CMAP



COMPREHENSIVE REGIONAL PLAN

Full Version October 2010

2020

GO TO 2040
Comprehensive Regional Plan

CHICAGO METROPOLITAN AGENCY FOR PLANNING



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Executive Summary

GO TO 2040 is the long-range comprehensive plan for the Chicago region that includes Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will counties. This Executive Summary is meant to guide the reader through the plan, which covers a wide range of issues, from transportation finance to open space preservation to workforce development.

The Executive Summary describes GO TO 2040's approach to each of the plan's chapters, with links to specific sections of the full plan. Following this chapter, the Introduction and a chapter on Challenges and Opportunities will familiarize readers with the purpose of the plan and the major issues that it seeks to address. The remainder of the plan presents and explains its recommendations for action. The recommendation sections are "modular" — that is, each section stands on its own — so the reader can choose from among these with no fear of reading out of sequence.

About CMAP and the GO TO 2040 Plan

In 2005, with support from local officials and other stakeholders in northeastern Illinois, the Illinois General Assembly formed CMAP to integrate planning of land use and transportation for the seven counties.

In addition to that State of Illinois mandate, CMAP is designated by the U.S. Government as the region's Metropolitan Planning Organization (MPO), responsible for reviewing and approving projects that use federal transportation dollars. The agency's planning responsibilities also include housing, economic development, open space, the environment, and other quality-of-life issues.

GO TO 2040 is the region's official comprehensive plan, intended to help the many communities of metropolitan Chicago face challenges that are strikingly similar but seldom identical. Implementing the plan's recommendations will help secure sustainable prosperity for this generation and for generations to come. Recognizing that "business as usual" is not acceptable, stakeholders and decision makers across northeastern Illinois have partnered with CMAP to develop GO TO 2040 as the region's response to its challenges. The plan builds on three years of work, including goal-setting, technical analysis and research, public engagement, and development of shared priorities. The agency's committee members and many partner organizations played a significant role along the way in developing the plan's recommended policies and investments.

More details on the mission of CMAP *and the process of developing* GO TO 2040 *are in the Introduction chapter, which begins on page 25 and is available for download at* **http://goto2040.org/introduction**.

About the Challenges and Opportunities Chapter

The purpose of GO TO 2040 is to build on the region's assets, identify its shortcomings, and recommend actions that will help enhance and sustain the region's economic vitality and global competitiveness.

The plan's chapter on Challenges and Opportunities serves as a preview of the subsequent chapters' four main themes and their recommendation sections.

As we look forward to 2040, the metropolitan Chicago area is poised to prosper in an increasingly interconnected world. Our region is among the nation's few global economic centers, and assets include our diverse mix of industries, our vast physical infrastructure and open space, our preeminent educational, cultural, and arts institutions, and our network of unique, identifiable communities.

These assets also come with tremendous challenges. Job growth in the region has largely stagnated, and there is evidence that the region is not attracting and retaining the kinds of businesses it needs to remain competitive. The quality of our transportation system has fallen behind other places across the globe, many of which have invested significantly to create modern, world-class systems. Serious, systematic inequities persist in access to the region's assets, such as good schools, decent jobs, safe and healthy neighborhoods, and stable housing. Environmental challenges such as climate change, water supply and quality, and loss of biodiversity will have widespread negative consequences if not addressed proactively. The recommendations of GO TO 2040 address these challenges and create opportunities to build a more prosperous, sustainable region.

This full chapter begins on page 33 and is available for download at **http://goto2040.org/challenges_opportunities**.

About the GO TO 2040 Theme Chapters and Recommendation Sections

Based on the region's existing challenges and opportunities, the GO TO 2040 plan contains 12 high-priority recommendation sections, organized by four theme chapters.

Livable Communities

- **Achieve Greater Livability through Land Use and Housing**
- **Manage and Conserve Water and Energy Resources**
- **Expand and Improve Parks and Open Space**
- **Promote Sustainable Local Food**

Human Capital

- **Improve Education and Workforce Development**
- **Support Economic Innovation**

Efficient Governance

- **Reform State and Local Tax Policy**
- **Improve Access to Information**
- **Pursue Coordinated Investments**

Regional Mobility

- **Invest Strategically in Transportation**
- **Increase Commitment to Public Transit**
- **Create a More Efficient Freight Network**

Each recommendation section includes Implementation Action tables that describe strategic steps that are needed to implement GO TO 2040 in each of these areas. In addition, the Regional Mobility section includes an overview of the capital investments that GO TO 2040 recommends.

Beyond these high-priority recommendations, there are many other actions that units of government, nonprofit groups, businesses, or even private individuals can take that support the principles of GO TO 2040. Examples of these are presented in the Context and Best Practices chapter, which emphasizes that implementation of GO TO 2040 requires supporting actions across a variety of groups, ranging from the individual resident or business to the federal government.

About the Livable Communities Chapter

This chapter of GO TO 2040 addresses the need to plan more effectively for the livability of communities across the region's seven counties. Recommendation areas include land use and housing, water and energy conservation, parks and open space, and local food.

"Livability" is an important concept that is used extensively throughout the plan, but defining it is a challenge simply because people's values and priorities are so diverse. However, when residents across the region describe their values and priorities, certain commonalities of livability emerge. Livable communities are healthy, safe, and walkable. Livable communities offer transportation choices providing timely access to schools, jobs, services, health care, and basic needs. They offer their residents opportunities for recreation, participation in the arts, and involvement in the governance of their communities. Livable communities are imbued with strength and vitality, features which emerge from preserving the unique characteristics that give our diverse communities "a sense of place."

Achieve Greater Livability through Land Use and Housing

This section is intended to help and encourage local governments to apply principles of livability when they make development decisions in their communities. The implementation of these principles will vary across the region, requiring sensitivity to the unique context of each community. CMAP upholds the long-standing Illinois tradition of local control over zoning and land-use decisions. Yet, within that framework exist many opportunities for collaborative planning across jurisdictions in pursuit of common goals.

The building blocks of local planning are comprehensive plans, consistent ordinances and other regulations, and trained decision-makers, and GO TO 2040 recommends a number of actions that help local governments to strengthen each of these. The plan recommends that CMAP and its regional partners should offer technical assistance to communities that seek to implement principles of livability. Particular attention is given in the plan to assisting communities to plan for a range of housing options in locally appropriate ways. This technical assistance should be supplemented with grants for local planning or ordinance updates through a streamlined grant program that combines several existing funding sources. GO TO 2040 also recommends the creation of a dedicated source of funding that can be used for infrastructure investments that help to implement local plans.

The plan recognizes the value of collaboration between communities to develop solutions for common problems. Councils of Government (COGs) and counties should play a significant role in encouraging and facilitating local collaboration, with CMAP and other regional agencies acting in support. GO TO 2040 includes a particular focus on the interrelationship of transportation, land use, and housing, and encourages local governments to plan for these systems in an integrated way.

This full section begins on page 60 and is available for download at **http://go to2040.org/land_use**.

Manage and Conserve Water and Energy Resources

Water and energy resources play an obvious, yet often overlooked, role in sustaining economic prosperity and environmental health in our seven-county region. Though Lake Michigan provides clean, inexpensive water, the lake's capacity to serve the region's need is not limitless. Other parts of the region that rely on groundwater face increasing expenses and environmental side effects. Likewise, spikes in price for natural gas and gasoline in recent years serve as a reminder that current energy resources are finite and that their cost will increase as they become scarcer. Climate change is among the top environmental threats confronting the planet, and is highly related to our use of energy. For these reasons, conservation of energy and water is a top priority for GO TO 2040, and it makes recommendations for conservation of both resources. The plan also recognizes the nexus between water and energy (i.e., the processing of water uses energy, and the production of energy uses water, so conservation is mutually supportive).

The plan's approach to energy conservation is based on the fact that most energy in the region is generated to heat, cool, and power homes and businesses, with the transportation system also being a major consumer of energy. GO TO 2040 recommends programs to retrofit buildings for increased energy efficiency, and recommends that local governments and developers maximize the energy efficiency of new buildings. The plan focuses primarily on actions that can be taken locally or regionally, but also calls for increased leadership by the federal government in addressing national issues such as climate change.

GO TO 2040 also recommends a number of actions to better conserve and manage water resources, including a variety of water conservation measures such as using more efficient appliances in homes or using full cost water pricing by utilities. Integrating water conservation goals with land use planning is recommended, and it involves preserving open space in aquifer recharge areas and using green infrastructure to manage stormwater, among other activities. Finally, recommendations include shifting groundwater dependent communities to surface water supplies and consolidating some of the region's water utilities.

This full section begins on page 82 and is available for download at **http://goto2040.org/energy_water**.

Expand and Improve Parks and Open Space

The region's network of open space is a major asset. Access to parks and open space is part of what makes up quality of life, and open space also has a crucial role in flood protection, public health, drinking water supply and quality, and adaptation to climate change. GO TO 2040 recommends maintaining and improving our existing assets, and also making significant, criteria-based investments in expanding parks and open space.

The GO TO 2040 plan's approach to expanding our parks and open space is three-fold. First, the region should provide more parks in developed areas to increase park accessibility and equity. The total acreage required for new parks is not extremely high, but it is challenging to provide land in already developed places where it is needed most, and the region should work to provide all residents with at least a minimum standard of park access by 2040. Second, the region should preserve the most important natural areas in the seven counties as conservation open space. An additional 150,000 acres of land should be preserved across the region over the next 30 years through a collaborative and multi-organizational, public-private approach. The goal is to conserve, through coordinated investment, a network of land and water that protects biodiversity — the green infrastructure network — that follows waterway corridors, expands existing preserves, and creates new preserves in the region. And finally, the region should provide functional connections, or greenways, between parks and preserves for both recreational use and ecosystem function.

This full section begins on page 116 and is available for download at **http://goto2040.org/parks_open_space**.

Promote Sustainable Local Food

"Local foods" are products available for direct human consumption that are grown, processed, packaged, and distributed within our seven counties or adjacent regions. GO TO 2040 includes recommendations that emphasize the important opportunities presented by local production of food. The benefits are many, including the preservation of farmland and the inclusion of agriculture in urban settings from which it is usually absent. A local food system can include a variety of production options, from backyard and community gardens to commercial farms and combinations in between.

In addition to production, equitable access to fresh, nutritious, and affordable food is also an important GO TO 2040 emphasis. The plan calls for eliminating "food deserts" (areas in the region without nearby retail outlets that carry fresh food), linking anti-hunger programs to local food production, and increasing public awareness of the role that access to fresh, nutritious food plays in residents' health.

This full section begins on page 141 and is available for download at **http://goto2040.org/local_food**.

About the Human Capital Chapter

This chapter of GO TO 2040 addresses the diverse factors that shape the region's workforce and business environment. It includes recommendations on education, workforce development, and innovation.

Improve Education and Workforce Development

The quality of our workforce is one of the most important factors driving the region's future prosperity. Unfortunately, student achievement and overall educational attainment in our region are lacking and in many cases getting worse. Access to high-quality educational opportunities remains inequitable, and our workforce development systems are complex and often not designed with employers' needs in mind. GO TO 2040 recommends that the region's education and workforce development systems be improved to create a high-quality labor force for our future. This requires improving existing data to better measure progress, evaluate programs, and identify growth areas. The plan calls particular attention to coordinating between the education and workforce development systems and the needs of employers, and identifies an important role in this regard for community colleges and other organizations that offer workforce training.

This full section begins on page 164 and is available for download at **http://goto2040.org/education_workforce**.

Support Economic Innovation

Economic innovation is the process of conceiving and developing new products, technologies, and business models. The outputs of innovation — goods and services that are faster, cheaper, and better — benefit consumers and businesses in a multitude of ways. The regional economy can gain substantial benefits from innovation through the creation of high-paying jobs, specifically in the "knowledge" and high-tech sectors. While the metropolitan Chicago area is certainly imbued with the types of assets to support innovation, the available data indicate that the region has been underperforming in its success at commercializing technologies and processes. GO TO 2040 seeks to increase innovation that helps the region to remain globally competitive and to retain world-class talent.

Strategies targeting clusters of regional specialization can help address the fragmentation and unfocused investment that sometimes undermines the emergence of new marketable products and technologies. Better systems for collecting, tracking, and analyzing important measures should also be pursued. This includes both outcome indicators of innovation, like number of businesses and jobs in key sectors, as well as the success of particular programs and financial incentives, which should make public sector investment decisions more efficient. The region needs to create better linkages and training among diverse groups, especially between researchers and entrepreneurs.

Lastly, our region needs to create a supportive culture to support the experimentation, creativity, and risk-taking necessary to produce commercial innovations; it also needs a regulatory environment that does not create barriers to economic innovation.

This full section begins on page 180 and is available for download at **http://goto2040.org/innovate**.

About the Efficient Governance Chapter

This chapter of GO TO 2040 addresses the need for greater efficiency and transparency of public decision-making processes, with the goal of having efficient government units that make informed decisions. Recommendation areas include tax policy, access to information (data sharing), and coordinated investment.

Reform State and Local Tax Policy

State and local tax systems in Illinois and the metropolitan Chicago region often fail to satisfy the most important principles of good tax policy: efficiency, equity, and transparency. State and local tax policies should encourage local decisions that make effective use of land, generate good jobs, and trigger sustainable economic activity. However, our tax systems frequently distort choices about land use, rather than allow markets or quality-of-life factors to guide such decisions. GO TO 2040 recommends that a task force reporting to the CMAP Board be created to analyze state and local tax policy issues.

The current sales tax structure, which creates an incentive for local governments to attract retail land use rather than other economic activities, should be addressed. Sales tax rates in the region also remain very high, but the base remains very narrow, as it is imposed primarily on goods but not services, which make up a larger portion of the economy. Expanding the sales tax to the service sector would broaden the tax base, which would allow for rates to be lowered. Statutory and constitutional limitations on the property tax, including tax caps, differing assessment classifications, and exemptions, should be addressed and the system should be made more predictable and transparent. The region also must actively attend to large disparities in local tax capacity, and especially the ramifications on school funding caused by high reliance on the property tax.

This full section begins on page 202 and is available for download at **http://goto2040.org/tax_policy**.

Improve Access to Information

Among GO TO 2040's highest priorities is the open sharing of information — a core function of CMAP, which since its inception has been committed to providing high-quality information and analysis to facilitate regional decision making. In partnership with the Chicago Community Trust, CMAP will launch the Regional Indicators Project website, MetroPulse, making important data sets available and serving as an online hub for data about the region.

CMAP will also lead by helping other organizations to share their data. The agency will define best practices for transparency and data sharing for the region's units of government, based on an assessment of other regions and input from the State of Illinois, counties, municipalities and other governmental bodies that possess data. Data sharing should enable easy access to real-time, up-to-date public information, defined as any government data that does not jeopardize personal privacy or public safety. GO TO 2040 upholds the principle that governments operate most effectively when they have and provide access to complete, accurate, and timely information — something that residents increasingly expect.

This full section begins on page 218 and is available for download at **http://goto2040.org/access_info**.

Pursue Coordinated Investments

This section of GO TO 2040 builds on the plan's other recommendation areas, each of which requires a more coordinated approach by various levels of government for service delivery, funding allocations, programmatic and regulatory authority, and increased efficiencies. It emphasizes the importance of taking a regional approach, in light of metropolitan areas' leading role in the U.S. economy, which should be reflected in federal and state policies and programs. Comprehensive regional plans like GO TO 2040 should guide investment decisions through identified regional priorities and outcome-based performance measures.

GO TO 2040 makes connections among policy areas that had previously been compartmentalized. To realize these plans, existing barriers among federal and state agency goals need to be removed and planning and grant requirements need to be revised to achieve comprehensive solutions to problems. Nongovernmental organizations also can play an important role, both in coordinating among local governments and organizing regional responses to investment opportunities.

With a region as large and diverse as northeastern Illinois, implementation of the plan's recommendations will require that leaders recognize the interdependence of our communities and work across political boundaries to address issues facing multiple jurisdictions. Our local governments should pursue efficiencies through increased coordination, communication, and, where appropriate, service consolidation.

This full section begins on page 229 and is available for download at **http://goto2040.org/coordinated_investment**.

About the Regional Mobility Chapter

This chapter of GO TO 2040 addresses the movement of people and goods within the region. Recommendation areas include transportation finance, public transit, and freight. Major transportation capital projects are also covered in this section.

Invest Strategically in Transportation

Our vast transportation network is key to the region's prosperity, but it has fallen behind other industrialized parts of the world, many of which have invested significantly to create, operate, and maintain modern, world-class systems. The GO TO 2040 plan calls for the federal government, the State of Illinois, transit agencies, and local governments to develop innovative financing to support a world-class transportation system for this new century. Transportation user fees should better reflect the true costs of congestion, which include lost time and fuel, decreased productivity, inefficient freight movements, and pollution. Implementation of congestion pricing on various parts of the transportation network will enhance mobility and also help to fund needed improvements. Certain existing revenue sources like the federal and state gas tax should be bolstered to bring a halt to the continuing declines in their purchasing power. At the same time, alternatives to traditional financing mechanisms must be explored now to prepare for vehicles' becoming more fuel-efficient over time.

Investments should be prioritized more effectively at every level of government, with particular emphasis on achieving regional objectives. Funds for transportation need to be allocated more wisely, using performance-driven criteria rather than arbitrary formulas. Transportation implementers should prioritize efforts to maintain and modernize the existing system. Expensive new capacity projects should be built only if they yield benefits that outweigh their costs.

The region needs to unite around its transportation priorities, particularly regarding the construction of major capital projects recommended in GO TO 2040, which have been carefully evaluated to improve operations, access, and mobility. The "fiscally constrained" major capital projects, as required by federal regulations, have the highest priority to move toward completion. The high-priority major capital projects include a balance of transit, highway, and multimodal projects distributed throughout the region. Several themes can be seen in the prioritization of fiscally constrained projects. First, there are few "new" projects or extensions. The majority of the high-priority projects involve improvements to existing facilities. Second, there are a number of "managed lanes" projects or multimodal corridors. These are envisioned to incorporate advanced tolling strategies such as congestion pricing, transit alternatives like Bus Rapid Transit (BRT), or special accommodations for truck travel. Third, there is considerable public investment in transit. These priorities are consistent with the direction of GO TO 2040, which calls for investment in the existing system, use of innovative transportation finance methods, support for freight, and a focus on improving the public transit system. The projects that our region should pursue between now and 2040 are described in this section.

This full section begins on page 246 and is available for download at **http://goto2040.org/invest_transportation**.

Increase Commitment to Public Transit

GO TO 2040 seeks a world-class transit system in our region, making transit the preferred travel option for as many of the region's residents as possible. This requires attention to not only how transit operates, but how it is perceived. A system that functions well, with on-time and frequent service and seamless connections between modes, is a necessity. But so are features that make transit attractive, such as clean stations, modern transit vehicles, clear information, and easy pedestrian access. A strong transit system provides many benefits to our region; it provides alternatives to congested roads, reduces energy consumption and air pollution, supports reinvestment in nearby areas, and saves households the cost of owning and operating a car.

But to achieve these benefits, the financial issues facing the transit system must be solved. The region has not been investing enough in transit, leading to maintenance backlogs, and recently, service cuts. Additional funding is needed, and GO TO 2040 recommends implementing congestion pricing and increasing the state gas tax, and devoting a portion of the new revenue to transit. Rapid cost increases have been a problem for transit in recent years, and this too needs to be addressed to achieve a world-class transit system.

Land use planning and small-scale infrastructure improvements to support transit are a critical part of successful transit. GO TO 2040 supports transit oriented development (TOD), and seeks to broaden the definition of transit-supportive land use beyond areas around train stations; in considering transit-supportive land use, the plan includes support for bus service as well as rail. The plan recommends the expansion of funding and incentive programs to support transit-supportive local planning.

This full section begins on page 288 and is available for download at **http://goto2040.org/public_transit**.

Create a More Efficient Freight Network

Freight is a national, interstate commerce issue, and its efficient movement requires an interconnected system throughout our nation. GO TO 2040 calls upon the federal government to develop a vision, a plan, and funding to address freight nationwide. State, regional, and local actions are also needed to improve the efficiency of our freight system.

GO TO 2040 calls for the full funding and implementation of the Chicago Region Environmental and Transportation Efficiency (CREATE) program. CREATE is a public-private effort to make strategic rail improvements by reducing freight bottlenecks and raising operating speeds. In doing so, the project improves the economic competitiveness of the region's manufacturing and transportation industries.

Most freight moves by truck, so a serious effort to confront excessive Chicago-area shipping costs needs to address truck transportation issues. A program of truck transportation improvements, primarily operational rather than capital in nature, should be pursued to address the Chicago region's truck system issues.

To organize and improve public policy relating to freight, the region should explore creation of a self-financed Regional Freight Authority, with the ability to finance freight system capital improvements and to address public policy issues, including community impacts such as delays, safety, and noise.

This full section begins on page 305 and is available for download at **http://goto2040.org/freight**.

About the Context and Best Practices Chapter

While GO TO 2040's high-priority recommendations include many implementation actions, they are by no means a comprehensive treatment of everything that organizations or individuals in the region can do to implement GO TO 2040.

In other words, the high-priority recommendations are meant to spark, not limit, the implementation of the plan.

The purpose of this Context and Best Practices chapter is to provide a fuller context for the types of actions that help implement the plan. It does not provide specific, targeted recommendations for "who should do what," but it does broadly describe supporting actions. Best practices and case studies are used extensively to provide examples, and also to demonstrate that many actions that support the plan are already underway in metropolitan Chicago. Some of these examples may go beyond the plan's high-priority recommendation areas, while providing evidence that many of the actions that support the plan are already in place.

The following contextual categories represent types of stakeholders who are responsible for implementing the comprehensive regional plan. Each category includes its own range of decisions and actions, but all stakeholders need to work together to achieve the sustainable prosperity that we seek.

Federal Government

The federal government can support the implementation of GO TO 2040 through its investments and policies. Key issues for federal action include providing funding to support regional and local efforts that create livable communities, taking a leadership role on energy and climate change, improving the sustainability of transportation finance, creating a national freight policy, and coordinating investments and regulations between its many departments and agencies.

This full section begins on page 326 and is available for download at **http://goto2040.org/context/federal**.

State Government

The State of Illinois has wide discretion in terms of how and where dollars from both state and federal sources get spent. The state can best support GO TO 2040 by making performance-driven investment decisions in many areas — transportation, housing, and environment, to name a few. GO TO 2040 priorities where the state has a central role include open space acquisition, innovative transportation finance, education and workforce development improvements, and tax policy reform, among others.

This full section begins on page 336 and is available for download at **http://goto2040.org/context/state**.

Regional Authorities

Governmental organizations that work at the regional level tend to be involved in transportation, and in our region they include the transit agencies, Regional Transportation Authority (RTA), and CMAP. Beyond an obvious role in improving the transit system, these organizations can support local planning through funding and technical assistance. CMAP will play a major role in implementing GO TO 2040, including launching the Regional Indicators Project website to improve data availability in many areas; cooperatively setting regional priorities for transportation investment, open space acquisition, and other decisions; and leading the region's response to federal or state funding programs.

This full section begins on page 348 and is available for download at **http://goto2040.org/context/regional**.

Counties and Councils of Government

The region's seven county governments are critical to plan implementation in several ways. Many counties regularly produce long-range comprehensive plans that are similar to regional plans in their coverage and scope, and can connect regional ideas with local implementation. Counties can directly implement many GO TO 2040 recommendations concerning water and stormwater, transportation infrastructure, linking public health to the built environment, and others; in many parts of the region, they also provide technical assistance to municipalities on planning issues. Together with forest preserve and conservation districts, which are also organized at the county level, they are also leaders in preservation of open space and agricultural land. Councils of Government (COGs) are membership organizations of local governments, and their ability to convene and coordinate municipal leaders gives them an important role in plan implementation.

This full section begins on page 362 and is available for download at **http://goto2040.org/context/county-cogs**.

Municipalities

Municipalities are central to the implementation of GO TO 2040, especially its recommendations that deal with creating livable communities. Beyond their important responsibility for land use regulation, municipalities also maintain a large portion of the region's physical infrastructure, and are directly involved in creating community identity and livability, all of which are key elements of GO TO 2040.

This full section begins on page 373 and is available for download at **http://goto2040.org/context/municipal**.

Nongovernmental Organizations

Philanthropic organizations, civic groups, community-based nonprofits, membership organizations, and many other nongovernmental groups can help to implement the plan through research, advocacy, and financial support. GO TO 2040 priorities such as sustainable local food, workforce development, and economic innovation identify particularly important roles for these types of groups.

This full section begins on page 386 and is available for download at **http://goto2040.org/context/ngo**.

Development Community

The development community, including developers, realtors, financial institutions, architects, and others involved in private development decisions create much of our region's built environment, and it can play a significant role in implementing the plan recommendations related to livable communities.

This full section begins on page 392 and is available for download at **http://goto2040.org/context/development**.

Individuals

When added together, individual choices made by millions of people and employers have major impacts on our region. This section describes how these individual decisions affect plan implementation, and it identifies actions that individuals can take that will support GO TO 2040.

This full section begins on page 398 and is available for download at **http://goto2040.org/individual**.

About the Appendices

This section has links to other supporting documentation for GO TO 2040, which includes the following. See the Appendices for detailed descriptions.

GO TO 2040 Public Engagement

GO TO 2040 Strategy Papers

CMAP Regional Snapshot Reports

Major Capital Projects

Financial Plan for Transportation

Socioeconomic Validation and Forecasting Primer

Air Quality Conformity Determination

Travel Model Documentation

Introduction

Residents of northeastern Illinois deserve and expect a high quality of life, which depends on many diverse but interrelated factors. Our seven-county region has an enviable status as one of the world's great economic centers. It has abundant natural resources, including a magnificent system of parks, open spaces, trails, and waterways, with access to Lake Michigan for drinking water and recreation. It has a transportation system that enables mobility of people and goods, acting as the engine of jobs and prosperity.

And among all these assets, the residents of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will counties are themselves the region's greatest renewable resource. They constitute a diverse workforce that fuels economic development and sustainable prosperity, and their daily lives motivate and give meaning to all that occurs in metropolitan Chicago.

The region and its communities must build on and protect our many assets by planning collaboratively and comprehensively. Quality of life must not be taken for granted and is not uniform across our region. It needs to be preserved and improved, particularly in light of traffic congestion, economic uncertainty, housing insecurity, climate change, and other challenges that require a regional approach. These problems overlap, and so do their solutions, which largely depend on wiser use of resources such as land, energy, water, and funding for infrastructure.

What may at first appear to be obstacles are in fact opportunities for bold action, but that requires that the region set clear priorities and weigh a variety of tradeoffs involving policies and investments. As a region, we cannot solve every large-scale challenge at once. And certainly no organization or government entity can do it alone. But by acting in cooperation with one another, the region's municipalities and counties can assert a powerful vision with far-reaching benefits for their residents.

Put another way, **the region can no longer afford *not* to plan effectively**. CMAP was created five years ago because local officials and business leaders understood that reality. And the resulting GO TO 2040 comprehensive plan presents a set of clearly defined strategies to pursue the regional vision of sustainable prosperity for all residents. The plan serves as a sustainable roadmap for the region's future that will require changing the way in which major investment decisions are currently made.

Our region is expected to grow significantly by 2040, adding over two million people and more than one million jobs. Depending on how we plan for the future, the effects of this growth can be either positive or negative for our region and communities. By implementing the GO TO 2040 plan's recommendations, our region will reap significant and lasting quality-of-life benefits that include more livable communities, improved regional mobility, a highly skilled workforce, and efficient government that responds to the needs of residents.

GO TO 2040 is the region's long-range comprehensive plan to link transportation, land use, the natural environment, economic prosperity, housing, and human and community development. With a region as large and diverse as northeastern Illinois, CMAP chose to prepare a policy-based plan (dealing with the investments and the high-level choices that shape our region) as opposed to a land use plan (dealing with specific types of development in specific locations). This is an important distinction in terms of the plan's focus, the agency's future role, and overall implementation.

About CMAP

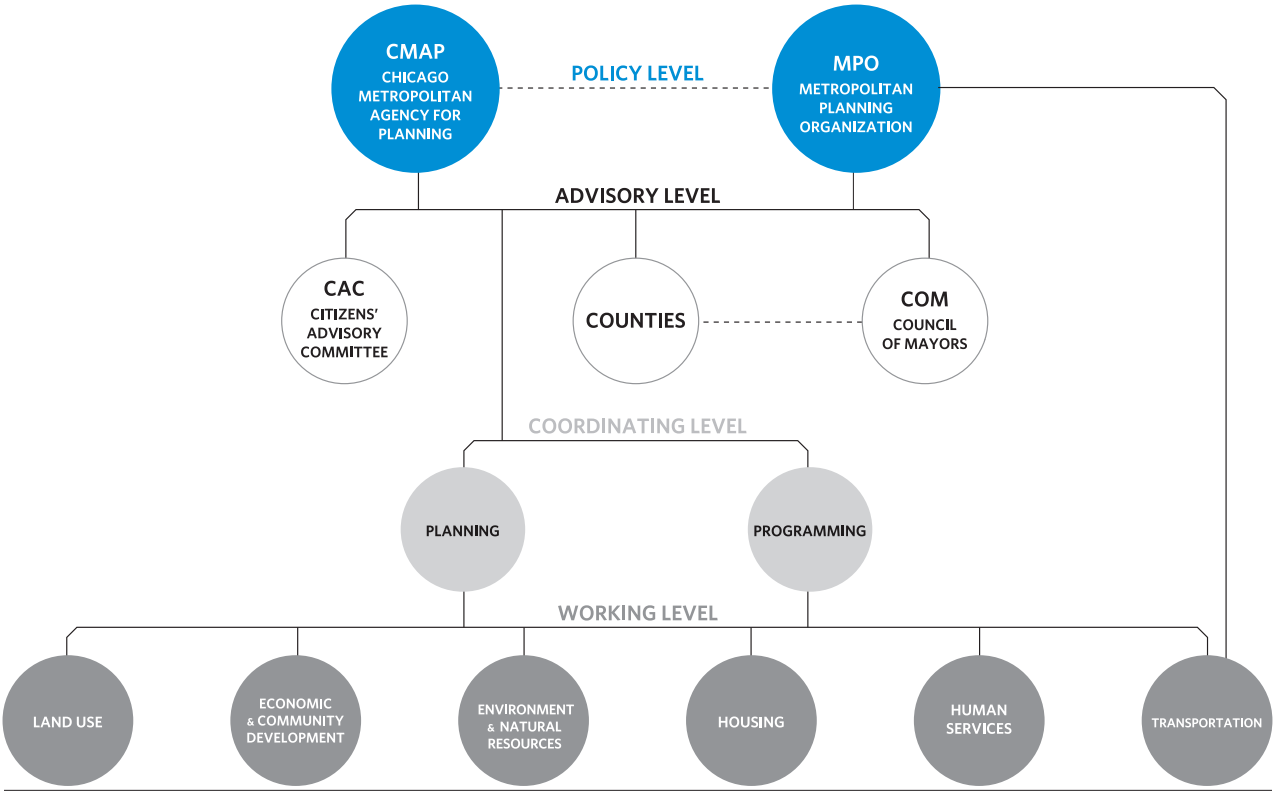
CMAP is the official regional planning organization for the seven counties of northeastern Illinois. The agency was created at a turning point for our region, as the business community and local elected officials recognized that many of the most pressing challenges are best addressed at the regional scale.

