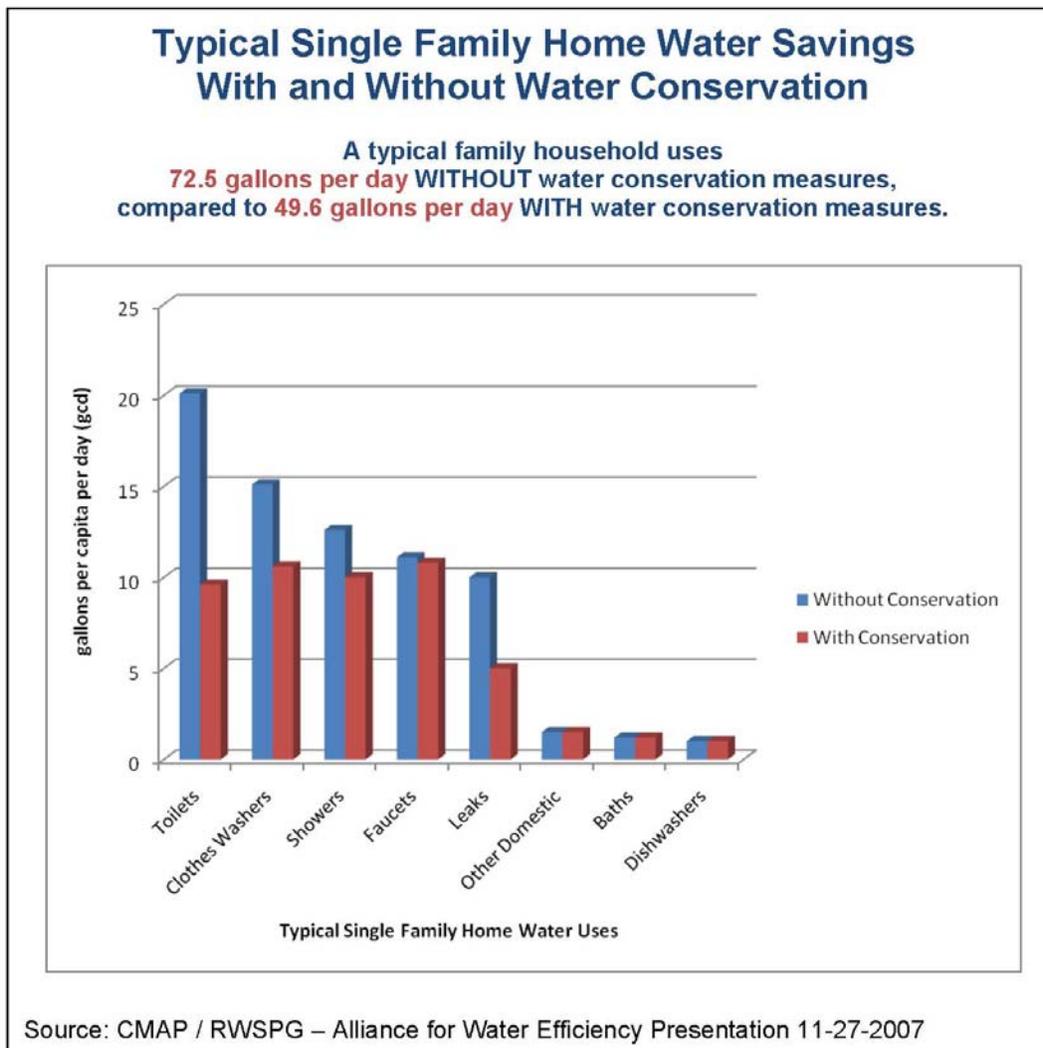
Source: CMAP, Water 2050, 2010.

Critical to the success of water conservation programs across a region is the percentage of communities that will actually be successful in implementing such programs. Low conservation participation according to CMAP will result in typically only 10% participation by households, employees, or 10% of the water demand. High conservation participation may demonstrate a maximum expected participation of households, employees and water demand savings at the 50% level. Further discussion on his topic is in Chapter 4 of the

CMAP *Water 2050 Plan*. The success of water conservation and efficiency programs rests at the local level, rather than at the regional or state level, because the local level is where the implementation of the programs must take place.

Is water conservation really worth all the effort and expense? It is necessary to go to such measures to provide sustainable water supplies in Kane County? Many government, quasi-government, and privately sponsored groups are standing together in this region where water shortages have occurred and where water efficiency measures had to be implemented, sometimes in emergency situations, saying “Yes!” to implementing these conservation measures. Kane County has been very fortunate, together with the help and expertise of the ISWS, to predict eventual water shortages and recommend action to lessen or prevent them from ever happening. The Alliance for Water Efficiency lists a number of Water Conservation facts as presented in Figure 64 in support of implementing water conservation measures. CMAP, the Metropolitan Planning Council, the Illinois Department of Natural Resources, the Illinois State Water Survey, the NWPA and local Councils of Government along with Kane County are now engaged in working together to continue providing safe and sustainable water for the region.

**Figure 64**



### Drought Management Planning and Response

The American Water Works Association *Drought Preparedness and Response Handbook* states that, “In the most general sense, drought is a deficiency of precipitation over an extended period of time, resulting in a water shortage for some activity, group, or environmental purpose. . . Such conditions could last two to three months or extend over a period of years.” While water supplies cannot be made entirely “drought proof,” Figure 65 highlights the basic contents of a drought management plan and emphasizes the importance of planning for a drought before one occurs.

**Figure 65**

**Drought Management Plan**  
from the  
*Drought Management Handbook*  
(AWWA 2002)

“A drought management plan is a document that (1) defines the conditions under which a drought-induced water supply emergency exists and (2) specifies the actions that are to be taken in response. The basic goal is to preserve essential public services and minimize the adverse effects of a water supply emergency on public health and safety, economic activity, environmental resources, and individual lifestyle. The cardinal principle of drought planning is to determine the actions and procedures for responding to a drought-related water supply emergency in advance of an actual emergency. . . The practical value of a drought management plan, as opposed to ad hoc crisis management, is that it reduces the likelihood of either over or under reacting to a water supply emergency”

### Need for Drought Planning in Kane County

As Benjamin Franklin once said, “When the well runs dry, you know the worth of water”. Once the effects of a drought begin to manifest themselves, it is already too late to take measures to avoid the effects of a drought and take preventative measures. Effective planning for drought with stakeholders and developing a drought management plan can take months or even a few years depending on knowledge and ability to collect data that can lead to advance indications of an impending drought. Stream flows, groundwater/aquifer elevations, and surface water/wetland elevations need to be measured at least quarterly in normal periods and more frequently during drought periods. Together with the Kane County groundwater models, this information can give estimates of water supplies available during drought periods and provide decision makers information needed to call for various stages or tiers of demand reduction measures throughout the County. Having a drought management plan in place saves valuable time when measures need to be taken to lessen the impacts of a drought.

There are several indicators that call for such a plan for Kane County. The ISWS study and groundwater model already indicate a lowering of the water surface in shallow aquifers in at least three areas in the County. It has also predicted the reduced base flows in tributary streams to the Fox River. During a drought, these streams and certain wetlands may turn dry, having a detrimental impact to the ecosystems and habitat dependent on these water bodies. It also has identified capture zones of wells in the northern part of the County where

wells from adjacent municipalities are pumping from the same zones of an aquifer, thus competing for the same water even during normal precipitation conditions.

Historically, the minor drought of 2005 caused at least one municipal well in the County to be taken out of service because a neighboring community's well had lowered the water surface below the first community's pump elevation in the well. This also happened repeatedly with private wells in unincorporated areas of the County where wells "ran dry" due to over pumping of the aquifer. In several instances, neighbors complained because their well ran out of water when other neighbors were irrigating their lawns. This type of water waste is prevalent in both unincorporated and incorporated areas throughout the County. Water waste also leads to over capitalizing water supply systems and taking water from the deep aquifer, which is not renewable and should be left for emergency use and as a legacy for future generations to use wisely.

A drought management plan also provides for a proactive approach to drought rather than a reactive approach. Priorities for use of available water in a community can be set for:

- Health and Safety (Interior residential, firefighting, health care facilities)
- Commercial, Industrial, Institutional (Maintain economic base, protect jobs)
- Environment (Reduce losses to natural resources, ecosystems, habitat)
- Permanent Crops (Protect crops that take years to replace)
- Annual Crops (Protect jobs and the largest single industry in the County)
- Landscaping (Protect jobs, maintain established trees, shrubs and community character)
- New Demand (Protect investments of construction projects already approved)

A staged demand reduction plan can be evaluated for all the above users of water, based on a collaborative approach of the stakeholders to decide what levels of water use reduction can be tolerated without serious detrimental impacts to their water needs.

## **Water Resource Driven Land Use Decisions**

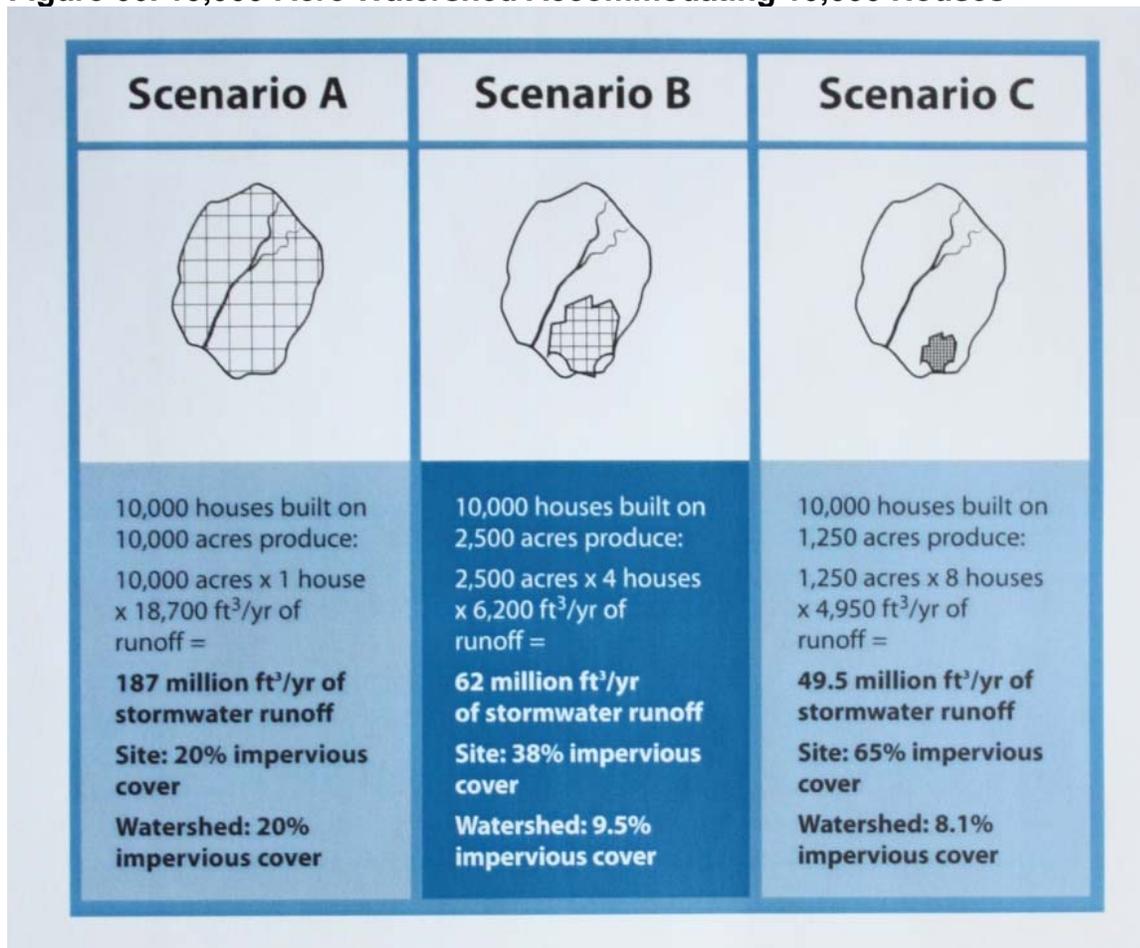
In the past, many communities, planning regions and state agencies believed that low-density, sprawling development automatically protects water quality. This conventional thinking has recently been shown not to be true in many instances and the pursuit of low-density development can in fact be counterproductive, contributing to high rates of land conversion, increased stormwater runoff, reduced groundwater recharge, and increased potential for groundwater and surface water pollution. Higher density development can reduce the impact of development by reducing land consumption. This in turn allows communities to protect valuable open space, habitat, farmland and ecologically sensitive areas and improves water quality by reducing impervious cover and polluted stormwater runoff.

In January 2006 the USEPA issued a report, *Protecting Water Resources with Higher-Density Development*. The report reviews the concept of how development density impacts water quality in areas where population growth is inevitable, and indicates that a more

intergovernmental and proactive approach is available for making land use decisions that promote water quality in growing areas such as Kane County.

Figure 66 is from the USEPA report and illustrates how increasing density in the context of watershed management can mitigate the impacts of impervious cover. Overall impervious cover for the watershed decreases as site density increases given a fixed amount of growth.

**Figure 66. 10,000-Acre Watershed Accommodating 10,000 Houses**



The 'Findings/Discussion' section of the report states the following:

“Typically, a planning department analyzes the projected stormwater runoff impacts of a developer’s proposal based on the acreage, not the number of houses being built. Based on the results from the one-acre level example, communities might conclude that lower-density development would minimize runoff. Runoff from one house on one acre is roughly half the runoff from eight houses. However, where did the other houses, and the people who live in those houses, go? The answer is almost always that they went somewhere else in that region—very often somewhere within the same watershed. Thus, those households still have a stormwater impact. To better understand the stormwater runoff impacts from developing at low densities, the

impacts associated with those houses locating elsewhere need to be taken into account. This approach has two advantages:

- It acknowledges that the choice is not whether to grow by one house or eight but is instead where and how to accommodate the eight houses (or whatever number by which the region is expected to grow).
- It emphasizes minimization of total imperviousness and runoff within a region or watershed rather than from particular sites—which is more consistent with the science indicating that imperviousness within the watershed is critical” [underline added].

The ‘Findings/Discussion’ section of the report concludes:

- Low-density development may not always be the preferred strategy for reducing stormwater runoff.
- Higher densities may better protect water quality—especially at the lot and watershed levels.
- Higher-density developments consume less land to accommodate the same number of houses as lower density.
- Consuming less land means less impervious cover is created within the watershed.
- To better protect watershed function, communities must preserve large, continuous areas of open space and protect sensitive ecological areas, regardless of how densely they develop.
- While increasing densities on a regional scale can, on the whole, better protect water resources at a regional level, higher-density development can have more site-level impervious cover, which can exacerbate water quality problems in nearby or adjacent water-bodies.
- To address this increased impervious cover, numerous site-level techniques are available to mitigate development impacts. When used in combination with regional techniques, these site-level techniques can prevent, treat, and store runoff and associated pollutants.
- Many of these practices incorporate some elements of low-impact development techniques (e.g., rain gardens, bio-retention areas, and grass swales), although others go further to include changing site-design practices, such as reducing parking spaces, narrowing streets, and eliminating cul-de-sacs. Incorporating these techniques can help communities meet their water quality goals and create more interesting and enjoyable neighborhoods”.

A challenge to Kane County and its municipalities during the next three decades of growth will be to integrate compact mixed-use development with progressive watershed planning, open space preservation, water quality protection and groundwater recharge in the

developing watersheds of the critical growth area west of the Fox River. The CMAP *GO TO 2040 Plan* reinforces the idea that land use policies that promote mixed-use development will reduce residential water use and reduce both capital and operating costs for water utilities. Higher density, compact mixed use development in the sustainable urban area also provides opportunities for retrofitting and redeveloping older neighborhoods with Green Infrastructure techniques and beginning to truly integrate renewal of water supply, wastewater and stormwater infrastructure in the older urban areas of the County.

## **Integrated Water Resource Planning**

Kane County was introduced to the process of Integrated Water Resource Planning at the 2007 Priority Places Workshop on *Implementing a Sustainable Water Supply for Kane County's Future* by the keynote speaker, Dr. Richard N. Palmer, PhD, P.E., who co-authored with Kathryn V. Lundberg a paper with the same title. It is a subset of or the more general Integrated Resource Planning (IRP) methodology.

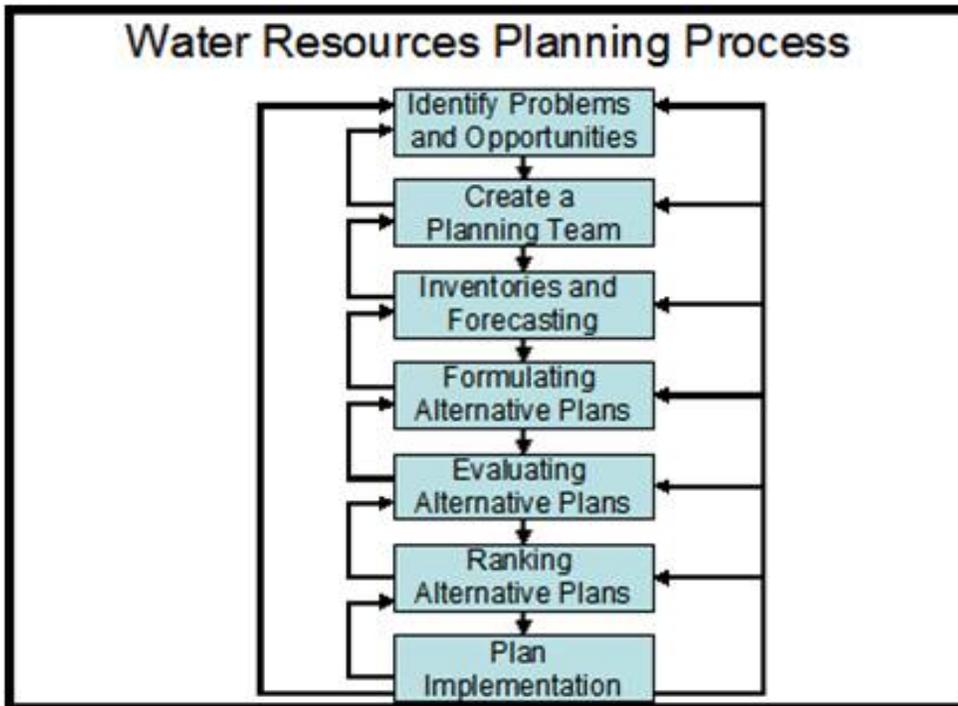
No single definition of Integrated Resource Planning is widely agreed upon; however the overall process for guiding and developing water resource plans is basically the same among many users. The American Water Works Association (AWWA) definition that appears in their Manual M50 on Water Resources Planning and also used by Dr. Palmer describes the process as follows:

“IRP is a comprehensive form of planning that encompasses least-cost analyses of demand-side and supply-side management options as well as an open and participatory decision-making process, the development of water resource alternatives that incorporates consideration of a community’s quality of life and environmental issues that may be impacted by the ultimate decision, and recognition of the multiple institutions concerned with water resources and the competing policy goals among them. IRP attempts to consider all direct and indirect costs and benefits of demand management, supply management, and supply augmentation by using alternative planning scenarios, analyses across disciplines, community involvement in the planning, decision making, and implementation process, and consideration of other societal and environmental benefits.

IRP includes planning methods to identify the most efficient means of achieving the goals while considering the costs of project impacts on other community objectives and environmental management goals. These planning methods specifically require valuation of all benefits and costs, including avoided costs and life-cycle costs”. (AWWA, 2001)

Following this IRP approach, many municipal, county and regional planning entities around the country have begun to incorporate a much broader view of water resource planning into their policies and land use decisions. In this chapter, reference is primarily made to water resources, so the process here will be referred to as IWRP. Dr. Palmer refers to the IWRP as a seven step process as shown in Figure 67.