CMAP upholds the long-standing Illinois tradition of local control over zoning and land decisions. Yet, within that framework exist many opportunities for collaborative planning across jurisdictions in pursuit of common goals. The formation of CMAP was itself a prime example of such regional cooperation, and the agency has since sought to set high standards for collaboration, transparency, and accountability. Those virtues are important for building the support that will now be essential to the plan's implementation.

The agency was created by State of Illinois law (Public Act 095-0677) and is the federally designated Metropolitan Planning Organization (MPO). Together, these state and federal mandates require CMAP to conduct comprehensive regional planning, to program transportation funding, to provide technical assistance for communities, and to provide data resources for stakeholder organizations and residents across the seven-county region. The GO TO 2040 comprehensive plan has been prepared to fulfill and even exceed these requirements by encompassing the full range of issues that shape quality of life in the region.

The CMAP Board's membership[1] reflects the regional consensus that led to creation of CMAP, featuring balanced representation from across the counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will. CMAP has committees[2] at the policy, advisory, coordinating, and working levels that play integral roles in the agency's planning processes, including the development of the GO TO 2040 plan (see **Figure 1**).

Figure 1. CMAP committee structure



1 See http://www.cmap.illinois.gov/about/overview.aspx.

2 See http://www.cmap.illinois.gov/committees/all_committees.aspx.

About GO TO 2040

With the publication of the GO TO 2040 plan, our region will have a clearly defined framework to bring about the policy and investment changes that are needed to sustain metropolitan Chicago's economic competitiveness and quality of life for decades to come.

GO TO 2040 is intended to help the 284 municipalities and seven counties of metropolitan Chicago face challenges that are strikingly similar but seldom identical. Implementing the plan's recommendations will help secure sustainable prosperity for this generation and for generations to come. The process of developing GO TO 2040 involved setting goals for the region's future, conducting technical research, and gathering feedback from residents and stakeholder groups, then setting priorities based on this research and public input.

Regional Vision

CMAP launched its comprehensive regional planning process on September 13, 2007, with a visioning event at the Illinois Institute of Technology (IIT). From then until now, the agency and its partners have conducted extensive research and sought continual input from stakeholder groups and residents at large, which together have shaped the GO TO 20400 plan. Taking advantage of the latest technologies to facilitate public participation, the transparency of this process reflects an important theme of the plan itself, which seeks to make government more efficient and responsive to residents' needs.

The first major GO TO 2040 product, the Regional Vision,[3] was approved by the CMAP Board on June 11, 2008. The GO TO 2040 vision describes the region's desired future in terms of quality of life, natural environment, social systems, economy, infrastructure, and governance. Each of these vision themes was also shaped by the cross-cutting issues of sustainability, equity, and innovation. The GO TO 2040 comprehensive plan is intended as the guide to achieving the Regional Vision.

Preferred Regional Scenario

Subsequently, the preferred Regional Scenario[4] was approved by the Board on January 13, 2010. Based on two years of research and public input, the Regional Scenario was the final interim product prior to publication of the GO TO 2040 plan itself. It connected the Regional Vision's themes with the policy directions that would be addressed more explicitly in the plan. Organized in the Regional Scenario by the broad categories of Local and Regional Infrastructure and the Policy Environment, the scenario policy directions gave CMAP stakeholders and the public their clearest indication to that point regarding emphases of GO TO 2040.

The preferred Regional Scenario described a combination of actions that will prepare the region to achieve its goals for 2040. The scenario went beyond the broad goal statements of the Regional Vision by identifying in more detail the best course of action to reach the vision's goals. However, the scenario did not include detailed recommendations, which are now available in the GO TO 2040 plan.

As described in the preferred Regional Scenario, the region needs to:

Create more compact, mixed-use, livable communities to serve as the building blocks of our region's future development.

Invest more effectively in education and workforce development, while fostering a business climate that encourages job growth and innovation by the private sector.

Improve the region's high-quality system of parks and open space, while using conservation measures to reduce our consumption of energy and water.

Plan multimodally for transportation and target transportation investments to achieve outcomes such as economic growth, environmental protection, and congestion reduction, while finding more sustainable ways to finance infrastructure improvements.

Track our region's performance to assess where to make improvements to reach the desired future.

3 See **http://www.goto2040.org/vision/**.

4 See **http://www.cmap.illinois.gov/2040scenario/**.

Public Participation

In addition to CMAP's highly participatory committee structure, efforts to engage the public have been a constant emphasis of GO TO 2040.[5] The plan's development coincided with major, regionwide celebrations of the 100-year anniversary of the landmark 1909 *Plan of Chicago* by Daniel Burnham and Edward Bennett. CMAP staff partnered with centennial organizers, capitalizing on the year-long commemoration to help educate residents of the need for effective planning and of the significant opportunities for input to the region's new plan. The agency's outreach efforts reached a peak during the summer of 2009, when more than 35,000 participants had their say at CMAP "Invent the Future" workshops, kiosks, web tools (including customized MetroQuest scenario-planning software and social media like Facebook), and booths at community festivals. Their preferences are reflected throughout this plan.

Technical Research

During the GO TO 2040 process, CMAP and its partners authored 47 strategy papers[6] describing best practices in a range of issue areas. Each report was made available to the public as a draft, with comments solicited online and through CMAP's committees. CMAP also published a series of Regional Snapshot reports[7] that further explored trends and data points that shed light on issues such as State and Local Taxation, Air Quality, Jobs-Housing Balance, and more. Throughout the two-year research process, CMAP relied heavily on its committee members and partner organizations to identify and help thoroughly study the topics now reflected in the GO TO 2040 plan.

Strategy papers on nine topics were prepared in partnership with the Chicago Community Trust.[8] These papers — covering topics including arts and culture, education, emergency preparedness, food, human relations, hunger, public health, public safety and crime, and workforce development — are somewhat different from other CMAP strategy papers, as they were authored by external groups with subject-area expertise and guided by advisory committees. GO TO 2040 supports the recommendations of these strategy papers and encourages organizations working in these areas to continue to work toward implementing them.

Regional Indicators Project

CMAP has partnered with the Chicago Community Trust to develop information and collaborations in quality-of-life topics — including health, education, and many others — not traditionally included in regional plans. CMAP and the Trust together have created the Regional Indicators Project to collect data on over 200 factors that project participants will measure to track the region's progress toward achieving its 2040 vision. This extremely thorough and user-friendly data repository will be launched in fall 2010 as a web resource to facilitate effective decision making for local officials, planners, businesses, and other stakeholder groups.

5 GO TO 2040 public participation is summarized at **http://www.cmap.illinois.gov/public-engagement**.

6 See **http://www.goto2040.org/strategy_papers.aspx**.

7 See **http://www.cmap.illinois.gov/snapshot.aspx**.

8 To view these full reports, or executive summaries of them, see the main GO TO 2040 Strategy Reports page at **http://www.goto2040.org/strategy_papers.aspx**.

The GO TO 2040 Plan

The plan's main body begins with a chapter that describes Challenges and Opportunities in terms of existing conditions that require coordinated responses to achieve positive outcomes as stated in the GO TO 2040 Regional Vision.

The GO TO 2040 plan's high-priority recommendations are organized within four thematic chapters, each of which includes sections that distill critically important strategies for achieving clear and measurable outcomes. Near the end of every section are tables that describe Implementation Action Areas, with detailed steps that specific implementers should take. The themes and their recommendation sections are as follows:

Livable Communities

This theme addresses diverse factors that together shape quality of life in terms of "livability" — what attracts people to a particular community. The chapter on Livable Communities includes four sections of recommended actions:

1. **Achieve Greater Livability through Land Use and Housing**
2. **Manage and Conserve Water and Energy Resources**
3. **Expand and Improve Parks and Open Space**
4. **Promote Sustainable Local Food**

Human Capital

This theme addresses factors that determine whether our region's economy will thrive due to the availability of skilled workers and a climate in which business creativity can flourish. The chapter on Human Capital includes two sections of recommended actions:

5. **Improve Education and Workforce Development**
6. **Support Economic Innovation**

Efficient Governance

This theme addresses the need for increased effectiveness of governments in the region and beyond, which is important to meet residents' needs regarding accountability and transparency. The chapter on Efficient Governance includes three sections of recommended actions:

7. **Reform State and Local Tax Policy**
8. **Improve Access to Information**
9. **Pursue Coordinated Investments**

Regional Mobility

This theme addresses the vitality of our region's transportation system, which is crucial for economic prosperity and overall quality of life. The chapter on Regional Mobility includes three sections of recommended actions:

10. **Invest Strategically in Transportation**
11. **Increase Commitment to Public Transit**
12. **Create a More Efficient Freight Network**

This chapter also includes descriptions of major capital projects that have been carefully selected to help achieve the GO TO 2040 Regional Vision.

After its four thematic chapters, the plan concludes with a chapter of Context and Best Practices, which are organized according to the broad categories of CMAP stakeholder organizations and individuals who can help to drive implementation of GO TO 2040:

Federal Government

State Government

Regional Authorities

Counties and Councils of Government

Municipalities

Nongovernmental Organizations

Development Community

Individuals

Challenges and Opportunities

Metropolitan Chicago faces both great challenges and great opportunities as we look forward to 2040. As a global metropolis and economic center of the Midwest, we are poised to prosper in an increasingly interconnected world. We have a vast supply of physical infrastructure, including an extensive passenger and freight system that is among the nation's largest, and significant natural assets including open space resources and Lake Michigan. Our arts, culture, and higher learning institutions have worldwide preeminence. Our region is made up of a network of unique, identifiable communities, each with their own histories and characters. The region's cost of living also remains quite affordable relative to many other major metropolitan areas.

But these assets also come with tremendous challenges. Even before the recent economic downturn, job growth in the region was stagnant, and the region was falling behind its peers. The State of Illinois and local governments face fiscal pressures of historic proportions. Our infrastructure, while vast, is also aging and requires more investment, and high traffic congestion damages our economy and quality of life. Our education and workforce development systems do not provide enough residents with the skills they need for productive employment and participation in society. Environmental challenges also require action, including global climate change, loss of biodiversity, and the emerging issues of water supply and quality. And while many of our communities have succeeded economically, many others have not, creating disinvested areas with high concentrations of poverty and social problems.

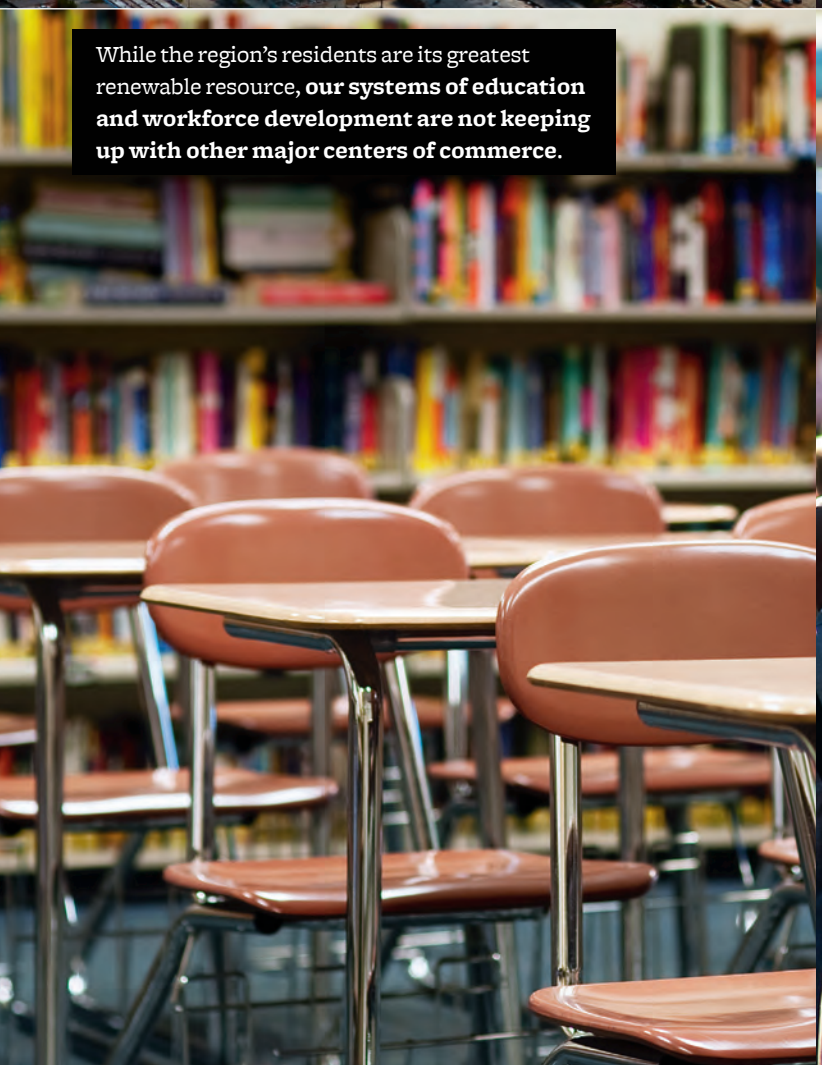
The purpose of GO TO 2040 is to build on the region's assets, identify its shortcomings, and recommend actions that will help enhance and sustain economic vitality and global competitiveness. This chapter describes our challenges and opportunities while previewing the plan's recommendations. Other CMAP products, including Regional Snapshot reports and GO TO 2040 strategy papers, provide more detail on the issues described in this chapter, and the forthcoming Regional Indicators Project website, MetroPulse, will provide data on a wide variety of performance measures.



While overall quality of life is high, **our region has grown in unsustainable ways** that create congestion and make it hard for people to live near their jobs.



We need to invest in our existing communities while making wise development choices that make our communities great places to live.



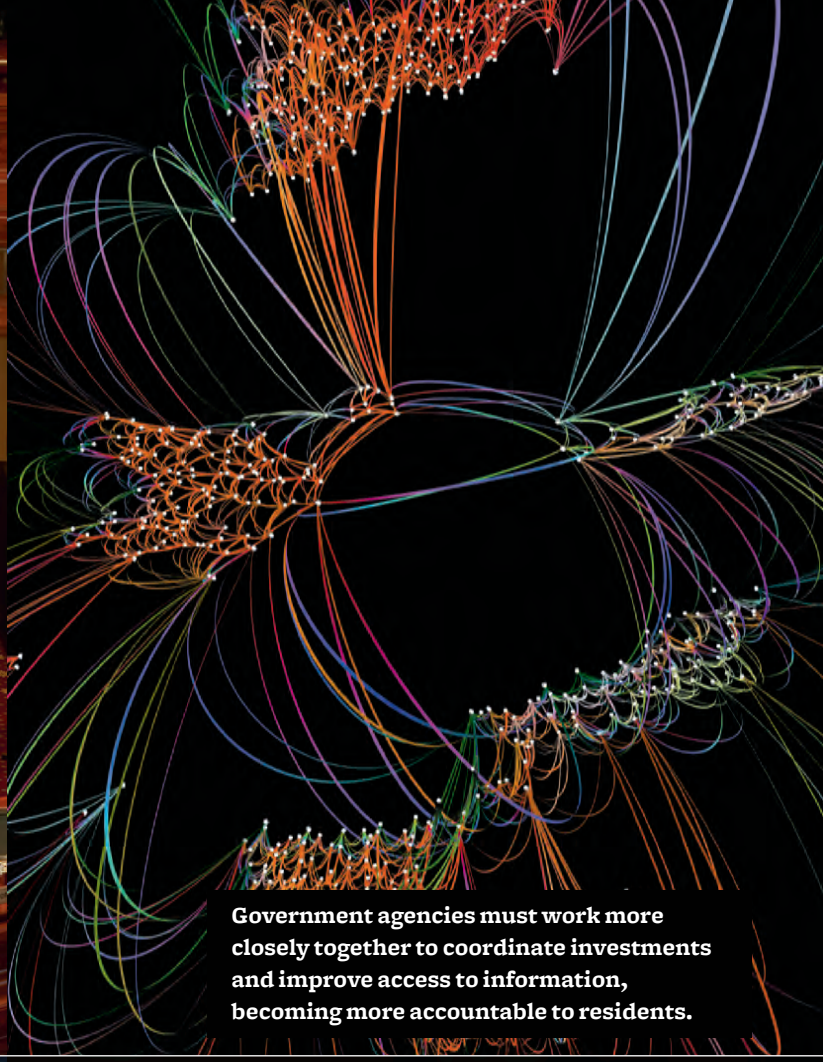
While the region's residents are its greatest renewable resource, **our systems of education and workforce development are not keeping up with other major centers of commerce**.



We must develop skilled workers to help local businesses innovate to compete in the global marketplace.



While our region's units of government are numerous, **many residents believe they should be more responsive.**



Government agencies must work more closely together to coordinate investments and improve access to information, becoming more accountable to residents.



While our region's transportation infrastructure has been key to a century of progress, **it is aging rapidly.**

We need strategic investments that modernize and maintain these road and transit systems to meet the needs of our growing population.



Regional Demographic Changes

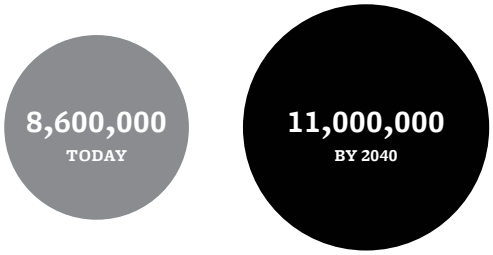
Our seven-county region has experienced significant demographic changes and can expect much more in the coming decades. The millions of people who call our region home will continue to increase in absolute numbers and also change in terms of age distribution, racial and ethnic breakdown, and where they choose to live.

Between 2010 and 2040, the region's population is expected to grow more than 25 percent from approximately 8.6 million to 11 million residents, an increase of 2.4 million people. Historically, growth has been especially rapid in outlying areas of the region, sometimes happening so quickly that it challenges the ability of communities to adapt. Without careful planning, this growth can strain and potentially put at risk the existing capacity and quality of our infrastructure, education systems, natural resources, and other public services so vital to sustaining our communities.

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 (see **Figure 3**). Furthermore, the number of residents in the region who are over 85 years old is projected to triple. This demographic shift will create clear challenges in providing access to quality health care and other needed services. It also will have major impacts on future housing, land use, and transportation needs. Sustaining our residents' ability to "age in place" — to remain in their homes and communities, as they age, if they choose — is a key challenge confronting the region. Much of the growth in the senior population is projected to occur in parts of the region where residences, services, and commercial areas are currently more spread out and not well-served by public transit, creating difficulties for those who have limited mobility and cannot drive.

Figure 2. Population projections for northeastern Illinois

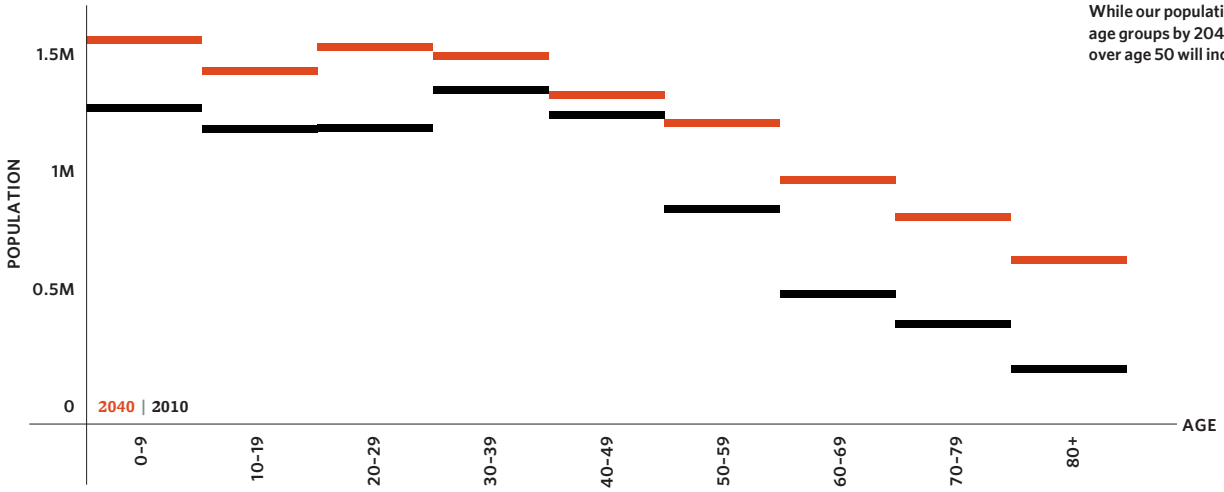
By 2040, our region will need to accommodate over 25% more residents



Between now and 2040, the region will also become more racially and ethnically diverse. In particular, the rapid growth of the region's Latino population is expected to continue, and by 2040, it is projected that more than 30 percent of the region's residents will be Latino. Moreover, growth among all racial and ethnic groups is projected to continue to shift toward suburban areas. It is critical to our region's future economic competitiveness that all racial and ethnic groups are able to develop the skills to fill the jobs of the future.

Figure 3. Expected population growth, 2010 and 2040

While our population will increase across all age groups by 2040, the number of residents over age 50 will increase dramatically.



Source: Chicago Metropolitan Agency for Planning, 2010

Quality of Life

One of the central goals of GO TO 2040 is to make our region a better place to live. Creating and preserving a high quality of life was among the top, overarching intents of the Regional Vision, which originally set out the goals of the plan.

> *The Regional Vision for* GO TO 2040 *describes a future quality of life based on "attractive, interdependent communities" that offer a "range of housing options," "diverse... transportation and recreation choices," and access to "employment, education, health care, and other regional assets* [*such as*] *an abundance of art forms."*
>
> *To achieve this,* GO TO 2040 *seeks 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.*

"Livability" is an important concept that is used extensively throughout the plan, but defining it is a challenge simply because people's values and priorities are so diverse. However, when residents across the region describe their values and priorities, certain commonalities of livability emerge. Livable communities are healthy, safe, and walkable. Livable communities offer transportation choices that provide timely access to schools, jobs, services, and basic needs. Livable communities are imbued with strength and vitality, features which emerge from preserving the unique characteristics that give our diverse communities "a sense of place."

The region faces many challenges in creating and sustaining livable communities. Our infrastructure and local development decisions are still built primarily around the single-occupant vehicle. Affordable housing, particularly rental options, is not available in all parts of the region, which creates a systemic imbalance between job centers and where people live. The region needs more open space and recreational parks. Energy and water are not being used efficiently and while some improvements in air and water quality have occurred, the region still faces problems and must act to avoid the future degradation of these resources. Federal and state investment decisions remain highly uncoordinated and often ineffective in addressing the kinds of problems which require more cross-disciplinary solutions.

Livability comprises a range of distinctive yet interconnected principles. The actions necessary for creating and sustaining livable communities involve many players, including the federal and state governments and most importantly, localities, individual households, and businesses. Livable communities provide safe, reliable, and economical transportation choices and promote equitable and affordable housing to increase mobility and lower the combined costs of housing and transportation. Livable communities make the region more economically competitive by improving access to jobs, schools, markets, health care, and recreation within communities, or by improving transportation access to these assets across communities. In most cases, the building blocks for these communities already exist, but more targeted and coordinated investment is required to make livability a reality.

Providing more transportation choices to our residents is a vital component of livability. Many parts of our region are accessible only by car, but livable communities should allow walking, biking, and using public transportation. They should be broadly accessible and allow travel by any transportation mode, allowing older residents to "age in place," improving mobility for disabled residents, and leading to better health overall. Supportive land use and walkability are also critically important to support the expansion of public transit.

Livability also entails a balanced supply of owner-occupied housing and rental housing distributed throughout the region, ensuring that each household has access to the region's assets. Among various housing policy options, each works best to promote livability when targeted to specific situations and community goals as part of place-based solutions. For example, some communities may seek to preserve existing housing stock, while others seek to produce more affordable housing. Still others may already have concentrations of affordable housing and therefore seek to attract economic development. Linking housing with public transit is an effective way to reduce the combined cost of housing and transportation.

An important element of livability is adequate open space, and providing open space as part of reinvestment projects is one of the most effective ways to provide new parks in denser urban settings. Conservation of energy and water and reduction of flooding can also be accomplished by using principles of conservation design, green building design, or low-impact development.

For livable communities to take shape, most of our region's future growth should occur in existing communities that are already served by infrastructure.

There are significant opportunities to accommodate future growth by reinvesting within the borders of our municipalities. The viability of development in these places can be increased by remediating brownfields, reconsidering parking policies, reusing current building stock, and locating schools and other public buildings in areas where redevelopment is sought. Livability can often be supported by denser, mixed-use development. The definition of "mixed use" varies between communities, sometimes referring to a combination of land uses (e.g., residential, office, or retail) within a single structure or on the same block, while at other times referring to simply connections between residential and commercial areas of a community. The definition of "denser" development also differs widely, but it generally means densities that are somewhat higher than prevailing patterns of development in that area. The use of high-quality design principles to guide denser development is critically important to ensure a proper fit within communities. Regardless of density or use, reinvestment should respect local character and historic context, while increasing access to parks, green spaces, and adjacent recreational waterways.

The goal of GO TO 2040 is not to increase density for its own sake, and creating livable communities does not require extreme measures, "central planning," or any attempt to channel all or even most new growth into multi-family buildings. The plan does not seek to have all future development occur only in high-density areas, and as a region we should avoid simplistic "urban versus suburban" concepts of density. Although compact development and infill are important aspects of reinvestment, walkability, and land use that supports public transit, the region's rate of population growth dictates that not all development will occur within existing communities. But while some development in currently undeveloped areas will be necessary, those new developments should include features that support livability.

The region's development pattern is extremely diverse, reflecting the unique characters of its many communities; growth between now and 2040 will be equally diverse. Local interpretations of livability principles should consider community character when determining appropriate densities, types of mixed-use development, specific methods for affordable housing provision, and so on. Similarly, high-quality design is critical for creating livable communities. Attractive streetscapes and buildings, public spaces for civic life, and overall appearance of an area are important elements of a community's character, but are not appropriate to address at the regional level; GO TO 2040 supports efforts by local communities, the development community, and individual property owners to address issues of aesthetics in their own ways. In other words, there is no "one size fits all," and community-level assessments are needed to understand how principles of livability can be applied locally.

One important conclusion of this discussion of livability is that local governments have a central role in making it happen. Livability is highly influenced by municipal and county land use planning decisions, infrastructure investments, and other policies. While general principles are appropriate to develop at the regional or the federal level, the application and implementation of these principles is up to local governments. This builds on one of the region's important assets — the strength of its local governments. Our region is already made up of many livable communities, and the unique characters of our neighborhoods and communities are valuable assets and should be preserved. Livable communities go hand in hand with economic prosperity. Creating and enhancing places with these kinds of attributes will increase access to employment, educational opportunities, and other regional assets for many people around the region. Livable communities will bring our residents a higher quality of life, which makes our region an extremely attractive place to reside. The result is a strong and skilled regional labor force, the factor held in the highest regard of businesses when deciding where to locate.

Lastly, the important role that the region's arts and cultural resources play in enhancing livability, community development, and regional economic prosperity should not be understated. Our widely acclaimed museums, festivals, musical offerings, and supporting creative industries and institutions continue to enrich the lives of our residents, attract millions of visitors each year, and help drive the economy. These resources also serve as a magnet for attracting the kind of creative, diverse, and innovative talent that is so highly prized in the 21st Century. Beyond their regional impacts, support for the arts can also act as a local economic development tool, increasing economic activity and quality of life in local communities. Like many other areas, arts and culture institutions face challenges — in particular, they are sometimes marginalized, when in fact they are necessary ingredients for making our region and our neighborhoods attractive and vibrant places to live and work. Livability has a complex and mutually supportive relationship with economic prosperity, and a high quality of life is not possible unless our residents have access to good jobs. The following section discusses the approach of GO TO 2040 to our economy.

Economy

The metropolitan Chicago region is among the nation's few global economic centers. GO TO 2040 seeks to maintain and strengthen this position. Global connections are increasingly important, and being linked to international trade and information networks provides our region with new economic opportunities and a broader range of jobs, and makes us an attractive place for both workers and businesses.

Among the many assessments of what it means to be global, a few common themes emerge: a global region needs to have a modern infrastructure; a diversity of business types and economic activity; a skilled workforce, including a strong higher education system; and active cultural institutions and a high overall quality of life.

In each of these areas, we have both strengths and challenges. The region's infrastructure is extensive, but aging, and problems such as traffic congestion damage our economy every day. Our economy is historically diverse and strong, but we have had limited job growth in the past decade and incomes have stagnated. We have many excellent universities and other educational institutions, but they are inaccessible to many students, and overall our education and workforce development systems are not as strong as they need to be. The pace of economic innovation in our region, as measured by the creation of new technologies, services, and goods, has fallen behind many other metropolitan areas. Our state and local tax policies are often inefficient, unpredictable, and distort economic activity. And while we have a high quality of life by many measures, it is threatened by these economic problems. Building on these strengths and overcoming these challenges to strengthen the region's economy is among the main purposes of GO TO 2040.

> *The Regional Vision for* GO TO 2040 *describes a future economy with a "global status" that "ensures superior job opportunities" by "enhancing our... education systems and physical infrastructure... [as well as] workforce development programs and other training" and by being a "center of innovation across all disciplines."*
>
> *To achieve this,* GO TO 2040 *supports economic growth and innovation without overly involving the public sector in private sector decisions, by investing in infrastructure, education, and workforce training for jobs of all skill levels, by seeking ways to support new economic sectors such as green jobs, and by creating a supportive business environment, including addressing tax policy.*

There are a number of factors that determine a region's economic success; prosperity is driven in large part by its combination of infrastructure, overall business environment, workforce, and amenities. In the long term, a region that successfully addresses these major factors will prosper.

Regional Economic Specializations

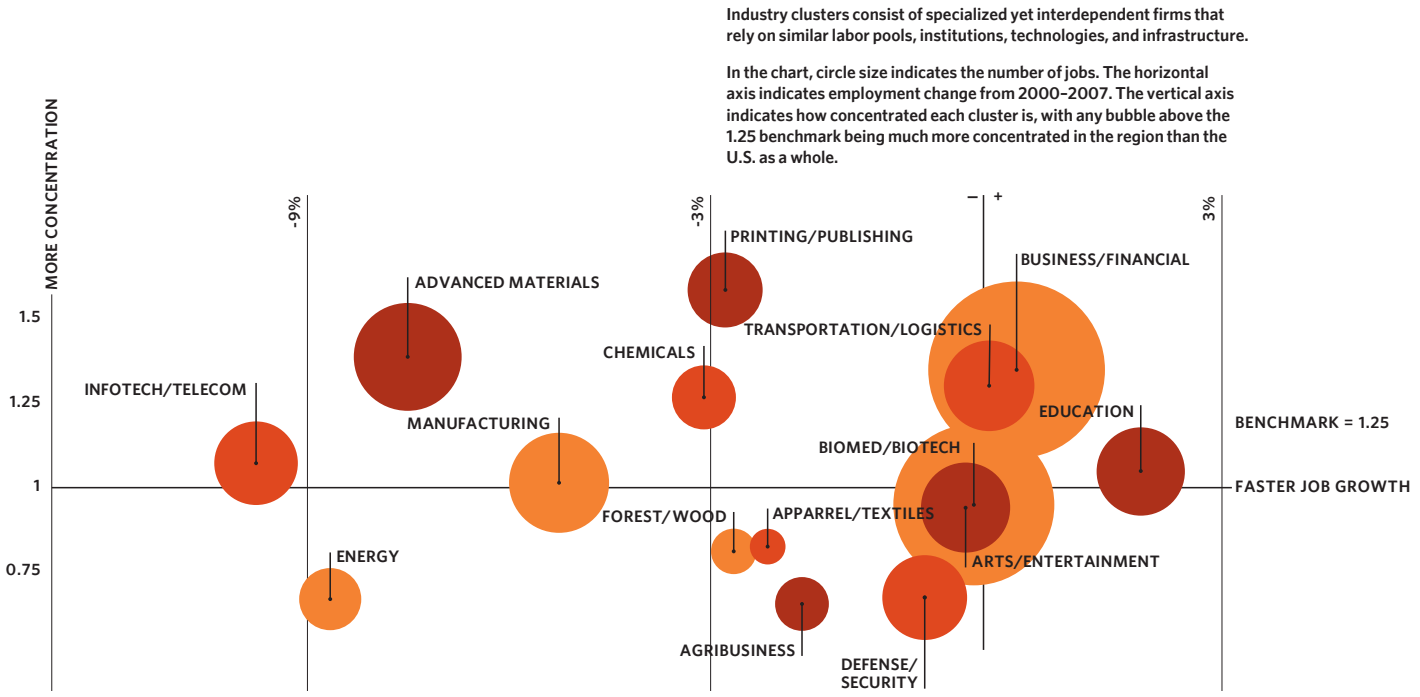
While the metropolitan Chicago region enjoys a diverse mix of industries, the region also retains particular areas of specialization. These specializations can be pinpointed by identifying industry clusters — groups of interdependent firms that are linked through the buyer-supplier relationship, share common resources and technologies, depend on similar labor pool and institutions, and draw a productive advantage in being geographically located near each other. These can be used as an analytic tool to help sharpen the focus of efforts to improve long-term economic performance.

Several industry clusters are critical to our economic prosperity. The largest among these is the cluster of firms involved in *business and financial services*, reflecting our status as a major center of finance, the home of many business headquarters, and the economic center of the Midwest. Employment in industries within the *health care and biomedical* cluster is also high, though it is not particularly concentrated within the region compared to other metropolitan areas. While employment in *manufacturing* has fallen, it remains a strong economic contributor, and some elements of manufacturing, such as the production of *advanced materials*, are highly concentrated here. The strength of the *transportation and logistics* cluster reflects our historic focus on freight, and helps to support other industries that rely on goods movement, such as manufacturing. **Figure 4** illustrates the employment levels, growth rates, and concentrations of these industries and others; for more information and analysis see the Snapshot Report on industry clusters.[1]

An emerging regional specialization involves the green economy, or economic activities that respond to resource scarcity issues associated primarily with energy, water supply, and climate change. Industries involved in the green economy have not been conclusively defined, but include sectors such as energy and manufacturing, professional services such as engineering and construction, waste reduction, freight transportation, and government institutions. This specialization is important because of its high growth potential and also because it addresses other resource conservation and environmental protection goals.

While understanding these specializations is important, it is not the role of GO TO 2040 to specifically "pick winners" among the region's many businesses and industries. The region's economy will adapt over time, and the main role of a long-range plan is to provide a basic platform for business success. This can be done by strengthening the factors of economic growth described in the introduction to this section.

Figure 4. Concentration and employment growth of clusters



Sources: CMAP, Illinois Department of Employment Security, Purdue Center of Regional Development

1 CMAP Industry Clusters Regional Snapshot, 2009.
See **http://www.cmap.illinois.gov/cmap-regional-snapshots#Industry**.

Factors of Economic Growth

The region competes constantly against other metropolitan areas to attract good jobs and skilled workers. Businesses have a wide range of choices in terms of where to locate various functions. Technology and better access to information have allowed businesses to analyze the costs and benefits of different locations, making it necessary to proactively address the factors of most importance.

Business location decisions are commonly based on factors such as infrastructure, labor force, local and regional amenities, and overall business environment (including taxation, services, regulation, and supportive environment for innovation). Many of these factors ignore jurisdictional boundaries — these are factors that are metropolitan-wide instead of local, and therefore should be addressed regionally. These major factors are also provided or influenced, at least in part, by government, so it is appropriate for the public sector to address them in a long-range plan.

Labor force quality is perhaps the most important factor driving future economic prosperity. While workforce quality has always been an important component of economic success, there is evidence that this is increasing, as economic growth occurs in industries that require more knowledge and skills. In the continual competition between metropolitan areas to attract businesses and residents, regions that lack a strong labor force will have difficulty competing; for most industries, skilled and educated workers drive productivity, making them the most valuable assets that a metropolitan area can have.

In the long term, economic prosperity depends on being able to adapt to changing circumstances. Innovation — the invention and commercialization of new products, services, technologies, and processes — is a major driver of long-term economic growth. Though well-positioned to capitalize on our excellent universities and research institutions that constantly generate new ideas, the region has been able to only partially take advantage of this strength. By creating linkages between our research institutions and entrepreneurs and targeting investment decisions, the public sector can most effectively support innovation without distorting or otherwise exerting too much influence over private sector actions.

A well maintained and modern system of infrastructure, including transportation, energy, telecommunications, and water, is also a necessary precondition for maintaining our region's economic stature.

The next section outlines challenges and opportunities particular to the area of transportation infrastructure, which is a major focus of GO TO 2040.

Transportation

Our transportation system is a major contributor to the economy and livability of the region. Transportation infrastructure is particularly important to our economy and quality of life because it allows the movement of people and goods.

With a modern, well-functioning transportation system, people can travel freely around the region, choosing from among a wide variety of jobs and communities to live in, and businesses can count on their shipments of goods being delivered on time. Historically, our region has been built around its transportation infrastructure and owes its status as the economic center of the Midwest at least in part to infrastructure investments made decades ago. Our transportation system still numbers among our major strengths, but improvements are needed to maintain and strengthen our position.

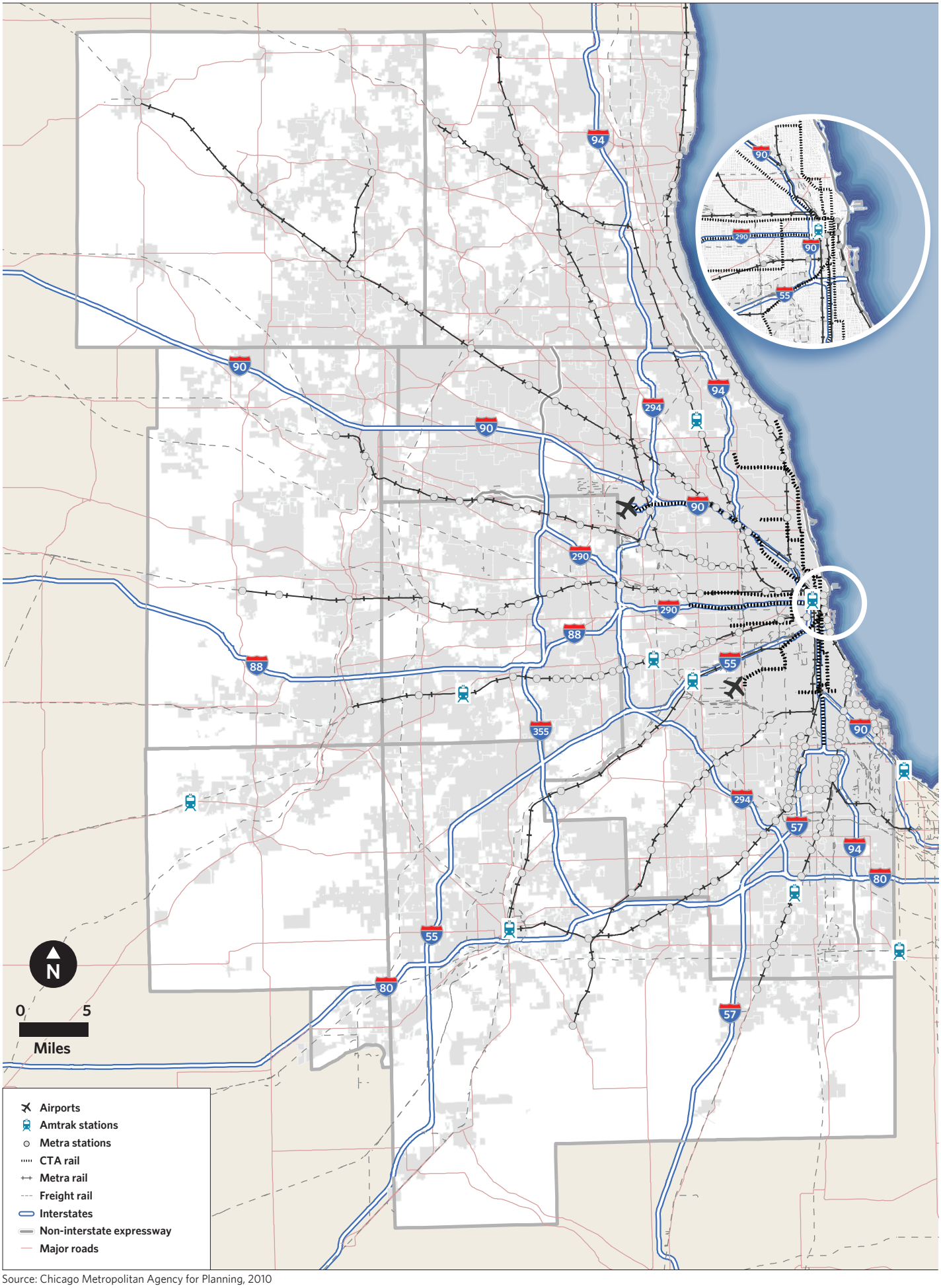
> *The Regional Vision for* GO TO 2040 *describes a future multimodal transportation system that is "safe, accessible, easy to navigate, affordable, and coordinated with nearby land use," reduces congestion and improves regional mobility, and supports "reinvestment in our existing communities…leading to environmentally sensitive and fiscally efficient outcomes."*
>
> *To achieve this,* GO TO 2040 *seeks to maintain existing infrastructure of all types and gain operational efficiencies from it, make additional investments in transit and freight, use innovative and sustainable finance and system management ideas, link transportation investments with housing and land use, and encourage choices that result in livable, walkable, transit-supportive communities.*

While the physical infrastructure of the metropolitan Chicago region has historically been a major strength, there is little argument that it must be improved to meet current needs. Current revenue sources are barely able to keep up with the maintenance and operation of the existing system. Our infrastructure is aging, and in some cases is deteriorating due to underinvestment in maintenance. The region's congestion levels are among the highest in the nation, and projected increases in population, jobs, and freight traffic will only add to the pressure on our infrastructure. Clearly, further investment in infrastructure is needed to improve or even maintain our economic place. See **Figure 5** for a regional map of transportation infrastructure.

Congestion affects our transportation system in a number of negative ways — it increases costs for residents and impedes travel, limiting where people can live and work; it reduces businesses' access to labor and the reliability of goods shipments; it wastes fuel and causes air pollution; and it even reduces safety and security by making it more difficult to respond to incidents or deal with emergencies. See **Figure 6** for an example of a congestion scan, which shows the time of day and location of weekday congestion on a section of the I-90/94 expressway. We have one of the highest levels of congestion in the nation, and GO TO 2040 sees this as one of the greatest threats to our future prosperity.

Addressing the challenges of congestion and the other issues that face our transportation system requires an approach that is multimodal, promoting the use of transportation options other than driving. The vast majority of trips are made by individuals driving alone, and it is expected that driving will continue to be the primary mode of transportation for many or most of our residents, but there is an opportunity for other modes — walking, biking, and using transit — to make up a greater share of trips. In the past decades, we have greatly improved our environment for walking and biking through construction of sidewalks and trails and adoption of policies by communities and transportation agencies that support these modes of travel. Public transit, on the other hand, carries fewer people today than it did 20 years ago (although these numbers have been trending back upward in recent years). While our existing transit infrastructure is a great strength, it suffers from years of underinvestment and deferred maintenance. Transit is a central part of our future prosperity and livability; it provides a far cheaper transportation alternative than driving, allows commuters to avoid congested roads, raises the value of nearby land, and is a more environmentally friendly travel method than driving alone.

Figure 5. Transportation infrastructure



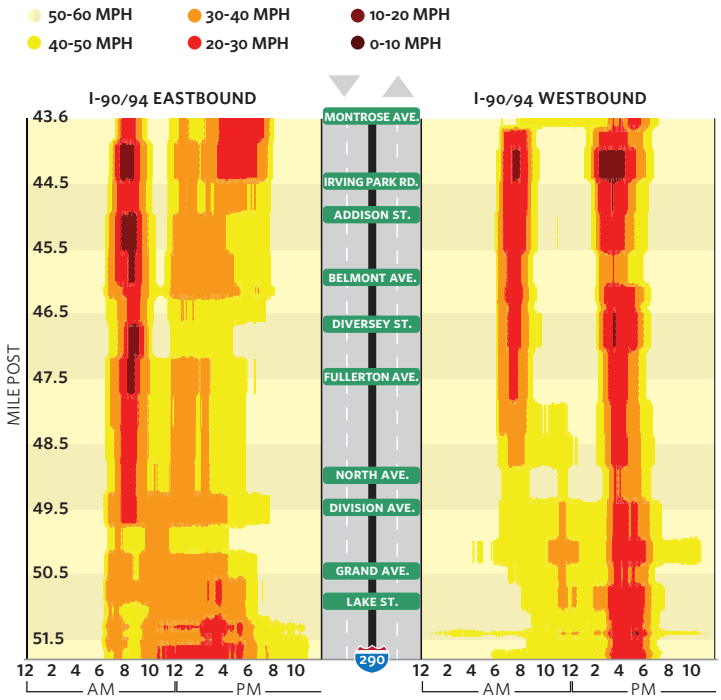
Source: Chicago Metropolitan Agency for Planning, 2010

New and innovative funding sources are also needed for transportation, and will be most effective if they are tied closely to actual use, providing incentives for the efficient use of the transportation system in addition to providing additional funding for needed improvements. Just as importantly, decisions concerning transportation investments need to be made carefully. Current funding distributions are often not based on thorough evaluation of project costs and benefits, leading to inefficient investments. The effectiveness of infrastructure at stimulating economic productivity depends on the kind of infrastructure, how much of it already exists, and where it is located, so potential investments need to be evaluated carefully to ensure they are really the best use of scarce funds.

Prioritization of investment presents a considerable challenge because of the variety of ways that transportation affects our region. It has direct impacts on safety and security, which remain of paramount importance. The transportation system affects where residents can live and work, and how they can travel, with impacts on our economy and quality of life. Transportation access is a factor in where and how growth occurs, so transportation investments help to drive land use and development decisions. Transportation investments also affect the natural environment — both directly, through the construction of a new facility, and indirectly, through the growth that transportation access permits. In summary, transportation investments have major repercussions. Considering all of these factors when making infrastructure decisions is challenging, but will result in the most effective investments in the long term.

Another critical component of our transportation system is freight. Local businesses and industries depend on the ability to move inputs and products into and out of the region. The metropolitan Chicago region was largely built around its freight infrastructure, and today is accurately considered the freight center of North America. Our businesses have capitalized on our freight infrastructure to build intermodal yards and distribution centers that contribute to our economy, and a strong freight system can be counted among the reasons that we retain a strong industrial base; many existing industries, especially those in the manufacturing and trade sectors, rely on the freight industry to send and receive shipments of materials, products, or other goods. But there are also challenges related to our freight system. Freight traffic (both rail and truck) is forecast to grow, placing strains on our infrastructure. Also, despite freight's positive economic impacts, some communities experience negative impacts, such as delays at grade crossings, high levels of truck traffic, noise, and pollution. Both infrastructure and policy solutions will be needed to enhance freight's economic benefits and minimize its negative impacts on quality of life in our communities.

Figure 6. I-90/94 congestion scan, 2007



Note: Average speed is shown as a function of time of day (the horizontal x-axis) and location (the vertical y-axis).

Source: Analysis by Chicago Metropolitan Agency for Planning, based on data from Traffic.com.

Environment

Our natural environment includes our open spaces, Lake Michigan, and other waterways, significant amenities that contribute to quality of life. These make the region a more desirable place to live and work.

In contrast, the prosperity and livability of our communities are threatened by the consequences of not maintaining a healthy natural environment. Increased flooding, poor air quality, or drinking water shortages would have immediate negative consequences for our economy and quality of life.

Looking farther into the future, issues such as climate change or loss of biodiversity may not have immediate impacts on residents' lives, but their long-term negative impacts are clear. Therefore, GO TO 2040 approaches the natural environment as an important amenity in itself, but also one that has considerable positive impact on our economy and livability.

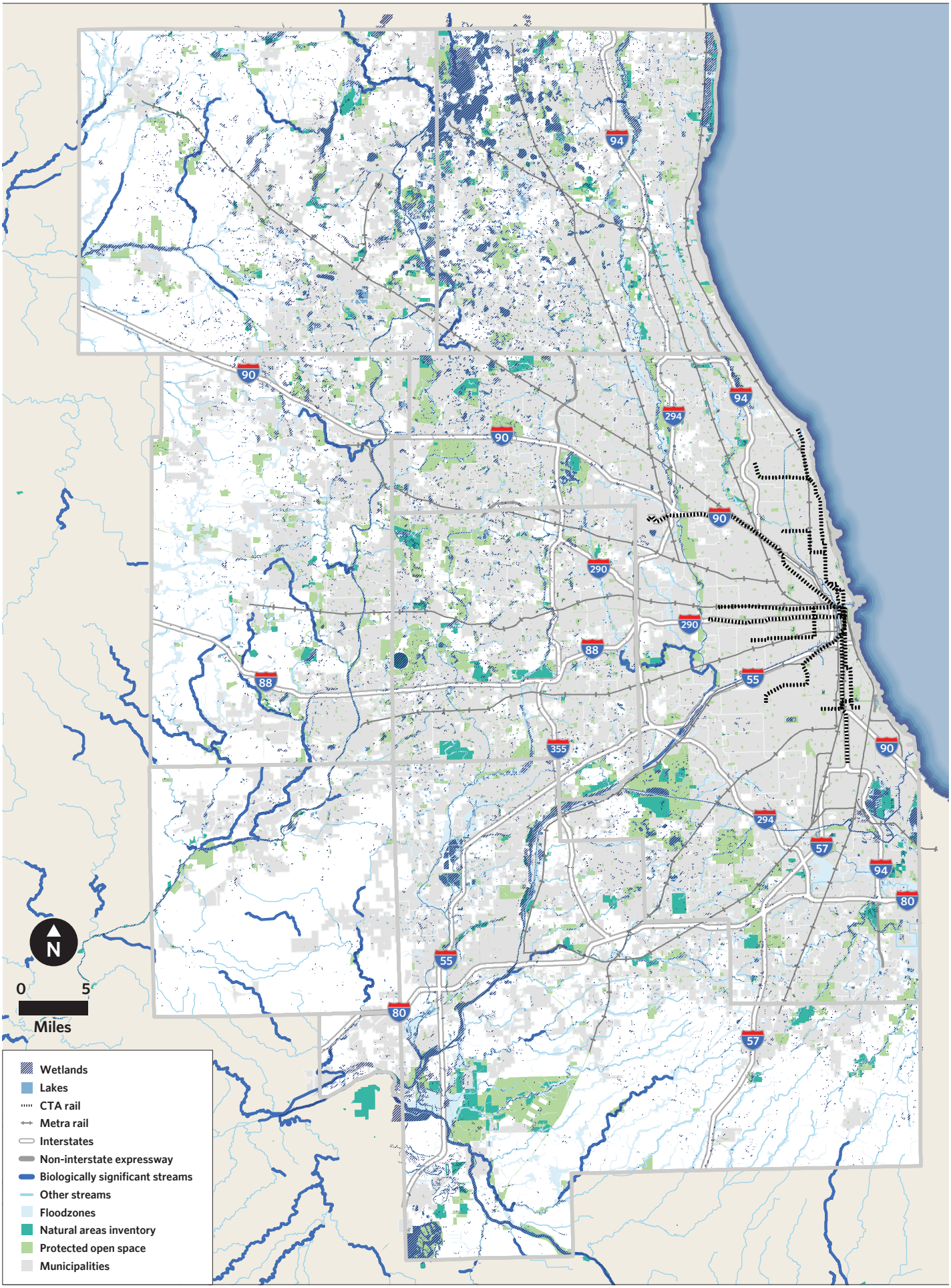
> *The Regional Vision for* GO TO 2040 *describes a future environment in which "open space [is] preserved and enhanced," the region consumes "less energy and fewer natural resources," treats "water…as a critical natural resource," preserves "the overall ecological health and diversity of the region," and improves its residents' health through "the availability of open space, transportation and recreation options, healthy food, clean water, and clean air."*
>
> *To achieve this,* GO TO 2040 *seeks to improve the region's system of parks and open space, providing recreation options and protecting ecosystem function, and to conserve natural resources. This requires increasing the resources devoted to protection of an open space network, designing communities to meet environmental goals, taking a proactive approach to both supply and demand for energy and water, supporting green jobs and industry, and directly incorporating local food systems in the long-range plan.*

The region's parks and natural areas (including waterways, forest preserves, conservation districts, and other open space) are a major strength, and serve to protect environmental quality, improve public health, and contribute to overall quality of life. Access to parks and open space provides opportunities for residents to enjoy active, physical recreation and to congregate socially; this is particularly important for the health of children. Not surprisingly, many studies have shown that proximity to open space and parkland has a positive impact on property values, as many people want access to these important amenities. **Figure 7** displays the region's land and water resources.

However, not all parts of the region have adequate access to open space. Many of our older communities, both in urban and suburban areas, suffer from insufficient park space, which has negative consequences for the health of residents in these areas and makes them less desirable places to live. At the same time, most of our valuable open space is not protected, and much is lost each year to development on the region's fringe. And our parks and open spaces are often fragmented and scattered, which diminishes their benefits for both recreation and biodiversity. Thus, while our open space network is a considerable strength, a number of challenges must be addressed for the benefits of open space to be broadly shared.

Water issues are also emerging as challenges that we must face. Lake Michigan has always been a crucial regional asset, not only for recreation, tourism, and aesthetics, but also as a source of drinking water. However, withdrawals from the lake are legally constrained, and water is becoming increasingly scarce in some parts of the region, particularly those that rely on groundwater. Reducing water consumption through conservation and pursuing strategies to protect water resources will be needed to address this threat. Another issue related to water resources, stormwater management, is a concern in many areas. Flooding creates serious safety and economic problems, especially in many of our older, fully developed communities. This not only has negative impacts for current residents and businesses, but it makes reinvestment in these communities more difficult. Major flooding is the most common type of natural disaster that threatens our region, and its likelihood is only expected to increase as climate change occurs, so stormwater management is increasing in importance.

Figure 7. Land and water resources



Source: Chicago Metropolitan Agency for Planning, 2010

Biodiversity, or the variety of plant and animal species in our region, is also threatened. Biodiversity is a good indication of overall ecosystem health, which is important for environmental reasons but also beyond; healthy ecosystems play a role in water quality and supply, reducing the impacts of climate change, and other functions. Ecosystem health can be achieved by preserving large natural areas with connections between them; ecosystems do not function well as small, isolated islands of open space.

Lastly, climate change is a matter of national and international concern. The factors causing it and the solutions for solving it transcend compartmentalized areas of public policy and individual action. The use of energy in our homes and commercial buildings is the largest contributor to greenhouse gases, the chemicals linked to climate change; energy use by the transportation system, mostly in the form of fuel used by cars, is also a major contributor. Reducing energy consumption within these areas is the most important contribution that the region and its communities can make to limit the harmful effects of climate change, through strategies as varied as retrofitting existing buildings to improve efficiency, and promoting a more efficient land use pattern. These can not only reduce greenhouse gas emissions, but also lower energy expenditures for households and businesses. We also have a tremendous opportunity to use the growing interest in energy conservation to pursue growth in the green economy. For example, taking an aggressive approach to retrofitting existing buildings would make us a leader in this field, allowing us to export this experience and knowledge to other parts of the country. Examples of business innovation around the green economy already exist; the Chicago Climate Exchange, created here in 2000, is the nation's first voluntary cap-and-trade program, and has attracted participation both nationally and internationally.

We need solutions to address multiple goals at once — both enhancing our assets, like open space, and minimizing threats to our region's environmental health as well as the global threat caused by climate change.

Preserving open space can have positive impacts on water quality, biodiversity, and stormwater management, as well as providing an important asset that contributes to our economy and quality of life; preserving land for sustainable agriculture can have similar positive impacts. Similarly, development that is denser and focused in existing communities can reduce pressure to develop existing unprotected open space, and is also more efficient in its use of energy and water than development on the region's fringe. Strategies with multiple benefits are most effective at meeting the many goals of GO TO 2040.

Housing and Social Systems

A major challenge to our future is inequitable access to the region's assets, such as good schools, decent jobs, safe and healthy neighborhoods, and stable housing. Our lower-income residents often do not have the same opportunities to access these assets as others, with lasting negative impacts on their earnings, health, and safety.

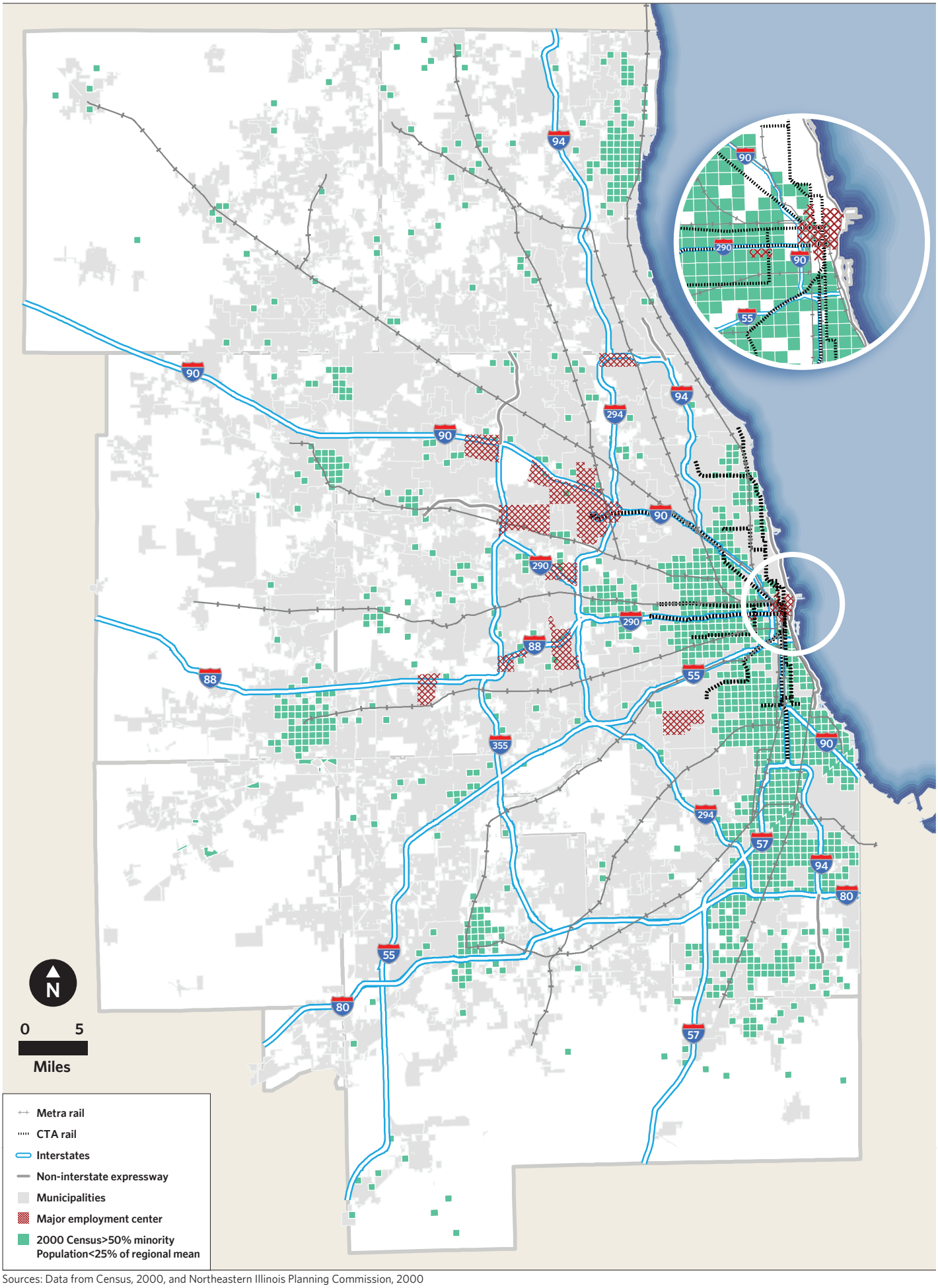
The Regional Vision for GO TO 2040 *describes future social systems that "foster an educated, healthy, safe, and involved populace," housing that is "safe, decent, affordable, and stable" and that follows fair housing practices, and "access to quality education, jobs, health care, cultural and social amenities, and transportation" for all residents.*

To achieve this, GO TO 2040 *seeks to pursue a balanced housing supply with denser development that helps to increase affordability while minimizing household transportation costs, and to support and encourage policies and programs to fill gaps that cannot be met by the private market. It should also improve the quality of education in the region by eliminating gaps and increasing collaboration across early childhood, K-12, and higher education systems.*

One of our greatest and most intransigent challenges involves equitable access to opportunity. Large portions of the region remain highly segregated, and there are stark differences between racial and ethnic groups in terms of income, educational attainment, health, rates of incarceration, and many other measures. These inequities are not only an issue of fairness, but compromise our economic future. People without the needed education or skills to hold productive employment may not fully contribute to our economy. As **Figure 8** shows, there are clear spatial patterns that show this relationship; areas with high concentrations of African American and Latino residents generally have incomes below the regional average. In designing policies and making investments, it is important to take actions that do not perpetuate these inequities, and to correct them if possible. Environmental justice seeks to address the spatial imbalances of environmental burdens, which are often highly concentrated in areas with large minority populations and/or economically disadvantaged groups. **Figure 8** shows areas with either more than a 50 percent minority population or income levels of less than 25 percent of the regional mean, and contrasts with the ten employment centers with the highest job concentrations.