Figure 67



Prior to the formation of the Northeastern Illinois Regional Water Supply Planning Group and the Northwest Water Planning Alliance there has been minimal progress made on coordinating efforts to plan for and protect our drinking water supplies in the region other than to shift the supply of water for many communities from the deep aquifer system to Lake Michigan. Kane County will not be able to do that, and in the absence of that ability, relying on the

traditional methods for future water supplies will not provide cost effective, long term, sustainable drinking water supplies. Combining that assessment with a growing population and the results of the ISWS investigations, which demonstrate declining water levels in aquifers and water quality concerns in shallow and deep aquifers as well as surface water supplies from the Fox River, the IWRP process must begin to be implemented in water resource planning efforts in the county and in the region. The ISWS studies and results, the CMAP *Water 2050 Plan* and the NWPA that bring together stakeholders to build consensus on water resource issues are pillars to the IWRP process in Kane County, but much more planning, consensus building and funding is needed.

Over the next three decades, the three most important Water Resource issues facing Kane County that need Integrated Water resource Planning are the following:

- Water Supply - Kane County now has the best data and computer models of its aquifers and surface water supplies in Illinois. We were able to work with the ISGS and ISWS in assembling the data and the creation of the geologic, aquifer and Fox River flow models because of the advances in technology that have created Geographic Information Systems to store geologic and aquifer data in a three dimensional array, and the advances in computing ability and data storage. These models and data are available for use in the IWRP process to find sustainable drinking water supplies for Kane County.
- Wastewater - The Illinois EPA and the Fox River Study Group have begun an IWRP process to take a holistic look at the water quality in the river and to determine the critical pollutants that are entering the river. Technological advances in wastewater treatment, such as additional nutrient removal (Nitrogen and Phosphorus), ultraviolet (UV) disinfection (no chlorine byproducts) and energy conservation retrofits and

practices, as well as advances in pollutant detection are ready to be incorporated into the bigger discussion among IWRP stakeholders of how the critical pollutants can be kept out of the Fox River to avoid having to further treat river water to drinking water standards.

- Stormwater - The County has adopted a countywide Stormwater Management Plan and Stormwater Ordinance, a major Kane County success story of an IWRP process in its own right. The County has also worked with the Conservation Foundation, the NRCS, NIPC, CMAP, adjacent counties and other environmental groups over the years to develop watershed plans for almost every creek and the major watersheds of the Fox and Kishwaukee Rivers. New thinking on Green Infrastructure that will aide in addressing stormwater runoff quantity and quality and groundwater recharge is discussed elsewhere in the Plan and needs to be incorporated in revisions to the current Stormwater Ordinance and in water supply planning through stakeholder involvement in the IWRP process.

An excellent example of using IWRP in Kane County is the City of Aurora's recently completed strategic plan to use Green Infrastructure to avoid the costs of building new Combined Sewer Overflow treatment while reducing stormwater runoff and improving water quality in the Fox River. This approach addresses stormwater, wastewater and water supply components of our water resources. In addition to cleaner stormwater, less wastewater, and groundwater recharge, Aurora's Green Infrastructure /Integrated Water Resource Planning approach further contributes to neighborhood rejuvenation, addresses aging infrastructure, enhances habitat and reduces the urban heat island effect.

### **Policies:**

1. Preserve and protect the quality of groundwater and surface water, the primary sources of drinking water in Kane County, and encourage water conservation and efficiency programs.
2. Utilize the results of the ISWS/ISGS Kane County Water Resources Investigations to develop a countywide drought management plan, using water levels in aquifers and flow rates in streams to develop tiered, water use reduction measures and practices related to the severity and length of drought.
3. Promote Integrated Water Resource Planning for the Fox River and its tributaries and the tributaries of the Kishwaukee River in order to maximize their potential for water supply, wildlife habitat, recreation, and other uses.
4. Review and periodically update the countywide Stormwater Management Plan and Stormwater Ordinance to incorporate new planning goals, new technology, updated regulations, new methods, and Green Infrastructure systems and techniques.
5. Reclaim and reuse water in an environmentally sound manner, conducive to the health of ecosystems and humans, including the encouragement of water reclamation and reuse systems, land application of reclaimed water, reuse of gray

water, and wetland or other types of treatment to reduce the demand on drinking water supplies, promote energy conservation, and healthy living.

6. Monitor aquifer levels, stream flow, rainfall, and water quality in all critical aquifers, major streams and urbanizing watersheds in Kane County in cooperation with local, state, and federal agencies and programs.
7. Cooperate with Forest Preserve, local government entities, park districts, and private landowners in the development of watershed preserves, conservation areas, greenways, reforestation programs, wetlands and buffers in order to minimize the negative impacts of developing areas to our water resources and to promote the use of Green Infrastructure practices and techniques.
8. Maintain a coordinated NPDES Phase II Program with local government entities under the Countywide Stormwater Management Program in order to reduce stormwater pollutants, enhance water quality and promote healthy ecosystems and healthy living.
9. Promote and adopt goals and policies, plans, and adopt ordinances at the municipal and county levels in the 5-county NWPA region that lead to water conservation and efficiency, source water protection, sustainable water supplies, healthy ecosystems, healthy living, and drought management.
10. Carefully evaluate NPDES Permit applications for new or expanded point source discharges that may be unhealthy to ecosystems and humans or increase nutrient loadings that reduce the IBI Stream Class and degrade fish, macroinvertebrates, and other aquatic species.
11. Support CMAP and IEPA amendments to Facility Planning Areas only where aquifer or surface water scientific investigations demonstrate the water supply to be sustainable and will not negatively impact neighboring municipalities' drinking water supplies.
12. Require that all new or expanded waste water treatment facilities, whether conventional or reclamation and recycling systems, be owned and operated by a unit of local government capable of assessing property taxes and imposing user fees.
13. Protect water resources through compact, mixed- use development to reduce impervious cover and runoff volume on a per unit basis within a watershed, and use Green Infrastructure practices to reduce imperviousness in redevelopment areas, recharge aquifers, and avoid degrading wetlands and ecosystems.



## 2.9 PLANNING ISSUES – SUSTAINABILITY AND ENERGY

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### Objectives:

1. To create an enduring future that promotes quality of life, financial prosperity and innovative ideas and technologies while respecting and protecting natural resources.
2. To be a leader and role model in the area of energy conservation, energy efficiency, reduction of greenhouse gas emissions and use of renewable resources within Kane County and throughout the region.
3. To foster public awareness, education and support of sustainable practices through the development of livable communities.
4. To promote energy conservation and sustainable development practices in County and municipal health, transportation and land use planning for the three strategy areas.
5. To promote economic development and workforce trained in the energy efficiency and renewable energy industry.
6. To promote mitigation and adaptation to climate change that addresses public health and safety, infrastructure, economic and environmental issues.
7. To facilitate the siting of smart grid technology and renewable energy infrastructure designed to increase energy efficiency and reliability.
8. To support a multi-modal transportation system that decreases reliance on fossil fuels.

### Chapter Focus

An increasing number of local, regional governments and organizations are addressing the issue of sustainability through their planning and policy processes. In acknowledgement of this trend, sustainability is partnered with energy as a new planning issue in the 2040 Plan.

Decisions regarding consumption of natural resources for energy production and other uses have consequences that affect our environment. The quality of the air and water available now and into the future has a direct effect on the quality of life of our communities and the health of our residents.

Kane County began investigating energy use and conservation activities in 2005 when staff participated in the development of the Kane County Energy Plan, a document which contains information about energy use; transmission and production facilities and future needs; and recommended conservation strategies. The Kane County Energy Plan, the 2030 Land Resource Management Plan as well as the Kane County Energy Efficiency and Conservation Strategy developed in 2009 set the stage for expanded energy initiatives in the County.

**Great Law of the Iroquois**  
*In every deliberation we must consider the impact on the seventh generation.*

The objectives and policies of the Sustainability and Energy chapter promote land use patterns and strategies that decrease energy consumption.

This chapter examines:

- Energy and Sustainability in the Region
- Energy and Sustainability in Kane County
- Sustainability, Energy and Land Use Decisions

## Energy and Sustainability in the Region

The concept of sustainability contains three elements, *society, the environment, and the economy*, that play an important role in the development of healthy communities (Figure 68). Kane County has a long history of recognizing the value our natural resources offer in providing vital goods and services and the importance of preserving and maintaining our ecosystems and environment. Society embeds that value in its land use and economic policy decisions. In order to meet the goals of healthy people, healthy living and healthy communities, Kane County must strive to achieve a balance between the elements of *society, the environment and the economy*.

Sustainability is commonly defined as ***the ability to meet the needs of the present without compromising the capability of future generations to meet their own needs***. The issue of sustainability and its elements of *society, the environment and the economy* cross jurisdictional borders. Therefore, it makes sense to plan for sustainability on a regional level while encouraging and coordinating with local implementation efforts to achieve our common goals.

Figure 68



The Chicago Metropolitan Agency for Planning encourages sustainability in the GO TO 2040 Plan:

- in terms of prosperity by seeking “to maintain and strengthen our region’s position as one of the nation’s few global economic centers;”
- by linking “transit, housing and energy use through livable communities;”
- by encouraging communities to promote renewable energy generation; use green materials; and commit to waste reduction and recycling;
- by promoting sustainable local food;
- by mitigating climate change through energy conservation, urban tree planting and open space preservation; and
- by encouraging local governments to be early adopters of sustainable practices.<sup>1</sup>

Another regional organization, Chicago Wilderness, an alliance (Figure 69) of more than 250 organizations is striving to protect natural resources through four strategic initiatives:

1. restoring the health of local nature;
2. promoting a green infrastructure;
3. combating climate change; and
4. leaving no child inside

“Millions of dollars in ecosystem benefits are lost every year to poorly planned growth.”<sup>2</sup> Chicago Wilderness addresses the impacts to our environment that affect society’s quality of life. Based on the organization’s 2008 paper, “Climate Change and Regional Biodiversity” which assessed scientific studies that forecast local impacts due to climate change, the Climate Action Plan for Nature (CAPN) was developed. “The three main strategies of the Climate Action Plan for Nature encourage the Chicago Wilderness alliance to:

1. mitigate the future impacts of climate change;
2. adapt to those that are inevitable; and
3. engage the Chicago Wilderness community in action.”<sup>3</sup>

The CAPN integrates Chicago Wilderness’ four strategic initiatives while working with the region’s member organizations to develop local solutions that have a global impact.

**Figure 69**



**Chicago Wilderness planning area**

<sup>1</sup> Chicago Metropolitan Agency for Planning. 2010. GO TO 2040 Plan.

<sup>2</sup> Chicago Wilderness, [chicagowilderness.org](http://chicagowilderness.org)

<sup>3</sup> Chicago Wilderness 2011. Climate Action Plan for Nature

## Energy and Sustainability in Kane County

Our society consumes energy primarily for transportation; heating and cooling of buildings; and to power lighting, appliances, etc. Energy is also needed to treat and distribute clean water. Energy costs are rising and are expected to do so for the foreseeable future.<sup>4</sup> Increasing energy costs and changing energy needs raise economic, environmental and social concerns that impact municipalities, businesses and households.

In 2009, Kane County was awarded an Energy Efficiency and Conservation Block Grant from the U.S. Department of Energy as a component of the American Recovery and Reinvestment Act. The required Energy Efficiency and Conservation Strategy approved by the County Board, includes nine activities aimed at improving energy efficiency, reducing fossil fuel emissions, decreasing overall energy consumption, and improving energy efficiency in the transportation, building and other energy consuming sectors. The following activities in the Kane County Energy and Efficiency and Conservation Strategy address energy efficiency, fossil fuel emissions, and overall energy consumption:

1. **Update Kane County Energy Plan and Energy Efficiency Documents** – Produce a five-year update to the Kane County Energy Plan. The update includes formulation of energy efficiency, energy conservation and energy usage statistics; and goals and identification of strategies to achieve those goals. Coordinate the data, goals and objectives of the Kane County Energy Plan and Kane County's 2040 Plan. Collect data about Kane County facilities, equipment, and operations in support of a Kane County Operational Sustainability Plan.
2. **Kane County Facility Audits** – Conduct audits of five or more Kane County facilities and create a list of priority energy efficiency improvement projects.
3. **Kane County Facility Efficiency Improvements** – Implement cost-effective energy efficiency measures in county-owned buildings and facilities.
4. **Revolving Loan Fund for Public Sector and Nonprofit Energy Efficiency Improvement Projects** – Establish a Revolving Loan Fund to encourage public sector and nonprofit energy efficiency facility improvements. In 2011 this activity was cancelled due to lack of interest.
5. **Sustainable Building Training Program for Builders and Building Trades** – Coordinate with Aurora and Elgin to establish a regional training program to promote sustainable, energy efficient building techniques and offered at reduced rates to builders and contractors located in Kane County.
6. **Improvements to Kane County Division of Transportation (KDOT) Intelligent Transportation System (ITS)** – Implement improvements to Kane

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<sup>4</sup> "The Chicago Region Greenhouse Gas Baseline Inventory and Forecast." 2009 December. Prepared for the Chicago Metropolitan Agency for Planning.

County's ITS, including the expansion of the Fiber Optic Interconnect Network from County highway and road segments to aid in real time management for traffic and maintenance operations and the modernization of traffic signal and communication systems for integration into the County's ITS network.

7. **Transportation Long Range Comprehensive Plan and Randall/Orchard Rd. BRT Study** – As part of the Long Range Comprehensive Planning Process carry out a study to determine the extent to which bus rapid transit, improved transit, and corridor densification will reduce the need for additional transportation infrastructure improvements and reduce vehicle miles traveled, improving the efficiency of Kane County's transportation network.
8. **Improvements to Methane Capture and Power Generation Facilities** – Pursue feasibility and agreements for implementation of the development of additional methane capture and power generation facilities at Kane County landfill facilities. Due to lack of feasibility this activity was cancelled.
9. **Neighborhood Stabilization Program – Energy Efficiency Retrofits** – Include additional energy efficiency measures in retrofits of foreclosed homes as part of Kane County's Neighborhood Stabilization Program.

**Figure 70**

**In 2009, the City of Aurora adopted “The City of Aurora Sustainability Plan, a Long-Range Plan for Enhancing the Quality of Life for Present and Future Generations Through Sustainable Practices” with goals categorized within six focus areas:**

1. Community Development and Land Use
2. Transportation and Infrastructure
3. Energy Efficiency and Green Buildings
4. Waste and Food Residuals
5. Water Quality and Conservation
6. Education and engagement

### **Kane County 2040 Energy Plan**

The Kane County 2040 Energy Plan adopted by the County Board in 2011 recognizes land use planning as an effective technique to conserve limited energy resources as promoted in the 2020 Land Resource Management Plan. The 2030 Land Resource Management Plan expanded the energy discussion to include setting standards for green buildings and reducing dependence on the automobile through effective land use planning and the Smart Growth Principles.

*The International Energy Agency estimates that an additional \$1 spent on efficiency improvements avoids \$2 in investment in electricity supply.*

Since the adoption of the 2030 Plan our society and the world has increased its focus on the generation and consumption of energy. Recognition of fossil fuels as a finite, polluting, and increasingly costly source of energy has resulted in efforts directed toward conservation and the use of renewable sources of energy. The 2040 Energy Plan is the next logical step to specifically address these issues in Kane County. CNT Energy, a division of the Center for Neighborhood Technology and a creative think-and-do tank that provides energy-related research and solutions to consumers and communities, collaborated with Kane County to develop the 2040 Energy Plan.

The 2040 Energy Plan illustrates the importance of understanding energy issues by providing basic facts about electricity and natural gas consumption as well as the types of energy available to Kane County: fossil fuel, nuclear power, and renewable. The connection between energy, emissions and climate change and the increasing generation and consumption of renewable energy is explained.

Renewable energy accounted for 8% of total energy consumption in the United States during 2009, up from 6% in 2004.<sup>5</sup> The Illinois Renewable Energy Standard adopted in 2007 set annual incremental percentage goals for electricity production from renewable sources culminating in 25% renewable sources by 2025.<sup>6</sup>

In the United States, buildings account for approximately 39% of total energy use; 72% of electricity consumption; and 38% of carbon dioxide emissions (U.S. Green Building Council, 2009). The energy used in Kane County's buildings is from electricity (ComEd, and Batavia, Geneva and St. Charles municipal utilities) and natural gas (Nicor utility). Other heating fuel sources such as propane, fuel oil, wood, geothermal and solar currently comprise less than 3% of the energy used in the County.<sup>7</sup>

According to the U.S. Environmental Protection Agency, "the Earth's climate has changed many times during the planet's history, with events ranging from ice ages to long periods of warmth. Historically, natural factors such as volcanic eruptions, changes in the earth's orbit, and the amount of energy released by the sun have affected the Earth's climate. Beginning late in the 18<sup>th</sup> century, human activities associated with the Industrial Revolution have also changed the composition of the atmosphere and therefore very likely are influencing the Earth's climate."

The bulk of the Energy Plan focuses on consumption of electricity and natural gas in the residential, and commercial and industrial sectors of Kane County and strategies for reducing consumption over the next thirty years. Table 10 indicates the baseline energy consumption in 2008 including data from ComEd, and the municipal utilities of Batavia,

<sup>5</sup> U.S. Energy Information Administration.2011. [www.eia.gov](http://www.eia.gov).

<sup>6</sup> Illinois Commerce Commission. 6 April 2011. <http://www.icc.illinois.gov/>.

<sup>7</sup> American Community Survey. Kane County, 2006-2008. United States Census Bureau. 5 April 2011. [http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en).

Geneva and St. Charles. Figure 73 graphically shows Kane County’s residential electricity consumption.

**Table 10**

Sector	Electricity	Natural Gas
<b>Residential</b>	1,617,248,849 kWh	181,639,334 therms
<b>Commercial/Industrial</b>	3,253,629,099 kWh	158,437,043 therms
<b>Total</b>	<b>4,870,877,948 kWh</b>	<b>340,076,377 therms</b>

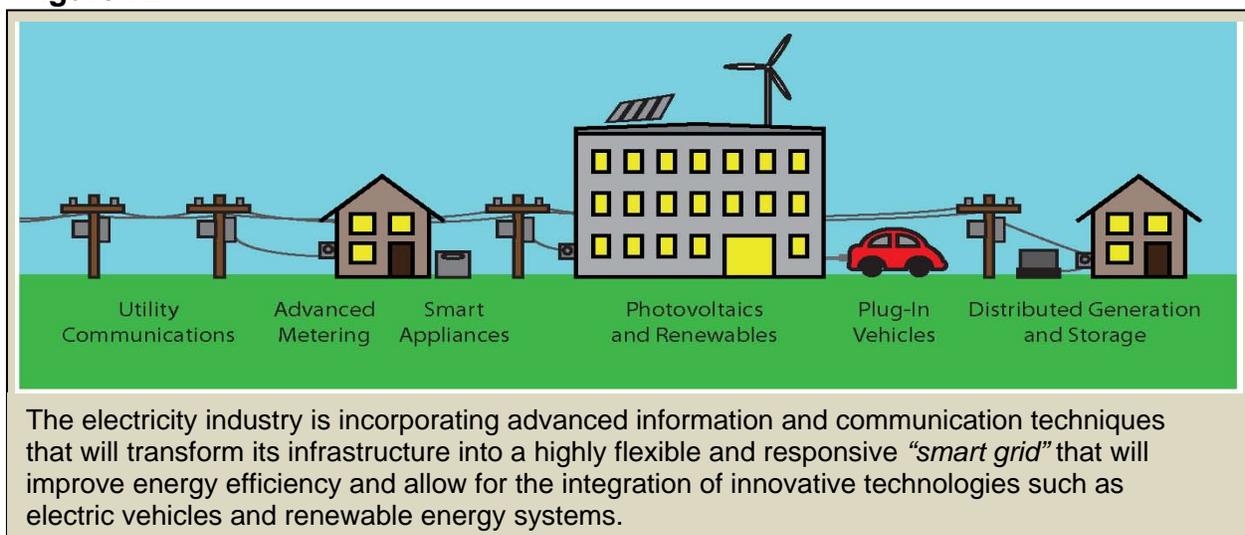
Average consumption per household or account and for each municipality is also available in the Plan. Information and key concepts assist readers in understanding the data.