On average, our region is an affordable place to live when compared to other major metropolitan areas in the nation, and this is a significant strength that makes us more competitive. However, affordable housing is often quite far from job centers, without good connections by transit. This means that lower-income residents often cannot access many jobs, or even if they can, they face extremely long commutes by transit or must commute by car (which is far more expensive than transit). These barriers reduce the ability of low-income people to participate in the workforce, and also cause problems for businesses that do not have full access to the region's labor pool. The imbalance between affordable housing and jobs is a complex problem, but can be addressed through improvements to the transit system, economic development in lower-income communities, and pursuit of a regionally balanced supply of housing.

Figure 8. Disadvantaged communities and major employment centers



Sources: Data from Census, 2000, and Northeastern Illinois Planning Commission, 2000

Inequitable access is a challenge for the education system, as well. It is widely accepted that education is extremely important for our future, and the region has significant education assets, including a good system of early childhood education programs, a diverse mix of public and private K-12 schools, and good postsecondary options. However, there are also serious inequities, mostly by income and race, to educational opportunities. Creating a skilled labor force goes beyond education to include the workforce development system, which helps undereducated and low-skilled workers to enter and advance in the labor force. Often termed a "second chance" system, it provides training beyond education systems to provide skills needed to get and maintain employment and advance in the labor market. Workforce development programs have great potential to help make sure our region's less-educated people still have an opportunity for productive employment, but these programs can be difficult for workers to navigate, and are incompletely aligned with the needs of employers.

A skilled workforce does not just include highly educated workers, although they are certainly important. Despite industry trends showing that "knowledge-based" employment sectors are large and growing parts of the economy, the majority of employment opportunities, both now and into the future, are middle-skill jobs, which require more than a high school diploma but less than a four-year college degree.

According to some economic leaders, regions that create opportunities for workers at a variety of education and skill levels, particularly these middle-skill jobs, will do best in the new, post-recession economy.

The region also faces serious inequities in health outcomes. Overall our residents are in good health, compared to national averages, but there are high disparities between populations and many continue to lack access to quality care. Like education and job access, health is highly correlated to race and income, but is also linked to the built environment. Communities that are walkable and provide access to open space and parks allow healthier lifestyles; this is particularly important for children and the elderly. Access to fresh, nutritious, and affordable food is a contributor to health, but also varies greatly. Some parts of the region, particularly lower-income communities, do not have grocery stores that sell fresh produce, and this is shown to have negative health impacts in those communities. Increasing access to food and further facilitating local food production in our region can improve health outcomes and also create other economic and environmental benefits. Improving health status is shown to increase the educational performance of children and the workforce participation of adults. Overall, pursuing policies that increase the health of our residents or their access to needed services will increase our region's quality of life and economic strength.

Governance

Efficient and effective decision-making by government is necessary to meet the goals of GO TO 2040. Public sector investments are needed to make progress in many of the areas described earlier in this chapter, but in an environment of limited fiscal resources, these must be carefully prioritized.

Increased coordination between government agencies, transparency of data and decision making, and careful analysis of the impact of tax systems on our economy and community livability are needed.

> *The Regional Vision describes a region where "governance systems [are] characterized by high degrees of intergovernmental coordination" with links between physical planning and "social systems like health care, public safety, education, and social services."*
>
> *To achieve this,* GO TO 2040 *seeks to increase data sharing, governmental transparency, and intergovernmental collaboration, and to remove artificial barriers across programs at the local, regional, state, and federal levels.*

The recent economic downturn has devastated tax revenues and stretched the state and many local governments to the limit. Even before the recession, the state had faced a continuing structural deficit, where growth in expenditures perpetually outpaced growth in revenues. The largest contributor to this problem continues to be the state's unreformed and underfunded retirement system, along with the twin pressures to keep tax rates frozen while improving vital services like education, health care, and transportation and water infrastructure. While the purpose of GO TO 2040 is to serve as a policy plan to spur regional economic vitality (as opposed to a short-term fiscal rehabilitation plan for balancing government budgets) there is no doubt that future governance at all levels must become more efficient and even transformative in the face of rising political pressures to implement many of the plan's recommendations.

Recognizing the depth of these challenges, GO TO 2040 emphasizes prioritized decision making utilizing existing revenues, as opposed to arbitrary tax increases without corresponding changes in the way investments are made. GO TO 2040 recommends only one tax increase — an increase in the motor fuel tax (MFT), a user fee for transportation infrastructure that has eroded in value over 20 years at the same flat per-gallon rate. In other cases, GO TO 2040 recommends exploring prudent expansions of the *tax base*, rather than *tax rates*. This is an important distinction because a broad tax base reflects fairness and helps move us toward a 21st Century system of taxation that aligns with the modern economy.

Beyond the need to provide for public services and balance budgets, state and local taxation is a vital issue to address given its impacts on development decisions and regional economic productivity. The region faces large challenges here, as our current tax systems often incentivize the wrong kind of decisions. The sales tax structure creates an incentive to attract retail land use and may lead many local governments to overemphasize retail uses such as auto dealerships, rather than other economic activities, like industrial parks, which may be more beneficial to the region. Sales tax rates in the region remain very high, but the tax base remains very narrow, as the sales tax is imposed primarily on goods but not services, which make up a large and growing portion of the regional and national economy. The property tax remains the most important revenue stream for our local governments, but the systems in our region are often saddled with complexities, incentives, and constitutional and statutory limitations that distort economic decision making and place undue stress on households, businesses, and local governments. School districts in Illinois remain more reliant on the property tax than almost any other state, which creates large disparities between places with high and low property values.

Residents also have a strong need for greater governmental transparency based on their right to see how tax dollars are spent, how government operates, and how decisions affecting their lives are made. Transparency in government allows the public to know that their intentions are being honored and that they are getting what they want accomplished. Government is more efficient when data is shared between government agencies and more accountable when data is shared with the public. Openness in government through the sharing of data and other information also has an impact on the private sector. Private companies are more likely to remain in or move to a location where government actions are predictable and transparent. Companies will have greater trust that agreements will be upheld and that they will be liable to the rule of law rather than unwritten administrative restrictions. Good government helps support a good business environment.

Many of the recommended actions in GO TO 2040 will require different agencies at the federal and state levels to work to align their goals, performance criteria, funding, and where appropriate, streamline grant requirements. While issues such as transportation, housing, and environment are inextricably linked, federal and state departments responsible for these matters have historically remained largely isolated from one another, varying widely in their policy goals, priorities, and grant requirements. This has created barriers to delivering comprehensive solutions to the problems we face. Creating and sustaining livable communities will require increased federal and state coordination and new ways of making investment decisions that transcend different policy areas and traditionally "siloed" agencies.

Lastly, the sheer number of local governments in our region (over 1,200 units, which is more than any other metropolitan area) presents both challenges and opportunities. Highly localized provision of services like education, fire, and police is a tradition in the Chicago region, as it is in other places across the U.S. In many cases, local government services prove to be efficient and effective and highly reactive to the needs of residents. At other times, multiple layers of taxing authorities may prove duplicative and inefficient — capital equipment can be costly and individual jurisdictions may end up paying far more to provide services for which economies of scale are relatively easy to realize. In this fiscal environment, it may be prudent for some local governments to consider sharing or consolidating services, where appropriate. While such decisions should be made prudently, such efforts often demonstrate favorable results, both in terms of increasing service effectiveness and cost savings.

Conclusions

This chapter has outlined some of the main challenges and opportunities faced by the metropolitan Chicago region across the broad topical areas of livable communities, the economy, transportation, the environment, housing and social systems, and governance.

While the problems often appear daunting, proven solutions do exist. Solving our challenges requires action by individuals, businesses, and all levels of government. In some cases, our region must be willing to push the envelope and make massive changes in the way investment decisions are made.

The recommendations of GO TO 2040 reflect the breadth of challenges and opportunities that the region faces, but also provide specific, implementable actions to address them. Responding to the critical issues identified in this chapter, the plan offers recommendations in four categories:

Livable Communities

Local governments should pursue a denser, mixed-use pattern of land use, focusing on reinvestment within existing communities. Local land use decisions should focus on the interrelationship of transportation, land use, and housing, with an emphasis on development patterns that support the use of public transit. The region should conserve energy and water resources by reducing its consumption in our residential and commercial buildings. Retrofits, pricing strategies, and regulatory reform are all major strategies toward this goal. Increased open space and recreational parks are needed, and these should be targeted in areas that are environmentally valuable, have shortages of open space, or create more connections. Local food production should be supported, and access to healthy food should be expanded.

Human Capital

Our systems of education, workforce development and economic development require more coordination. Data and information should be improved and workforce development service delivery should be made more coherent and responsive to the types of skills needed by the emerging economy. The region should create a more supportive environment for innovation, including creating more linkages between researchers and entrepreneurs. The region's clusters of regional specialization should be nurtured and in many cases investment should be targeted toward them.

Efficient Governance

Our systems of state and local taxation should encourage local decisions that make effective use of land, generate good jobs, and trigger sustainable economic activity. They should set high standards of transparency and predictability for the taxpayer. Public sector data and information systems should be more transparent at every level of government, and the region and local governments should take steps to allow public officials, business people, and residents to get the best available real-time data. Lastly, all levels of government should seek to coordinate policies and investments to increase efficiency and produce more effective local and regional outcomes.

Regional Mobility

The region requires additional resources to maintain and improve our transportation system. At the same time, changing the distribution of resources to prioritize our investments may prove even more vital. Expanding the transportation system to serve development patterns is required in some cases, but these projects should be evaluated carefully. Both increased investment and cost efficiencies should be pursued for our region's system of public transit. Transit investments should be tied to supportive local land use. The region should support freight rail and trucking improvements and mitigate freight's impact on communities.

Livable Communities
Creating a Sense of Place

This theme addresses diverse factors that together shape quality of life in terms of "livability" — what attracts people to a particular community. The chapter on Livable Communities includes four sections of recommended actions:

1. **Achieve Greater Livability through Land Use and Housing** 60
2. **Manage and Conserve Water and Energy Resources** 82
3. **Expand and Improve Parks and Open Space** 116
4. **Promote Sustainable Local Food** 141

One of the central goals of GO TO 2040 is to make our region a better place to live. The Regional Vision describes a future quality of life based on "attractive, interdependent communities" that offer a "range of housing options," "diverse... transportation and recreation choices," and access to "employment, education, health care, and other regional assets [such as] an abundance of art forms." To achieve this, GO TO 2040 seeks 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.




TOWN HALL

RECOMMENDATION

1 Achieve greater livability through land use and housing



One of the GO TO 2040 plan's central goals is to create livable communities. Livability is primarily created at the local level, through planning and development decisions made by communities, developers, and individuals. While CMAP can help local governments address issues of livability in their communities, development decisions will continue to be made locally.

Yet because those actions can have significant cumulative effects on overall regional livability and economic prosperity, it is also important for local decision makers to consider the regional implications of their choices.

Therefore, the purpose of this recommendation area is to help and encourage local governments to apply principles of livability when they make development decisions in their communities. GO TO 2040 supports reinvesting in existing communities, pursuing opportunities for more compact, walkable, and mixed-use development, and providing a range of housing options. The implementation of these principles will vary across the region, requiring sensitivity to the unique context of each community. This section refers to principles of livability frequently; this term is explained in the Challenges and Opportunities chapter on page 37.

The building blocks of local planning are comprehensive plans, consistent ordinances and other regulations, and trained decision-makers. To strengthen those areas, this section of the GO TO 2040 plan includes the following recommendations:

Funding from several existing sources should be targeted to support local planning by communities, with particular emphasis on updating ordinances and other development regulations, and on incorporating transportation, land use, and housing. A new, dedicated source of funding that can be used for infrastructure investments that help to implement local plans should also be created, building on models from other parts of the country.

CMAP and its partners should offer technical assistance — such as researching regulatory mechanisms or helping to identify appropriate housing strategies — to communities that seek to implement principles of livability.

Communities should collaborate with one another to build on lessons learned and to develop solutions for common problems. Counties and Councils of Governments (COGs) should play a significant role in encouraging and facilitating collaboration between municipalities.

Local land use decisions should focus on the interrelationship of transportation, land use, and housing, with an emphasis on development patterns that support the use of public transit.

Among the many benefits of pursuing livable communities, compact development can significantly reduce the cost of local roads and other infrastructure. Growth that emphasizes access to transit and other transportation alternatives can reduce reliance on automobiles, helping to reduce congestion and household transportation costs. Regionally balanced housing options can help residents to live near where they work, which also reduces travel costs and congestion.

Improved livability also helps the region to compete economically with other global centers for businesses and workers. And environmental benefits include increased preservation of agriculturally productive and undeveloped land, less degradation of streams and wetlands, reduced water and energy consumption, improved air quality, and decreased greenhouse gas emissions. But beyond these, improved quality of life is the overriding benefit of implementing these recommendations. Some of the most important benefits are not easily quantified, including the resulting sense of community that leads to civic involvement and unites communities to care for their most vulnerable members.

The goal of GO TO 2040 is not to increase density for its own sake, and the plan does not seek to have all future development occur only in high-density areas. Rather, its overall intent is to create communities that are livable, and increasing densities even moderately is a means to this end. CMAP recommends that land use decisions continue to be a local prerogative. With local authority comes the responsibility to carefully assess broader impacts on neighboring communities and on the region as a whole. Implementing the GO TO 2040 recommendations for achieving greater livability will help to balance the need for local autonomy and the benefits of regional cooperation.

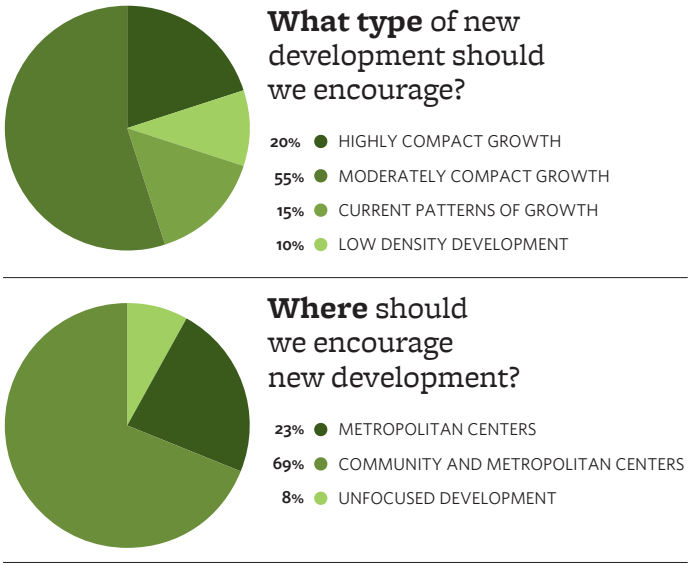
This section describes the benefits of planning locally for livability, current conditions, indicators, and recommendations, with tables describing specific implementation areas and the organizations responsible for implementation.

1.1 Benefits

The GO TO 2040 Regional Vision states that the region should "maximize the competitive advantage of existing physical infrastructure by encouraging reinvestment in our communities through mixed-use, compact development and redevelopment" and also should support "a range of housing options, broadly distributed throughout the region."

After a brief summary of related public opinion, this subsection describes numerous benefits that result from development that supports livability.

Figure 9. Preferences of type and location of development



Source: CMAP GO TO 2040 "Invent the Future" participants, 2009

An important question concerning denser, mixed-use communities is whether people actually want to live in these kinds of places. The clear answer is that some do, and some do not. In support of low-density environments, some people, for example, point to decades of rapid growth in low-density communities, coupled with population declines in urban centers (though recent years have seen some reversal of this trend).[1] On the other hand, advocates of denser development point to such things as higher sale prices of comparable homes in denser areas to demonstrate that people are willing to pay a premium for the benefits that density provides, and point out that homes in neighborhoods that are walkable and well-designed sell for more than similar homes in neighborhoods without these characteristics.[2]

Affordable housing can also be a contentious issue. Many residents oppose it in their communities due to concerns about lowered property values, crime, and other real or perceived drawbacks. But much of this is based on perceptions of affordable housing as extremely dense concentrations of poverty — perceptions that are far removed from current realities. If affordable housing is designed well and placed in mixed-income communities, it can be indistinguishable from market-rate housing. Studies have found that proximity to affordable housing does not have a negative effect on property values, as long as the affordable housing is well-designed and planned in context with the surrounding community.[3]

During the GO TO 2040 "Invent the Future" workshops held in the summer of 2009, CMAP directly asked participants about density preferences. As seen in **Figure 9**, three-quarters of the participants felt our region needs to increase density in order to meet other regional goals, and most favored modest increases in density. Of the participants, 92 percent believed new growth should be targeted to community and metropolitan centers overall. Indeed, many participants noted that changing the overall pattern of development was one of the most important actions that our region could take.

1 Development, Community, and Environment Division of the U.S. Environmental Protection Agency, "Residential Construction Trends in America's Metropolitan Regions," January, 2010. See **http://tinyurl.com/ykwwq6z**.

2 Joe Cortright, Impressa, Inc., "Walking the Walk: How Walkability Raises Home Values in U.S. Cities," for CEOs for Cities, August 2009. See **http://tinyurl.com/l546rk**.

3 Stephen Green et al., "Low Income Housing Tax Credit Housing Developments and Property Values," for the Center for Urban Land Economics Research at the University of Wisconsin, 2002. A wide variety of other studies on this issue are available at **http://www.realtor.org/library/library/fg504**.

Household and Public Cost Savings

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.[4] The cost of providing services such as fire and police protection or garbage pickup is also generally lower in a denser area.[5]

Developing in ways that support livability reduces costs not only for the public sector, but also for individual households. An important feature of livability is its support for alternative transportation that helps reduce reliance on driving. Access to transit options can decrease what households must spend on transportation because traveling by transit is much cheaper than owning, maintaining, and driving a car. Other types of cost savings, such as reductions in health care costs, have been found to be associated with investments in more active forms of transportation like bicycling and walking.[6] Livability principles, particularly supporting denser development and providing a range of housing options, are particularly beneficial around transit stations, as increased development in these areas can dramatically increase access to public transit. Supporting alternative transportation and shortening trips also reduce congestion, with benefits for all users of the transportation system — even those who continue to drive.

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.

The full household cost savings of creating livable communities are best understood by including transportation costs along with housing costs when determining standards of affordability. The Housing + Transportation (H+T) index, recently developed by the Center for Neighborhood Technology (CNT), provides a means to do this.[7] As a next step, energy and other utility costs — which also tend to be lower in livable communities, all else being equal — may be considered as a part of housing costs as well.

4 Additional discussion on infrastructures costs can be found in GO TO 2040 subsection 1.6 "Costs and Financing."

5 Mark Muro and Robert Puentes, "Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns," Brookings Institution Center on Urban and Metropolitan Policy, 2004.

6 Thomas Gotschi, PhD, "Cost-effectiveness of Bicycle Infrastructure and Promotion to Increase Physical Activity." See **http://tinyurl.com/37no2sv/**.

7 Center for Neighborhood Technology, "Housing + Transportation Affordability Index." See **http://htaindex.org/**.

Economic

The quality of the region's workforce is a primary driver of future prosperity, and research has shown that the single best predictor of a region's economic growth is the educational achievement of its residents.[8] Part of the solution is to improve education and workforce development systems, and this is a high-priority recommendation of GO TO 2040. But workers and jobs are increasingly mobile, with the ability to relocate quickly from region to region. Therefore it is important for the region to attract and retain skilled workers, in competition with other major regions across the nation and world.

To successfully compete, the region needs to be viewed as an attractive, desirable place to live and work, and livability is being increasingly recognized as a contributor to economic growth.[9] Some researchers believe that attracting the highly educated and skilled workers who drive economic growth is key, and that denser urban places will do best in this regard.[10] Others doubt that all skilled workers want to live in cities, but that they will be attracted to places with good schools, low crime, and short commutes.[11]

The assumption of GO TO 2040 is that the region will need to attract a variety of skilled, talented people to be economically successful, so the region will need a variety of community types — but all communities should be designed with consideration of whether they will support a high quality of life.

8 Based on a review of the following studies: C. Simon, "Human Capital and Metropolitan Employment Growth," Journal of Urban Economics 43 (1998): 223-243. E. Glaeser et al., "Economic Growth in a Cross-Section of Cities," Journal of Monetary Economics 36 (1995): 117-43. E. Glaeser and J. Shapiro, "Urban Growth in the 1990s: Is City Living Back," Journal of Regional Science 43 (2003): 139-65. J. Pack, Growth and Convergence in Metropolitan America (Washington, D.C : Brookings Institution, 2002). E. Glaeser and A. Saiz, "The Rise of the Skilled City," Brookings-Wharton Papers on Urban Affairs 5 (2004): 47-94. R. Green, "Airports and Economic Development," Real Estate Economics 35 (2007): 91-112. P. Blumenthal et al., "Understanding the Economic Performance of Metropolitan Areas in the United States," Urban Studies 46 (2009): 605-27. M. Greenstone and E. Moretti, "Bidding for Industrial Plants: Does Winning a Million Dollar Plant Increase Welfare?" NBER Working Paper 9844 (2003). See **http://www.nber.org/papers/w9844**. Z. Acs and C. Armington, "Employment Growth and Entrepreneurial Activity in Cities," Regional Studies 388 (2004): 911-927.

9 CEOs for Cities, "The Changing Dynamics of Urban America," 2004.

10 Richard Florida, *The Rise of the Creative Class*, 2002.

11 Edward Glaeser, Review of Richard Florida's The Rise of the Creative Class. See **http://tinyurl.com/22vyydz**.

Environmental

Environmental impacts of continued development in rural areas include the loss of agriculturally productive land, missed conservation opportunities, degradation of streams and wetlands due to encroaching development and stormwater runoff, and increased pollutants and emissions from travel across a more-dispersed development pattern. An approach to livability that includes a denser development pattern that focuses on reinvestment within existing communities reduces the pressure for consumption of undeveloped land.

Developing more densely also reduces consumption of water and energy, all else being equal. Shorter pipe lengths in denser areas mean less wasted water, and smaller yards require less watering.[12] Energy savings in denser areas, and corresponding decreases in greenhouse gas emissions, occur primarily because of the reductions in driving described above. Impervious cover is also reduced, on a regional scale, by higher densities, particularly if growth occurs as redevelopment in places that already have impervious surface cover.

While these positive environmental impacts are regional in nature, dense development and reinvestment in existing communities may cause localized problems. While denser development does lower the region's total acreage of impervious surfaces, for example, it also concentrates these into a smaller area, which can worsen flooding. Denser development can also create heat islands in areas without sufficient open space, or pockets of poor air quality caused by concentrating many motor vehicles and other pollutant emitters into a small area.

Many of these challenges can be solved or mitigated by applying green development techniques or conservation design, which is an element of GO TO 2040's definition of livability. By incorporating open space, carefully designing buildings and landscapes, and using small-scale green infrastructure features, the localized negative impacts of density can be avoided.[13]

Quality of Life

By definition, livable communities are intended to improve quality of life. The measures above — concerning household costs, economic growth, and environmental protection — are all ways to measure elements of quality of life, but there are other impacts that are difficult or impossible to quantify. A sense of community is one of the most important elements of livability, but defining or assessing this concept is impossibly complex. At its best, a strong sense of community can increase civic involvement, as residents feel commitment to improving their community; lower crime, as neighbors watch out for each other and for suspicious activity; and even improve disaster recovery, as stronger communities are better able to come together to care for their most vulnerable members.

Recent research also illustrates links between livable communities and both physical and mental health.[14] Some benefits can be linked to physical design features such as access to parks and open space, and available bicycle and pedestrian facilities. Other benefits relate more to the sense of community described above. In particular, designing for livability can allow older residents to "age in place" within their homes or communities, with demonstrable positive physical and mental health outcomes. Because the population of the region is aging, with the number of residents over 65 projected to more than double by 2040, this issue is increasingly important.[15] Overall, while the positive impacts of livable communities have not all been isolated and statistically proven by research, there is plenty of quantitative and anecdotal evidence to argue for pursuing livability in development decisions.

12 Chicago Metropolitan Agency for Planning, "Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan," 2010. See **http://www.cmap.illinois.gov/waterplan**.

13 These techniques are described at greater length in the GO TO 2040 sections titled "Manage and Conserve Water and Energy Resources" and "Expand and Improve Parks and Open Space."

14 GO TO 2040 Health Strategy Paper, 2009. See **http://www.goto2040.org/health/**.

15 Demographic trends projected by CMAP; see GO TO 2040 chapter titled "Challenges and Opportunities" for more detail.

1.2 Current Conditions

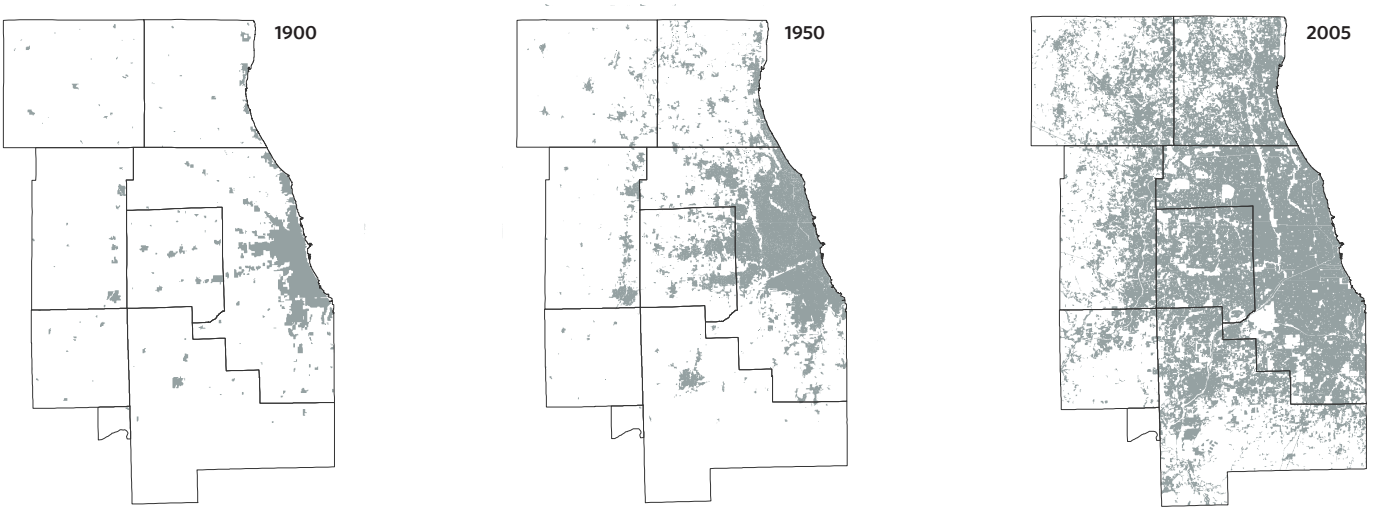
The Problem with Current Land Use Patterns

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. **Figure 10** shows how the region's developed area has changed over the past century.

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 relative importance of these factors has been debated for decades and will not be solved by GO TO 2040. But whatever the reasons, 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.[16] 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.

Figure 10. Regional development, 1900-2005



16 CMAP Infill Snapshot. See **http://www.cmap.illinois.gov/snapshot.aspx#Infill**.

Figure 10 Source: U.S. Environmental Protection Agency, Chicago Area Urban Development, 2008 (1900-1990 images); CMAP land use inventory (2005 image)

Impediments to Planning for Livable Communities

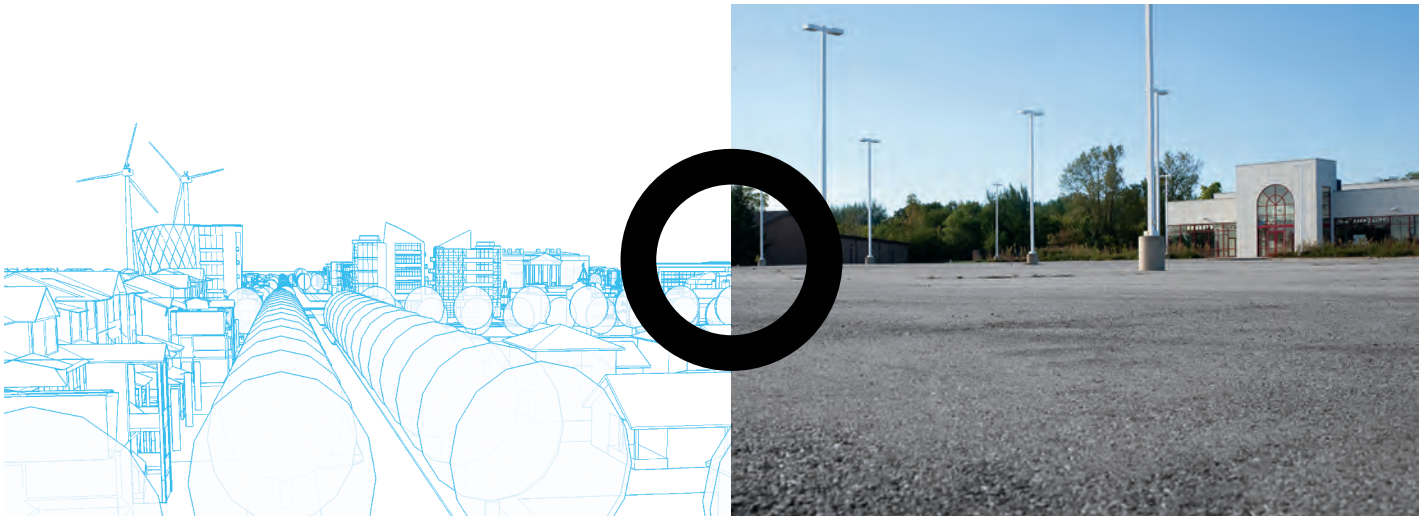
While there are many good local examples of planning for livable communities, overall regional trends have not been positive. Recent development patterns resulted from various factors that remain in place today, and significant obstacles face communities or developers pursuing projects that involve reinvestment, compact or mixed-use development, or affordable housing components.