Current trends show that electricity consumption is on the rise nationwide. In the residential sector, this is attributed to growth in consumer electronics and information technology equipment as well as increases in home size and air conditioning use. In the commercial and industrial sector, increasing consumption is driven by telecommunication and network equipment; along with specialized technologies such as medical imaging advancements.<sup>8</sup>

**Figure 71**

*Peak demand describes a period of time when electricity usage is highest. Often in Illinois, the highest system peak demands occur on hot summer afternoons when the demand for electricity is high due to air conditioning use. Strategies that reduce system peak demand can reduce the utility’s need to operate and build additional infrastructure and decrease the strain on the electrical grid.*

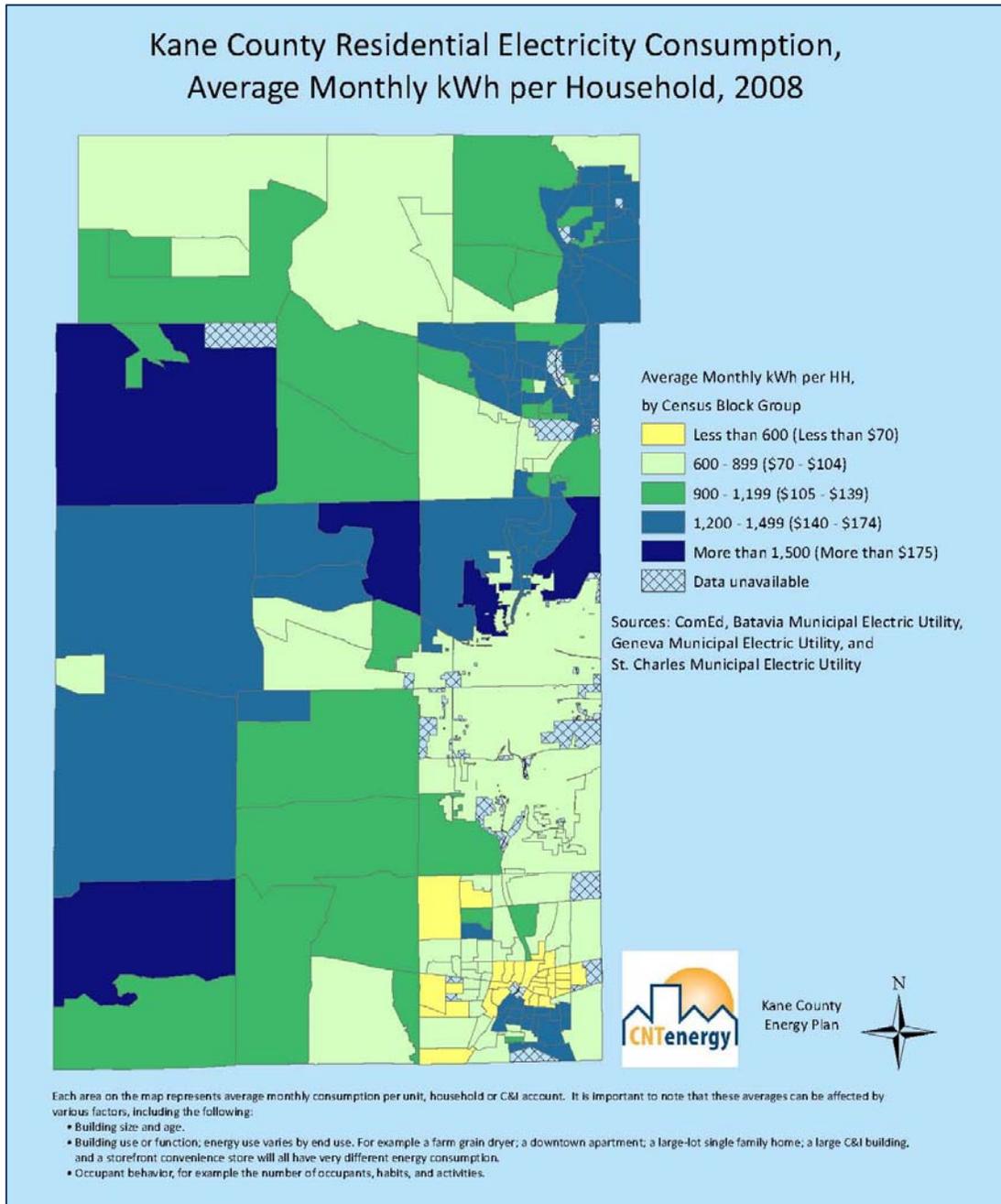
**Figure 72**



<sup>8</sup> “Miscellaneous Electricity Services in the Building Sector.” Annual Energy Outlook. 2007. Energy Information Administration. 5 April 2011. <http://www.eia.doe.gov/oiaf/aeo/otheranalysis/mesbs.html>.

In northern Illinois, natural gas is the primary fuel used for space heating. In addition, natural gas is commonly used for hot water heaters, clothes dryers and cooking. However, consumption is slowly decreasing due to increased energy efficiency in both homes and businesses and because of de-industrialization in the commercial and industrial sector.<sup>9</sup>

**Figure 73**



<sup>9</sup> “Chicago Regional Energy Snapshot.” 2009 September. Prepared for the Chicago Metropolitan Agency for Planning. 5 April 2011. <http://www.cmap.illinois.gov/strategy-papers/regional-energy>.

There are a variety of strategies available to increase energy efficiency. The ideas represented in the 2040 Energy Plan include the most common energy-saving strategies employed by communities across the country for both residential, and commercial and industrial sectors. Table 11 lists the strategies identified.

**Table 11**

<b>Residential Strategies</b>	
1	Retrofit existing residential buildings
2	Develop green building standards and programs for new residential construction
3	Encourage on-site renewable energy for residential buildings
4	Encourage occupant behavior modification in the residential sector
5	Encourage energy efficiency window air conditioner replacement
6	Encourage energy efficient refrigerator replacement
<b>Commercial and Industrial Strategies</b>	
7	Retrofit existing commercial and industrial buildings
8	Develop green building standards and programs for new construction
9	Encourage on-site renewable energy for commercial and industrial buildings
10	Encourage occupant behavior modification in the commercial and industrial sector

**Figure 74**

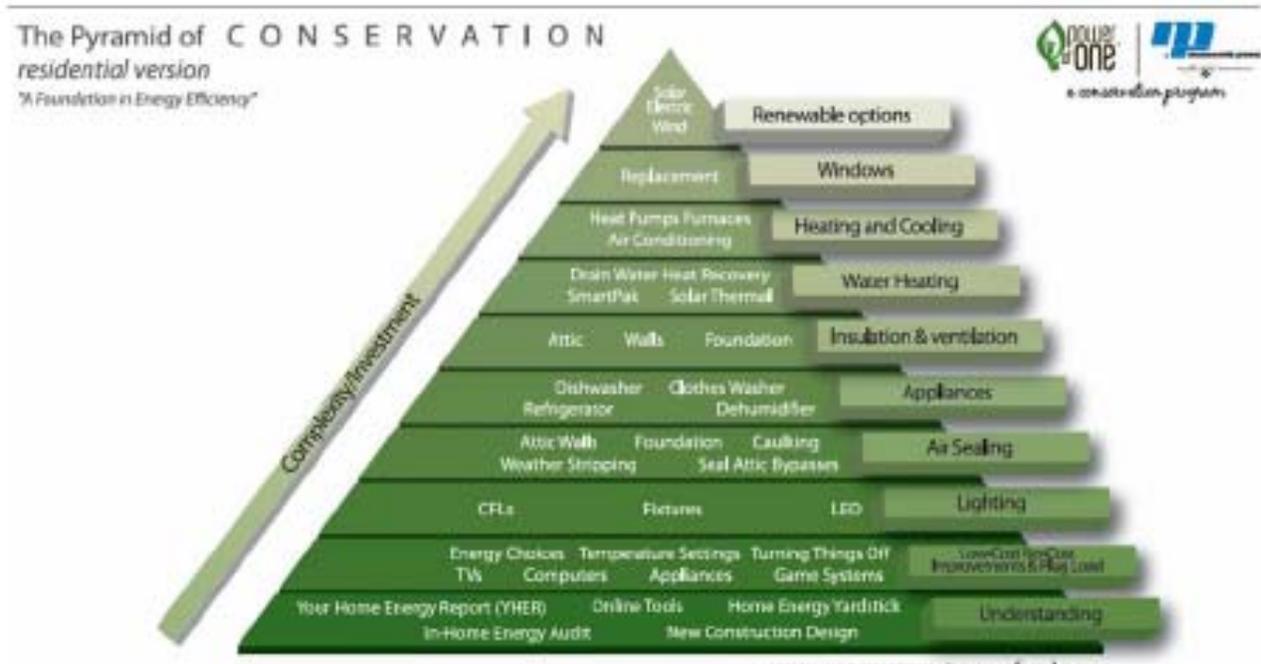
- Municipal Utility Strategies:*
1. *Batavia e-mails residents reminders of peak consumption times.*
  2. *Geneva purchases power generated from a local landfill.*
  3. *St. Charles residents have the option to purchase renewable energy certificates.*

Each strategy was analyzed for potential energy and cost savings on a household or account basis and countywide impact. In order to address the distinct vision of each community, three scenarios, conservative, moderate and aggressive, were developed for each strategy. Based on the three scenarios it is estimated that Kane County could save \$1 billion to \$3.4 billion over the next 30 years. Designed by the Minnesota Power Company, “the Pyramid of

Conservation is designed to help you prioritize steps and develop an action plan that's

right for you. By establishing a foundation in energy efficiency and gaining a better understanding about how you use energy, you can more effectively work your way up the pyramid.”<sup>10</sup> (Figure 75).

**Figure 75**<sup>10a</sup>



### Kane County Sustainability Plan

On a broader scale, the Kane County Sustainability Plan is currently being developed. The Plan includes three phases:

1. Kane County Government Facilities and Operations
2. Kane County Policies and Actions
3. Kane County/Municipal/District Collaboration

During Phase 1 representatives from Kane County Government departments have been instrumental in reviewing current interdepartmental practices related to operations, facilities, equipment, purchasing, and office habits in order to develop more sustainable policies and activities. An energy, water and material use, and greenhouse gas emissions study will be conducted to provide baseline measurement against which to measure future Phase 1 sustainability plan implementation success. Phase 2 will expand the focus of sustainability to the unincorporated areas of Kane County. This next phase will examine the sustainability of Kane County’s policies and programs,

<sup>10</sup> Minnesota Power. [www.mnpower.com](http://www.mnpower.com)

which affect unincorporated Kane County. Phase 3 will focus on the collaboration and support between Kane County government, the municipalities, townships, and districts. Sustainability initiatives are currently being implemented in some municipalities and jurisdictions. All three phases will incorporate the elements of *environment, society, and economy*.

As Kane County moves forward with planning and implementation of sustainability and energy initiatives, collaboration will be a key component. Cooperation and sharing of resources across the region benefits all and increases funding and technical assistance opportunities.

**Figure 76**

The City of Elgin chose a community focused approach to sustainability. Interested citizens formed a Sustainability Advisory Team consisting of nine working groups, each focused on a particular topic. The groups' recommended sustainable practices became part of *The Elgin Sustainability Action Plan* with the overall mission *"To improve the quality of life for Elgin citizens and improve its local environment, while making Elgin a more viable and vibrant place to live."*

## **Sustainability, Energy and Land Use Decisions**

Land use decisions also play an important role in mobility choices that translate into vehicle miles travelled, traffic congestion and emissions. The Kane County 2040 Plan emphasizes the importance of creating livable communities with compact, mixed-use, multi-modal development that results in healthier people, healthier living and healthier communities.

In the Chicago region, 27% of all emissions are from energy consumption by on-road transportation.<sup>11</sup> Due to existing land use patterns most trips in Kane County are by automobile. Projected increase in congestion over the next three decades will contribute to additional costs; time spent in traffic; and greenhouse gas emissions. Reaffirmed by the 2040 Plan, the 2030 Land Resource Management Plan identified traffic congestion as one of three challenges and emphasized the need to **reduce traffic congestion, provide transportation options, and improve air quality**. Multiple transportation options are available in the more urban areas of Kane County. The use of public transportation, where available, walking, biking, car sharing, and the increased use of fuel-efficient and alternative fuel vehicles has slowed the increase of congestion and greenhouse gas emissions.

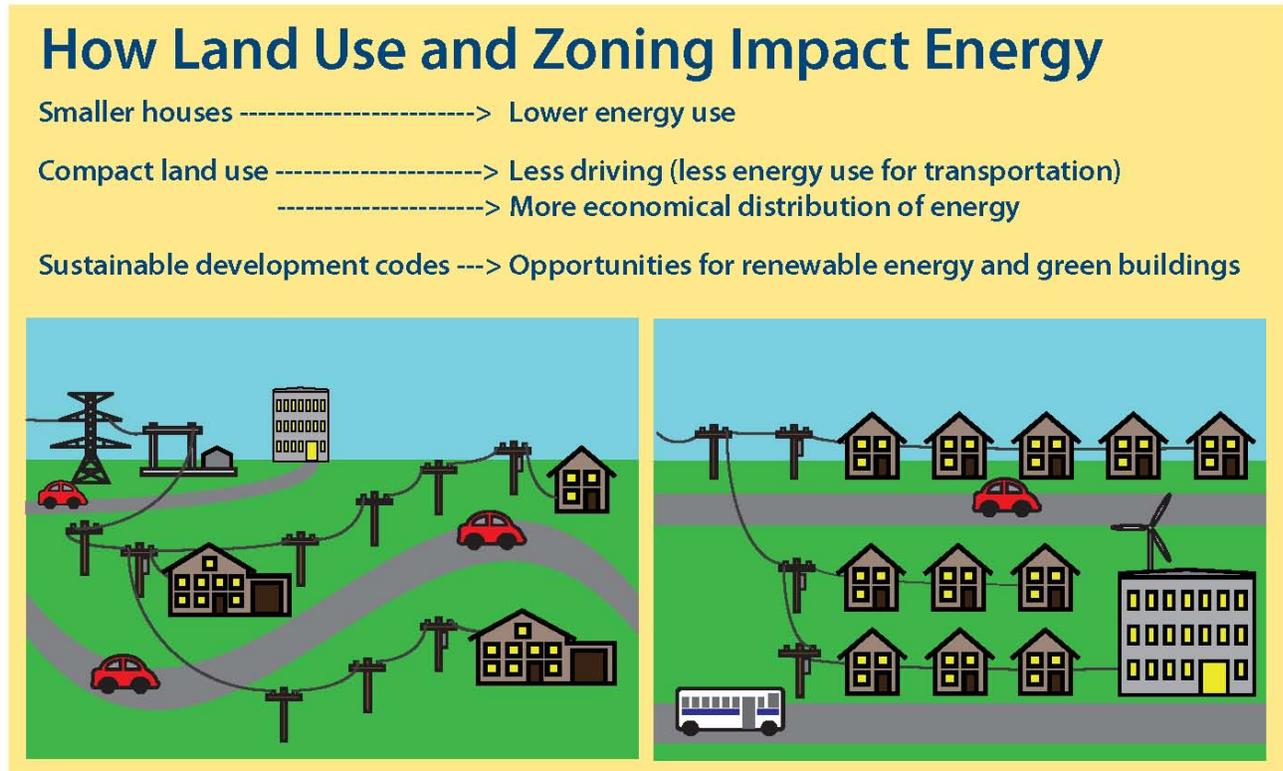
One strategy detailed in the 2040 Plan is the Randall/Orchard Rd. BRT Study which will determine the feasibility of bus rapid transit (BRT), improved transit and land use modifications. If implemented, BRT could reduce travel times; combat congestion, while improving air quality, increase land values and create jobs.

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<sup>11</sup> Center for Neighborhood Technology, included in the GO TO 2040 Plan, page 101.

In order to promote clean, renewable energy as well as mitigate and adapt to climate change, Kane County must integrate land use, energy use, and transportation infrastructure. Compact, mixed-use development, multi-modal transportation opportunities, and planting shade trees are examples of strategies to reduce energy demand. Siting of buildings, green building standards and retrofits can increase energy efficiency (Figure 77).

Figure 77



## Chapter Policies

1. Partner with CMAP, local government agencies, utility companies and the private sector to develop and implement sustainable strategies that create livable communities and promote a healthy quality of life.
2. Coordinate with the residential, commercial and industrial sectors to reduce energy consumption through energy efficiency measures.
3. Promote energy and resource efficiency in the design, construction and siting of new buildings while supporting energy-saving innovations in existing buildings.
4. Reduce energy and resource consumption by at least 10% in county-owned buildings based on the opportunities indicated in each building's energy audit reports through technological and occupant behavior improvements.
5. Promote small and utility scale renewable energy generation.
6. Provide infrastructure to accommodate and encourage the use of alternative fuel vehicles.
7. Enhance opportunities for innovation, economic development and a workforce trained in the energy efficiency and renewable energy industries.
8. Educate the community about the vulnerabilities that may result from changes in climate and available mitigation and adaptation strategies.
9. Work with local and regional electric utility companies to develop strategies that decrease peak demand and the need for additional infrastructure.
10. Coordinate with local government and non-government organizations to plant trees in urban areas to decrease urban heat island effect and increase carbon sequestration.
11. Promote land use patterns that decrease vehicle miles travelled resulting in fewer greenhouse gas emissions and less need for infrastructure.



## 2.10 PLANNING ISSUES – HISTORIC PRESERVATION

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### Objectives:

1. To protect Kane County's heritage and historic character through the preservation of historic and cultural resources that contributes to the County's unique sense of place and quality of life.
2. To integrate the efforts of the Kane County Historic Preservation Program in all aspects of planning and development review.
3. To promote public awareness regarding the importance of architectural, natural, and historic resources within the County, emphasizing the linkages between preservation and sustainability.
4. To continue to enhance and expand preservation partnerships with municipalities as a means to share resources, further community historic preservation efforts, and for creating livable, sustainable and healthy communities.
5. To promote the Kane County Rustic Roads Program with municipalities and increase the number of incorporated and unincorporated rustic road corridors that are designated and protected in order to preserve and enhance the County's rural character.
6. To coordinate County preservation efforts with state and local preservation agencies and organizations.

### Chapter Focus

Projected population growth along with the anticipated new development and changes in the rural landscape in the 1980's prompted the Kane County Board to adopt a Historic Preservation Program in 1988. Since then the County has designated 44 historic landmarks, 3 rustic road corridors, one historic district, and 5 intergovernmental agreements with municipalities. Today, the program's aim is to preserve the character of the County's unique communities and rural character as well as to protect its valuable historic resources. The components of the program – The Kane County 2040 Plan (2040 Plan), Rural Structures Survey, Historic Preservation Ordinance, Preservation Plan, Register of Historic Places, the Rustic Road Program, and intergovernmental agreements with municipalities – are all tools used by the Historic Preservation Commission and the Kane County Board to address preservation issues facing the County. The Historic Preservation Program addresses a variety of issues including; the preservation and redevelopment of older downtowns, protection of historic resources and landscapes to balance new development, the preservation and adaptive reuse of

agricultural buildings, and intergovernmental cooperation with municipalities to use historic preservation as one of their tools to create sustainable and livable communities.

This chapter examines:

- Role of Historic Preservation in Creating Livable, Sustainable and Healthy Communities
- Historic Character of the Conceptual Land Use Strategy Areas
- Historic Resource Protection
- Kane County Historic Preservation Program

### **Role of Historic Preservation in Creating Livable, Sustainable and Healthy Communities**

The earliest goals of the historic preservation movement in the United States were limited in scope and purpose, often focusing on restoring specific historic buildings associated with people or events. The movement expanded in the 1980' and 90's to include collections of buildings, neighborhoods and landscapes, noting that preservation of the larger context was critical to preserving community character and a sense of place. In addition, the highly successful Main Street program matched historic preservation with economic development and tourism, bringing a whole new group of partners into the movement.

The latest new partners include the many individuals and organizations concerned about creating livable, sustainable and healthy communities. Traditional neighborhoods and mixed use commercial areas such as those found in historic downtowns and village centers have been found to have multiple benefits for healthy living and access to goods and services. Such areas reduce individual and family costs for transportation while reducing dependence on the automobile for transportation for the elderly, children and persons with disabilities.

Reuse of historic buildings, especially within downtown districts and neighborhoods, are great examples of sustainable development because they maximize the use of existing materials, infrastructure, and various types of public utilities and services needed to support them. Considerably fewer resources are needed to reuse or retrofit an existing building or area than are needed to construct new. The benefits can now be measured using the widely accepted LEED standards for individual buildings and for new developments. Historic buildings and districts provide development opportunities that not only increase the value of an area, but that are also efficient and sustainable.

The increased number and types of building products and technologies for making all types of existing buildings more energy efficient are easily applied to historic buildings, making rehabilitation an even more viable alternative than ever before. In many cases, historic buildings and homes were designed before the availability of air conditioning

and other modern features, so as a result already have features that take advantage of natural ventilation, natural lighting, solar gain and shading.

Another new partnership is found in local and regional efforts to preserve existing housing stock in general. Strategies for housing preservation and for historic preservation, such as compiled by the Chicago Metropolitan Agency for Planning, cite the advantages of reduced building and transportation costs as well as the preservation of community character. While all existing housing is not historic, many houses contribute to the character of a historic or conservation district and support the long term viability of the continued use and protection of historic homes.

In summary, historic preservation and the creation of livable, sustainable and healthy communities have many common goals and overlapping strategies. Locally, the cities of Elgin and Aurora have recently launched green building and sustainability initiatives in addition to their extensive neighborhood, downtown and historic preservation programs. Initiatives such as these will be even more important for increasing public awareness and preserving our historic resources.

### **Historic Character of the Conceptual Land Use Strategy Areas**

Kane County and many of its municipalities have an extensive, rich history of protecting historic resources that are found to be both highly valued by its residents and integral components of a county that is distinctive and truly exceptional. Given that Kane County has been one of the fastest growing counties in Illinois over the last fifty years, historic preservation planning has been critical towards maintaining the County's unique sense of place in the face of mounting development pressures. Historic resources in Kane County are diverse, including residential, commercial and industrial buildings, farmsteads and agricultural outbuildings, large cities, small towns, scenic vistas, road corridors, geological features and landscapes. It is imperative that these resources are not only protected, but that they are acknowledged as being valuable assets that can be successfully integrated into new development and redevelopment initiatives throughout the County.

Over time, development has had varying effects on the historic character of the **Sustainable Urban Area**, the **Critical Growth Area**, and the **Agriculture: Food and Farm Area** of the County. These three distinct areas have different types of historic resources and different issues of development, redevelopment or neglect that require varied and innovative approaches to ensure their continued or adaptive use.

Located in the eastern portion of the County, the **Sustainable Urban Area** contains most of the County's historical commercial and residential buildings. As communities grow and change, these buildings provide opportunities for rehabilitation and reuse while also enhancing the original urban and neighborhood character. Historic resources are often threatened and sometimes lost when significant buildings or development patterns are not recognized and protected. The County's Historic Preservation Program

provides local communities with assistance and support to sustain their historic resources. Furthermore, the Preservation Program fosters cooperation between municipalities that have established preservation ordinances and offers assistance to municipalities that have yet to fully recognize and protect their historic resources. Educational conferences and tours cosponsored by the Kane County Historic Preservation Commission provide opportunities for these groups to work together to develop strategies for meeting the preservation challenges within the Sustainable Urban Area.

**The Critical Growth Area** also provides unique historic preservation challenges and requires planning and innovative actions. As previously farmed and natural areas are developed either by municipal incorporation or by County Board action, there is a great potential for loss of character-defining landscapes and important historic resources. The County has integrated preservation planning into the earliest phases of the development review process to minimize loss of historic resources. Developers are made aware of important sites identified by the Rural Structures Survey and are strongly encouraged to incorporate existing houses and farmsteads into new developments. The protection of these sites contributes to the important visual characteristics of the area.

The rapid growth of the last decade, the record level municipal incorporations and the expansion of boundaries highlight the need for renewing and refocusing the Kane County Historic Preservation Program in the Critical Growth Area and providing assistance and support to local communities to preserve and sustain their historic resources. The County's Preservation Program can foster and promote cooperation between the County and those municipalities that have adopted preservation ordinances and offer assistance to the growing municipalities that have yet to fully recognize and protect their historic resources. Educational programs and tours cosponsored by the Historic Preservation Commission can provide opportunities to develop cooperative, intergovernmental strategies and plan for meeting the preservation challenges of the Critical Growth Area during the next three decades.

**The Agriculture: Food and Farm Area** of western Kane County contains small towns that are long-time centers of commercial and social activities. In its adopted Historic Preservation Plan (1989), the County Board recognized the importance of these small towns and called for careful treatment of their historic qualities. Although the quantity and type of their commercial uses have changed over the years, small towns still provide a social and cultural focus as well as limited but critical services to the surrounding area. Further, these small towns are the best location for new shops and services needed for expanding residential development. It is important that the villages retain their character and sense of identity as they change or grow. Businesses should be encouraged to locate in existing buildings. New buildings and site layouts should complement and reinforce existing development patterns and building architecture. Although all of these small towns are now incorporated as municipalities, there is more need than ever for the County's Preservation Program to focus on providing assistance

and support to the villages to protect and preserve their historic assets as they strive to be livable, sustainable, and healthy communities.

The central and western agricultural area of the County includes historic and scenic resources nestled within highly productive farmland. Historic farmsteads dot the countryside providing visual landmarks and serving as the working elements of over **175** years of agricultural history in Kane County. Fences, hedgerows, and scenic vistas combine with farmsteads to define the area's character. Intrusions into this setting easily distract from its appeal and diminish its unique beauty. The continued viable use of a working farm challenges preservationists and farmers to work together to develop innovative solutions for integrating historic farm structures with modern farming practices, local food production and community supported agriculture.

### **Historic Resource Protection**

Historic resources in Kane County include residential buildings from different periods, farmsteads and agricultural outbuildings, small towns, scenic vistas, geological features and landscapes, commercial and industrial buildings, and road corridors. Structures such as water tanks, windmills, bridges, and cemetery art have historic significance in Kane County. Some of these resources are in pristine condition, while others may be in states of decay or alteration. The County's Historic Preservation Program recognizes there is more to historic preservation than merely preservation of buildings and structures. Vistas, landscapes and geological features also have historic significance.

These resources continue to be threatened by demolition, inappropriate rehabilitation, widening and new construction of roads, and new development. Neglecting historic resources reinforces public perception that old buildings and structures are of little value. As Kane County grows over the next three decades, it is important to plan for the protection of historic resources, especially along transportation routes. The construction of new roads and the widening of existing roads can endanger or adversely affect historic buildings and alter the character of small towns and landscapes. Locations and parking layouts for new or expanded commuter rail stations should be planned with consideration for surrounding community features and character. Careful planning of trail systems can allow greater access to historic sites and resources as well as provide opportunities for the public to enjoy these assets.

Preservation of historic resources is best accomplished through advanced and coordinated planning efforts. As municipalities annex land, newly incorporated areas may include historic resources. Some of these resources may be on the Kane County Register of Historic Places while others, although not designated, may have significant historic value. As of 2011, six municipalities had adopted their own historic preservation ordinances offering designation and protection of landmarks. Some offer as much protection as the County's Historic Preservation Ordinance, while others do not. Coordination between the County and municipalities is more critical than ever to

preserve significant buildings and landscapes so that none are demolished or significantly altered as a result of annexation.

Kane County can protect municipal landmarks through intergovernmental agreements, technical assistance in establishing programs in communities without preservation tools and help to strengthen municipal ordinances. As of 2011, five municipalities have adopted intergovernmental agreements with the County to extend the Kane County Historic Preservation Ordinance within their jurisdiction.

The continued success of the Kane County Historic Preservation Program requires municipal cooperation and citizen support. The County must work with the municipalities, historical and historic resource preservation organizations, and the general public to communicate the importance of Kane County's historic resources.

### **Historic Preservation Program – 25 Years**

Historic preservation planning efforts in Kane County began in 1987 with the establishment of the Kane County Historic Preservation Study committee. The purpose of the committee was to oversee the completion of the Rural Structures Survey, evaluate historic resources, and determine if action was needed to protect the County's historic resources. The 1986-1987 Rural Structure Survey inventoried all structures built before 1945 in unincorporated Kane County and unincorporated rural villages west of the Fox River. Identified structures varied from homes and barns to water tanks and a bridge. Three age groups were used in the survey: 1800-1859, 1860-1910, and 1910-1945. Only 14% of the buildings in the survey were found to be built prior to 1859, during Kane County's early settlement period. Results of this survey, reported in *Built for Farming: A Guide to the Historic Rural Architecture of Kane County* (1991), provided the justification for the protection of the County's historic resources.

Following the results of the Rural Structure Survey, the Kane County Board unanimously adopted the Historic Preservation Ordinance in 1988, making Kane County the first county in the State of Illinois to adopt such an ordinance. The ordinance established a Historic Preservation Commission with authority to recommend landmarks and historic districts for designation by the County Board to the Kane County Register of Historic Places. The Commission has the authority to review significant exterior alterations, additions, new construction, or demolitions proposed for designated landmarks or within historic districts.

In 1989, the County Board adopted the Kane County Historic Preservation Plan, which outlines specific goals, objectives and strategies for preserving the County's historic character and resources, as an amendment to the County's 1982 Land Use Plan. With the adoption of the Historic Preservation Ordinance and Plan, Kane County was the first county in Illinois to be recognized as a Certified Local Government, making the County eligible for historic preservation grants.

The Kane County Register of Historic Places is the official list of county landmarks, historic districts and road corridors recognized for their historical, architectural and scenic significance, as well as for their architectural or aesthetic importance, interest, or value. Resources having local, state, or national significance are eligible for designation and may be protected by the Historic Preservation Ordinance. Properties placed on the Kane County Register of Historic Places are protected from demolition or damaging alterations through county review processes.

In July 2000, the Historic Preservation Ordinance was amended to allow for the designation and preservation of rustic road corridors in Kane County. A rustic road corridor is a type of preservation district that is nominated or designated as a rustic road. Rustic roads tell part of the story of Kane County's history by preserving natural and built features along the road. Three rustic roads have been designated in the County to date, Brundidge Road, Ke-De-Ka Road, and Thurnau Road. Brundidge Road located at the edge of the City of Geneva provides a transition to the countryside as well as preserving the County's agricultural heritage which now compliments a four-season organic farm and market located along this road. Ke-De-Ka Road is an area of rural residences, including the National Register listed Ephraim Smith House and Bliss Woods Forest Preserve, which includes the Virgil-Gilman trail. Thurnau Road is a traditional gravel farm lane that supports crop-farming, horse farms, rural residences and the seasonal home of the Swainson's Hawk. Ke-De-Ka Road and Thurnau Road both have portions of the corridor in the villages of Sugar Grove and Pingree Grove, respectively, and are protected under intergovernmental agreements.

Descriptive permanent bronze plaques are placed on designated landmarks and signs are placed along historic districts and rustic road corridors to foster public awareness and appreciation. The County is dedicated to expanding the Register of Historic Places by systematically reviewing potential historic and/or scenic sites and areas, encouraging nominations, and publicizing new landmarks, historic districts, and road corridors. Revitalizing and expanding this effort is important as the County and expanding municipalities face the population growth and development of the next three decades.

In 2013, Kane County will celebrate the 25<sup>th</sup> anniversary of the passage of its Historic Preservation Ordinance. While this occasion certainly merits the recognition of past accomplishments, it should also be used to assess the County's Historic Preservation Program. Although the County has made great strides, much is still left to be done. Kane County needs to update its 1986 Rural Structures Survey to acquire a better understanding of existing Kane County historic resources. In addition, the County should update its Historic Preservation Plan and public outreach efforts to account for the current direction of the Kane County Preservation Program. Updating all aspects of the Historic Preservation Program and keeping in step with regional and nation historic preservation strategies and trends are fundamental actions needed for preserving community character. Finally, the County must continue to strengthen partnerships with municipalities to advance preservation planning and implementation efforts. As the percentage of incorporated land within the County continues to grow, so will the opportunities for intergovernmental collaboration.

**Figure 78**

### **25 Year Anniversary of Historic Preservation in Kane County**

June 2013 will mark the 25th anniversary of the Kane County Historic Preservation Program and the Historic Preservation Ordinance. This 25-year period is highlighted by the following accomplishments:

- 44 individual landmarks designated by the Kane County Board, as of 2011
- The first unincorporated historic district in Illinois designated by the Kane County Board
- Rustic Roads Program adopted as an amendment to the Preservation Ordinance
- Seven national, state, and local preservation awards recognizing the efforts of the County Board, the Preservation Commission, and Development Department staff
- Publications: *Kane County Preservation Plan*, *Built for Farming*, and *That Darn Barn*
- Calendars: *1997 That Darn Barn*, *2002 Rustic Roads*, *2004 Preserving Kane County's Heritage*
- Co-sponsorship of county-wide preservation conferences, workshops, and bus tours
- Advocacy for over \$3.25 million in riverboat grants awarded by the Kane County Board for preservation projects.
- Intergovernmental agreements with five municipalities to extend the County's Historic Preservation Ordinance and the assistance of the Historic Preservation Commission for municipal landmarks, districts and rustic road corridors.

#### **Policies:**

1. Encourage the preservation of existing cultural and historic resources to protect Kane County's unique sense of place and to promote the creation of livable communities.
2. Promote and facilitate the reuse and/or retrofitting of existing buildings for preserving historic resources and as a tool for creating livable, sustainable and healthy communities.
3. Partner with existing historical societies, museums and other preservation organizations in Kane County to strengthen preservation and public education efforts.
4. Provide technical and grant information to assist property owners' research and restoration efforts.
5. Work in partnership with municipalities, townships, the forest preserve district, park districts, fire protection districts and other units of local government to promote and to protect historic resources and offer educational opportunities.

6. Encourage intergovernmental agreements with municipalities to allow for the adoption of historic preservation ordinances.
7. Update the Kane County Historic Preservation Plan and Rural Structure Survey.
8. Provide financial resources and incentives for the implementation of the adopted Kane County Historic Preservation Plan.
9. Retain the County's status as a Certified Local Government through the Illinois Historic Preservation Agency.
10. Support the Kane County Rustic Roads Program to preserve character and scenic vistas for future generations.



## 2.11 PLANNING ISSUES – Economic Prosperity

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### Objectives:

1. To improve coordination between education, workforce development and economic development entities to ensure that Kane County has a highly skilled and competitive workforce.
2. To continue growing Kane County's industry clusters and expanding its diverse economy in order to spur innovation, sustainability, and economic prosperity.
3. To create jobs and increase local food production by encouraging and expanding agriculture related businesses throughout Kane County.
4. To maintain and strengthen the long-term economic viability of Randall Road.
5. To take advantage of Kane County's existing telecommunications infrastructure, specifically its fiber optic cables, to attract new investment into Kane County and to continue strengthening the County's telecommunications infrastructure in the future.
6. To maintain and improve the personal health of residents and the workforce to reduce healthcare expenditures and increase workplace productivity.
7. To encourage mixed use land use patterns and transit opportunities that reduce commute times and locate small business opportunities and employment centers in close proximity to diverse and affordable housing.
8. To promote environmentally responsible and sustainable business practices and industrial operations.

### Chapter Focus

The relationship between economic prosperity and healthy communities has become unmistakable in the current economic climate. Demographic changes and economic trends point to a population becoming increasingly interested in living in areas that are more compact, walkable and that offer convenient transportation options. Depending on how our communities adjust to these changes, businesses and industries will either stay and prosper; or relocate or close. New job creating business will be more likely to locate in our communities if they are supportive to the social, housing and health needs of their workforce and customers. The places that will be most successful in the future economy will be those that can adapt and accommodate the desires of tomorrow's residents and businesses. Not only will Kane County and its municipalities need to provide healthy communities for people to live and work, but they will also need to be proactive and innovative in the types of assistance that they provide to local businesses. Successful communities will be able to find a more effective and efficient approach to leveraging existing resources such as tax credits, infrastructure improvements, loans, workforce development programs and technical assistance to create and support a thriving economic climate.

This chapter examines economic prosperity in relation to:

- The Region
- Healthy Community Design
- Community Health
- Industry Clusters
- Communications Infrastructure
- The Green Economy
- Agribusiness

## **Economic Prosperity in the Region**

The GO TO 2040 Plan developed for our region and adopted by the Chicago Metropolitan Agency for Planning (CMAP) in 2010 provides regional direction related to economic prosperity in the following areas:<sup>1</sup>

### **Livable Communities** (Land Use and Housing)

*“The region’s development over the last several decades has resulted in a pattern of land use that is not sustainable. Development in the last half of the 20th Century has overall been a story of outward expansion, consuming vast amounts of land and requiring huge investments in water, wastewater, and transportation infrastructure.”*

### **Human Capital** (Education, Workforce Development and Economic Innovation)

*“The quality of our region’s labor force is crucial for sustaining economic prosperity. Increasingly, job growth relies on the availability of well-educated, skilled workers for knowledge-based industries.”*

### **Efficient Governance** (Tax Policy, Coordinated Investments)

*“Now more than ever, taxpayers expect efficiency and transparency when governments invest their limited resources. To maximize the benefits that residents of our seven counties see from these public investments, government agencies across our region need to coordinate decisions and investments strategically.”*

### **Regional Mobility** (Investment in Transportation, Transit and Freight Networks)

*“A modern transportation system is indispensable for our region’s future prosperity. To sustain our economy and quality of life, residents must be able to travel quickly and easily around our region so they can choose from a wide variety of jobs and communities in which to live. Businesses must be able to count on the timely delivery of their goods.”*

Our entire region must re-evaluate where and how new development is approved and how to better use and improve our existing transportation and other infrastructure investments that support economic prosperity. While Kane County is integrally connected to the regional economy, the majority of the critical decisions that will affect the needed changes will happen at the local level.

## **Economic Prosperity and Healthy Community Design**

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<sup>1</sup> Chicago Metropolitan Agency for Planning. 2010. GO TO 2040 Plan.

Communities that are characterized by healthy community design (Figure 79) and smart growth principles (Figure 80) are highly inclined to have significant monetary benefits for both home/business owners and the government. For instance, smart growth strategies have the potential to save a substantial amount of money in infrastructure costs. In 2002 the Institute for Housing America estimated that smart growth strategies could save \$250 billion in infrastructure costs nationwide over the next 25 years.<sup>2</sup> This savings is significant when you consider that the federal government estimates that it will take two trillion dollars just to replace decaying infrastructure<sup>3</sup>. With such significant costs associated with just maintaining our existing infrastructure, it is imperative that any new infrastructure construction is done in a cost effective and sustainable manner that contributes to Kane County's economic prosperity.

**Figure 79**



**Figure 80<sup>4</sup>:**



tal: Challenges and Opportunities in

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This will require careful evaluation of new infrastructure projects on the urban fringe, where costs are often much higher than they are for infrastructure projects in existing communities. This is evidenced by a recent study conducted by the Florida Department of Communal Affairs, which found that it cost twice as much to serve conventional suburban development as it did to serve a house closer to existing job centers.<sup>5</sup> Redirecting infrastructure towards existing communities is not only less expensive, but also helps revitalize those communities, aiding in the development of more compact, walkable and transit oriented communities. These types of communities will help to drive down the high transportation costs that are incurred by individuals by providing alternative means of transportation. The US Department of Labor has shown that annual household spending on transportation now equals annual household spending on rent/mortgage (about 18.7% of total spending).<sup>6</sup> By providing individuals with the option to complete some of their daily activities by walking, biking or taking transit, a portion of their transportation spending is freed up to be diverted into the local economy to be spent in other ways.