On the regulatory side, ordinances, codes, and other regulations often make it more difficult to build compact, mixed-use development instead of single-use subdivisions. Projects involving reinvestment in existing communities face particular challenges. Often, development requirements also affect the cost of housing construction or rehabilitation, inhibiting efforts to preserve housing; these can include aesthetic touches like requirements for brick facades, which can be important for community acceptance but can also make affordability a challenge. Land assembly can be extremely difficult in established downtown areas that have seen decades of fragmented ownership. Some development regulations like minimum parking provisions can add challenges to redevelopment of sites in denser areas. Further, well-intentioned planning policies can sometimes come into conflict with each other. For example, regulations meant to help manage stormwater in urban communities can make it difficult to pursue reinvestment projects in these areas.

Significant non-regulatory impediments also exist. Public opinions about perceived negative effects of dense or affordable housing — often based on past examples of large blocks of multi-family housing — can impede efforts to establish a range of housing opportunities in revitalized community cores. "Density" is often perceived as a negative term, although the primary challenge in developing more compactly often has more to do with issues of community fit than with density itself. And well-intentioned plans and policies that try to mix land uses do not always align with market conditions, creating retail vacancies that can detract from communities.

Although some of these impediments cannot be solved directly by local government actions, all can be addressed in some way. The public sector cannot create a market for redevelopment where none exists, but it can invest in infrastructure that makes redevelopment projects more viable. Similarly, most housing is constructed by the private sector, but local governments permit what types of housing can be built. Changing existing perceptions about affordable housing may seem impossible, but over time, proactive education and well-designed affordable housing developments can make a difference. And some of our challenges are also opportunities; there are significant opportunities to accommodate future growth by reinvesting within the borders of our municipalities, as **Figure 11** demonstrates. This map shows parts of the region with significant vacant land, or with industrial or commercial parcels that are defined as "underutilized" (meaning that the value of the actual land is greater than the value of the improvement on the land).[17]

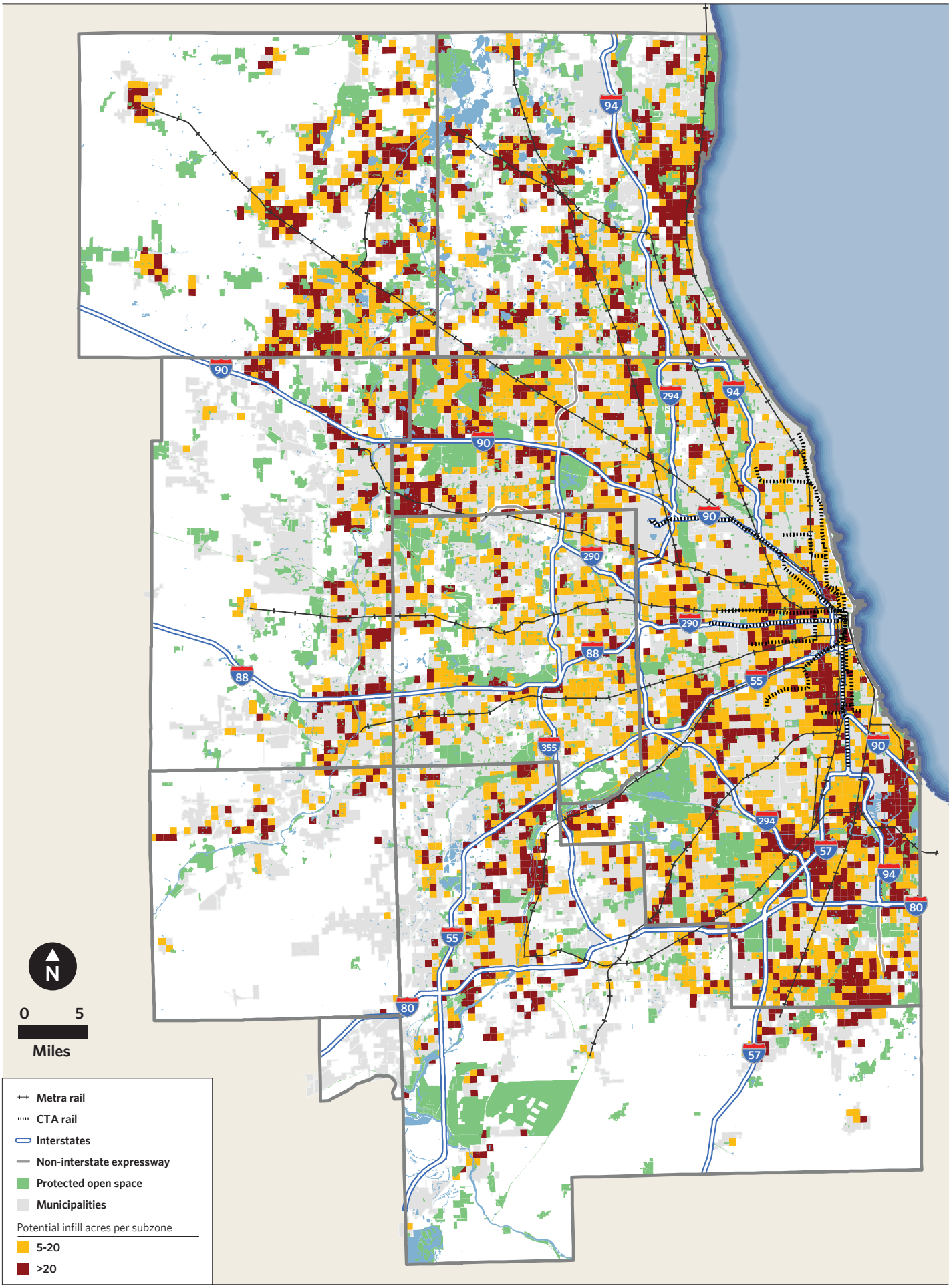
While CMAP recognizes that the obstacles to building livable communities are significant and complex, GO TO 2040's recommendations concerning land use and housing are built on the belief that proactive planning by local governments can make a major positive difference.



17 CMAP Jobs-Housing Snapshot. See **http://www.cmap.illinois.gov/documents/20583/9cdd51bf-4184-415a-a6af-7403ea0a6d6e**.

Within existing municipal boundaries, there are more than 100,000 acres of vacant or under-used land. GO TO 2040 promotes the redevelopment of this land with a mix of residential and non-residential uses, accommodating half of the region's growth — about 1.2 million people.

Figure 11. Opportunities for reinvestment



Source: Chicago Metropolitan Agency for Planning, 2010

1.3 Indicators and Targets

The recommendations described in this section seek to support local governments as they plan for livable communities, and to achieve a regionally balanced supply of housing of all types and costs. GO TO 2040 proposes tracking progress toward these goals through two indicators: the amount of reinvestment within existing communities; and percentage of income spent by low-income households on housing and transportation costs.

Reinvestment

A critical element of GO TO 2040 is encouraging development in existing communities, where infrastructure to support it is already available. According to analysis of infill opportunities,[18] 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 (**see Figure 9**). 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.

REDEVELOPMENT OF UNDERUTILIZED ACRES

20,000 acres by 2015

100,000 acres by 2040

Housing Affordability

CNT has developed a new measure of housing affordability that includes transportation costs. Called the H+T index,[19] this is a fuller measure of the true cost of housing, recognizing that while housing prices may fall in lower-density areas that are far from transit, the transportation costs of living in these areas are considerably higher.[20] According to this report, moderate-income and low-income residents of the region spend an average of 55 percent of their incomes on housing and transportation. By 2040, GO TO 2040 seeks to reduce this number to 45 percent.

PERCENTAGE OF INCOME SPENT ON HOUSING AND TRANSPORTATION BY MODERATE-INCOME AND LOW-INCOME RESIDENTS

53% by 2015

45% by 2040

18 CMAP Infill Snapshot. See **http://www.cmap.illinois.gov/snapshot.aspx#Infill**.

19 Center for Neighborhood Technology, "Housing + Transportation Affordability Index." See **http://htaindex.org/**.

20 Center for Neighborhood Technology, "Housing + Transportation Affordability Index." See **http://htaindex.org/**.

1.4 Recommendations

As described in the preferred Regional Scenario, GO TO 2040's approach to land use and housing is to "support the efforts of local governments to improve livability within their communities and to encourage a future pattern of more compact, mixed-use development that focuses growth where infrastructure already exists," and to seek "an adequate and regionally balanced supply of affordable housing."[21]

The recommendations described below focus on the ways that elements of livability can be applied and implemented in northeastern Illinois.

Many elements of livability can be supported through planning for land use and housing, including: support for transportation options including walking, bicycling, and transit; a range of housing options; environmental protection; a focus on reinvestment; denser, mixed-use development; design and aesthetics; and the context or "fit" of development with the local community.[22] The importance of local implementation of these overall principles is critical, and must be emphasized. For example, appropriate densities and ways to address mixed-use development will vary between and even within communities. Strategies to address housing must also be carefully customized and may include housing preservation, incentive-based inclusionary zoning, removal of regulatory barriers, creation of community land trusts, strategies to address foreclosures, or planning for supportive land uses near housing, based on a community's unique needs. And while GO TO 2040 supports reinvestment in existing communities, it recognizes that reinvestment projects must be implemented in ways that respect local character, historic context, and other local priorities such as increasing access to green space; it also recognizes that not all development will occur within existing communities, but even new "greenfield" development can and should include features that support livability. Overall, these observations lead to the conclusion that there is no "one size fits all" for the implementation of livability principles, and reinforce the importance of local planning.



The building blocks of local planning for livable communities are high-quality plans, ordinances and other regulations that are consistent with adopted plans, and trained and educated decision-makers (plan commissioners, zoning board members, and elected officials). GO TO 2040 recommends addressing each of these building blocks through a combination of funding and financial incentives, technical assistance, and collaboration.

Comprehensive plans

Comprehensive plans provide opportunities to plan proactively for a community's future and also address its context within the region. While many communities have adopted recent comprehensive plans that address issues of livability, there are many others whose plans are outdated, have been made irrelevant through zoning decisions (which often reflects a disconnect between the adopted plan and the realities of community development issues), or simply have never had a comprehensive plan. Even among those communities with current comprehensive plans, many do not include components such as housing affordability.

21 See the "Quality of Life" section of the "Challenges and Opportunities" chapter of GO TO 2040, which explains this term more fully.

22 For more information on these topics, see the CMAP Snapshot Reports (**http://www.goto2040.org/snapshot.aspx**) and strategy papers (**http://www.goto2040.org/strategy_papers.aspx**) on infill, urban design, housing preservation, inclusionary zoning, regulatory barriers, conservation design, bicycling, and public transit.

Ordinances

Many of the comprehensive plans adopted throughout the region contain well-conceived development goals that are entirely consistent with GO TO 2040's recommendations, but zoning ordinances in the region are largely antiquated, hobbled by years of "band-aid" modifications that often have resulted in internal inconsistency. Although zoning ordinances constitute the legal tool by which a local government can carry out the comprehensive plan, these ordinances commonly have not been updated to reflect and carry out the exemplary policies a community may have adopted in its comprehensive plan. Many times, such incongruence in zoning regulations prevents a suitable mix of housing types or limits opportunities for mixed-use development, for example.
To actually implement the comprehensive plans of the region's local governments, fundamental regulating mechanisms need to be in sync with their current development goals.

Trained decision-makers

Even with up-to-date plans and ordinances, there is still a critical role for local decision-makers, particularly plan commissioners and local elected officials, to implement GO TO 2040. Many development proposals require discretionary review, and judgment calls on the part of decision-makers are needed constantly. It is important for these decision-makers to be aware of the regional as well as local consequences of their decisions, and to consider these as they review development proposals.

GO TO 2040 recommends that land use continue to be decided at the local level. With decision-making authority comes responsibility, and the communities making land use decisions should also be aware that their individual decisions, taken together, have regional impacts. Even seemingly small land use decisions should not be taken lightly, and each of the region's local governments should commit to a proactive and comprehensive approach to planning.

Through the following recommendations, GO TO 2040 seeks to support local governments in their planning for livable communities, and strives for a positive dynamic that balances the need for local autonomy and regional cooperation.

Funding and Financial Incentives

The need to provide a funding source for local plan and ordinance updates has been recognized for a long time. For years, CMAP and other groups have recommended that the state allocate funding to the Local Planning Technical Assistance Act, which promised grants to develop local comprehensive plans but was never actually funded. GO TO 2040 supports continued efforts to fund the Act, and recognizes that the state has funded local planning activities (through grants administered by the Illinois Department of Commerce and Economic Opportunity [DCEO], for example), but it does not rely on this as the sole source of planning funding in the near term. Instead, the plan focuses on alternative funding sources that can be used for similar purposes; it specifically identifies several funding sources linked to transportation planning but also recommends that non-transportation funds be used as well.

Three transportation funding sources have been identified as reasonable replacements for the lack of dedicated state funding. First, the Regional Transportation Authority's (RTA) Community and Subregional Planning Programs have provided millions of dollars as well as technical assistance to local governments over the past decade to pursue transit oriented development (TOD) plans or similar studies focused on transit and land use. Nearly 80 of these grants have been issued, and they have been successful in linking land use and transportation planning. A second source is the Illinois Department of Transportation's (IDOT) Statewide Planning and Research funds, which have been used for projects that link land use and transportation in the past and were the source of the Illinois Tomorrow planning grants. The third and final source is Unified Work Program (UWP) funds, federal planning funds, which are administered by CMAP. These have been used in the past to fund RTA's planning grants.

GO TO 2040 recommends coordinating these three funding sources to more effectively provide funding and technical assistance for studies and implementation projects that link transportation, land use, and housing, in support of GO TO 2040. This may ultimately result in a single, streamlined program, with funding decisions jointly agreed upon by CMAP, RTA, and IDOT, but in the short term should at least include coordination in terms of application materials and timing. While each funding source has various restrictions concerning how it can be spent, activities that include transportation components, such as land use planning that supports transit, bicycling, and walking, would generally be eligible. The funding program should be further supplemented by funds from federal and state economic development, environmental or housing agencies, such as DCEO and the Illinois Housing

Development Authority (IHDA), or from philanthropic groups interested in supporting planning. This program should be designed to lead to implementation. For example, many plans recommend changes to zoning ordinances or parking regulations, but some municipalities lack the staff or funding needed to implement these regulatory changes; this program should be linked with technical assistance from CMAP, RTA, and others to address this gap. Further, GO TO 2040 recommends prioritizing planning grants based on the degree to which each grant application can increase collaboration among neighboring communities, encompass related topics such as energy, or increase livability in other ways.

Federal programs may also provide new funding sources for planning and implementation. Recent collaborations between several federal agencies have indicated the federal government's interest in promoting livability, and these should be expanded and strengthened. In particular, while funding for planning is helpful, funding for implementation is even more critical. The Sustainable Communities Initiative, a new partnership between the U.S. Department of Housing and Urban Development (HUD), the U.S. Department of Transportation (U.S. DOT), and the U.S. Environmental Protection Agency (U.S. EPA) appears to provide initial steps in this direction, and the federal government should commit sufficient funds to this or similar programs to support plan development and implementation.

Opportunities for tying implementation funds to planning can even be pursued without new funding sources by reconsidering how existing investment decisions are made. Recognizing the interplay between infrastructure investments and land use, the region should use transportation funding strategically to support projects that help to implement GO TO 2040. Two examples from other regions, the Atlanta Regional Commission's Livable Communities Initiative (LCI) and the San Francisco Bay Area Metropolitan Transportation Commission's Transportation for Livable Communities (TLC) program, use a combination of state and federal funds for this purpose. The following examples are described.

Since 1999, the Atlanta Regional Commission's LCI program has funded planning studies in 80 communities, at a cost of slightly over $10 million. Almost all of these communities have incorporated the results of these studies into their comprehensive plans, and most have adopted zoning ordinances or other policies to implement the studies. The LCI program has directed nearly $130 million in infrastructure improvements to these communities, using Surface Transportation Program (STP) funds, and has documented measurable results in terms of new development in communities where these investments were made.[23]

The San Francisco Bay Area Metropolitan Transportation Commission's TLC program funded 70 planning projects between 1998 and 2006, totaling about $2.7 million in cost, and directed $84 million in capital improvements over the same period. The capital improvements are funded with Congestion Mitigation and Air Quality Improvement (CMAQ) and STP funds, and funding for the planning studies comes from a mixture of federal and state funds. The TLC program has a special focus on promoting high-density and mixed-use developments with affordable housing components near transit stops. Expansion of the program is currently being considered.[24]

A similar program should be created in the metropolitan Chicago region. Currently, STP funds spent in the region are split between the state and local governments (with the local portion being further split between Chicago and the eleven Councils of Mayors), and CMAQ funds are programmed and administered by CMAP. It is recommended that a combination of state STP and CMAQ funds be used to create a separate funding source to be used for infrastructure investments that support livability. The infrastructure investments should be focused specifically on implementing projects that spring from the recommendations of local comprehensive planning efforts. Local STP should remain programmed by the Councils of Mayors and City of Chicago, but CMAP encourages local programmers to consider incorporating support for livable communities into their funding decisions.

23 For more information on the Atlanta Regional Commission's Livable Centers Initiative program, see **http://tinyurl.com/35etrj3**.

24 For more information on the San Francisco Bay Area Metropolitan Transportation Commission's Transportation for Livable Communities program, see **http://www.tinyurl.com/3423ycb**.

Technical Assistance

The broad term of "technical assistance" is used here to mean direct, non-financial assistance provided to communities by CMAP staff, other state or regional agencies, counties, or nongovernmental groups. Other technical assistance providers can take leadership or supporting roles in many technical assistance activities; the experience of the development community should also not be overlooked, and organizations that represent the private sector are also relevant partners for technical assistance. CMAP should help to coordinate these assistance efforts to avoid duplication.

Technical assistance activities provided by CMAP will vary over time and will be detailed in each year's work plan. It is intended to be a proactive, rather than reactive, activity — in other words, CMAP will identify priorities and then work collaboratively with communities to accomplish them, but the agency will also need to react to changing conditions. Possible opportunities for assistance will be evaluated based on how well they match CMAP's priorities, support the principles of GO TO 2040 in general, leverage other technical assistance activities being pursued by other organizations, or relate to short-term crises or opportunities.

A first step in designing an annual technical assistance program is to determine what is most needed and most helpful. The Compendium of Plans, a review and summary of the comprehensive plans of all of the region's municipalities compiled by CMAP, should be updated every two years.

This can be used to target technical assistance by providing an assessment of the current state of local comprehensive planning, and also to identify commonly missing or underemphasized elements of comprehensive plans. When assisting with comprehensive plan preparation, technical assistance providers should seek to make them truly comprehensive, addressing issues beyond land use and housing such as energy conservation, arts and culture, public health, and others.

Technical assistance activities will often take the form of creating model ordinances or codes for municipal consideration, often on topics like water conservation that may be outside of usual comprehensive planning practice. CMAP will also research and explore innovative regulatory mechanisms such as the SmartCode and form-based coding (FBC), which may be more appropriate to mixing land use and preserving affordability than conventional zoning. These mechanisms help to focus development discussions on how appropriate context, form, and even aesthetic concerns can counteract the negative perceptions about density, affordability, and compactness. Also, CMAP will help communities with forecasting and visualizing the long-term, actual effects of current ordinances that may unintentionally be stymieing desired development goals (with affordability and mixed-use being primary examples). Sharing of best practices for ordinances as well as other regulatory methods like impact fees should also be part of the technical assistance approach. Other software like the Centers Toolkit, the Return on Investment (ROI) tool, and the MetroQuest software used during CMAP's Invent the Future workshops can all be relevant for communities at different stages in their planning processes.

Where possible, technical assistance should build local capacity, rather than resulting in plans or ordinance updates that are prepared by external groups and then handed over to a local government. Developing plans and ordinances is a central responsibility of local governments to regulate land use, and every community should ideally have the capacity to review ordinances and development proposals without relying on external assistance.

A particular focus of technical assistance activities will involve housing, which is one of the most challenging components of livability to address; according to CMAP's recent survey of comprehensive plans, only 23 percent include an emphasis on affordable housing. While recognizing that local governments will take varying approaches to address the overall goal of a regionally balanced supply of housing, CMAP encourages every community to proactively address the issue. Beginning with an assessment of housing supply and future demand (e.g., the "Homes for a Changing Region" report series) can inform further discussion of the issue, and these reports should be continued and expanded to cover additional communities.

A variety of housing policy options are appropriate in different types of communities. Housing preservation, incentive-based inclusionary zoning, employer assisted housing, community land trusts, removal of regulatory barriers, furthering fair housing goals, or foreclosure prevention programs — just to name a few — can be solutions in communities facing different housing challenges. CMAP and other technical assistance providers can play a role in helping communities to sort through the various housing programs that can be adopted on the local level, finding those that fit best in a particular situation, and integrating them into a comprehensive planning approach. This is a role already played by a variety of regional and local nonprofit organizations and their useful work should continue. The development community should be actively engaged in these discussions as well.

Intergovernmental Collaboration

GO TO 2040 strongly supports coordination between communities. Intergovernmental approaches are often the best way to solve planning problems in housing, transit, economic development, and other areas, and CMAP encourages the formation of these groups and offers technical support for their work. These can often be formalized as collaborative planning groups that are organized around a transportation corridor (such as the Cook-DuPage Corridor) or an area with specific economic development needs (such as the Southland Economic Development Corporation), or within watersheds around shared environmental issues such as water supply. Interjurisdictional housing groups (such as the South Suburban Housing Collaborative) are active or emerging in many parts of the region, and building capacity at these organizations should be supported by CMAP and other technical assistance providers. State and federal agencies (such as the IHDA, IDOT, and DCEO at the state level, and HUD, U.S. DOT, and U.S. EPA at the federal level) should prioritize funding in areas that enter into intergovernmental agreements.

At a less formal level, coordination between municipalities is beneficial for information-sharing among planning professionals and officials. In addition to encouraging intergovernmental cooperation among neighboring communities, CMAP should also bring together communities that face similar challenges across the region, fostering networked collaboration to share ideas and strategies. For example, communities that have faced challenges in incorporating a range of housing options, or those that have applied particular housing solutions, can serve as useful case studies for other communities considering similar techniques, and there is no substitute for direct communication between them.

In all of these collaborative efforts there is a strong and significant role for counties and COGs. These groups are encouraged to take the lead to create and staff formal collaborative groups, or to convene local planners and planning officials in less formal ways. GO TO 2040 recommends a supporting role for CMAP in these efforts.

Link Transit, Housing, and Land Use

Linking transit, housing, and land use is less a separate recommendation than a focused way to apply the recommendations in the other implementation areas. TOD represents one of the principal linkages between the issue areas addressed by CMAP, and is a particular focus of GO TO 2040. The higher value of land near transit services often makes it more difficult to plan for affordable housing in these locations, so affordability needs to be addressed specifically.

The number of TOD studies completed within the last decade means that many of the most promising TOD locations have had plans prepared for them, but often implementation has been lacking. Ordinances and other regulations have not always been updated to match the recommendations of the plans, and there has also been no concerted effort to focus infrastructure investments to implement these plans. As described earlier in this section, GO TO 2040 recommends increasing the amount of funding for planning, and allocating a significant portion of this to update ordinances; it also recommends creating a special funding source for infrastructure improvements that support the implementation of these plans.

It is also important to plan jointly for land use and transit in areas that may be outside of traditional TODs. Frequently, opportunities for transit-supportive land use planning will be in areas served by bus, or slightly outside the "walkable" range of a train station — and therefore outside the definition of a traditional TOD. CMAP should work closely with its partners, including RTA and the transit service boards, local governments, and regional civic organizations, to identify additional opportunities to support transit-supportive land use. This could include areas near train stations where site assembly has proven difficult, or where past projects have faced implementation challenges.

Improving transit is a high-priority recommendation of GO TO 2040, and requires supportive land use to succeed. GO TO 2040 recommends that transit expansion be accompanied by land use planning that seeks to create an affordable, transit-friendly environment, with investments in sidewalks, bus shelters, bicycle accommodations, and other infrastructure; transit decision makers should prioritize investments in places where supportive land use planning is occurring.[25]

Preserving affordability or creating new affordable options near transit is often difficult because high demand to live near transit increases the cost of housing.

Local governments should plan for mixed income transit oriented development, by ensuring that housing near transit includes affordable housing provisions and that affordability is maintained in the long-term. CMAP will work with partners including IHDA to assure that applicants are rewarded when developing housing near transit. Additionally, CMAP will work with preservation collaborations to encourage affordable housing preservation strategies focused on areas around transit and employment.

25 The GO TO 2040 section titled "Increase Commitment to Public Transit" contains further discussion of the importance of this linkage.

1.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on four implementation areas for achieving greater livability through land use and housing:

Provide Funding and Financial Incentives

Provide Technical Assistance and Build Local Capacity

Support Intergovernmental Collaboration

Link Transit, Land Use, and Housing

Implementation Action Area #1: Provide Funding and Financial Incentives

Align funding for planning and ordinance updates LEAD IMPLEMENTERS: State (IDOT, DCEO, IHDA), RTA, CMAP, counties, municipalities, philanthropic	CMAP, IDOT, and RTA should coordinate funding programs to fund local plans and ordinance updates. Use funds to create new streamlined grant program for transportation, land use, and housing which assists local governments to create plans or ordinance updates that are consistent with GO TO 2040. This program should be able to fund ordinance changes, updates to local programs or policies, or similar activities, as well as plan preparation. Supplement these funding sources with philanthropic or other public and private sources as appropriate. In particular, funding from housing and economic development sources should also be included within this streamlined program.
Implement and expand the Sustainable Communities Initiative program LEAD IMPLEMENTERS: Federal (HUD, U.S. DOT, U.S. EPA, DOE, EDA)	The federal government should apply the principles of the Sustainable Communities Initiative across other federal programs as well. Its administering departments (HUD, U.S. DOT, and U.S. EPA) should also commit sufficient funds in future years to make it a significant funding source for plan implementation, not just plan development. Federal agencies should also align federally-required planning efforts, such as HUD Consolidated plans, with GO TO 2040 priorities, and federal investment should be geared to implement planning efforts that are consistent with the principles of the Sustainable Communities Initiative.
Develop regional infrastructure funding programs for plan implementation LEAD IMPLEMENTERS: State (IDOT), RTA, CMAP, counties, COGs	Create a pilot program meant to focus infrastructure funds to implement local comprehensive plans, modeled on programs in the Atlanta and San Francisco regions. Allocate a portion of funds currently programmed by the state (STP) and by CMAP (CMAQ) for this purpose. Retain the current programming of local STP funds, but encourage programmers to consider livability in their funding decisions.

Implementation Action Area #2: Provide Technical Assistance and Build Local Capacity

Continually review status of local plans LEAD IMPLEMENTERS: RTA, CMAP, counties, municipalities	Update the Compendium of Plans every two years. Use its findings to target planning technical assistance. This could include comprehensive planning assistance to communities that do not have current plans, and assistance with implementation to those that do. Also use results to identify missing or underemphasized elements of local comprehensive plans, such as housing affordability or water conservation. Include review of plan implementation status for plans funded through RTA grants.
Create model ordinances and codes LEAD IMPLEMENTERS: CMAP, counties, municipalities	Develop sample ordinances or codes in areas relevant to GO TO 2040 that can be adapted by local governments. Examples include water conservation ordinances, housing rehabilitation codes, and parking regulations. At the same time that model ordinances are under development, work with a few case study communities to ensure that they can be adapted to work locally. CMAP should also promote best planning practices through publications highlighting local approaches to these issues.
Research and explore alternative land use regulation systems LEAD IMPLEMENTERS: CMAP, counties, municipalities, nonprofits	Research alternative systems such as SmartCode and FBC that address structure, form and placement over conventional use-based, Euclidean zoning approaches. Coordinate with communities that have adopted alternative land use regulatory systems, assess performance, and provide resources and training for other communities interested in these methods.
Analyze ordinance outcomes LEAD IMPLEMENTERS: CMAP, counties, municipalities, nonprofits	In partnership with interested communities, CMAP should review existing ordinances to quantitatively analyze their impacts (in terms of stormwater runoff, local fiscal impacts, resulting housing cost, contributions to greenhouse gas emissions, and others). Also create visualizations that improve understanding of the outcomes of current ordinances.
Provide assistance in planning for affordable housing needs LEAD IMPLEMENTERS: CMAP, counties, municipalities, nonprofits	In partnership with interested communities, research local housing supply and demand and identify appropriate housing strategies. Provide direct technical assistance, in collaboration with other regional civic organizations, to communities seeking to develop a balanced supply of housing through locally-appropriate strategies such as community land trusts, land banking, housing preservation, employer assisted housing, inclusionary zoning, removal of regulatory barriers, strategies for vacant or foreclosed properties, furthering fair housing goals, or community acceptance strategies. Support local work through regionally-sponsored research such as the "Homes for a Changing Region" reports, the "Home Grown" best practices summary, or similar efforts.
Use and enhance existing technical assistance software tools LEAD IMPLEMENTERS: CMAP, counties, municipalities, nonprofits	Strategically deploy CMAP's Centers Toolkit, ROI tool, MetroQuest software, and the Metropolitan Planning Council's (MPC) Placemaking program. Develop an online "library" of best planning practices by local governments, to be continually updated and improved as technical assistance activities continue.
Target technical assistance to communities demonstrating interest in furthering GO TO 2040 LEAD IMPLEMENTERS: CMAP, RTA, counties, municipalities, nonprofits	Create menu of assistance "offerings" consistent with GO TO 2040, and clearly evaluate requests for assistance based upon conformance with these plan objectives. Proactively identify opportunities to provide community assistance.
Sponsor Planning Commissioner workshops LEAD IMPLEMENTERS: CMAP, counties, municipalities, nonprofits	Provide a cycle of Planning Commissioner Workshops throughout the region every two years. Workshops will cover such issues as the importance of updating comprehensive plans, consistency of local ordinances with comprehensive planning policy, making defensible land use decisions, roles of planning commissions and zoning boards of appeals, and placing local land use decisions within a regional context. These also can include special sessions on topics of interest, such as transit-supportive land use, energy conservation, or parking regulation, to name a few.

Implementation Action Area #3: Support Intergovernmental Collaboration

Encourage formation of formal collaborative planning efforts LEAD IMPLEMENTERS: CMAP, RTA, counties, COGs, municipalities	Encourage COGs and counties to lead formation of issue-specific collaborative planning groups to address issues such as housing, transportation, economic development, land use, water and related environmental issues, or others. Provide technical assistance to existing collaborative groups in research and mapping, developing model ordinances and overlay districts, seeking funding, interacting with state and federal agencies, and entering into intergovernmental agreements.
Form collaborative groups to address affordable housing across communities LEAD IMPLEMENTERS: Counties, COGs, municipalities, nonprofits, developers, other housing stakeholders	Encourage the formation of collaborative groups to address affordable housing across communities. These can be broad (such as the South Suburban Housing Collaborative) or specifically targeted to a specific housing issue (such as the Preservation Compact and the Lake County Preservation Initiative). These groups should include a broad array of housing industry stakeholders and should explore various funding mechanisms to produce strategies that are nimble and specific to the current housing market.
Prioritize funding to communities engaging in intergovernmental planning LEAD IMPLEMENTERS: Federal (HUD, U.S. DOT, U.S. EPA), state (IHDA, IDOT, DCEO)	Provide financial incentives for involvement in collaborative groups by prioritizing funding to communities that apply for funding jointly and develop programs across municipal borders. Selection criteria in funding programs should recognize and reward intergovernmental applicants.
Facilitate communication between communities facing similar challenges LEAD IMPLEMENTERS: CMAP, counties, COGs, municipalities	Support initiatives by COGs or counties that bring municipalities together in coordinated planning activities and information-sharing. CMAP should work with staff of the counties and COGs to help coordinate these efforts. CMAP should also identify communities sharing similar features facing similar planning challenges, and provide a facilitated environment to bring them together to work on solutions and share ideas collaboratively.

Implementation Action Area #4: Link Transit, Land Use, and Housing

Identify and exploit additional opportunities for transit oriented development LEAD IMPLEMENTERS: CMAP, RTA, CTA, Metra, Pace, counties, municipalities, nonprofits	Many communities have embraced TOD as a strategy to revitalize their downtowns, and plans for many of the most obvious locations for TOD have already been prepared. CMAP and other regional organizations should identify other potential opportunities for application of TOD strategies and initiate pilot TOD projects in areas where TOD is more difficult (i.e., locations with difficult land assembly, bus-based TOD, etc.).
Use livability principles to plan for land use in development near transit LEAD IMPLEMENTERS: Counties, municipalities	Counties and municipalities should pursue opportunities for more dense development which mixes uses and housing types within "location efficient" areas near transit services. Counties and municipalities can increase density by providing density bonuses (in exchange for affordable units), creating transit overlay districts, or using form-based codes to address community fit. This can occur both for existing transit services and areas where transit expansion is planned, and applies to both rail and bus service.
Promote housing affordability near transit LEAD IMPLEMENTERS: Counties, municipalities	Proximity to transit services often increases land value, making it more difficult to provide a range of housing. Counties and municipalities should analyze housing needs near transit services, and can provide a variety of incentives to developers to bring down development costs in exchange for affordable units. These tools include land donations, density bonuses, permit fee waivers, land trusts and expedited permitting processes. These should be explored, considered, and adapted to specific local situations.
Target housing programs to rehabilitation in areas with transit access LEAD IMPLEMENTERS: Federal (HUD), state (IHDA), counties, municipalities	Affordable housing grant programs should give high priority to preserving the existing affordable housing stock, particularly in TODs.
Require supportive land use planning before new transit investment is made LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Consider supportive land use when making investment and programming decisions. The service boards should prioritize investments (new service in particular) in areas that have or are planning for land use and local infrastructure that supports transit.
Update guidelines for transit-supportive land use LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Update materials produced by the transit service boards concerning land use planning and small-scale infrastructure investments that support transit. These materials should include additional topics such as housing affordability that go beyond the density and design issues which are currently included.

1.6 Costs and Financing

Cost Savings from Compact Reinvestment

Many studies over the past several decades have suggested that the cost per household of providing public infrastructure decreases as development becomes more compact.[26]

This can also be the case with public services, such as schools and fire protection, but the relationship is not as clear for these services as it is with physical infrastructure. Intuitively, the length and therefore the cost of water mains, roads, and so forth should be less if homes and businesses are located closer together, and national studies and CMAP's own research have shown that this is in fact the case.

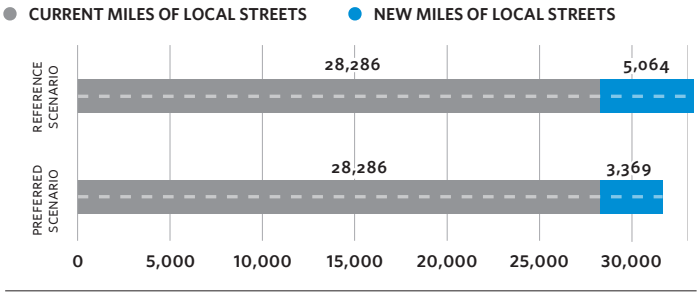
Within the region, the number of new miles of local streets needed can be reduced by as much as one-third if a more compact, reinvestment-focused development pattern is pursued (see **Figure 12**). Savings would be expected both in initial construction and in maintenance because, for instance, each mile of roadway not built is a mile of roadway that does not need to be swept, plowed, re-striped, and eventually resurfaced and reconstructed.

This provides savings to both developers, who often build the roads, and local governments, who later maintain them. Maintenance savings alone from the local street reductions described above would total in the range of $1.5 billion over the plan's time frame, mostly accruing to local governments in high-growth areas. In other words, the local governments that have the best opportunity to implement livability principles in their planning — those in high-growth areas — are also those that have the most to gain from cost savings. The transportation infrastructure cost savings can be used as an indication of other infrastructure costs too, but these savings have not been calculated.

Financing of Local Planning

Planning on the local level is funded primarily through general revenue sources of municipalities and counties (and, in some cases, townships). Local governments face many demands for their resources and attention, and it can be a challenge for communities to prioritize comprehensive planning or ordinance review, particularly in difficult economic and fiscal times. However, land use planning is a fundamental responsibility of local governments, and one that must be taken seriously for the region to prosper in the long run. The remainder of this section identifies funding options beyond local sources, but it must be emphasized that local governments are responsible for planning proactively regardless of external funding availability.

Figure 12. Infrastructure cost, miles of local streets



Source: Chicago Metropolitan Agency for Planning, 2010

26 For an example, see Mark Muro and Robert Puentes, "Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns," Brookings Institute Center on Urban and Metropolitan Policy, 2004.; Burchell et al., "Costs of Sprawl — Revisited," *Transportation Research Board* (National Academy Press, 1998) or Burchell et al., "Costs of Sprawl 2000," TCRP Report 39. Note that while the majority of the planning literature indicates that compact development decreases infrastructure cost, there is some scholarly disagreement about the extent and importance of the effect, which often comes down to the methods used to measure or project it. The Puget Sound Regional Council has even-handedly summarized this literature at **http://www.psrc.org/assets/2032/appIF14-sprawl.pdf**.

External grants for specialized planning activities are sometimes available to local governments, but outside funding for general comprehensive planning activities has been elusive. Some of the planning grant programs in the region include:

The RTA has made funding and planning assistance available for station area planning through its Community Planning Program (providing funding for such activities as station area TOD plans and guidelines) and the Subregional Planning Program (providing funding for such activities as transit and land use improvement studies, and TOD studies at the county, subregional, or corridor level), formerly termed the Regional Technical Assistance Program (RTAP). Over the past 12 years, nearly 100 plans have been funded through these sources, totaling over $15 million in grants including local matches.

The Local Planning Technical Assistance Act (20 ILCS 662) was enacted in 2002. In the absence of state-mandated planning, it has served to identify through state legislation components that should be included in comprehensive plans, and, in theory, provided an incentive to adopt certain comprehensive plan elements in order to receive funds for comprehensive planning through DCEO. This provision, however, has never actually been provided with funding from the state, meaning that this promised incentive has never actually come to fruition.

The 1985 Local Land Resource Management Planning Act (50 ILCS 805) is used frequently as the foundation for county-level planning activities. It encourages counties to plan comprehensively to protect natural resources while furthering social and economic goals through developing land resource management plans. The act allowed for funding through DCEO but was never funded; despite this, it did give counties broad authority for long-range planning, which many have acted on.

The Federal Highway Administration (FHWA) allocates Statewide Planning & Research Funds to IDOT. These funds may be used for a variety of purposes such as planning, technical studies and assistance, demonstrations, management training, and cooperative research, and they were the source for Illinois Tomorrow grants, which have been used to fund planning activities in the past.

Most of the above funding sources are directed to comprehensive or small-area planning activities. Updates to ordinances or other development regulations are not generally funded through any of these sources, though the RTA's grant programs have been used for this purpose in recent years.

Promising federal funding sources for comprehensive planning and implementation are currently under development.[27] If sufficiently funded, these could provide a significant boost to the implementation of all of the actions described in this recommendation.

27 Promising federal funding sources for comprehensive planning are further discussed in GO TO 2040 subsection 1.4 "Funding and Financial Incentives."

RECOMMENDATION

2 Manage and conserve water and energy resources



Water and energy resources play an obvious, yet often overlooked, role in sustaining economic prosperity and environmental health in our seven-county region. Though Lake Michigan provides clean, inexpensive water, the lake's capacity to serve the region's need is not limitless due to legal constraints on its use that precludes placing ever-increasing demands on this resource.

Furthermore, the infrastructure used to distribute drinking water has seen long-term underinvestment in many places, leading to significant waste of water through leakage. Other parts of the region face increasing expenses and environmental side effects due to their dependence on groundwater. Likewise, conventional energy resources are mostly non-renewable and therefore finite, and their use plays a significant role in climate change.

The conservation of energy and water is a top priority for GO TO 2040. Over the next 30 years, these resources will likely become more constrained, affecting businesses, local governments, and residents alike. By taking a proactive approach to resource conservation, the region can avoid price shocks farther down the road, while saving money in the medium term. Water and energy conservation brings economic and environmental benefits, and steps can be taken now to give northeastern Illinois opportunities to prosper in a new, greener economy. Because of the energy-water nexus — electricity is needed to treat and distribute water, and water is used in the process of generating electricity — there is a double benefit to energy and water conservation. The region needs to use resources sustainably so that economic development can continue while per-capita energy and water use taper off. While conserving water and energy has many monetary benefits, it will also help the region reduce emissions of greenhouse gases, which contribute to climate change. Finally, although the main energy priority in GO TO 2040 is meeting energy service needs through demand reduction, the region must also map out a shift to increased use of renewable energy.

CMAP recommends the following actions to manage water resources sustainably:

Support water use conservation efforts.
Conservation measures can promote efficient use while reducing or deferring the need for a utility to increase its capacity. Examples include retrofitting water fixtures with higher efficiency models or the adoption of sensible water conservation ordinances by local governments. Calculating the total volume of water consumed by an individual, community, or business, otherwise known as a "water footprint," can be a useful audit method for large-scale projects and is helpful in identifying ways to reduce water consumption. Current rate structures for water often do not reflect the entire cost of supplying water, providing consumers little incentive to conserve. Full-cost pricing is recommended to encourage conservation and to provide fully adequate revenues for water utilities.

Integrate land use policies and site planning with water resources.
Land use policies that promote compact development will reduce residential water use and reduce both capital and operating costs for water utilities. Green infrastructure, like rain gardens and permeable pavement, should be integrated more fully into site planning. Using green infrastructure to manage stormwater has many benefits and can be more cost effective when compared with gray infrastructure.

Encourage watershed planning and stormwater infrastructure retrofits.
There is a widespread need to implement projects in already developed areas to address flooding, water quality, and other objectives. One of the best ways to determine the kinds of stormwater infrastructure retrofits needed is through watershed planning. Watershed plans should identify the most significant water resource problems and evaluate projects and policies to address them, whether the problem is flooding, poor water quality, or loss of habitat.

Optimize water and energy sources and scale of operation.
Shallow and deep bedrock aquifers are currently being pumped at rates that exceed the rate of recharge; communities that are dependent on groundwater should consider accessing water from the Fox and Kankakee Rivers. Furthermore, there may be opportunities to coordinate or consolidate service by water utilities. Over 300 water supply utilities provide water for the region; many of these utilities can be consolidated based on water source to achieve cost efficiencies and to improve operations.

CMAP recommends the following actions to encourage energy conservation:

Link transit, housing, and energy use through livable communities.
GO TO 2040's emphasis on establishing compact, mixed use, walkable developments served by transit will improve the region's energy efficiency. Energy savings in new buildings can be significant when local and state codes, ordinances, plans, and programs support green development and practices. Zoning codes and permitting policies should also allow and promote renewable energy generation from businesses, institutions, and residences. Livable communities also promote lower-energy modes of travel, such as transit, walking, and biking.

Promote retrofit programs.
Retrofit programs provide assistance to property owners to install energy conservation measures in existing buildings, and exist at the local, state, and federal levels already. The CMAP-led Chicago Region Retrofit Ramp-up Program will be an important first step in streamlining access to information, financing mechanisms, and skilled labor to transform the retrofit market.

Foster sustainable practices and renewable energy generation.
Communities should take the opportunity to pilot their own projects to promote small-scale renewable energy generation, which could include wind and solar power as well as strategies like combined heat and power generation. A commitment to planting trees in urban areas could also help reduce cooling demand by controlling the heat island effect — the phenomenon in which built-up areas tend to retain heat to a greater degree than less built-up areas — because reduced cooling demand will decrease greenhouse emissions. Because carbon is sequestered in plant biomass (tree trunks, root systems, etc.), open space preservation and restoration will help mitigate climate change.

GO TO 2040 also recommends actions to manage the nexus between water and energy and to encourage solutions that address energy, water, and climate. Opportunities should be sought to integrate energy and water efficiency programs where advantages are to be gained by doing so. As another aspect of the water-energy nexus, energy efficiency measures and renewable electricity generation should also be considered by water utilities.

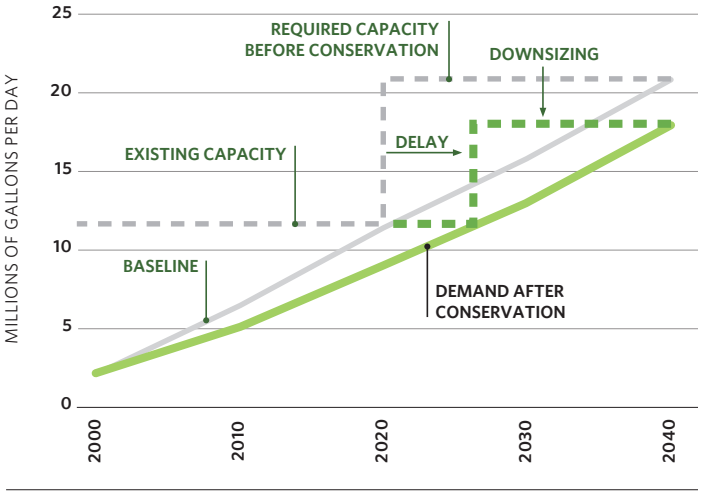
The organization of this section is slightly different from other parts of GO TO 2040; it focuses first on water and then on energy, explaining the importance of conservation actions, describing current conditions, and detailing recommended actions for each, before laying out implementation steps that bring the two together. The overall desired outcome is for the region to reap environmental and economic benefits from increased conservation, contributing to the overall livability of the seven counties and their communities.

2.1 Benefits: Water

The Regional Vision sets a goal for the region to be known for its high quality of water and establishes that planning for water resources must be a high regional priority.

Furthermore, the three-year stakeholder-led process culminating in the new *Water 2050* Northeastern Illinois regional water supply/demand plan for the region emphasized the benefits of water conservation.

Figure 13. Example of delaying or downsizing a capital facility, 2000-2040



Peak demand/capacity, measured in millions of gallons per day
Source: American Water Works Association, 2006. *Water Conservation Programs — A Planning Manual*. AWWA Manual M52, First Edition, 75.

Household and Public Cost Savings

For municipal water utilities, water conservation can reduce or delay the need to expand capacity, presenting major capital savings. In the example of the water utility shown in **Figure 13**, treatment plant capacity would be reached in 2020 if demand grows according to baseline. If water conservation is practiced instead, demand could be reduced so that expansion is not needed until after 2025. In this example, furthermore, the ultimate size (and therefore cost) of the plant after expansion can also be reduced, again because growth in demand will be limited with water conservation measures in place. Besides this, conservation programs are less expensive than developing new water supplies. They typically cost $0.46 to $1.40 per 1,000 gallons conserved, while the cost to develop new supplies would be well above the high end of this range.[1] Finally, although utilities sometimes fear they will lose revenue if they begin a conservation program, it is readily possible to make conservation revenue neutral by redesigning rates at the same time.[2] In addition to these cost savings, it has been estimated that every $1 million of investment in water conservation programs directly and indirectly creates 15 to 22 jobs.[3]

1 Mary Ann Dickinson, "Water Conservation: How to Make It Happen!," presentation to East Central Regional Water Supply Planning Committee in Bloomington, IL, February 27, 2009.

2 Chicago Metropolitan Agency for Planning, "Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan," 2010, 124. See **http://www.cmap.illinois.gov/waterplan**.

3 Alliance for Water Efficiency, "Transforming Water: Water Efficiency as Stimulus and Long Term Investment," December 4, 2008.

Environmental Benefits

Rising demand for drinking water would have a number of negative consequences over the long term; the use of water conservation measures helps limit those effects. For example, withdrawals from shallow wells are known to be reducing groundwater discharge to streams, so that as pumping from shallow wells increases, water levels in some streams decrease. This is a threat to the fish, aquatic insects, and plants in those streams. Increased groundwater pumping has also led to changes in water quality, causing increased concentrations of arsenic, barium, radium, and salinity, requiring more expensive treatment to meet drinking water standards. After these chemicals are removed from drinking water at the treatment plant, they may have to be treated as hazardous waste, dramatically increasing the cost of disposal and therefore the overall cost of treatment. A number of communities in the region are already affected by barium and radium contamination, which is expected to worsen as pumping increases. Recent evidence also shows that chloride contamination has increased dramatically over the past half-century in both shallow and deep wells around the region.

Impervious surfaces are parts of the landscape, like streets or roofs, that cause runoff rather than allowing rainfall to infiltrate. The amount of imperviousness in a watershed is strongly and negatively linked to the biological health of streams and lakes.[4] A distinction can be drawn between impervious areas that drain to surface waters (such as most conventionally designed urban streets) and those that do not (such as roof downspouts running out into a lawn). Impervious areas that drain to surface waters are associated with increased runoff volumes and water quality declines in streams.

The use of green infrastructure as recommended in GO TO 2040 can significantly reduce impervious area, and specifically hydraulically connected impervious area.

Green infrastructure tends to preserve, restore, or mimic natural hydrology, and it includes methods of using vegetation to promote infiltration of stormwater, uptake by plants, and other techniques to retain a portion of runoff onsite rather than discharging it.

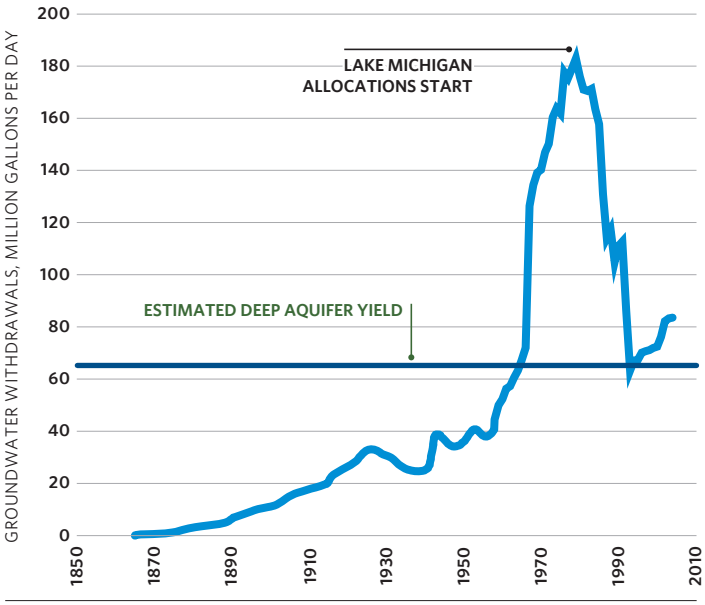
4 Center for Watershed Protection, "Impacts of Impervious Cover on Aquatic Systems," 2003. See **http://www.cwp.org/documents/cat_view/78-other-center-publications.html**.

2.2 Current Conditions: Water

Historically the region has been considered water rich, and scarcity has been a minor issue. The region is bordered by Lake Michigan, one of the largest reservoirs of fresh water in the world, from which almost four-fifths of the people in the Chicago area receive their drinking water.

Yet water supplies are not unlimited, and significant demand for drinking water has been placed on sources that may be unable to sustain it in the long term. CMAP recently completed the *Water 2050* Northeastern Illinois regional water supply/demand plan. This three-year effort, led by a diverse group of stakeholders, resulted in a highly specific plan intended to ensure a balance of water demand and supplies through 2050. The discussion below draws widely from the findings of the study.

Figure 14. Withdrawals from deep bedrock aquifer in northeastern Illinois, 1850-2010



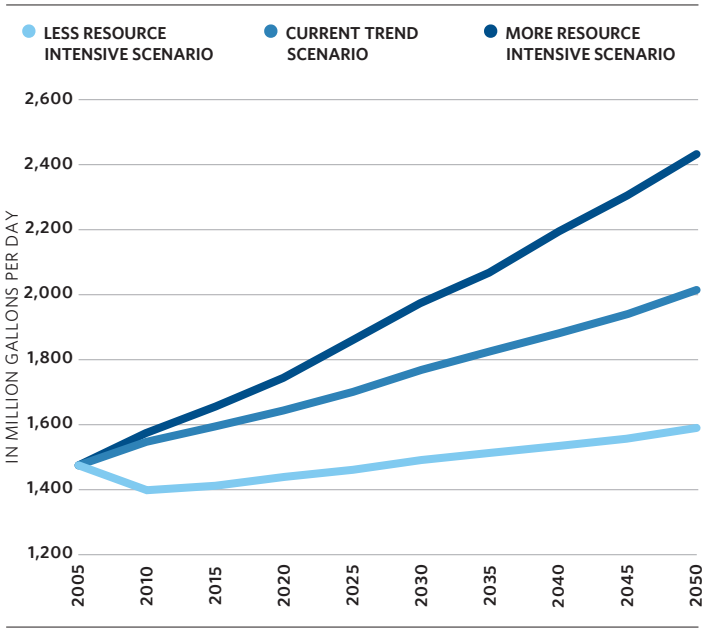
Source: Illinois State Water Survey

Much of the region's drinking water is withdrawn from Lake Michigan and treated by the City of Chicago, then either sold at retail to city customers or sold wholesale to other communities. A smaller amount of water is withdrawn from the lake and treated by other systems. The region's use of Lake Michigan is constrained by a Supreme Court decree: users in Illinois are allowed to divert no more than about 2.1 billion gallons per day from Lake Michigan. This limit was set following litigation with other Great Lakes states over the reversal of the Chicago River to drain into the Des Plaines River and away from Lake Michigan. Lake Michigan water is allocated to individual communities through a permit program administered by the Illinois Department of Natural Resources (IDNR). Outlying areas of the region do not use Lake Michigan, relying instead on groundwater or the Fox and Kankakee Rivers. Here water is much less abundant, and deeper wells are "mining" groundwater, meaning that withdrawal rates exceed natural recharge rates. Although the region was able to control this trend in the 1980s and 1990s because many communities switched to Lake Michigan water, groundwater availability is continually declining because its use is now increasing again, as shown in **Figure 14**. The Fox and Kankakee Rivers supply water for approximately five percent of the population in the region. According to the Illinois State Water Survey (ISWS), flow in the Fox River will continue to increase as a result of population growth and the associated wastewater discharge.[5] As a result, the Fox River has the potential to supply significant new water demands.

While electricity and natural gas are provided by the private sector under state regulation, drinking water in the region is provided almost exclusively by public utilities, which usually are municipally owned and operated. Providing water to residents is largely in the hands of local governments; their individual and collective actions in the upcoming years will determine how adequately the region confronts increasing demand. *Water 2050* projects that while total population will increase by 38 percent through 2050, water demand could increase by 64 percent or even decrease by 7 percent compared to 2005, depending on the region's policy choices (see **Figure 15**).

5 Some of this flow may be incrementally reduced by communities switching from groundwater to the Fox River, as wastewater discharge will not then be causing a net increase in flow. In addition, the City of Waukesha, WI, may switch to Lake Michigan water, which would have to be returned to the Great Lakes Basin; in that case, Waukesha would no longer contribute wastewater discharge to the Fox River, lowering the flow available to Illinois communities. While there are complications, then, it still appears that additional water will be available in the Fox River to support the use of the river rather than groundwater.

Figure 15. Demand scenario water withdrawals, 2005-2050



Source: Dziegielewski and Chowdhury, 2008

A major conclusion of *Water 2050* is that the region needs to pursue water demand management and seek to achieve that lower figure. Often the concern is too much water, however, not too little. Because of its broad floodplains and typically clayey soils, northeastern Illinois is flood prone. The increased runoff from impervious areas like roofs, streets, and parking lots compared to farm fields or woodlands means that flooding will be worse, since more rainfall will be converted to runoff. As a result, one of the most significant water resource problems in the region is flooding. Many areas — especially the watersheds of the Des Plaines and Little Calumet Rivers, but others as well — are threatened by flooding, which is exacerbated by historic development within floodplains and lack of detention storage (see **Figure 16**). Extensive expenditures have been made on flood control projects, but flooding problems remain, creating great hardships for residents and businesses.

Local government stormwater management requirements grew out of a need to reduce flood damage. The first objective of most stormwater management ordinances, therefore, is to limit the rate of peak runoff from a developed site, which is accomplished mainly through detention storage. Traditionally, detention basins have been constructed to hold a specified amount of runoff as determined by ordinances, the size of the project, and a number of other factors. The detention basins are then equipped with a flow restrictor to discharge at a specified release rate.

Most communities in the region have ordinance requirements for detention. Adoption of these standards has been facilitated by northeastern Illinois' unique and very successful countywide stormwater management structure. State law authorizes counties in northeastern Illinois to create "Stormwater Management Planning Committees" with balanced county and municipal representation to prepare a stormwater management plan, to implement the plan through a countywide ordinance, and to fund stormwater management projects and other activities through a property tax levy.[6] The ordinances are adopted by the County Board and provide minimum standards for all municipalities and unincorporated areas within the county, although a municipality may then create stricter criteria if it chooses to do so. In Cook County, this authority was given to the Metropolitan Water Reclamation District. Kendall County has not yet developed a countywide stormwater ordinance.

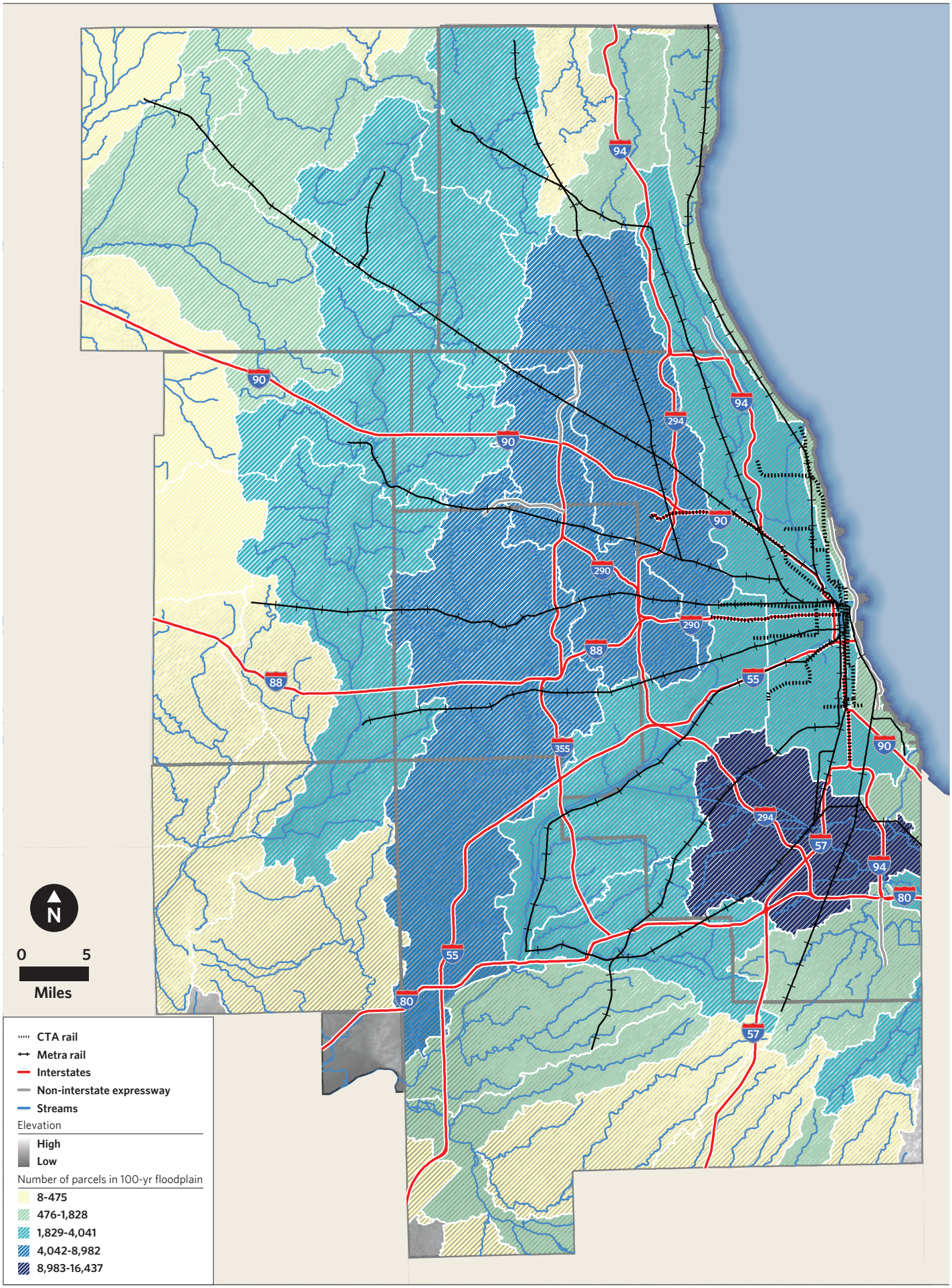
Detention remains an incomplete solution, however. It delays the discharge of stormwater from a site but does not reduce the actual volume being released.[7] In a large watershed, the cumulative effect of developed sites discharging at the allowable release rate can still result in flooding.[8] Furthermore, urban runoff contains contaminants that are harmful to aquatic life, but detention generally does little to control this. The county stormwater committees and the municipalities have, to varying degrees, incorporated into their ordinances requirements to address water quality and runoff volume, but challenges remain. A potential solution to these problems is to adopt more thoroughly a "green infrastructure" approach to stormwater management, which tends to preserve, restore, or mimic natural hydrology. Green infrastructure could supplement detention through methods of using soil and vegetation to promote infiltration of stormwater, uptake by plants, and other techniques to retain a portion of runoff onsite rather than discharging it. Green infrastructure practices may also reduce stormwater flow to combined sewer systems (in which stormwater discharge is combined with wastewater), which could result in significant cost and energy savings to wastewater treatment plants.