Communities that implement smart growth principles often realize appreciation of land values. Conversely, communities that lack smart growth features are often distinguished by high rates of vacancy, which in turn hurt surrounding property values. A September 2011 study on the impact of vacant homes and foreclosed properties on surrounding property values found that if a property is foreclosed and either vacant or tax delinquent, the value of properties within 500 feet of that home decline by 7 to 8% - the impact rises to 9.6% if the home is foreclosed, vacant and tax delinquent.<sup>7</sup>

The economic impact of smart growth on individual property value is not limited to preventing the depreciation of property value. In a 2010 report on smart growth, researchers found that in 80% of cases, housing units in smart growth developments sold for 13% higher prices per square foot than housing units in traditional sprawl development.<sup>8</sup> Homes within walkable neighborhoods have also been found to appreciate in value. As previously stated, being within walking distance of amenities is a major point of importance amongst current homebuyers. Currently, one of the

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<sup>5</sup> Goldberg, David. Summer 2011. "A Prescription for Fiscal Fitness? Smart Growth and the Municipal Bottom Line." On Common Ground.

<sup>6</sup> Smart Growth America. <http://www.smartgrowthamerica.org/economy.html>

<sup>7</sup> Whitaker, Stephan and Fitzpatrick IV, Thomas J. September 2011. "The Impact of Vacant, Tax-Delinquent and Foreclosed Property on Sales Prices of Neighboring Homes." Federal Reserve Bank of Cleveland.

<sup>8</sup> Market Acceptance of Smart Growth. February 2010. US EPA. 231-R-10-001.

most common ways to measure the walkability of a neighborhood is through Walk Score, a free online tool that measures the straight-line distance to the nearest destination in each of 13 categories and assesses a neighborhood a score from 1-100 (the higher the score, the more walkable a particular neighborhood is). In a recent study by Joseph Cortright on the relationship between Walk Score and home prices in US cities, it was found that in a typical metropolitan area each one point increase in Walk Score was associated with \$700-\$3000 increase in home value. Generally, it was found that neighborhoods with high Walk Scores had home values that were \$10,000-\$30,000 higher than other neighborhoods.<sup>9</sup> Additionally, it has been found that properties that are located near transit stops often realize increases in property value as well. Studies completed in two separate CA counties (Santa Clara<sup>10</sup> and San Diego<sup>11</sup>) revealed that rail-transit services confer appreciable land-value benefits for residential and commercial properties that are located near rail transit stations. In some instances, it was shown that commercial land was worth more than 120% more if it was located within a ¼ mile of a rail transit station.

Finally, neighborhoods characterized by smart growth have been found to have a significant impact on the revenue generated through local taxes. In two separate studies performed by Minicozzi in 2009 in North Carolina and Florida, it was found that mixed-use developments garnered significantly more tax revenue than any other land use, including traditional big box retail.<sup>12</sup> In fact, in Asheville it was found that one acre of moderate high-rise mixed use can generate more taxes for a county (including sales tax and property tax) than a 21 acre Super Wal-Mart, a 73 acre mall and a 60 acre big-box power center combined. That is a substantial benefit for a property that takes up very little space. While a moderate high-rise mixed-use building may be applicable to limited areas in Kane County, such as the Randall / Orchard Road Bus Rapid Transit (BRT) Corridor, the lesson learned here is clear – mixed-use developments have the potential to significantly increase the tax revenue for local governments.

Like the rest of the economy, the retail market has taken a big hit over the last few years. In 2010, retail buildings had a national vacancy rate of 13%. According to the National Association of Realtors, “Today the most successful retail centers are those that encourage people to spend more time and visit with more frequency. Whether they spend no money or as much as possible, people beget people.”<sup>13</sup> This sentiment was furthered by a 2010 presentation by S.B. Friedman on the future of the retail market in metropolitan Chicago which concluded that the retail markets with the best future potential were: 1) Supercenters and warehouse clubs offering “one stop shopping and value”, 2) Retailers that offering shopping for convenience and speed and 3) Downtowns and lifestyle centers that offer a unique shopping experience.<sup>14</sup> As mixed-use compact development increasing becomes a way of life, individuals will come to expect more from their shopping experience. In the future, successful retailers will find a way to offer customers a unique shopping experience that encourages repeat and word of mouth business.

After experiencing years of decline, office space in traditional downtowns is beginning to once again attract business owners. According to Reis economist Calanog, “the nationwide office vacancy rate —which has been the highest in 17 years — is finally starting to inch down slowly, at 17.5 percent for the first quarter of 2011, down from 17.6 percent the previous quarter, and the

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<sup>9</sup> Cortright, Joseph. 2009. “Walking the Walk: How Walkability Increases Home Prices in U.S. Cities.” CEOs for Cities.

<sup>10</sup> Cervero, Robert and Duncan, Michael. June 2001. Rail Transit's Value-Added: Effects of Proximity to Light and Commercial Rail Transit on Commercial Land Values in Santa Clara County, CA.” Urban Land Institute.

<sup>11</sup> Cervero, Robert and Duncan, Michael. June 2002. “Land Value Impacts of Rail Transit Services in San Diego County.” Urban Land Institute.

<sup>12</sup> Minicozzi, Joseph. “The Smart Math of Mixed Use Development.” January 2012. Planitizen.com.

<sup>13</sup> Filisko, G.M. Summer 2011. “What’s on Deck for Retail Development?” On Common Ground.

<sup>14</sup> S.B. Friedman & Company; APA Metro Section. October 14, 2010. “Planning for the Recovery.”

first decline since the third quarter of 2008.” While lower prices in traditional downtowns may be driving businesses to relocate in the short term, many office experts feel that shorter commutes, quality housing and neighborhood amenities will continue to drive this trend long into the future. John Propp, a commercial real estate expert, credited Denver’s recent office renaissance to “the downtown’s revitalization, its emphasis on parks, transit, bike and car-sharing programs, and its LEED (Leadership in Energy and Environmental Design) certified housing [that] have made the central city inviting to companies.” The relocation of businesses into traditional downtowns follows the pattern of relocation of the nation’s emerging workforce, a workforce that prefers to reside in compact, mixed-use communities.<sup>15</sup>

An abundance of reports over the years have found that smart growth communities are conducive to a more productive work force. In 2000, Robert Cervero found that compact, accessible cities with efficient transportation links were more productive than more dispersed places. Also in 2000, Nelson and Peterman found that in growth management strategies can improve economic performance by yielding taxpayer savings, efficiency gains and quality of life benefits when compared to surrounding regions.<sup>16</sup> Furthermore, Richard Florida, author of “The Rise of the Creative Class”, has found that the regions that have best adapted to the “new economy” are those that have successfully attracted the “creative class.” Florida believes that “mobile, demanding creative workers migrate to certain kinds of places they favor: places where they can find not just “a job” but lots of opportunities, and where they can find participatory amenities—active outdoor sports, not just stadiums; café-and-gallery “street-level” culture, not the symphony. They also seek places of demographic diversity, openness to newcomers, and stimulating cultural interplay. And the catch is, such regional qualities tend to be self-reinforcing. A region with many creative industries and creative-class workers will attract more of both, while the losing regions—well, they lose them.”<sup>17</sup> The kind of place that Florida describes is flush in references to smart growth principles, further reinforcing the impact that these types of communities can have on the economy.

## **Economic Prosperity and Community Health**

While it may not be the first thing that comes to mind when thinking about economic prosperity, a healthy workforce is nonetheless important to the County’s economy. Individuals who are obese are more likely to suffer from conditions such as coronary heart disease, type 2 diabetes and high blood pressure.<sup>18</sup> According to Shaping America’s Youth, obesity costs US businesses more than \$13 billion annually in: health insurance claims, paid sick leave and disability and life insurance.<sup>19</sup> A 2007 study by Neovios found a greater trend toward sick leave among obese individuals when compared with normal weight workers, especially for spells of longer duration.<sup>20</sup>

While it is difficult to find a specific relationship between obesity and the built environment, several studies have found a connection between increased driving and obesity, including a recent study in Atlanta that found that spending an additional hour per day in a car increased an individual’s

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<sup>15</sup> Newman, Judy. Summer 2011. “The Future of Office Development.” On Common Ground.

<sup>16</sup> Smart Growth America. <http://www.smartgrowthamerica.org/economy.html>

<sup>17</sup> Florida, Richard. 2003. “The Rise of the Creative Class: And How It’s Transforming Work, Leisure, Community, and Everyday Life.” Basic Books.

<sup>18</sup> National Heart Lung and Blood Institute. <http://www.nhlbi.nih.gov/health/health-topics/topics/obe/>

<sup>19</sup> Shaping Americas Youth. 2012. “The Skyrocketing Cost of Obesity: It’s Everybody’s Business.”

<sup>20</sup> Neovios, M. 2009. “Obesity status and sick leave: a systematic review.” Social Medicine, Department of Public Health Sciences, Karolinska Institute. Sweden.

odds of being obese by 6%.<sup>21</sup> While it may be difficult to find out exactly what factors in the built environment are directly related to increased obesity, the opposite is not true. In a 2006 study, Sallis and Gland found that “People who have access to safe places to be active, neighborhoods that are walkable, and local markets that offer healthful food are likely to be more active and to eat more healthful food—two types of behavior that can lead to good health and may help avoid obesity.”<sup>22</sup> More walkable and transit-friendly neighborhoods can help combat rising health care costs by encouraging people to abandon sedentary lifestyles, helping both individual health and overall workplace production.

The Fit Kids 2020 Plan, adopted by the County Board in 2011, included a working group and recommendations related to economic strength. See Economic Strength Strategies 1 and 2 in Figure 81.

**Figure 81<sup>23</sup>:**

### **Fit Kids 2020 Plan – Economic Strength and Food Policy Strategies**

The following strategies may improve the health of children in Kane County by increasing the economic strength of employers, families and local food providers.

#### **Economic Strength Strategy #1 Improve the economic strength of employers by encouraging the implementation of wellness plans for employees**

- Develop an awareness campaign for employers summarized in a brochure that includes best practices and success stories. Outcome will be measured by the number of brochures distributed throughout Kane County.
- Create a survey for employers to measure the quantity and quality of wellness plans. Outcome will be measured by the variety of metrics incorporated into each plan.
- Develop a model wellness plan for employers that provides step-by-step guidance to create customized wellness strategies from pre-planning to benchmarking progress. Outcome will be measured by the number of and participation in wellness programs in Kane County.
- Initiate a wellness awards program for employers to encourage participation and networking. Outcome will be measured through a database that documents progress and participation.

#### **Economic Strength Strategy #2 Improve the economic strength of the family through education about nutrition, health and fitness**

- Educate families about community and residential produce gardens and develop gardening tool lending programs to encourage residential gardening. Outcome will be measured by the annual increase in the number of gardens.
- Employ the “Safe Routes to School Program” to increase the percentage of bikers and walkers to school and work. Outcome will be measured by the response to annual surveys.
- Increase the number of and participation in classes about healthy living offered in Kane County. Outcome will be measured by the number of classes offered and their participants.

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<sup>21</sup> Frank, Lawrence, D. 2004. “Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars.” *American Journal of Preventive Medicine*.

<sup>22</sup> Sallis, J.F. and Glanz, K. 2006. “The role of built environments in physical activity, eating, and obesity in childhood.” San Diego State University.

<sup>23</sup> Kane County. 2011. Fit for Kids 2020 Plan.

**Economic Strength Strategy #3 : Increase the economic strength of local farmers through education about the value of growing produce and participation in the local food system**

- Increase the capacity and variety of produce offered at local farmers markets. Outcome will be measured through annual surveys taken at the farmers markets.
- Encourage partnerships within the community to promote participation in the local food system. Outcome will be measured by the number of partnerships created between restaurants, grocery stores, community gardens, etc.
- Build upon the efforts of the “Bounty of Kane” marketing program to further promote the local food system. Outcome will be measured by the number of participants in the local food system.
- Create a network of farmers market managers to provide education and share best practices that will strengthen the local food system. Outcome will be measured by the number of participants.
- Create a farmer’s focus group to identify opportunities for standardization of farmer’s markets. Outcome will be measured by the increase in customers.
- Provide education to local government about zoning changes that can benefit the local food system. Outcome will be measured by the number of local governments with zoning that benefits the local food system.
- Identify strategies meant to strengthen the local food distribution chain (i.e.; internet, social media). Outcome will be measured through surveys completed by farmers, restaurants and market managers.

**Food Policy Strategy #7**

**Promote food as an economic development opportunity**

- Support the establishment of community and commercial kitchen space for processing and preserving locally grown products.
- Assist in developing a network of independent support labor for community and home gardens such as (small plot roto-tilling).
- Identify food policy partners for Fit for Kids branding.
- Reduce red tape for growing, processing and delivering locally grown food to local residents.
- Work with Walgreens and/or CVS to offer fresh fruits and vegetables and accept electronic LINK benefits in their stores.

**Economic Prosperity and Industry Clusters**

“The capacity for regional innovation is often driven by industry “clusters”—broad networks of companies, suppliers, service firms, academic institutions, and organizations in related industries that, together, bring new products or services to market. Clusters significantly enhance the ability of regional economies to build prosperity because they act as incubators for innovation. Clusters possess the primary elements needed to transform ideas into prosperity—universities or research centers that churn out new knowledge; companies that transform knowledge into new services or products; suppliers that provide critical components or equipment; and marketing and distribution firms that deliver the product to customers. Regions with successful clusters enjoy higher average wages, productivity, rates of business formation, and innovation.” – Center for Regional Development, Purdue University.<sup>24</sup>

The global economic climate requires that successful firms be able to rapidly innovate and commercialize products. The need for creativity has become so important that, as economist

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<sup>24</sup> Center for Regional Development Purdue University. 2007. “Unlocking Rural Competitiveness: The Role of Regional Clusters.”

Janice Madden has pointed out: “To the extent that there is a ‘new economy,’ it can be described as one in which creativity has become more important than the production of goods.”<sup>25</sup> With such a premium placed on innovation, it is not surprising that so many organizations, from the U.S. Economic Development Administration to the Brookings Institution to CMAP, have endorsed the support of industry clusters as a way to enhance local and regional economic competitiveness. According to Harvard Business School Professor Michael Porter, industry clusters create a competitive advantage through increased innovation that is fueled by: 1) A specialized labor pool that is tailored toward the needs of the industry cluster and a specialized infrastructure that is developed by local governments, local industries and local suppliers, 2) Nationally competitive local supplier industries that spur innovation and spin-off industries and 3) Intense rivalry among local industries that encourages increased innovation and competition.<sup>26</sup>

The success of industry clusters in spurring innovation and economic prosperity within a region has been well documented. A recent study performed by Delgado and Porter found that strong industry clusters register higher wages, more establishments, and higher numbers of patents. They found that this growth was enhanced when related clusters within the region grew in strength. Furthermore, it was found that the presence of strong clusters enhanced the growth opportunities in other industries.<sup>27</sup> So, not only do industry clusters increase the performance of the firms within the targeted cluster, they also help to increase the performance of firms throughout all industries within the economy. Industry Clusters in Kane County are listed in Table 12.

## Table 12

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<sup>25</sup> Carlino, Gerald A. “Knowledge spillovers: cities’ role in the new economy.” Business Review (Federal Reserve Bank of Philadelphia), December 22, 2011.

<sup>26</sup> Waits, Mary Jo. 2000. “The Added Value of the Industry Cluster Approach to Economic Analysis. Strategy Development and Service Delivery.” Arizona State University.

<sup>27</sup> Delgado, Mercedes. March 11, 2011. “Clusters, Convergence, and Economic Performance.”

Kane County Industry Cluster Information						
Description	QCEW Cluster - Establishments	Industry Cluster Establishment LQ	QCEW Cluster Employment	Industry Cluster Employment LQ	QCEW Cluster - Wages	Industry Cluster Annual Wages LQ
Total All Industries	12,881	1	193,691	1	\$7,839,352,994	1
Advanced Materials	452	2.24	9,979	1.41	\$481,270,030	1.14
Agribusiness, Food Processing & Technology	132	0.64	4,053	0.86	\$149,386,895	0.98
Apparel & Textiles	149	1.3	891	0.6	\$36,409,999	0.67
Arts, Entertainment, Recreation & Visitor Industries	301	0.79	7,565	0.98	\$205,207,601	0.89
Biomedical/Biotechnical (Life Sciences)	958	2.92	10,877	1.54	\$559,030,308	1.69
Business & Financial Services	2,200	1.11	10,482	0.62	\$586,044,750	0.49
Chemicals & Chemical Based Products	199	2.01	7,128	2.32	\$348,784,732	2.1
Defense & Security	486	1.11	2,797	0.28	\$218,070,885	0.38
Education & Knowledge Creation	239	0.84	22,965	1.18	\$918,094,713	1.23
Energy (Fossil & Renewable)	878	1.03	6,566	0.58	\$378,408,088	0.57
Forest & Wood Products	434	1.64	4,238	1.36	\$214,823,640	1.79
Glass & Ceramics	53	1.76	1,488	2.21	\$64,629,135	2.42
Information Technology & Telecommunications	823	1.32	7,565	0.84	\$441,835,312	0.69
Transportation & Logistics	397	1.38	3,224	0.58	\$172,104,208	0.77
Manufacturing Supercluster	448	2.28	12,808	1.52	\$665,221,768	1.43
Primary Metal Mfg	23	2.71	892	1.63	\$37,585,281	1.41
Fabricated Metal Product Mfg	191	2.22	4,519	2.29	\$220,206,427	2.68
Machinery Mfg	125	2.9	3,266	2.12	\$176,241,601	2.26
Computer & Electronic Product Mfg	58	2.15	1,821	1.07	\$104,546,932	0.81
Electrical Equipment, Appliance & Component Mfg	28	2.65	1,522	2.72	\$77,687,787	2.89
Transportation Equipment Mfg	23	1.07	787	0.38	\$48,953,740	0.4
Mining	17	0.99	124	0.45	\$8,404,358	0.59
Printing & Publishing	382	1.37	3,036	0.86	\$140,721,705	0.72

Source: Stats America: Innovation in America's Regions

The key to industry clusters is the creation of a knowledge spillover as a result of a concentration of professionals from within a specific industry. It is critical to increase the collaboration and communication across firms in a particular industry to better share research, streamline implementation processes and leverage investment opportunities.<sup>28</sup> As a result, creating places for these professionals to interact is a requirement for any successful cluster-based approach to industry. The creation of smart growth communities allows for constant interaction among the people of a community. Thus, industries that are located within these communities will be able to benefit from constant interaction among professionals. It is also imperative to increase communication and collaboration amongst the firms of an industry and local research institutions and entrepreneurial programs. Those partnerships are necessary in regards to the process of testing ideas and bringing a product to commercialization.

Local government entities can play an important role in helping industry clusters blossom by facilitating communication between employers and education and workforce training programs. Since a successful industry cluster relies heavily on the availability of a specialized workforce, it is important for local education and workforce training programs to tailor their curriculum to meet the needs of employers. In addition, local governments can help industry clusters prosper by utilizing strategic funding initiatives, technical assistance and by facilitating improved communication with other funding entities. Any successful cluster-based program will also have an efficient way of tracking the success of various programs and the effectiveness of financial incentives.<sup>29</sup> Access to information will allow for constant re-evaluation of an industry and will allow for improvements and alterations to be made to a program's structure to better ensure its competitiveness.

<sup>28</sup> Carlino, Gerald, A. 2001. "Knowledge Spillovers: Cities' Role in the New Economy." [www.phil.frb.org](http://www.phil.frb.org)

<sup>29</sup> Harris, Timothy F. 2000. "Productivity and Metropolitan Density." Tufts University.

## **Economic Prosperity and Communications Infrastructure**

Improving telecommunications infrastructure can increase efficiency and lower the cost of doing business. Kane County is implementing a comprehensive communications plan that involves the construction of a fiber optic backbone for voice and data services. The network is designed to meet the growing communication needs of government offices, departments, schools, libraries, municipalities, health departments, health care providers, emergency management operations, emergency responders, and development.

The project was envisioned as a multi-phase initiative with the first phase consisting of the construction of a fiber optic network between County facilities and the local municipalities. The second phase consists of the construction of a fiber optic backbone network that will service the Southern end of the County including Aurora, North Aurora, Batavia, and Geneva. The third phase consists of the construction of a fiber optic backbone network that will service the Northern end of the County including St. Charles, South Elgin, and Elgin.

The completed project will provide for a fiber optic backbone for voice and data communications from Aurora to Elgin. The fiber optic backbone would also provide for an information “highway” between Interstate 90 and Interstate 88. The information “highway” would be made available and accessible to constituents and provide Kane County with a tremendous advantage in technology infrastructure.

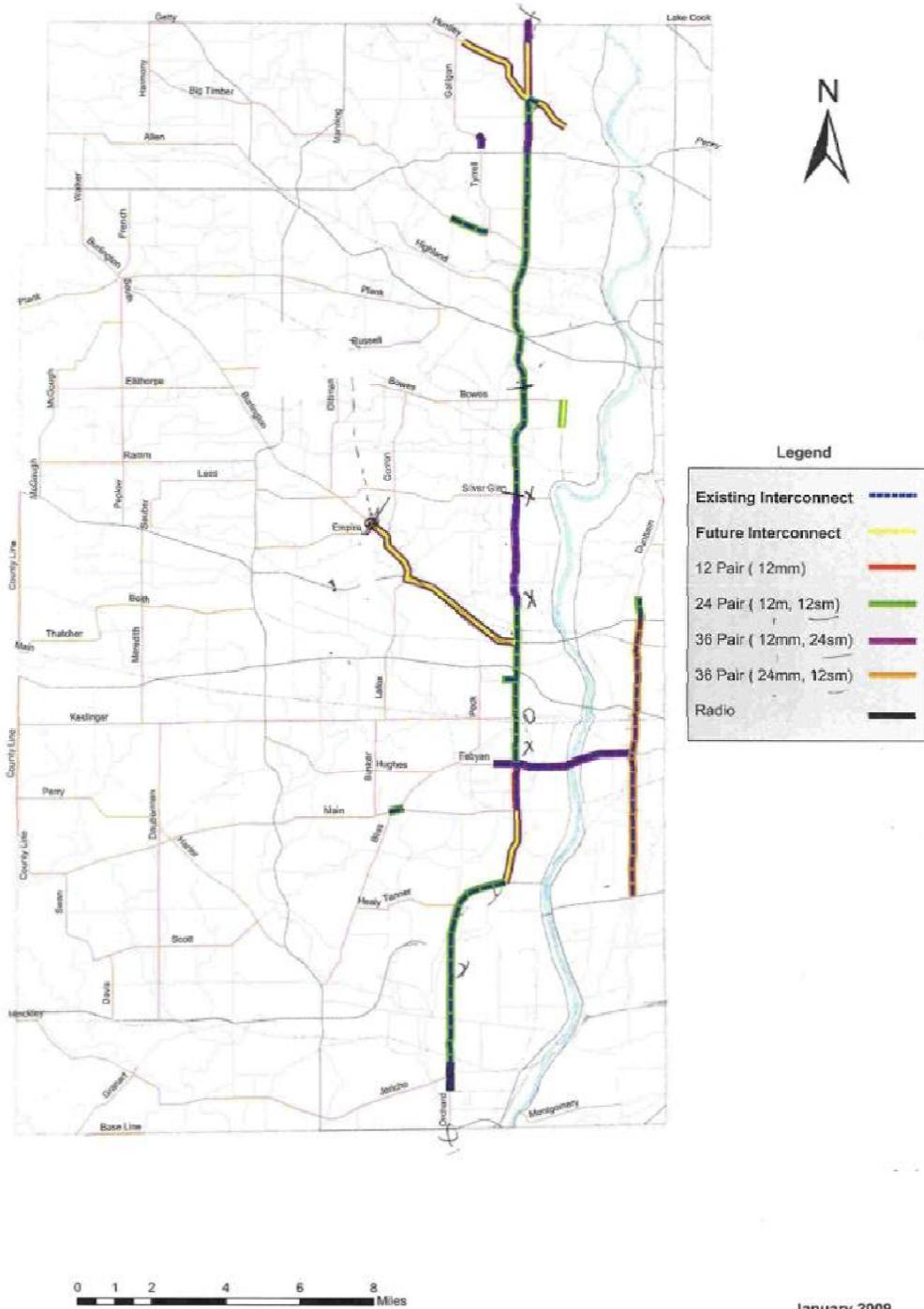
As of the end of 2011, about 90% of the system is complete including 23 miles of fiber along Orchard Road and Randall Road from Aurora to Elgin, from I-88 to I-90. Also completed are sections of fiber along Fabyan Parkway from Randall Road to Kirk Road. The final portion of the fiber project includes the IGAs, interconnects, splicing, and network equipment. There are currently existing fiber optic conduits along Randall Road, Orchard Road, and other strategic corridors as indicated in Figure 82.<sup>30</sup>

### **Figure 82:**

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<sup>30</sup> Fahnestock, Roger. Updated December 2011. “Kane County Fiber Optic Network.”

# Kane County Traffic Management System Fiber Optic Network



## Economic Prosperity and the Green Economy

Environmentally responsible and sustainable business practices and industrial operations, and the “green jobs” that result will be an integral part of successful business in the future. These are areas where innovations are occurring rapidly and where new solutions are very marketable. According to the Brookings Institute, “The region’s research and innovation infrastructure is already spurring the development of new products and processes: Michigan, Ohio, and Illinois are among the top states in terms of green tech patenting, focused on new technologies in battery power, hybrid systems, and fuel cells. Great Lakes metros have the industrial and institutional infrastructure necessary to power an innovation economy.”<sup>31</sup> Specifically, the Chicago metropolitan region is in prime position to capitalize on the growing green industry. According to the Delta Redevelopment Institute, “The Chicago region also has existing assets that it can capitalize upon to create new jobs in emerging green sectors including: electricity generation from renewable sources (especially from wind), manufacturing of energy equipment, construction and maintenance of energy and fuel equipment, retrofitting existing buildings and providing business and professional services to green businesses.”<sup>32</sup> Many businesses are already moving away from traditional manufacturing practices and are beginning to rely more and more (as discussed earlier) on innovation and creative design. This is the type of mentality that fits perfectly with the emerging green industry, an industry that requires rapid innovation to survive – the faster that green products become cheaper to make and easier to use in everyday life, the faster the industry will grow.

The emerging green economy has also received a considerable amount of support from local leaders. Mayors and managers from nearly 100 municipalities in the region have also made at least some commitment by signing onto the Metropolitan Mayors Caucus’ Greenest Region Compact, a voluntary initiative that pledges that caucus members will make environmental considerations a priority, demonstrate that environmental practices are fiscally responsible and call on their residents and businesses to join them as environmental stewards to preserve our resources, climate, and economic viability of our region for future generations.<sup>33</sup> Political support for the green economy should come as no surprise as the Delta Redevelopment Institute has found that “opportunities for the greatest economic growth in the next decade are in emerging green industries that are building on existing capacity in the region, such as manufacturing of components for wind turbines or solar panels by metal manufacturers who are already producing similar products.”

Local governments can help support the growth of green industries by examining existing public policies and identifying any barriers that may exist in regards to the implementation and development of green products and practices. In addition, local governments can encourage green construction practices through the adoption of new public policies that support energy conservation and emissions reduction. These types of policies have the potential to spur thousands of new construction jobs within the region. According to the Brookings Institute, “smart growth” zoning codes that reward energy efficiency have the ability to “create new markets for power-conserving materials and appliances, providing American designers and manufacturers with experience producing the kinds of green products world markets will increasingly want.” Most importantly, local governments can take the lead and become educated on the economic implications of the green economy so that they can better match existing resources with businesses that are trying to gain entry into the green industry. Since this is an emerging field,

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<sup>31</sup> The Brookings Institute. 2010. “The Next Economy: Economic Recovery and Transformation in the Great Lakes Region.”

<sup>32</sup> The Delta Institute. 2009. “The Green Economic Development Strategies for the Chicago Region.”

<sup>33</sup> Mayors Caucus. <http://www.mayorscaucus.org/pages/Home/Reports.html>

many businesses and investors may be hesitant to fully embrace the possibilities that green industry represents due to a lack of knowledge. Local governments have the opportunity to emerge as a central facilitator and educator, helping the region to gain a competitive advantage in this industry.

## **Economic Prosperity and Agribusiness**

Agriculture is an integral part of Kane County's economy, landscape, natural resource base and local food supply. Agriculture continues to contribute to a stable and diversified economy, especially as the variety of agricultural crops and products including nursery and greenhouse crops, local fruits and vegetables, and livestock products increases in response to changing markets. Agribusiness services and facilities support the farm economy and need a strong agricultural base for their success. The farm economy creates jobs in cultivation and harvesting, equipment sales and service, seed research and sales, fertilizer and herbicide sales, finance and insurance, and food processing and distribution industries.

Since 1945, the number of Kane County farms has decreased. However, this decline has been offset by an increase in average farm size. In 2007 the average size of a Kane County farm was 253 acres, representing an increase of 67 acres since 2002. In 2007 the average for the State of Illinois was 348 acres. In 2007, the market value of Kane County agricultural products sold totaled \$198,108,000 per year up 71% since 2002. Top crop items include corn, soybeans, forage, wheat and nursery stock. The average market value of products sold per farm was \$261,011, considerably higher than the statewide average of \$173,421.<sup>34</sup>

According to the 2007 Census, Kane County was the largest dollar producer of nursery, greenhouse, floriculture, and sod crops of all Illinois counties. Since that time however, the economic changes have reduced the number of nursery, greenhouse, and sod farms. Kane County encourages expansion of nursery and greenhouses and other agriculturally related businesses through the use of the F-2 (agriculturally related sales) zoning district.

Local food production and agri-tourism is becoming an increasingly popular and important part of Kane County's agricultural economy and for filling local nutritional needs. "Discover the Bounty of Kane" ([bountyofkane.org](http://bountyofkane.org)) is a directory of 35 Kane County farms that sell direct to consumers and local farmers markets and includes a map and contact information for each farm and farmer's market. The HARVEST FOR ALL program encourages local farmers to donate a portion of their harvest to benefit a local food pantry, as well as encourages Farm Bureau members and consumers to support hunger relief efforts.

Community gardens and community supported agriculture (CSAs) are also becoming a growing part of meeting local needs for fresh produce. In part with the help of a grant from the Robert Wood Johnson Foundation in 2010 and funding from the Making Kane County Fit for Kids Funders Consortium, the number of community gardens has increased dramatically in recent years. New locations for community gardens and CSAs include forest preserves, park districts, state and county owned lands, church properties, non-profits and privately owned lots. The Fit Kids 2020 Plan includes strategies for supporting local foods as an economic development opportunity for Kane County. See Figure 81 (Economic Strength Strategy 3 and Food Policy Strategy 7).

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<sup>34</sup> 2007 USDA Census of Agriculture

## **Policies:**

1. Encourage and promote farming, sustainable agriculture and local food production and their related businesses in Kane County including the production, sale and research of agriculturally related goods and services.
2. Encourage and adopt mixed-use residential and employment activities around identified station nodes to support a pedestrian-friendly multi-modal corridor along Randall/Orchard Roads.
3. Continue to upgrade, increase access to, and enhance the efficiency of telecommunications infrastructure in Kane County.
4. Encourage and facilitate communication among local and regional education, workforce development and economic development entities to ensure that the demand for workforce skills will continue to be met both now and in the future.
5. Continue monitoring job opportunities and employment growth by sector in Kane County, including emerging industries.
6. Encourage workforce training and development entities to focus their resources on the skills needed to fill positions within the major industry clusters within Kane County.
7. Cooperate with local and regional economic development groups and government entities to build a common economic agenda and to pool our assets around a single, shared future-oriented economic development strategy.
8. Work with municipalities, hospitals and health professionals to maintain and improve the personal health of residents and the workforce to reduce healthcare expenditures and increase workplace productivity.
9. Support compact mixed use land use patterns and transit opportunities that reduce commute times and locate small business opportunities and employment centers in close proximity to housing.
10. Support the Economic Strength strategies in the Fit Kids 2020 Plan.
11. Support a culture of innovation that encourages the creation and implementation of new ideas.
12. Promote economic development through energy efficiency, energy conservation, and renewable energy opportunities.



## 3.1 2040 IMPLEMENTATION

### Introduction

The Kane County 2040 Plan (2040 Plan) proposes an innovative expansion of the implementation efforts of the 2020 and 2030 Land Resource Management Plans. While the core of the previous implementation strategies remain, the 2040 Implementation Strategy reflects the 2040 Plan's convergence of land use, transportation and public health through the following four activities:

1. Creation of a Kane County Planning Cooperative
2. Continuing the Planning Workshop Series
3. County Funding Decisions Consistent with Plan Goals
4. Coordination with Municipalities

The 2020 Land Resource Management Plan adopted in 1996 stated, "Kane County is rapidly approaching a crossroads due to increasing growth, expanding municipal boundaries, and renewed pressure on open space and natural resources." In light of the tremendous growth that occurred between 1996 and 2004, the 2030 Plan added that Kane County had arrived at a crossroads.

While approaching and reaching the crossroads in 2004, Kane County and its municipalities had two basic choices for preparing for and responding to population, economic and housing growth:

1. to follow the prevalent pattern of suburban sprawl by allowing piecemeal and disconnected patterns of development to occur by default  
or
2. to plan and implement the proactive, innovative plans and policies that shape Kane County communities, create its open space networks and protect its agricultural and natural resources

By 2008, Kane County, collectively with the municipalities, had made a mix of choices in land use and other decisions.

Some choices were "business as usual." The GO TO 2040 Plan developed for our region and adopted by the Chicago Metropolitan Agency for Planning (CMAP) in 2010 describes "business as usual" for our region as follows:

*"Most of our region's near-term challenges are the direct result of choices made — or too often deferred — in the past. Urgent challenges have often been an excuse to avoid planning, but they actually reinforce the need to plan more effectively. We need to act now, before today's opportunities become tomorrow's crises. During decades of rapid but largely uncoordinated expansion, the region grew in patterns that were not sustainable. New homes cropped up in areas that were difficult to reach by automobile and virtually impossible by public transit. Jobs created were often far from the region's residential centers, keeping commuters tied up in traffic and wasting billions of dollars in lost time and fuel. Patterns of development consumed land at a rapid rate, with serious*

*implications for natural resources — including less open space, potential water shortages, and diminished air quality.”*

Other choices reflected the vision shared by the 2020 and 2030 Plans and many other municipal and regional efforts advocating good planning.

**Figure 83**



Now, in 2011 we have a pause in the rapid growth of the past decades. Although the current economy in 2011 is characterized by little or no new development activity, population projections show that approximately 270,000 more people, 94,000 more households and 144,000 more jobs are coming to Kane County by 2040.

The better choice is to implement Kane County’s 2040 Plan, with a strategy that envisions a future Kane County still known for

- rich farmland and extensive open space
- clean water and environmental resources
- characterized by vibrant communities from the cities along the Fox River to the small towns to the west
- transit choices and efficient roadways
- safe and extensive routes for walking and biking
- a variety of housing types and employment opportunities for an increasingly diverse population
- healthy, livable communities

- and its people rated the healthiest in Illinois

## **2040 Implementation Strategy**

The Kane County 2040 Implementation Strategy fulfills the key role for counties as described in the GO TO 2040 Plan developed for our region and adopted by the Chicago Metropolitan Agency for Planning (CMAP) in 2010:

*“Counties have a key role in the promotion of livability through their land use planning responsibilities. Many counties have regional planning commissions that provide guidance on long-range planning activities. With involvement from these groups, counties can play a key role in bridging the regional ideas and principles in GO TO 2040 with their implementation at the local level. In many parts of the region, counties also provide valuable technical assistance to municipalities and help to negotiate boundary and joint land use agreements.”*

The 2040 Implementation Strategy continues advocating the need for municipal boundary agreements, planning coordination in the one-and-one-half mile areas, intergovernmental cooperation in managing land resources, and adoption of intergovernmental agreements for joint and compatible land use plans. The 2040 Implementation Strategy also maintains Kane County’s annual workshop and information-sharing programs with an increased emphasis on coordinating Kane County programs and County resources with municipal plans and policies supportive of the 2040 Plan. These aspects of the 2040 Implementation Strategy also address CMAP’s challenge for municipalities:

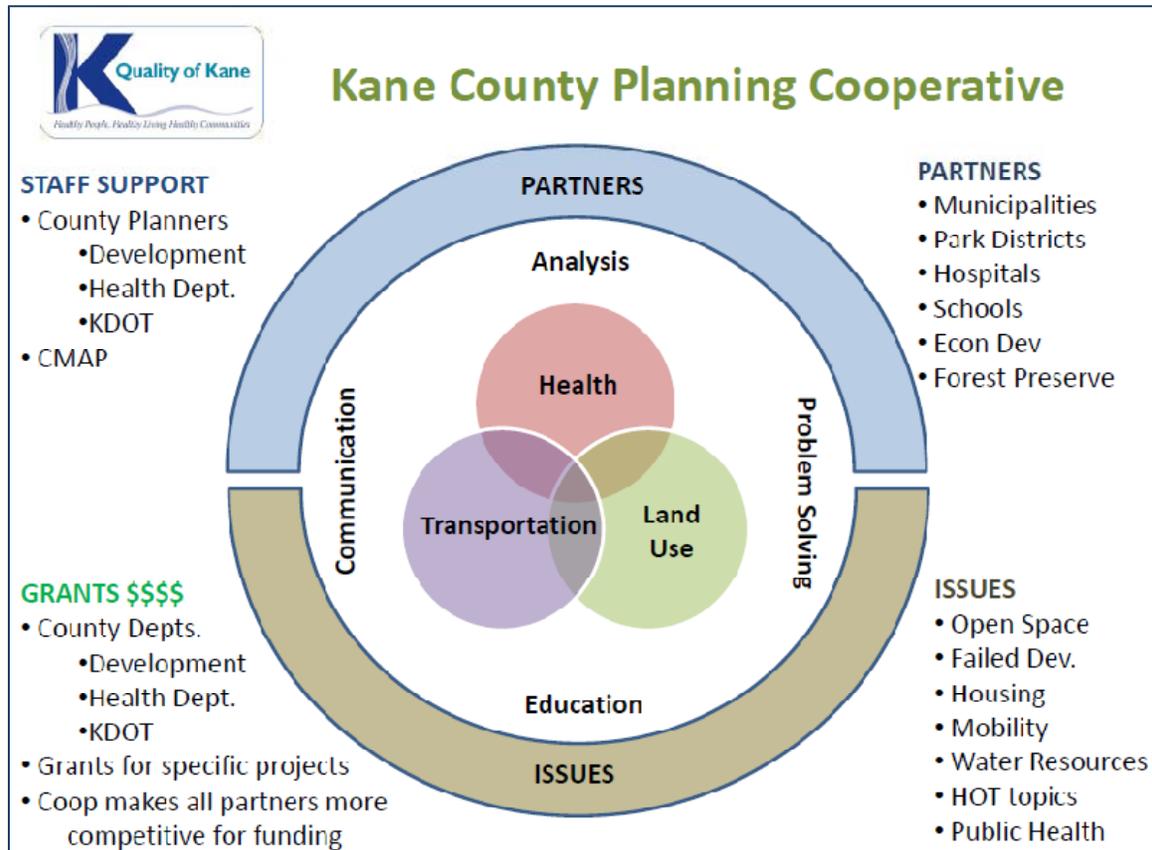
*“Municipalities are critical to the success of GO TO 2040 because of their responsibility for land use decisions, which create the built environment of the region and determine the livability of its communities. The most important thing that a municipality can do to implement GO TO 2040 is to take this responsibility very seriously. This requires a local commitment to proactive planning, as well as the right set of planning “tools,” including an up-to-date local comprehensive plan, ordinances and other regulations that are consistent with the comprehensive plan, and trained decision-makers — primarily plan commissioners and local elected officials — who fully understand the impacts of their land use decisions.”*

### **1. Kane County Planning Cooperative**

The formation of a Kane County Planning Cooperative is the central core of the 2040 Implementation Strategy (Figure 83). The main mission of the Cooperative will be to encourage education and information sharing related to planning and to assist with local planning decisions. The Cooperative will be staffed primarily with County planners from three departments – Development, Health and Division of Transportation (KDOT) – in addition to support from CMAP. The primary goal is to fill the GAPS for addressing current critical topics common to many of Kane County’s municipal and other partners by providing a local forum

for education, analysis, communication, problem solving and by integrating health, transportation, and land use planning.