6 These counties were DuPage, Kane, Lake, McHenry, and Will, and each has passed a countywide ordinance. In P.A. 94-675 (55 ILCS 5/5-1062.2) the authority was extended to Kendall and another five counties. Kendall has not yet adopted an ordinance. P.A. 93-1049 (55 ILCS 5/5-1062.1) gave the Metropolitan Water Reclamation District of Greater Chicago the authority to develop a countywide stormwater management program for Cook County.

7 Engineering Resource Associates, Inc, "WMO Regulatory Requirement Recommendation: Volume Control Provisions," prepared for Metropolitan Water Reclamation District of Greater Chicago, 2008.

8 J. Navota and D. Dreher, "Protecting Nature in Your Community," Northeastern Illinois Planning Commission and Chicago Wilderness, 2000.

Figure 16. Parcels in Federal Emergency Management Agency 100-year floodplain



Source: Chicago Metropolitan Agency for Planning, 2010. Note that only non-agricultural, non-vacant parcels are included in this analysis.

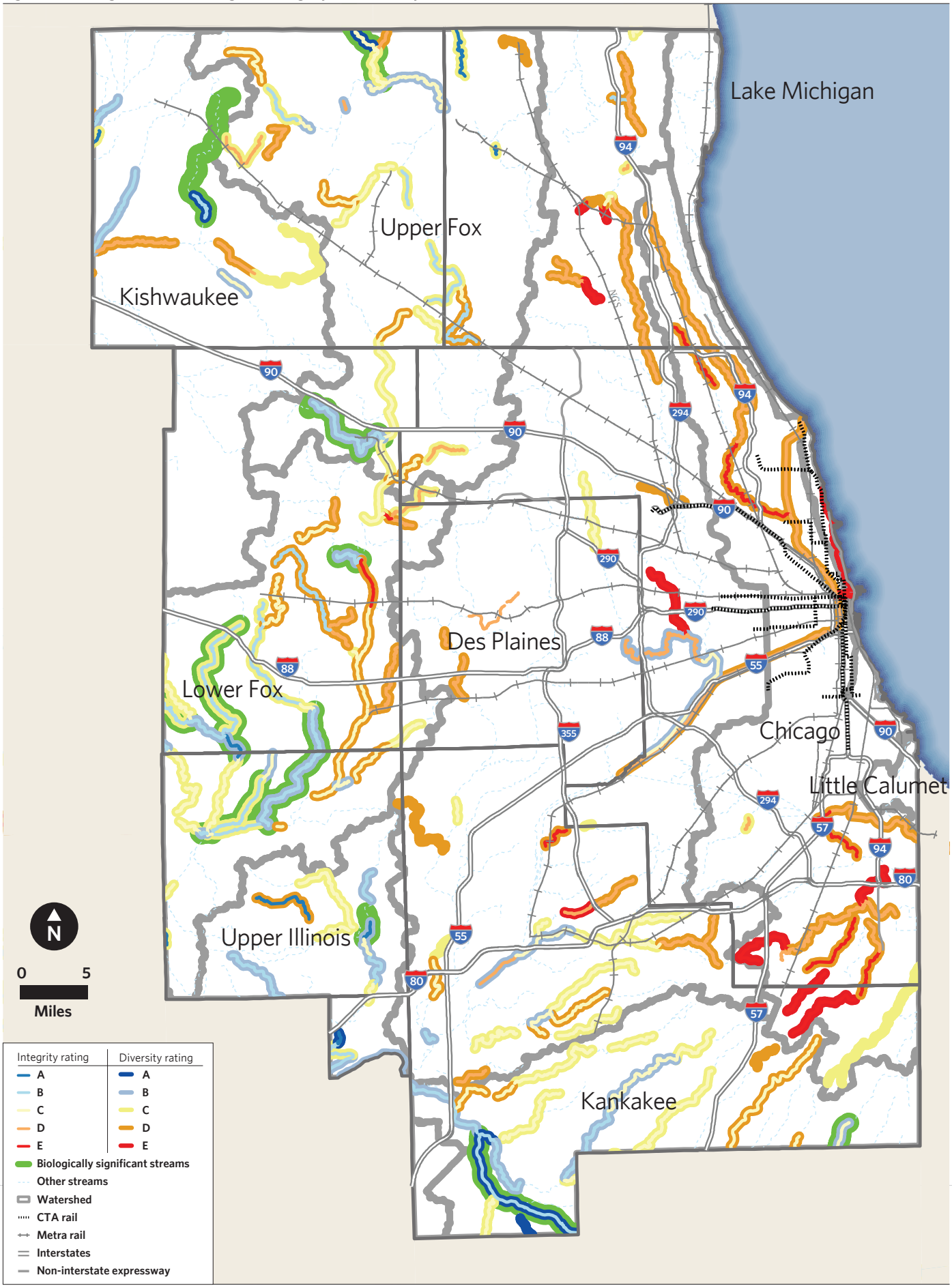
There are many neighborhoods in the region that were built before detention or any other stormwater management requirements were in place. Even after they were required, early detention basins and other stormwater management infrastructure were built with little regard for controlling runoff volume or improving water quality. As a result of urban runoff and other factors, the waterways in more urban areas of the region (within and east of the Des Plaines basin) are mostly in poor condition, while most — but not all — streams in the less-developed Fox, Kankakee, and Kishwaukee basins are in moderate to good condition (see **Figure 17**). While this discussion has focused on urban runoff as a threat to streams and lakes, it is not the only danger. Besides combined sewer overflows, some streams and lakes have been impaired by wastewater and industrial discharges, while others have been badly altered by farm drainage practices and ongoing agricultural runoff.

Because of these water resource problems, there is a need to undertake special projects in the region's watersheds to determine the best ways to control flooding, reduce runoff volume, improve water quality, and so forth.

A simple example would be to construct small bioretention areas in existing parking lots to capture runoff. Retrofits using green infrastructure generally mean "disconnecting" existing impervious surfaces, so that they no longer produce runoff that is discharged off-site. Other examples would include building additional flood storage or increasing channel conveyance capacity. Perhaps the largest current program of this sort is that of the Metropolitan Water Reclamation District, which has been studying the watersheds of Cook County to identify projects with multiple benefits (flood control, water quality, habitat, etc.) to undertake in its capital improvement program.

Also, aging sewer infrastructure is often in poor condition. Compared to the funds now available for energy retrofits, however, the funding sources are limited for stormwater retrofits. Projects to retrofit stormwater infrastructure for water quality purposes often rely on grants available through Section 319 of the Clean Water Act, which is an important but very small source of funding. Lake County offers a small grant program to leverage other sources like Section 319, as does DuPage County.

Figure 17. Biological stream ratings for integrity and diversity



The Biologically Significant Streams ratings are a 2008 update to the stream characterization ratings that have been in use in Illinois since the 1980s. Produced by scientists with the Illinois Department of Natural Resources, the rating scale runs from A to E, with A being the highest quality streams. Diversity measures the number of different species present in a stream from various groups of organisms (taxa). Integrity measures the biological intactness of a stream relative to an undisturbed or less disturbed reference site. Biologically Significant Streams are that have a high rating based on data from at least two taxonomic groups. It can be achieved by obtaining an A rating either for diversity or for integrity that is based on data from two or more taxonomic groups.

2.3 Indicators and Targets: Water

The region's success in managing and conserving water can be measured by two indicators: water use and impervious surface.

In the following, these indicators are compared between targets for GO TO 2040 and their expected value if future conditions follow current trends.

Water Demand

The *Water 2050* plan provides demand projections to 2040 (as an interim year) based on three potential demand scenarios. GO TO 2040 recommends a target that follows the less resource intensive (LRI) scenario (see **Figure 18**), which is predicated on the region choosing policies to reduce future demand. These include an increased commitment to water efficiency, using water rates to encourage conservation, and development patterns that decrease irrigation needs. In 2005, water demand was 1,480 million gallons per day (MGD) as "normalized" to control for drought that year. The year 2010 value was developed as a forecast.

WATER DEMAND PROJECTIONS

1,416 million gallons per day by 2015

1,539 million gallons per day by 2040

Connected Impervious Area

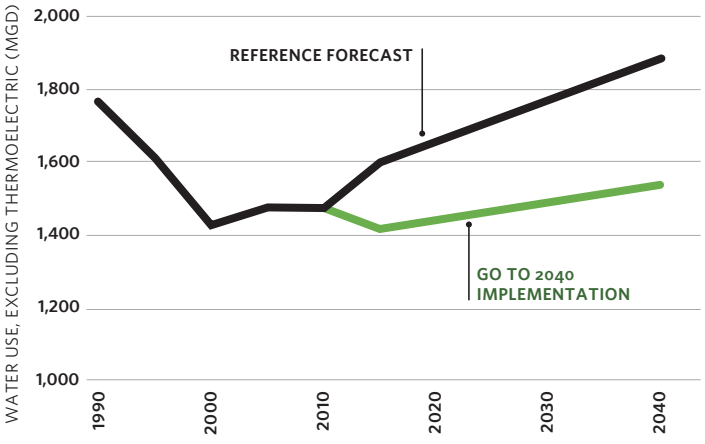
The total area of impervious surface in the region in 2010 is approximately 525,000 acres. With a commitment to green infrastructure and more compact development patterns in newly developing areas, it should be possible to reduce the creation of new connected impervious surface area (see **Figure 19**). More than this, redevelopment is also an opportunity to reduce connected imperviousness. Green infrastructure retrofit projects identified in watershed plans can also "disconnect" existing impervious areas and infiltrate the runoff from them, thus actually reducing the negative impact of imperviousness of already developed areas. While it may appear optimistic to expect reductions in existing imperviousness, removing existing imperviousness is necessary to improve water resource conditions, and redevelopment along with watershed retrofits can help accomplish this.

ACRES OF CONNECTED IMPERVIOUS AREA

525,000 acres by 2015

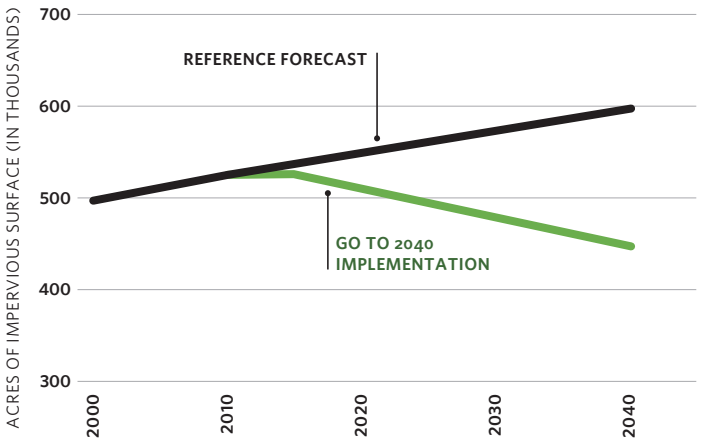
450,000 acres by 2040

Figure 18. Water demand targets under the less resource intensive scenario, 1990-2040



Sources: Chicago Metropolitan Agency for Planning, 2010; Dziegielewski and Chowdhury, 2008

Figure 19. Effective impervious area targets, 2000-2040



Source: Chicago Metropolitan Agency for Planning, 2010

2.4 Recommendations: Water

GO TO 2040 supports an integrated approach to water resources planning. This involves actions that protect and enhance water quality and quantity at all parts of the water cycle.

The main theme for these actions is source protection through water use conservation, volume reduction of wastewater effluent, and stormwater management. The following section outlines these actions while supporting the recommendations developed for *Water 2050*.

Table 1. Potential water savings associated with conservation measures at two tiers of implementation

CONSERVATION MEASURES	LOW CONSERVATION (MGD)	HIGH CONSERVATION (MGD)
High Efficiency Toilets†	15.0	74.8
Water Waste Prohibition†	12.1	60.3
Metering*	30.3	31.5
Leaks and Audit Repair*	5.9	29.7
Residential Plumbing Retrofits†	5.2	26.0
Commercial/Industrial‡	5.0	25.2
High-Efficiency Clothes Washers†	3.2	16.1
Large Landscape*	1.0	5.1
Residential Water Survey†	0.1	0.7
All Measures — Total	**77.8**	**269.4**

* Low conservation applies to 10% of demand; high conservation applies to 50% of demand.

† Low conservation applies to 10% of eligible households; high conservation applies to 50% of eligible households.

‡ Low conservation applies to 10% of employees; high conservation applies to 50% of employees. Employee estimates only include public supplied commercial and industrial establishments.

Source: Chicago Metropolitan Agency for Planning, 2010

Support Water Use Conservation Efforts

Water 2050 identified thirteen conservation measures that promote efficiency and can reduce or defer the need for a utility to increase its capacity. A subset of these is shown in **Table 1**. The measures include retrofitting water fixtures to higher efficiency models, programs that conserve water on "large landscapes" (irrigated areas that are greater than two acres), and leak detection[9], among others. One of the most important ways local governments can do this is to adopt sensible water conservation ordinances, as these can result in an average of 20 percent savings in water use.[10] In March 2010, CMAP released its updated Model Water Use Conservation Ordinance to serve as a tool to help communities achieve efficiencies in water consumption while deferring the need for infrastructure expansion. As with energy, retrofits with more efficient appliances and plumbing fixtures can result in significant savings in water use. Retrofit programs should be aligned with the WaterSense label, which is assigned by the U.S. Environmental Protection Agency (U.S. EPA) to the most efficient water-using appliances, plumbing fixtures and fittings. The model ordinance, which drew widely from existing regulations and literature review, outlines mechanisms by which local governments can assure the installation of WaterSense devices. However, because many areas were developed well before national standards for plumbing fixture efficiency went into effect, there is still a need to directly retrofit buildings, or for municipalities to encourage retrofits as part of providing water service or as a condition of a property transaction.[11] Water conservation programs through municipal utilities should be combined with energy retrofit programs to increase the dividend.

9 Leak detection is undertaken by water utilities to ensure that system inefficiencies are addressed through system water audits. The City of Chicago pursues system leak detection by inspecting each water main every four years and the critical main every year. See p. 100 of "Water 2050", **http://tinyurl.com/26vcwca**.

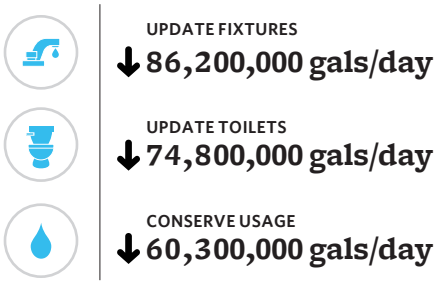
10 U.S. Environmental Protection Agency, WaterSense Program. See **http://www.epa.gov/watersense/**.

11 The Chicago Metropolitan Agency for Planning Model Water Use Conservation Ordinance, 2010, contains additional information and resources on retrofitting. See **http://tinyurl.com/2wln57f**.

Funding for the measures above can be linked to the State Revolving Loan Funds that are administered by the Illinois Environmental Protection Agency (IEPA). The Public Water Supply Loan Program (PWSLP) and the Water Pollution Control Loan Program (WPCLP) provide loans with low or zero interest rates to fund the construction, expansion and upgrade of water supply and wastewater treatment facilities respectively. Under ARRA requirements, states must allocate 20 percent of the loan funds for eligible projects under the Green Project Reserve program. Funding eligibility falls under four categories: water efficiency, energy efficiency, green infrastructure, and environmentally innovative projects. IEPA should review criteria for funding to ensure that resource efficiency goals are met.

Figure 20. Projected water savings from conservation measures

If 50% of our region put these three water conservation measures into place, we could reduce our per capita daily water consumption by almost 20 gallons per person.



An increased commitment to conservation can be achieved in the Lake Michigan Service Region, which refers to the communities that draw water supplies from Lake Michigan. These communities report their water use to the Lake Michigan Management Section of IDNR. The process by which IDNR tracks water usage and ensures compliance with the permit conditions is currently conducted at a basic level and does not capture all the information that could potentially be used to promote regional conservation initiatives. By expanding this process to collect data on existing permit requirements and additional conservation efforts, IDNR can more closely track permit compliance while developing additional regional water supply data. Furthermore, IDNR should make water usage data available online for use by others including the academic community, state surveys, water utilities, and area planners to allow broad access to this valuable information and to benefit regional and local water supply planning. It is important to note that increased water use conservation in the Lake Michigan area has regional implications as the lake may provide an option to communities that can no longer rely on groundwater for long term supplies.

Communities should use water "footprinting" as a standard audit method for large-scale projects in conjunction with conservation plans that aim to reduce annual consumption. Water footprint is the total volume of water consumed by an individual, community, or business.[12] In the context of this document, water footprinting refers to water consumption onsite. Water footprinting is useful when applied to large scale projects where the estimated water demand could have a significant impact on the long term plans of a water supply utility. Water footprinting should be used to identify ways to reduce water consumption onsite or to help make compensating reductions in demand elsewhere in the system. For example, Nestle was able to reduce its water withdrawal by 28 percent (alongside 76 percent revenue growth) through the use of a business Water Footprint Accounting method, which was used to identify measures to offset the impact on various water supply resources of the total volume of water the company used.[13] While the concept of water footprinting is still fairly new in the U.S., there is an opportunity for northeastern Illinois to be a regional leader in promoting the technique. Water neutrality, full water recycling, or total water use reduction present an opportunity to move beyond management practices that facilitate water conservation to a more holistic approach for water use reduction.

The cost a utility incurs to supply water to its customers includes a number of components, such as the cost of obtaining raw water from ground or surface supplies, treatment to make the water potable, and distribution to users. But there are more than simply the variable costs of operating wells and machinery. Water production is a very capital intensive enterprise, and the physical plant of the utility needs substantial ongoing maintenance. Yet, current municipal water rates often do not reflect the entire cost of supplying water to the end user. For example, the real cost of maintenance, or even the cost of new infrastructure, may not be completely accounted for in the rate, so that the rate is artificially low. Because of this, consumers have little incentive to conserve water, while municipally-owned utilities are rendered dependent on general revenues or taxes to subsidize development of additional water supplies to meet growing demand.

Municipal utilities should shift toward full cost pricing for drinking water. This can be done in such a way that it encourages conservation and protects water utility revenue; it can also be implemented in such a way that overall municipal revenues are unchanged.[14] This is an area of interest to many communities, but there is a need for more information to help attain the conservation goals in GO TO 2040 while ensuring predictable revenue streams for utility operations. It is important that such actions be accompanied

12 Water Footprint Network. See **http://www.waterfootprint.org/?page=files/home**.

13 H. Lopez, "The Corporate Water Footprint: What Can We Do to Decrease It?" presented at World Water Week, Stockholm, Sweden, 2008. Among the various methods that Nestle employed to offset the impact of their water consumption was the formation of partnerships to deliver clean water where needed and provide technical expertise in water management practices to communities that hosted their facilities.

14 More analysis on this subject is available in Chicago Metropolitan Agency for Planning, Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan, 2010. See **http://www.cmap.illinois.gov/waterplan**.

by public information campaigns as well as proper bill design that facilitate better comprehension of this measure and allow customers to respond accordingly. Communities should ensure that such pricing policies do not result in inequities nor adversely impact low-income residents. Options such as targeted retrofits/rebate programs, assistance with bill payment, and increased awareness activities should be linked with the above policies.

Integrate Land Use Policies and Site Planning with Water Resources

Land use policies that encourage compact development should be promoted at the regional and local levels, as compact development is known to reduce residential water use and to reduce capital and operating costs for water utilities.[15] This should be coupled with the identification of sensitive aquifer recharge areas (SARAs) and their protection from potential contamination, which will help ensure the security of water supplies for future generations. Carefully planned development decisions that incorporate the protection of SARAs are essential steps for the integration of water supply and land use planning.[16]

Developers, local governments, and county stormwater committees in the region should make a commitment to using green infrastructure to manage stormwater. The use of green infrastructure for infiltration, evapotranspiration, and reuse has many benefits, and studies have shown that it is often less expensive to implement compared to traditional gray infrastructure. Furthermore, green infrastructure practices, such as rain gardens, wetlands, bioswales, permeable pavers, and rainwater harvesting for non-potable indoor uses, among others, are adaptable and can be used in settings ranging from urban to semi-rural, both in new development and in redevelopment.

Green infrastructure practices emphasize the importance of rainwater as a natural resource that can replenish aquifers and provide baseflow for streams in addition to being reused for other purposes such as irrigation.

Although several communities in the region have recently, or are currently, updating stormwater management regulations to allow the use of green infrastructure for stormwater management, few have established mechanisms for the long term maintenance and funding of these practices. The conventional approach of leaving maintenance of on-site stormwater infrastructure in the hands of private owners often leads to poor upkeep and performance.

While many area stormwater management agencies appreciate the benefits of green infrastructure practices, there is still a certain level of discomfort with using them because of lack of regional performance data, complicating the shift from tried-and-true conventional methods. Thus, perhaps the most important recommendations for green infrastructure implementation are to develop sustainable sources of financing and to provide performance data to stormwater managers. In addition to implementing pilot projects utilizing green infrastructure practices, local governments should explore the feasibility of establishing a fee for long term maintenance of stormwater infrastructure to be charged along with user fees for services such as water provision and wastewater collection.[17] The purpose of the fee is to provide a dependable, dedicated source of funding for stormwater management that is directly related to the runoff produced by a property. The fee can be designed to be revenue-neutral so that the overall municipal levy does not increase.

15 Cameron Speir and Kurt Stephenson, "Does Sprawl Cost Us All: Isolating the Effects of Housing Patterns on Public Water and Sewer Costs," Journal of the American Planning Association 68 (2002): 1, 56-70.

16 McHenry County Water Resources Department developed a Groundwater Protection Action Plan based on the identification of the Sensitive Aquifer Recharge Areas in the county. See **http://tinyurl.com/38kb2jf**.

17 The Village of Streamwood, IL uses Special Service Areas, a taxing system to certain parts of a community, to maintain existing wetlands and upgrade existing stormwater infrastructure. The City of Rolling Meadows, IL charges a stormwater utility fee of $1.65 per 3,604 square feet of impervious area per month.

Encourage Watershed Planning and Stormwater Infrastructure Retrofits

Stormwater ordinances only apply to new development and redevelopment, but there is a widespread need to implement projects in already developed areas to address flooding, water quality, and other objectives. A major type of project is a stormwater infrastructure retrofit, implementing green infrastructure practices to capture, treat, and potentially infiltrate stormwater that otherwise might be routed to a stream with little or no treatment or even detention. Other projects may be measures meant primarily to address flooding. One of the best ways to determine the kinds of projects needed is through watershed planning. Many of these plans have been developed in the region, yet there are numerous watersheds where they have not.

Watershed plans should identify water resource problems and evaluate retrofit projects to address them, whether the problem is flooding or poor water quality or loss of habitat.

Ideally a watershed plan will consider multi-objective projects that address several problems simultaneously. Frequently a watershed will need a mix of different kinds of projects and policies to address the problems identified there. The northeastern Illinois region should ultimately have an overlay of watershed plans that cover all watersheds, promoting water use conservation and evaluating projects to reduce point and non-point source pollution, improve aquatic habitat, and control flooding.

IEPA currently funds watershed planning through Sections 319 and 604(b) of the Clean Water Act, but these sources are limited and focused on water quality. There is a need for an increased commitment from county stormwater management and planning committees to support watershed-based plans using funds allocated for stormwater management, whether from general revenues or from stormwater utility fees. Additionally, in terms of capital improvements for stormwater retrofits, there are also limited funding sources from state or federal sources to construct improvements. In addition to exploring other funding opportunities, local governments with stormwater management responsibilities should consider charging dedicated user fees to cover the costs of maintaining stormwater infrastructure.

One of the main benefits of green infrastructure is a reduction in impervious surface. With a commitment to green infrastructure and more compact development patterns in newly developing areas, it should be possible to reduce the creation of new effective impervious surface area. In redevelopment projects, green roofs, rain gardens, or other techniques can also be used to decrease runoff volumes from a site below what they were prior to redevelopment. Finally, the retrofits recommended in GO TO 2040 will make it possible to "disconnect" existing impervious areas and infiltrate the runoff from them, thus actually reducing the effective imperviousness of already developed areas. CMAP will continue to take a leadership role in addressing flooding issues throughout the region through various implementation measures, including utilizing its committee structure to continue an ongoing dialog to remedy these issues.

Optimize Water and Energy Sources to Scale of Operation

Communities that are currently on groundwater but could potentially access water supplies from the Fox and Kankakee Rivers should explore shifting to those sources. This recommendation is supported by findings from studies by the ISWS showing that the Fox River has the potential to supply significant amounts of drinking water for future growth. Meanwhile, the shallow and deep bedrock aquifers that supply water to nearby communities are being pumped at rates that exceed the rate of recharge.[18] If communities in the Fox River corridor tap into surface waters for their supplies, they may not only gain resource security but also achieve considerable energy savings of up to a 30 percent reduction in electricity usage.[19] This is primarily because more energy will be expended in pumping from wells in which the water level is increasingly lower.

CMAP is well placed to coordinate with the municipalities identified by ISWS to be at risk of water shortages, and with IDNR, to explore the feasibility of shifting from groundwater resources to the Fox River. There is an opportunity for Councils of Governments (COGs) or other collaborations to explore shifting to surface supplies and to adopt a coordinated approach to achieving sustainable water supplies.[20] Communities along the Kankakee River could make a similar shift, but it has not been studied to the extent that the Fox has been. CMAP should collaborate with the communities that could potentially benefit from the Kankakee River to facilitate studies and modeling by the ISWS.

Over 300 water supply utilities currently provide water for the region from three sources; Lake Michigan, groundwater, and inland surface water (see **Figure 21**). Communities dependent on Lake Michigan are mostly served by water that has been treated and processed by the Chicago Water Management Department. Thus, it is particularly relevant for communities that draw from surface water supplies and groundwater to explore consolidation of water service to attain economies of scale. Instead of a number of small utilities, a major supplier may perform the same tasks with higher cost effectiveness, energy efficiency, and better compliance with drinking water regulations.[21] Operation at a larger scale may result in pooling of risks and increased utilization of expertise and technology. This same model can be replicated for communities that receive Fox River water and, potentially, Kankakee River water. Using the same principle, smaller communities should consider consolidating wastewater systems, which could encourage the utilization of capacity in existing plants instead of the construction of new ones.[22] There are many details to weigh in assessing the value of consolidation. It may mean the formation of a new district or commission to replace several municipal utilities, or it could simply involve a service agreement between municipalities; it could mean shared facilities, shared billing systems, or other efficiencies. Several communities around the region are studying various governance structures to ensure fair representation, equity of cost allocation, and long term reliability of operating systems.[23]

18 Chicago Metropolitan Agency for Planning, "Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan," 2010, 40-43.

19 Bevan Griffiths-Sattenspiel and Wendy Wilson, "The Carbon Footprint of Water," a River Network Report, 2009, 41.

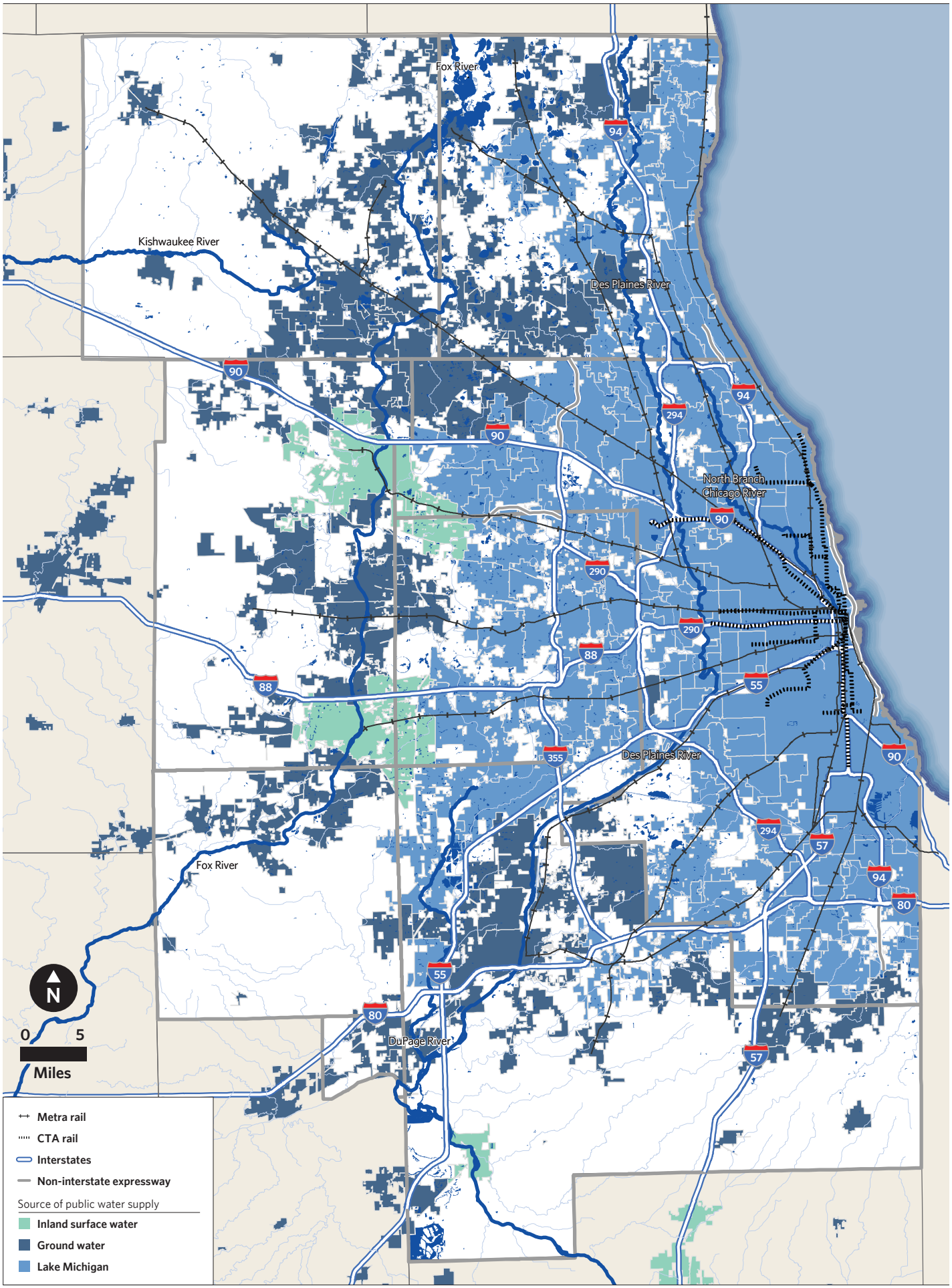
20 The southwest suburbs of Orland Park, Mokena, Oak Forest, and others are in discussions with Oak Lawn, the water provider, regarding forthcoming infrastructure improvements. Several of the northwest suburbs in Lake County are exploring the formation of a water commission to provide service for their communities.