**Figure 84**



The economic downturn has reduced local planning resources to a level not experienced since before the cycle of growth and development that began in the 1990's and continued until 2008. As a result, municipalities, park districts, school districts, hospitals and local taxing bodies with a critical stake in local land use decisions may be understaffed but faced with a need to address new issues not previously seen at the magnitudes they are today. Furthermore, decision-makers striving to continue the rich tradition of planning that has made Kane County what it is in 2011, may be unprepared to address the challenges of future demographic, economic and housing trends as the economy improves.

### Examples of Issues and Gaps

- Hot topics common countywide or in sub-areas
  - Stalled developments
  - Model ordinances for emerging issues
- Municipalities with no or overextended planning staff
- Inter-jurisdictional transportation, planning, health, economic development policies and projects

- Exposure to Health Impact Assessments as a planning and policy assessment tool
- Professional planning resources for municipal planning commissions

Collectively, the County and its planning partners do not have the resources to address future planning needs without competing for outside funding. Federal, state and private foundation grants are becoming more and more competitive, limiting awards to projects which are clearly tied to adopted plans and involving collaboration.

The Kane County Planning Cooperative will be a resource for municipalities and other local planning efforts by providing a forum for information and discussion on critical planning issues and emerging trends. Participation would be open to municipal staff, elected and appointed officials, and other decision-makers.

*“GO TO 2040 calls attention to the importance of collaborations between communities for transportation, housing, economic development, and other issues. These can often allow participating jurisdictions to access more funding and derive more benefit for themselves than they could by going it alone. Counties and COGs can often act as the sponsors or facilitators of these efforts. Collaborations can also encompass both the public and private sectors.”*

The Kane County Planning Cooperative will establish a countywide partnership that provides direct technical assistance and information for municipalities and local units of government in order to make Kane County and its partners more competitive for public and private grant funds. Participants can benefit from a streamlined grant application preparation process that meets current collaboration requirements from funders and enhances opportunities for success. Projects integrating health, transportation, and land use have the greatest funding opportunities. Kane County is already a leader in this area, so partners can benefit from County successes.

In October 2010, CMAP was awarded a Sustainable Communities Regional Planning grant by the U.S. Department of Housing and Urban Development (HUD) to assist with the implementation of GO TO 2040. With funding from this grant, CMAP has launched the Local Technical Assistance (LTA) program, which involves providing assistance to communities across the Chicago metropolitan region to undertake planning projects that advance the principles of GO TO 2040. Projects include comprehensive plans, corridor or subarea plans, studies of special topics such as housing or water resources, and similar planning activities. LTA Projects assisting municipalities or local governments in Kane County should be closely coordinated with Kane County in order to communicate the progress and results to the Planning Cooperative in order to maximize the investment and the results.

Current grant opportunities that require existing collaboration include the Federal Partnership for Sustainable Communities, the Center for Disease Control

Community Transformation Grants and a variety of private foundations, such as the Robert Woods Johnson Foundation. The development of the 2040 Plan as well as the Fit Kids 2020 Plan were partially funded by a \$360,000 Healthy Kids, Healthy Communities Grant from The Robert Woods Johnson Foundation. Collaboration for these efforts included the Kane County Health Department, the Fit for Kids Funder’s Consortium, and the Kane County Development & Community Services Department.

In recognition of the innovative approach for using the Planning Cooperative to achieve integrated health, transportation, and land use planning, the following funding and technical assistance opportunities have already been secured for 2040 Plan implementation.

**Figure 85**

<b>Kane County Planning Cooperative Grant Funded Projects for 2012</b>	
<b>Project</b>	<b>Type of Funding / Source</b>
<b>2040 Plan Implementation - Planning Cooperative</b>	<b>\$30,000 remaining in \$360,000 Healthy Communities Grant</b>
<b>2040 Plan Implementation – Planning Cooperative funding of local planning efforts</b>	<b>\$40,000 grant through the Power of Policy Contest, American Public Health Association</b>
<b>Evaluation of Land Suitability for Agriculture</b>	<b>CMAP Local Technical Assistance via Federal grant</b>
<b>Farmland Preservation to increase local food production and access - Health Impact Assessment</b>	<b>\$125,000 grant from the Health Impact Project/Pew Charitable Trusts</b>
<b>Green Infrastructure Map and Plan</b>	<b>Phase I - \$16,000 grant from Boeing to Chicago Wilderness to provide assistance for the project Phase II - \$265,000 grant application for Ike Planning Grant from State of Illinois pending.</b>
<b>Implementation of Long Range Transit Plan: to create a model transportation overlay ordinance</b>	<b>CMAP Local Technical Assistance via Federal grant</b>

## **2. Planning Workshops**

Two years after the adoption of the Kane County 2020 Land Resource Management Plan, the Kane County Board and the Regional Planning Commission acknowledged the need to provide more detailed planning-related information to County and municipal decision makers. In 1999, Kane County hosted the first in a series of five Making It Work! workshops. The success and impact of the first series led to the continuation of annual workshops for outreach and education in the 2030 Land Resource Management Plan implementation activities. Since 1999, the County has planned and hosted the following three series totaling eleven workshops:

### **Making It Work!**

- Conservation Design in the Critical Growth Area (1999)
- Land Use and Transportation (2000)
- Greenways and Stormwater (2001)
- Planning for a Sustainable Water Supply (2002)
- Smart Growth in Kane County (2003)

### **Priority Places, Where Smart Growth Gets Done**

- Priority Places (2004)
- Housing Challenge (2005)
- Transportation Challenge (2006)
- Water Supply Challenge (2007)

### **Healthy Communities**

- Smart Growth IS Healthy Living (2009)
- Bring Healthy Living to Your Community (2010)
- *To be continued with such topics as:*
  - *Economics of Healthy Communities*
  - *Local Foods and Healthy Living*
  - *Sustainability and Energy*
  - *Mobility and Access*

The 2040 Plan supports the continuation of the current workshop series for Healthy Communities. Healthy Communities truly reflects the convergence of land use, transportation and health by offering nationally recognized experts to speak to and interact with County and municipal decision makers, local planners, health officials, citizens, and businesses with a stake in the health of Kane County's most important resource, its people.

## **3. County Funding Decisions Consistent with Plan Goals**

Kane County currently manages a number of programs such as Riverboat Grants, Community Development Block Grants (CDBG), Economic Development, and Local Planning Assistance. The 2040 Implementation Strategy

emphasizes the need to closely coordinate allocation of these resources with municipal plans and policies supportive of the 2040 Plan, the 2040 Transportation Plans, the Kane County Community Health Plan or implementing “Healthy Communities” objectives and policies. Resources for infrastructure maintenance and/or extension have become tighter due to economic restraints and budgetary cutbacks. Now more than ever, allocation of County resources and funding of projects should be prioritized, with those meeting adopted County objectives and policies being considered first.

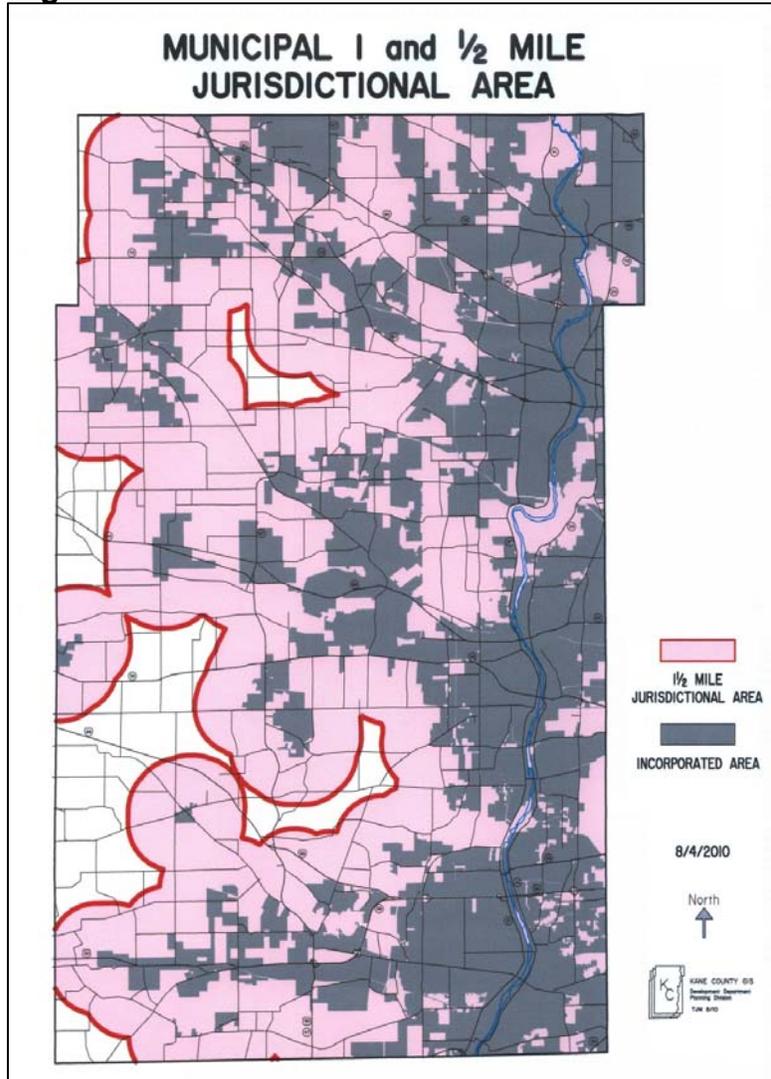
#### 4. Coordination with Municipalities

Like its predecessors, the 2040 Implementation Strategy acknowledges the need for planning coordination in the one-and-one-half mile areas. The authority for regulating unincorporated area land use resides in the zoning and subdivision chapters of the Kane County Code. However, unincorporated area land use within one-and-one-half miles of municipalities may be regulated by their

respective municipal codes. In many instances, the one-and-one-half mile “extra-territorial” jurisdictions of the municipalities overlap, further complicating land resource management processes for the County, the affected municipality, and for the land developer. In addition, municipalities have the authority to enter into pre-annexation agreements with property owners, annexing and zoning land without regard to the County or other municipalities’ plans. The 2040 Plan calls for greater planning coordination between the County and municipalities in the one-and-one-half mile areas (Figure 85).

The 2040 Plan continues to support the adoption of municipal boundary

**Figure 86**



agreements. Over the years, these agreements have proven effective in minimizing municipal conflicts and eliminating some of the adverse land use consequences that occur when municipalities compete for tax generating land uses. Excellent examples of currently existing boundary agreements are those between Geneva and St. Charles, Batavia and Aurora, Aurora and Montgomery, Montgomery and Sugar Grove, Burlington and Hampshire, Hampshire and Elgin, Elgin and Gilberts, and Gilberts and Carpentersville. Figure 4 identifies these and the other boundary agreements in Kane County currently in effect. Kane County currently has more of these agreements per capita than any other county in the State of Illinois. The 2040 Plan calls for reviewing expiration dates, updating, refining and adopting additional boundary agreements between municipalities as an important element of a managed-growth program.

The 2020 Plan initiated utilization of intergovernmental land resource agreements as an integral part of the implementation program. The intergovernmental land resource agreements in Illinois were adopted by Carpentersville and Gilberts and by St. Charles, South Elgin and Kane County. These agreements are based on the Local Land Resource Management Planning Act, Chapter 50 ILCS 805 (1985), which enables municipalities and counties to “enter into and enforce intergovernmental agreements for joint and compatible planning.” The 2040 Plan endorses the existing agreements and encourages additional intergovernmental land use agreements as a means for the municipalities and County to agree on a shared vision and to effectively realize their common goals and plans.



In addition, coordination in the Randall/Orchard and Rt. 47 Corridors identified for the first time in the 2040 Plan will be critical. While new or intensified development in both of these corridors may occur decades into the future, neither corridor can develop without the coordinated planning of the County and the municipalities.

The Randall / Orchard Road Corridor is being studied to determine the land use conditions/patterns that are needed to support a Bus Rapid Transit (BRT) corridor and how incremental implementation of elements of a BRT corridor can be accomplished. These land uses could include housing, retail, employment centers, hospitals and health care providers and entertainment venues. Access to these uses within the corridor and into Chicago will allow for greater mobility choices and reduce emissions from automobile traffic. While it is anticipated that new land uses and redeveloped areas at future station areas and stops would be approved through municipal decisions, Kane County will have a major role in coordinating station area access improvements to the County highway right of way in order to accomplish a BRT system. Kane County will coordinate with the municipalities and Pace officials in order to develop a Primary Transit Network (PTN) Policy to coordinate transit and land uses.

The Rt. 47 Corridor was the subject of a state funded study completed in 2010. The purpose of the IL 47 Corridor Planning Study was to provide municipalities and other government agencies with an understanding of the planning challenges associated with growth and to recommend strategies or tools that can be used to address these challenges. The study included broad participation and input from the municipalities along Illinois Route 47. It is of paramount importance the County prevents premature development of unincorporated areas to uses inconsistent with County or municipal plans. Once annexation and extension of utilities have occurred, the municipalities can approve developments consistent with the design guidelines and toolkit included in the Illinois Route 47 Corridor Study as well as to create livable, sustainable and healthy communities.

## **Summary**

In summary, the 2040 Implementation Strategy consists of the following four new and continued activities:

### **1. Kane County Planning Cooperative:**

The formation of a Kane County Planning Cooperative is the central core of the 2040 Implementation Strategy. The Cooperative will be a resource for all local planning efforts by providing a local forum for information and discussion on critical planning issues and emerging trends. The Cooperative will not only provide direct technical assistance and information for municipalities and local units of government, but will make Kane County and its partners more competitive for public and private grants by having a countywide collaborative planning partnership already in place.

## **2. Planning Workshops**

Since 1999, the Kane County has planned and hosted eleven workshops organized within three series in order to provide detailed planning-related information to County and municipal decision makers. The 2040 Implementation Strategy supports the continuation of the Healthy Communities workshop series for the continued integration of land use, transportation and health.

## **3. County Funding Decisions Consistent with Plan Goals**

Kane County currently manages a number of grant and funding programs offered to local municipalities and units of government. The 2040 Implementation Strategy emphasizes the need to continue coordination of these resources with municipal plans and policies supportive of the 2040 Plan and other County plans and policies for *“Healthy People, Healthy Living and Healthy Communities”*.

## **4. Coordination with Municipalities**

The 2040 Implementation Strategy continues to advocate the need for municipal boundary agreements, planning coordination in the one-and-one-half mile areas, intergovernmental cooperation in managing land resources, and adoption of intergovernmental agreements for joint and compatible land use plans. Higher levels of coordination will also be needed for the Randall / Orchard Road BRT Corridor and the Rt. 47 Corridor if these corridors are to be well designed, economically sustainable and meet future needs for employment, housing, mobility and livability.

## **Conclusion**

As the Regional Planning Commission proceeds with the five-year implementation program, it fully recognizes the complexity of existing issues and jurisdictional interests. The County Board is committed to the creation of the Kane County Planning Cooperative as well as to providing the Regional Planning Commission with staff resources for:

- scheduling and conducting meetings for the Planning Cooperative and the Regional Planning Commission
- planning and conducting planning workshops
- coordination with municipalities including attending public meetings, preparing maps, providing technical assistance and information, reviewing and discussing compatible land plans, proposed municipal boundary lines, and drafting joint resolutions adopting land use plans
- coordination with County Board, committees and commissions regarding County funding decisions

There is a common understanding between the Regional Planning Commission and the County Board that the ultimate success or failure of this 2040 Plan depends on the County's ability to effectively communicate the long-term benefits of creating and maintaining cooperative partnerships for land use and transportation planning that support individual and community health. Development of successful partnerships during the next five years will result in the successful implementation of the 2040 Plan with the following benefits:

- preservation of 50% of the County in farmland and open space
- improved environmental quality and a sustainable water supply
- expansive open space system with diversified ecosystems and extensive recreational opportunities
- improved water quality in the Fox River and its tributaries
- balance of land uses providing a variety of housing and employment opportunities
- less congested roadways and more walkable and bikeable communities
- safe and livable communities for Kane County residents
- and, the healthiest people in Illinois



## 3.2 2040 LAND USE

One purpose of the 2040 Plan is to provide a public policy basis for making decisions regarding growth and development in the County. The number, size, and complexity of land use proposals on which the County Board has been asked to render decisions has decreased substantially since 2008. This is primarily due to the collapse of the housing market and changes in major national, state and local economic conditions and trends as well as public policies affecting residential construction and land consumption rates. Despite this short term decrease, the projected increases in population, households and jobs for the year 2040 roughly matches the increases realized during the past 30 years. In light of this, the 2040 Plan reflects the unique convergence of land use, transportation and health planning efforts and coordination necessary to create healthy, livable and sustainable communities. The 2040 Plan provides public decision-makers with guidance in making decisions on development proposals and countywide coordination of growth.

The 2040 Plan provides a general reference and framework for land use patterns and distributions in Kane County. This plan outlines how development should occur in a manner consistent with the adopted County goals, objectives, and policies. Because the 2040 Plan addresses issues on a countywide scale, there may be localized areas that require more detailed analysis. Detailed analysis of specific areas may lead to a land use different than indicated on the 2040 Land Use Map. Any localized departures from the map will be reviewed in the context of the goals, objectives, and policies of the 2040 Plan.

The 2040 Plan is a dynamic statement of public policy. Accordingly, the 2040 Plan will be reviewed every five years, with citizen input, in light of changing demographics, changes in local, state or federal policies, major infrastructure improvements, public policy decisions, and economic and employment activities. At the same time, the Regional Planning Commission and elected officials of Kane County will revise the 2040 Plan as appropriate.

The 2040 Land Use Map identifies two important transportation corridors: the Randall /Orchard Road BRT Corridor and the Illinois Route 47 Corridor. These corridors are also identified on the 2040 Land Use Map and included in the land use categories of this section. It is critical to the long term development of these corridors that the County's policies are clear and generally consistent with municipal plans as well as related to the future availability of municipal sewer and water. Identification of these corridors is not to be interpreted as support for premature conversion of agricultural and other land uses without connection to existing or planned municipal infrastructure.

The 2040 Land Use Map legend includes three new land use categories: Protected Agriculture/Limited Development, Urban Neighborhoods/Mixed Use Infill, and Commerce/Employment.

Protected Agriculture/Limited Development reflects the Amendment to the *2030 Land Resource Management Plan* adopted on May 13, 2008. The amendment to the 2030 Plan was adopted as an additional tool for protecting agricultural land while integrating limited residential uses along with local agricultural and related businesses.

Urban Neighborhoods/Mixed Use Infill is complimentary to the Resource Management category, which was first introduced in the *2020 Land Resource Management Plan*. Where the Resource Management category addresses specific issues primarily unique to the Critical Growth Area, the new Urban Neighborhoods/Mixed Use Infill category addresses specific issues unique to the Sustainable Urban Area. The Urban Neighborhoods/Mixed Use Infill category incorporates and replaces the former Urban Residential category used in the 2020 and 2030 Plans.

Commerce/Employment combines and replaces the following former categories; Commercial, Crossroad Commercial, Office/Research, and Industrial, Light Industrial, Warehousing. This new combined category reflects the need for locations to provide for commerce and local employment opportunities. The suitability of various uses within this category for specific locations depend on the trend and character of the adjacent land uses, availability of infrastructure and the economic development needs of the local communities.

In addition, the 2040 Land Use Map use of the term “Open Space” includes the green infrastructure network. The green infrastructure network is an interconnected system of natural areas and open spaces – woodlands, wetlands, trails, and parks – that is protected and managed for the ecological values and functions they provide to people and wildlife, supports native species, sustains air and water resources, and contributes to the health and quality of life for people and communities. For the purposes of the 2040 Land Use Map, “Open Space” includes conserved natural areas and features, public and private conservation lands, working lands of conservation value, and other protected open spaces with an emphasis on interconnectivity to allow for movement of plant and animal species and to provide opportunities for recreation. Linkages to the regional open space and the countywide green infrastructure network continue to be an important consideration.

The 2040 Land Use Map can be found on the Kane County web site. As with the predecessor 2020 and 2030 Plan Maps, the 2040 Land Use Map is partially based on existing land uses. In addition, it reflects the County’s 2040 Conceptual Land Use Strategy Report, the goals, objectives, and policies expressed in this plan, and other considerations such as population forecasts and natural resources. Most importantly, the 2040 Plan and Map represent a unique convergence of the three planning disciplines of land use, transportation and community health into one comprehensive planning document.

## **Existing Public Open Space**

One of the most important countywide systems is the County's open space armature and green infrastructure. This category reflects existing ownership of property, generally over 10 acres in size, by the municipalities, townships, park districts, the Forest Preserve District, and other public bodies. These existing open space and green infrastructure areas provide a framework for the provision of additional open space and the expansion of green infrastructure.

The open space and green infrastructure areas relate directly to the various functions previously discussed in the plan. They range in size and function from small, neighborhood playgrounds providing healthy, active recreational opportunities to large and extensive forest preserves offering wildlife habitats, natural area protection, and passive recreational pursuits.

## **Institutional/Private Open Space**

This category includes a number of private and institutional property ownership. Representative areas are the McGraw Wildlife Foundation, Fermi National Accelerator Laboratory, Mooseheart, and the various youth camps. Although these areas may not be generally accessible to the public, they do provide a number of ecological functions and the plan recommends connecting them to other open space and green infrastructure areas when feasible.

These lands include areas providing visual open space and community separation, preserving important woodlands and wetlands, protecting critical wildlife habitats, and offering important scientific, cultural, and educational opportunities to the residents of Kane County. It is important that the County communicate with the various owners of these lands regarding their proper maintenance and management.

## **Proposed Open Space**

This category includes areas recommended for both public and private open space and green infrastructure uses. The provision of additional open space and green infrastructure has historically been and continues to be a major priority of the County's planning program. The areas indicated could become either major additions to existing public open space and green infrastructure or remain private and still serve as linear connections between large areas of open space.

Open space and green infrastructure provide a number of valuable ecosystem functions. The remaining wetlands in the County are an important element of the open space and green infrastructure network. It has been recognized that wetlands provide important aquifer recharge, water quality and wildlife habitat functions. These functions become increasingly important as populations

increase and development occurs. The 2040 Land Use Map recognizes that the County's remaining wetlands be protected.

The plan recognizes that not all the land identified in this category is available, appropriate, or within the means of public agencies to acquire. It is recommended that portions of the open space and green infrastructure network that cannot be acquired by public agencies be preserved as homeowner association lands, as conservation easements, or if appropriate, as private open space. The areas indicated as important linkages, especially in areas of the County with working agricultural lands, are critical to the County's green infrastructure network. These linkages can be preserved with the help of conservation programs, such as the USDA-NRCS Conservation Reserve Program and Kane County's Farmland Protection Program. Best management practices should be encouraged along creeks, forested areas and adjacent to other high quality natural resources.

The 2040 Land Use Map indicates areas for potential future open space and green infrastructure in the form of large tracts, linear greenways, and recreational areas. While the areas indicated are a significant increase in the County's existing open space and green infrastructure, it is not intended to limit the locations or amount of open space and green infrastructure that could be achieved by the year 2040. This proposed open space and green infrastructure armature can easily be expanded as additional natural, recreational, or water resource management sites and connecting greenways become available.

## **Agriculture**

The agricultural category applies to extensive areas on the 2040 Land Use Map. These areas generally contain priority farmland or farmland of statewide importance as defined by the Illinois Department of Agriculture. Some of the land in the agricultural category is also used for farmsteads, very low density residential uses or small specialty farms, community based agriculture and other means of growing fresh produce, meat and animal products for local consumption. These uses provide fresh and healthy food options for local farmers markets, grocery stores, restaurants and personal consumption. A long standing strategy of the 2040 Plan is to prevent the conversion of these areas to non-agricultural uses. The plan recognizes that some of the land in the agriculture land use category is not well suited for agriculture because of soil productivity, topography, vegetation, man-made barriers, etc., and, therefore, could be more suitable for other purposes. Further, the plan recognizes that many farmers and agricultural landowners may wish to create an additional lot or erect a dwelling unit for a family member on a portion of their land which is indicated as agricultural. However, any new lot would be subject to review according to the F-1 Rural Residential criteria of Section 8.2-3 and the factors of Section 8.2-4. An overriding policy of Kane County is to support agriculturalists,

on the land they operate, thereby enhancing the prosperity, efficiency and continued long-term health of agricultural activities in Kane County.

With respect to these types of situations and where clear and convincing evidence is provided, Kane County policy supports individual residential land uses on property that is adequately suited for the intended use; the soils are suitable for wastewater disposal; the use will not impair the drainage of surface or sub-surface water; access will not create dangerous traffic conditions or congestion; the use will not be injurious to the use and enjoyment of other property or diminish property values in the area; and the use will not interfere with normal agricultural practices on adjoining lands. Section 8.2, F-1 District, of the Kane County Zoning Ordinance contains additional guidelines and criteria for establishing limited, rural residential land uses.

This category also provides for limited agribusiness, farm support services, and other related uses that are dependent upon, or closely allied to, modern agricultural practices. Kane County recognizes that prime farmland can be best utilized as agricultural land when supported by a full range of agribusiness and farm services in the immediate area. Any proposed uses of this nature would be evaluated by the same criteria listed in the preceding paragraph.

### **Agricultural Business**

This category provides for the proper location and regulation of agriculturally related sales, services, processing, research, warehousing, and marketing activities, as well as other related uses needed by, dependent upon, or closely allied to the agricultural industry. Agricultural Business land uses may be located in or adjacent to the Agriculture area depending on the specific use, proximity to the agricultural sector they serve, access to transportation and shipping infrastructure, and the suitability of the land for the proposed use. For this reason, only existing Agricultural Business uses are indicated on the 2040 Land Use Map.

### **Protected Agriculture/Limited Development**

This category applies to land that has been approved by the Kane County Board for a unique conservation development in a working farm setting. It allows for clustering of development on a portion of the land area while permanently protecting the remainder of the land for agriculture and open space. Protected Agriculture/Limited Development may be considered according to the criteria included in the Built Environment Chapter. For this reason, only areas approved and zoned for Protected Agriculture/Limited Development are indicated on the 2040 Land Use Map.

## **Countryside Estate Residential**

The areas indicated on the 2040 Land Use Map in this category are generally those which are characterized by rolling, moraine hills separated by wetlands or small creeks and with large areas of woodlands and other native vegetation. These areas are often adjacent to existing low-density residential areas, may already have a limited degree of scattered, estate-type development, and sometimes include land used for equestrian activities or serve as a low density transition to important agricultural and green infrastructure resources.

The plan recommends establishing low-density criteria for future developments to preserve the character, wildlife base, and natural features of these areas. The density and lot size of each individual development should be determined by the physical characteristics previously stated, the trend and character of development in the surrounding area, soil suitability for septic systems, and significant open space and green infrastructure preservation. The gross density should not generally exceed an average of one dwelling unit per four acres of land.

## **Rural Residential**

Rural Residential areas designated on the map encourage an infill strategy between and adjacent to existing rural residential developments where prime agricultural lands will not be taken out of production. Extensive areas of rural Kane County have been approved for residential use with a one-acre minimum lot size and gross density of generally about two acres per dwelling unit.

Densities of any new proposed subdivisions in the areas planned for rural residential development should be based on prevailing County standards and regulations, surrounding densities, soil suitability for septic systems, as well as preservation of natural features, preservation of healthy, native trees and the character of the area. County review of subdivision proposals in these areas should also consider the rate of development to ensure that it is consistent with the ability of the townships and other local taxing bodies to provide an adequate level of service to new residents.

## **Resource Management**

Resource Management is a land use category that supports municipal and County compact, mixed use growth opportunities while emphasizing wise management of land and water resources. The Resource Management category applies primarily to land within the Critical Growth Area. Planned land uses within the Resource Management category can accomplish the goals of both municipal and County land use plans. It is important to emphasize that much of the growth in the Resource Management category will be the result of municipal

annexations and land use decisions and, to a lesser extent, approval by the County as unincorporated development.

The criteria used for designation of the Resource Management category shown on the 2040 Land Use Map include, but are not limited to, the following:

- Locations primarily within the Tyler, Ferson-Otter, Mill, and Blackberry Creek watersheds tributary to the Fox River. Portions are also located within the Kishwaukee River drainage basin.
- Locations generally west of Randall Road that will be subject to growth and development pressures during the next 30 years. Existing municipal plans already have designated significant portions of the Resource Management category for future development.
- Locations that will be served by community sewer and water facilities. Most of the areas designated for Resource Management are located within existing boundaries or planned expansions of Facility Planning Areas where sanitary districts, water reclamation districts, or municipalities operate sewer and water facilities. However, some types of developments with low waste water generation in Resource Management may rely on septic systems and private wells.
- Locations related to transportation and transit opportunities. This includes proximity to existing or planned Metra stations or other transportation hubs that provide mobility choices.
- Locations containing mineral resources, primarily in the form of sand and gravel, subject to extraction as a valuable economic and natural resource. Reclamation of mined areas for residential or open space uses should place an emphasis on responsible land and water resource management.
- Locations where compact, mixed use development can be connected to existing and/or future land uses and transit opportunities to create healthy, livable and sustainable communities.

The purpose of Resource Management is to provide opportunities for the implementation of livable, sustainable and healthy development that respects the character and carrying capacity of the land. In the Resource Management category, land uses and densities will vary. Small portions will develop as countryside estate and rural residential developments with the respective densities of those map categories. Others will develop as master-planned communities with densities similar to or even greater than the successful developments of Fox Mill and Mill Creek. Developments under municipal jurisdiction may develop at higher densities based on their adopted plans, the trend and character of the area, and environmental limitations. The density of a

particular development where the County Board will be responsible for granting zoning should be based on prevailing County standards and regulations, housing needs, surrounding use and densities, walkability, healthy community design, soil suitability, preservation of natural features, preservation of healthy, native trees, storm water Best Management Practices, and the trend and character of the area.

Developments in the areas designated Resource Management must preserve and enhance open space and green infrastructure. At least 40% of the gross area of each planned unit development within Resource Management should preserve open space that protects the environment, provides recreational opportunities, creates a transition from the city to the countryside, preserve and protect water resources and ecosystems and be based on integrated water resource management principals.

### **Urban Neighborhoods/Mixed Use Infill**

Urban Neighborhoods/Mixed Use Infill is a land use category located within the Sustainable Urban Area. This category includes existing residential neighborhoods to be preserved and enhanced as well as areas for municipal and County growth and redevelopment opportunities while utilizing existing or planned expansion of infrastructure including sewer, water, transportation and services. Uses within the Urban Neighborhoods/Mixed Use Infill category can accomplish the goals of both municipal and County land use plans. It is important to emphasize two things:

1. That much of the new growth and redevelopment in the Urban Neighborhoods/Mixed Use Infill category will be the result of municipal annexations and land use decisions and, to a lesser extent, approval by the County.
2. That some of the existing unincorporated residential neighborhoods will continue to be under the County's jurisdiction. Opportunities for the extension of sewer and water, to improve storm water drainage and other infrastructure items should continue to be the common goals of the County, townships and municipalities to continue to improve and enhance these established neighborhoods.

The criteria used for designation of the Urban Neighborhoods/Mixed Use Infill category shown on the 2040 Land Use Map include, but are not limited to, the following:

- Locations in the Sustainable Urban Area. Existing municipal plans already have designated significant portions of the Urban Neighborhoods/Mixed Use Infill category for future development and redevelopment. Existing County policies seek to preserve and enhance existing neighborhoods.

- Locations that may be served by community sewer and water facilities. Most of the areas designated for Urban Neighborhoods/Mixed Use Infill are already served by or adjacent to sanitary districts, water reclamation districts, or municipal operated sewer and water facilities.
- Locations that increase or improve mobility choices. These include proximity to existing or planned Metra stations, the Randall /Orchard Road Corridor or other transit hubs, transit stops, and/or improve access to bicycle/pedestrian connections.
- Locations where existing unincorporated residential neighborhoods exist and it is desirable to preserve and enhance them to be livable, sustainable and healthy communities. Examples of such areas include Algonquin Shores, Lake Marion, Valley View, and a number of neighborhoods in Aurora Township.

The purpose of Urban Neighborhoods/Mixed Use Infill is to protect and improve existing residential neighborhoods and identify opportunities for the creation of additional livable, sustainable, and healthy neighborhoods and communities. Existing neighborhoods should be preserved and enhanced through housing rehabilitation, enforcement of property maintenance and zoning ordinances, improvements to infrastructure, increased mobility options and access to parks and recreation.

New growth should generally be part of a municipal annexation process and be compact, mixed use development and redevelopment that meets municipal and County needs for housing, commerce and employment while respecting the trend and character of surrounding existing development and neighborhoods. In this category, land uses and densities will vary. New construction and redevelopment under municipal jurisdiction may be at higher densities based on their adopted plans, the trend and character of the area, and infrastructure limitations. The density of a particular development or redevelopment where the County Board will be responsible for granting zoning should be based on prevailing County standards and regulations, surrounding use and densities, availability of sewer and water, and compatible with existing residential neighborhoods. Developments in the areas designated Urban Neighborhoods/Mixed Use Infill should provide or be within walking distance to open space and recreational opportunities and provide a built environment that creates or improves a livable, walkable, sustainable and healthy neighborhood or community.

### **Commerce/Employment**

Commerce/Employment is a new category that combines and replaces the following former categories:

- Commercial,

- Crossroad Commercial
- Office/Research
- Industrial, Light Industrial, Warehousing

This new combined category reflects the need for non-residential land uses to be centers for commerce and to generate local employment opportunities. The suitability of various uses within this category for specific locations depend on the trend and character of the adjacent land uses, availability of infrastructure and the economic development needs of the local community.

The areas designated for Commerce/Employment development are based primarily on municipal plans and existing land uses. The County recognizes the importance of balancing future residential and population growth with the generation of additional employment opportunities. This category encourages a mix of uses, compact design, place making, pedestrian, bicycle, and other transportation alternatives to link jobs with housing. Most of the areas recommended for Commerce/Employment land uses are along major County or municipal highways and streets and are close to population concentrations. Access point control and aesthetic design criteria requirements will be critical concerns to prevent inefficient traffic patterns and unsightly strip commercial development. The County's management of these land uses will need to be carefully coordinated with the municipalities. It is anticipated that most of this type of development occurs only as the properties are annexed and provided with municipal services.

### **Transportation Corridors**

Two major transportation corridors are indicated on the 2040 Land Use Map. These corridors are either already within municipal boundaries, within municipal mile and a half jurisdictional areas or are expected to be developed primarily through municipal annexation in conjunction with the extension of sewer and water.

The Randall / Orchard Road Corridor – The corridor has been studied to determine the land use conditions/patterns that are needed to support a Bus Rapid Transit (BRT) corridor and how incremental implementation of elements of a BRT corridor can be accomplished. While it is anticipated that new land uses and redeveloped areas at future station areas and stops would be approved through municipal decisions, Kane County will have a major role in coordinating station area access improvements to the County highway right-of-way in order to implement a BRT system. Kane County will coordinate with the municipalities and Pace officials in order to develop a Primary Transit Network (PTN) policy to coordinate transit and land uses. A PTN is a network of transit corridors planned and developed to achieve the greatest transit ridership and community benefit.

The vision for the Illinois Route 47 Corridor is to encourage a healthy population and economy through the promotion of sustainable land use practices, complete streets, and smart growth principles. The Illinois Route 47 Corridor presents an opportunity for local agencies along the corridor to work collectively to mitigate the impacts of growth and work towards commonly defined objectives as defined in the IL 47 Corridor Planning Study. The study aimed to address the following objectives established by the stakeholders:

- Keep Traffic Moving
- Coordinate Local, Regional, and State Decision-Making
- Improve Economic Development
- Encouraging Growth Nodes that Promote Transit and Walking
- Protect Natural Areas
- Promote Placemaking
- Strengthen Existing Developed Areas

Recognizing that major roadway expansions are expensive and unlikely, local and regional coordination should focus on addressing the challenges associated with accommodating growth in the corridor with the land use practices and tools outlined in the study's toolbox. Furthermore, IL 47 travels through agricultural areas as well as connecting the corridor's regional centers of Huntley, Elburn and Sugar Grove. The County recognizes that more than conventional boundary agreements are needed to address the challenges associated with growth in the corridor. The formation of a corridor planning council, consisting of the governmental agencies that influence the Corridor, was seen as an important strategy to promote regional coordination.

The purpose of the state funded IL 47 Corridor Planning Study was to provide municipalities and other government agencies with an understanding of the planning challenges associated with growth and to recommend strategies or tools that can be used to address these challenges and included broad participation and input from the municipalities along Illinois Route 47. It is of paramount importance the County prevents premature development of unincorporated areas to uses inconsistent with County or municipal plans by requiring annexation prior to future urbanization. Once annexation and extension of utilities have occurred, the municipalities can approve developments consistent with the design guidelines and toolkit included in the Illinois Route 47 Corridor Study as well as to create livable, sustainable and healthy communities.

## **Water**

The 2040 Land Use Map highlights the Fox River as the County's most significant water resource. The river communities take their character and identity from the Fox River. The plan recommends the river continue to serve as the focus for their character and identity. It is also recommended that the Fox River Watershed be protected and improved to provide a clean, drinkable water

supply and recreational opportunities. The lakes and ponds indicated on the map are also important water resources that should be protected and improved.

### **Municipality**

30 incorporated municipalities have all or portions of their incorporated area within the borders of Kane County. These communities contain substantial infrastructure, a variety of densities, mixed land uses and major commercial and employment centers. They provide a number of services to their residents including fire and police protection, and public water and sewer service. The municipalities also serve as the primary social, cultural and activity centers of Kane County. Although municipalities have land use and zoning authority separate from the County, their collective land use decisions have a significant impact and effect on the implementation of the 2040 Plan.

### **Regional Land Uses Not Depicted on 2040 Land Use Map**

There are specific land uses that are regional in scope and fall under federal or state regulations. Local zoning regulations are not applicable to the siting of such land uses. Regional pollution control facilities such as landfills and public utility transmission facilities (high power electric lines) fall into this category and therefore are not depicted on the 2040 Land Use Map.

# 2040 LAND USE