21 J. Cromwell and S. Rubin, "Estimating Benefits of Regional Solutions for Water and Wastewater Service," American Water Works Association Research Foundation, 2008.

22 Data from U.S. Environmental Protection Agency, 2006-2007. Permit Compliance System shows that in the seven-county region, wastewater flows were 1,750 million gallons per day (MGD), while total capacity was 2,501 MGD.

23 This and other forms of local government service coordination are discussed more fully in the GO TO 2040 plan's "Pursue Coordinated Investments" section.

Figure 21. Source of public water supply by municipality



Source: Chicago Metropolitan Agency for Planning, 2010

2.5 Benefits: Energy

The Regional Vision states that the region should be a leader in green building techniques, the production of green energy, and in providing energy-efficient transportation options.

Additionally, during the "Invent the Future" phase of public engagement for GO TO 2040, participants identified energy reduction as one of the four most important indicators to track progress toward achieving the Regional Vision, along with regional economy, transportation choice, and land consumption. Energy conservation is also part of many other strategies in GO TO 2040, ranging from the mixed-use reinvestment that is part of promoting livable communities to the provision of a balanced supply of housing and jobs.

Household and Public Cost Savings

While energy conservation measures generally entail an upfront cost, the stream of avoided costs continues long after the initial investment is repaid. Furthermore, many state and federal programs are available to assist with the initial costs to help encourage energy conservation by local governments, residents, and businesses. Based on 2005 prices, the region's average household could save $550 per year in natural gas and electricity following a retrofit, while savings for a typical commercial account would be $6,400.[24] A particular energy conservation measure may not make sense in every case, but in general conservation pays dividends to the user. There is a clear financial motive for conservation.

24 GO TO 2040 Regional Energy Strategy Report, 2009. See **http://www.goto2040.org/energy/**.

Economic

Increasing reliance on efficiency to meet energy service needs also has a broader economic payoff, in that it directly and indirectly creates "green jobs" and induces job creation elsewhere in the economy. In fact, most of the green jobs expected to emerge in the seven-county region over the next decade are linked to energy use and conservation.[25] While estimates of direct job creation vary, it is likely that each $1 million investment in energy efficiency could create eight to 10 full-time jobs,[26] primarily in the skilled trades needed to conduct energy audits and install energy efficiency measures. Indeed, taking full advantage of the opportunity will require parallel investments in workforce training to establish a labor pool sufficient to, for example, undertake a large-scale energy retrofit program. The products and services needed from manufacturers and other vendors (e.g., compact fluorescent light bulbs, energy efficient windows, etc.) would account for indirect job creation on top of this.

Job creation induced by efficiency gains is expected to be substantial as well. Induced jobs are those created elsewhere in the economy, not immediately related to water and energy efficiency. California, for example, has managed to hold its per-capita household energy consumption nearly constant since state energy efficiency policies began to go into effect in the 1970s, while average U.S. consumption has continued to increase, so that per-capita California consumption is now more than a third below the national average. At least 1.5 million net new jobs in the State of California over the period 1972-2006 could be attributed to the diffuse, economy-wide effects of those household energy efficiency gains, primarily because households were able to spend money on other goods besides energy.[27] Although job losses occurred in some parts of the energy sector, they were far outweighed by gains elsewhere. The non-renewable energy supply chain is generally less job-intensive than other areas of the economy, so being able to shift spending to other areas will, on balance, stimulate the creation of more jobs.

The benefits are wider when a shift to renewable energy is also considered. Manufacturers in the region have major opportunities for growth in emerging green industries (e.g., manufacturing components for wind turbines or solar panels), while headquarters and white collar jobs in renewable energy industries have a location advantage in the seven-county region as well.[28] A recent study revealed that 1,200 companies in our region were in industries producing one or more of the parts needed in wind turbines, while 680 companies were in industries manufacturing at least one part for solar panels.[29] Thus, while these companies may not currently manufacture parts for renewable energy generation, they are well-positioned to branch into that market in response to demand. Likewise, the emergence of wind farms in or near metropolitan Chicago has been dramatic in the past few years following state and federal policies promoting wind power production. Construction, installation, and maintenance jobs on wind farms in or near the region could become promising careers in the near term.

25 GO TO 2040 Green Jobs Strategy Report, 2009. See **http://www.goto2040.org/green_jobs/**.

26 Chicago Metropolitan Agency for Planning, Chicago Region Retrofit Ramp-up Proposal, 2009; Energy Future Coalition, "Rebuilding America: A National Policy Framework for Investment in Energy Efficiency Retrofits," 2009.

27 David Roland-Holst, "Energy Efficiency, Innovation, and Job Creation in California," from Center for Energy, Resources, and Economic Sustainability at the University of California at Berkeley, prepared for Next 10, 2008. See **http://www.next10.org/next10/publications/research_eeijc.html**.

28 GO TO 2040 Green Jobs Strategy Report, 2009. See **http://www.goto2040.org/green_jobs/**.

29 GO TO 2040 Green Jobs Strategy Report, 2009, Appendix A. See **http://www.goto2040.org/green_jobs/**. Data used from Renewable Energy Policy Project, "Component Manufacturing: Illinois's Future in the Renewable Energy Industry," June 2006. The study was conducted at the six-digit NAICS level.

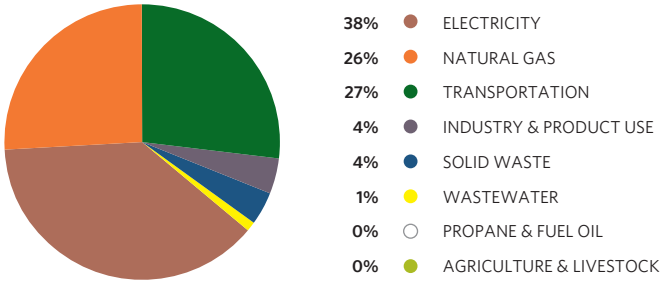
Environmental

Energy use is tightly linked with the greenhouse gas emissions that cause climate change. For example, keeping a 100-watt (W) incandescent light bulb on for ten hours is associated with the release of about 1.5 pounds of carbon dioxide into the atmosphere.[30] The average household releases about nine pounds of carbon dioxide through heating and cooking.[31] Electricity and natural gas usage, which are mostly associated with energy use in buildings, like heating and cooling, appliances, etc., make up almost two-thirds of the greenhouse gas emissions in the region, as seen in **Figure 22.** Thus, efforts to improve energy efficiency in buildings will also pay dividends in greenhouse gas reductions, helping to reduce the severity of climate change.

While the main thrust of this section is actions that can be taken to directly reduce energy and mitigate climate change, there are a number of actions recommended elsewhere in the plan that have the co-benefit of mitigating our influence on the climate. The transportation sector is the second-largest contributor of greenhouse gas emissions in the region, after energy use in buildings. Most of the transportation emissions are from on-road sources, with most of that from passenger vehicles or light-duty trucks.[32] Since the use of transit is associated with lower emissions per passenger mile than automobiles,[33] and biking and walking generate no additional carbon dioxide, promoting alternative modes of transportation as recommended in GO TO 2040 also tends to mitigate climate change. Because residents in communities with compact, mixed-use development make fewer automobile trips, making communities more livable tends to reduce greenhouse gas emissions as well.[34] Similarly, because carbon is stored in plant biomass (tree trunks, root systems, etc.), the open space preservation and restoration recommended elsewhere in the plan will also help mitigate climate change.

There has been great interest, but little progress, in establishing national greenhouse gas reduction targets. CMAP firmly believes that this is necessary. The energy efficiency measures, the shift toward renewable energy, and other GO TO 2040 recommendations will go part of the way toward meeting widely accepted targets (described in subsection 2.7, "Indicators and Targets: Energy"), but federal action is needed to reach them. At the same time, most atmospheric science researchers agree that some climate change effects will occur even if private parties and governments at all levels commit to reductions in greenhouse gas emissions. These effects include increased risks of flooding, mortality associated with summer heat waves, and the spread of invasive species. Climate change also threatens to intensify the demand for water while availability decreases. Increased average summer temperatures will make the energy efficiency of buildings even more important and financially attractive.

Figure 22. Regional emissions profile without aviation, total million metric tons CO_2e: 127.8



Source: Center for Neighborhood Technology

30 GO TO 2040 Greenhouse Gas Inventory Strategy Paper, 2009. See **http://tinyurl.com/3xju9cw**. U.S. Energy Information Administration, Voluntary Greenhouse Gas Reporting Program: Emission Factors and Global Warming Potentials. See **http://www.eia.doe.gov/oiaf/1605/emission_factors.html**.

31 GO TO 2040 Greenhouse Gas Inventory Strategy Paper, 2009. See **http://tinyurl.com/3xju9cw**. U.S. Energy Information Administration, Voluntary Greenhouse Gas Reporting Program: Emission Factors and Global Warming Potentials. See **http://www.eia.doe.gov/oiaf/1605/emission_factors.html**.

32 GO TO 2040 Greenhouse Gas Inventory Strategy Paper, 2009. See **http://tinyurl.com/3xju9cw**.

33 Booz Allen Hamilton, "Regional Green Transit Plan Carbon Displacement Analysis: Impact of RTA and Its Service Boards' Operations on Greenhouse Gas Emissions in the Chicago Region," draft, prepared for Regional Transportation Authority, 2010.

34 Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. "Growing Cooler: The Evidence on Urban Development and Climate Change," for the Urban Land Institute, 2007.

2.6 Current Conditions: Energy

In Illinois, electricity is largely generated from coal-fired and nuclear plants, with a small amount from renewable sources. Natural gas is used to generate additional electricity during periods of peak demand.

However, much of the region's electricity is actually sourced from a wider electric power market covering parts of the Midwest and mid-Atlantic that relies more heavily on coal.[35] Electricity is delivered to customers through a distribution system owned by ComEd (aside from a small portion of Kendall County outside ComEd's service territory[36] and a handful of municipalities[37] that own the distribution network), although because of deregulation customers may now choose to purchase electricity from so-called "alternative retail electric suppliers."

While electricity used in the region is often generated hundreds of miles away, a small amount is also generated by much smaller power plants closer to where it is consumed. This is called "distributed generation," and can be deployed by large industrial or commercial users, large institutions, or a district of smaller users. The higher efficiencies — and therefore lower variable costs — of these systems are a reason to try to expand their use, and they represent a significant opportunity for the region. Through "net metering," individual households can also generate some of their electricity through renewable sources, typically wind or solar, and obtain a credit on their utility bills in proportion to what they generate.[38] Illinois also has a Renewable Energy Portfolio Standard, which mandates that an increasing proportion of electricity sold in Illinois each year is generated from renewable sources, topping out at 25 percent in compliance year 2024-2025.[39] Most of this would be from wind generation, although a small amount would be from solar.

Natural gas is delivered to customers in the Chicago region by one of three investor-owned utilities, although following deregulation there are also requirements to permit customer choice in natural gas suppliers. Very little of the natural gas used in Illinois is produced here, although the state is a major hub in the cross-country transport of natural gas via pipelines.[40] In the residential sector, natural gas is used primarily for space heating, but it also powers appliances like hot water heaters, clothes dryers, and kitchen stoves. Natural gas consumption by residential consumers in the Chicago region is slightly higher than that of commercial and industrial accounts, with 57 percent of the region's consumption attributed to the residential sector.

Electricity in the residential sector is primarily used for air conditioning, lighting, and a wide variety of appliances. Unlike natural gas, however, households are not the dominant consumers of electricity. They account for only 31 percent of electricity consumption; the remainder is used in the commercial and industrial sectors to power manufacturing equipment. Although natural gas consumption varies with the weather, in the residential sector consumption per household has been decreasing slightly over time as home insulation, windows, and heating systems become more efficient. On the other hand, electricity consumption per capita has been rising steadily, resulting mainly from the increasing size of homes, which adds to the space requiring cooling and lighting, and the profusion of electronic appliances.[41] **Figure 23** shows the change in residential electricity and natural gas consumption in Illinois over the past two decades.

35 The wider wholesale power market is the PJM Interconnection. See **http://tinyurl.com/24j8sx7** and **http://www.pjm.com/about-pjm.aspx**.

36 ComEd, Delivering safe, reliable electricity in northern Illinois, see **http://tinyurl.com/2d6dwfj**.

37 Naperville, Batavia, St. Charles, and Winnetka are known to have municipal electric utilities.

38 Illinois Attorney General Lisa Madigan, "Using Renewable Energy to Lower Your Electric Bill." See **http://www.illinoisattorneygeneral.gov/environment/netmetering.html**.

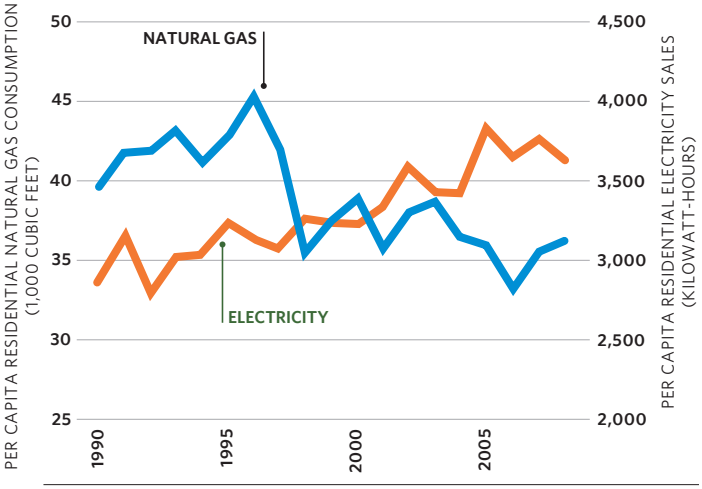
39 Illinois Power Agency Act, Public Act 095-0481, see **http://tinyurl.com/232ek7k**. For additional summary, Database of State Incentives for Renewables & Efficiency, see **http://tinyurl.com/2fq3axc**.

40 U.S. Energy Information Administration, "State Energy Profile: Illinois, 2010." See **http://tinyurl.com/2ew9rnp**.

41 Information in this section relies primarily on GO TO 2040 Regional Energy Strategy Report, 2009. See **http://www.goto2040.org/energy/**.

While the region has begun to make strides toward energy efficiency in residential and commercial buildings, both the suburbs and the city are ripe for many more such improvements. This is partly because of age: 21 percent of the region's housing units were built before 1939, and over half were built before 1970, well before energy codes went into effect. But more than age is at work. It has been noted that "even in comparison to other Midwest cities, Chicago is dramatically less efficient: a typical Chicago building uses twice the energy of a comparable building in the Midwest."[42] In response, retrofit programs aimed at lower-income residents as well as some market programs have emerged in recent years through the State of Illinois, nonprofits, and utilities. Besides those funded through the American Recovery and Reinvestment Act of 2009 (ARRA), the biggest of these is likely the Energy Efficiency Portfolio Standard (EEPS), enacted by the Illinois General Assembly, which calls for a reduction in electricity demand of 2 percent by 2015 and each year afterward. Gas utilities also must meet a portfolio standard,[43] starting at 0.2 percent in 2011 and rising to 8.6 percent in 2020, with increases of 1.5 percent each year after that. These programs are spurring investor-owned utilities to fund programs aimed at reducing demand for gas and electricity.

Figure 23. Annual residential energy consumption in Illinois per capita, 1990-2008



Sources: Energy Information Administration and Census Bureau

Market-rate energy efficiency programs generally provide upfront financing for improvements that repay the investment through energy savings over time, and funding capacity remains low relative to the need. For example, consultants for the City of Chicago projected being short of the Climate Action Plan's retrofit goal for 2020 by more than one-third, even under optimistic assumptions, if further resources are not developed.[44] Furthermore, the numerous funding programs are fragmented and difficult to negotiate for households, businesses, and local governments. Thus, some financing programs, such as the funding available from the EEPS, are not being accessed to the degree that they could.

42 Center for Neighborhood Technology, "Creating a Chicago Regional Building Energy Efficiency System," 2009, 3.

43 Illinois Power Agency Act amendment, Public Act 96-033, Section 8-104. See **http://tinyurl.com/mcahko**.

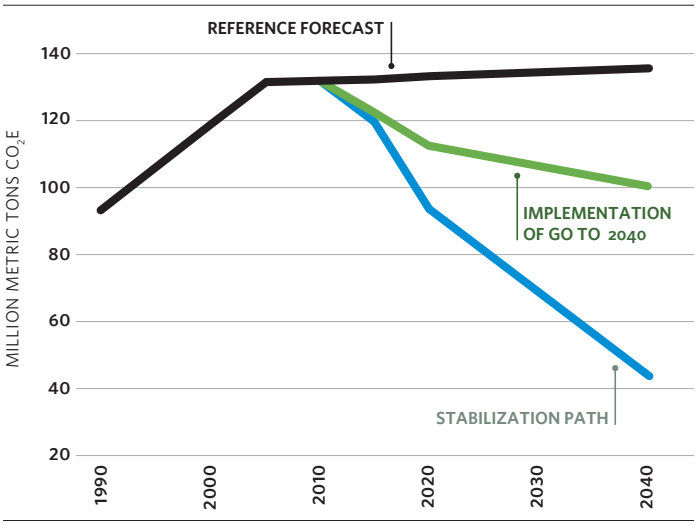
44 Katzenbach Partners, "Chicago Retrofit Strategy Final Report," 2009. See **http://tinyurl.com/2dm94jv**.

2.7 Indicators and Targets: Energy

The region's success in conserving energy can be measured using the broader metric of greenhouse gas emissions as a proxy. Although greenhouse gas emissions do not perfectly track energy use, they are very closely related, in that progress in reducing greenhouse gases also means progress in reducing energy demand.

This indicator is compared between targets for GO TO 2040 and their expected values if future conditions follow current trends.

Figure 24. Greenhouse gas emissions targets, 1990-2040



Sources: Chicago Metropolitan Agency for Planning and the Center for Neighborhood Technology, 2010

The current level of greenhouse gas emissions is 132 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) per year, the "equivalent" being a convention to express the relative effect of other greenhouse gases in terms of the global warming potential of carbon dioxide. A continuation of current trends would likely lead to emissions of 135 $MMTCO_2e$ in 2040 (see **Figure 24**). With a commitment to reduce carbon emissions, and with strong action by local governments, developers, and individuals in the region, it would be possible to reduce regional emissions to 101 $MMTCO_2e$ by 2040, or about 10 percent above 1990 levels. Emissions reductions are based on the energy retrofits, transit investments, and emphasis on compact development recommended in GO TO 2040, which represent an optimistic but achievable level of voluntary greenhouse gas emissions reductions for the region that concentrate on transportation and energy use in buildings, as they are two areas which can be positively influenced by GO TO 2040.

More significant emissions reductions than this will ultimately be needed, on the order of 80 percent below 1990 levels by 2050, which will require federal action to address emissions economy-wide. Emissions reductions of this magnitude would place the region on a "stabilization path," the approximate emissions trajectory needed to stabilize temperatures at a global mean increase of two degrees Celsius. Further reduction requires federal action to address the carbon content of fuels, industrial emissions, emissions from electricity generation, and so forth. In **Figure 11**, the area between the line representing implementation of GO TO 2040 and the stabilization path is the emissions reduction that requires federal action to achieve.

GREENHOUSE GAS EMISSIONS REDUCTION PER YEAR

119 $MMTCO_2e$ by 2015

47 $MMTCO_2e$ by 2040

2.8 Recommendations: Energy

The following sections describe the actions recommended by CMAP to increase energy efficiency. CMAP will work in partnership with local governments to investigate the most effective means of implementing the recommendations.

Adopting a resource conservation strategy is best achieved at the community level by governing bodies and the following recommendations are aimed for local governmental action.

Link Transit, Housing, and Energy Use Through Livable Communities

Responding to a more resource-constrained world means pursuing more efficient growth and travel patterns. A major recommendation of GO TO 2040 is the promotion of livable communities, or compact, mixed use, walkable and bicycle-friendly developments served by transit. Besides their quality-of-life benefits, they also improve energy efficiency through increased use of lower-energy modes of travel (transit, walking, and biking) over automobiles. Measures to reduce congestion are important as well, because congestion corresponds to wasted fuel.[45]

Whereas retrofit programs address existing buildings, energy codes and green building programs improve the energy efficiency of new construction and substantial remodeling. Energy codes are legal requirements that govern the design and construction of buildings by setting minimum standards for energy performance. State law requires newly constructed and renovated residential and commercial buildings to meet the standards set forth in the 2009 version of the International Energy Conservation Code (IECC), a model energy code developed by the International Code Council.[46] It is estimated to result in 12- to 15-percent energy savings over the 2006 IECC.[47] In the short term, however, there is a need to train local government building inspectors to implement the code requirements.

While they can do so for commercial buildings, local units of government, with the exception of the City of Chicago, may not establish residential building code requirements that are more stringent than the 2009 IECC. Energy savings beyond the code may still be encouraged at the local level. For example, an expedited permitting program could be established to lower fees or give review priority to green buildings (defined potentially as achieving a certain rating in the Leadership in Energy and Environmental Design [LEED] program) or green building practices could be made a condition of receiving development assistance. Zoning and permitting processes should allow and promote renewable energy generation from businesses, institutions, and residences. Local governments should encourage developers to undertake a leadership role in the planning, design, and construction of buildings to the highest standards in energy efficiency.

45 This recommendation is addressed in more detail in the GO TO 2040 sections "Achieve Greater Livability through Land Use and Housing" and "Increase Commitment to Public Transit."

46 Energy Efficient Building Act, 20 ILCS 3125/45.

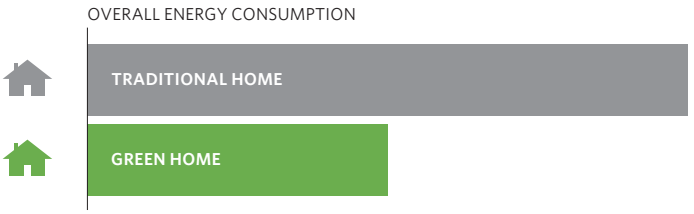
47 Energy Efficient Codes Coalition, "Energy & Cost Savings Analysis of 2009 IECC Efficiency Improvements," 2008. See **http://tinyurl.com/27d7pht**.

Promote Retrofit Programs

Retrofit programs provide assistance to property owners to install energy conservation measures in existing buildings. Because existing buildings, especially in the residential sector, may be in use for decades, improving their energy efficiency is a crucial part of achieving conservation goals. The most effective programs combine information as well as technical and financial assistance to help property owners make the best choices and provide them with access to capital in order to achieve the highest energy savings for their investment. Typical energy conservation measures improve the heating and cooling systems, hot water heaters, lighting, appliances, or the building envelope itself (insulation, windows, etc.). A national evaluation has shown that household energy consumption can be reduced by an average of 30 percent if comprehensive energy retrofits using existing technologies are implemented,[48] which can result in significant savings on utility bills. There is much that can be done in commercial buildings as well. Tools such as the Energy Star Portfolio Manager or other energy performance indicators can be used to assess resource consumption in buildings and to help identify retrofit needs. Finally, opportunities to pursue water efficiency as part of an energy retrofit are worth considering as well.

Figure 25. Energy consumption for traditional vs. green homes

Whether in new or existing homes, the use of efficient appliances, better insulation and windows, and programmable thermostats can cut energy consumption in half.



Source: Center for Neighborhood Technology

The Chicago Climate Action Plan (CCAP) recognized the significance of this strategy in energy savings and set retrofit targets of 400,000 buildings by 2020. Similarly, the Evanston Climate Action Plan identified the building sector as the one that offers the greatest potential for direct decreases in greenhouse gas emissions through energy use reductions, while the Aurora Sustainability Plan calls for technical assistance and incentives to encourage early adoption of energy efficiency measures among both residential and commercial property owners.

Local governments should take a more prominent role in retrofit programs, both working with their residents and businesses and retrofitting municipal buildings. GO TO 2040 recommends that municipalities work to develop retrofit targets to which they can commit. At the same time, increased regional coordination is necessary. While a number of programs at the federal, state, and utility levels are intended to improve energy efficiency, the difficulty of accessing information on numerous disconnected programs has resulted in limited participation by those who could benefit. This barrier needs to be attacked by establishing a regional information clearinghouse for retrofit programs. However, the major, multi-year task of retrofitting existing building stock also requires additional financing as well as a trained workforce to carry out the retrofits. The Chicago Region Retrofit Ramp-up (CR3) Program, led by CMAP, is a major step toward providing an information clearinghouse and linking financing for retrofits to workforce training. Key to a large scale retrofit program is a market transformation whereby access to information, finance, and skilled labor is supported by a regulatory environment that promotes retrofit programs.

Because a number of retrofit programs were funded under ARRA, it is prudent for the region to consider sustaining these programs via local financing so that retrofit efforts continue beyond the short term. Continued funding should be sought at the federal and state levels, but there are also several local financing options. For instance, local revolving funds can provide loans for efficiency measures, with loan payments replenishing the revolving fund over time so that it can be used to finance other efficiency measures. The original capitalization can be accomplished through a number of means, including local funds, private lenders, or grants. Another approach is *property assessed clean energy* (PACE), a mechanism through which loans provided to property owners to retrofit buildings are repaid through their tax bills. Not only does this provide upfront financing and a straightforward means of repayment, the obligation to repay the investment stays with the property and passes to the next owner when the property is sold. While PACE has encountered some hurdles, it remains an important potential mechanism for financing retrofits and should be supported.[49] Energy performance contracting — in which energy service companies (ESCO) provide guarantees that savings produced are sufficient to fund project costs — is an increasingly popular financing mechanism as it reduces risks to homeowners and lending institutions. Communities should encourage utilities to partner with ESCOs for customer retrofits that may be payable over time through the utility bills. Energy consumption savings should offset the loan payback portion of the bill, thus resulting in a relatively stable utility bill.

48 Martin Schweitzer, "Estimating the National Effects of the U.S. Department of Energy's Weatherization Assistance Program with State-Level Data: A Meta Evaluation Using Studies from 1993 to 2005," Oak Ridge National Laboratory. See **http://www.osti.gov/bridge**.

49 Legislation authorizing PACE was considered in the Illinois legislature in 2010, but did not pass. At the federal level, Fannie Mae and Freddie Mac, which guarantee a large fraction of the mortgages in the U.S., have resisted PACE out of a concern that energy efficiency loans made through that mechanism would be senior to mortgage debt.

Foster Sustainable Practices and Renewable Energy Generation

It is important for communities to develop energy efficiency and conservation strategies to help make informed decisions. This would involve an analysis of baseline energy use, a broad identification of potential energy conservation and other conservation measures, and an analysis of their feasibility for implementation.[50] The CCAP, as well as the sustainability and climate plans of several other municipalities, have employed such an approach. Communities across the region should develop strategies to determine the best measures to implement locally. Most crucially, these should be integrated into comprehensive planning at the local level.

It is important for communities to focus on conservation activities that move beyond the installation of energy efficient devices, and rather include a continuous review of processes and exploration of means to reduce energy demand.

Furthermore, local governments can encourage individual conservation actions through public education utilizing their channels of communication with residents. These simple actions to promote sustainability could include making modest changes in thermostat settings, remembering to turn off the lights, and unplugging electronics or using a power strip to reduce electricity used in standby mode.

Additionally, local governments should ensure that conservation goals are met in applicable franchise agreements with utilities. Under these agreements, ComEd provides electric service in exchange for the use of municipal rights-of-way for the company's electricity distribution infrastructure. The utility then recovers the cost of the municipal service through a charge on the bills of customers in that municipality.[51] Thus, franchise agreements shift the cost of service from residents' general taxes to their utility bills. While the arrangement looks positive to municipal officials from a budgetary standpoint, it is also an impediment to conservation, since it provides little incentive for municipalities to conserve electricity. Many municipalities in the region have these agreements with ComEd,[52] and there are similar agreements with natural gas service companies.[53] Instead of simply providing "free" service to municipalities, these agreements could be restructured so that they fund energy efficiency improvements, either on municipal property or for residents. With energy conservation, the cost of the "free" service to municipal residents could be reduced over the life of the agreement. Although doing so may create budget difficulties in the short term, municipalities are encouraged to pursue this when their franchise agreements come up for renewal.

Although the main energy priority in GO TO 2040 is meeting energy service needs through demand reduction, the region must also map out a shift to renewable energy. Significant progress has been made in certain areas, such as the state's renewable energy portfolio standard. Moving toward increased use of renewable energy is a complex and evolving enterprise, involving questions of market potential, state and federal policy, and technological readiness. On the supply side, for example, considerable improvements to electricity transmission and distribution systems may be needed to integrate renewable energy. Unlike conventional sources, renewable sources may only produce electricity at certain times (e.g., when the wind blows or the sun shines), rather than continuously as a base load power plant would, which may strain the ability to "balance" power demand across the grid.[54] On the demand side, there is a need to deploy technology that allows customers to see their energy consumption on a minute-to-minute basis and respond to price signals.[55] These kinds of improvements are part of what is often called the "smart grid," which would use better information and improved technology to manage demand by consumers and gain operational efficiencies for utilities. The state, utilities, researchers, policy advocates, CMAP, and others should continue to push toward using renewable sources for a significant fraction of our energy needs, which may involve policy changes, new technology investments, and other measures.

50 The Center for Neighborhood Technology created a model strategy, "Chicago's Guide to Completing an Energy Efficiency & Conservation Strategy," February 2009. See **http://tinyurl.com/ccmodelstrategy**.

51 ComEd, Rider FCA Franchise Cost Additions. See **http://tinyurl.com/2asxl43**.

52 ComEd, Franchise Cost Percentages. See **http://tinyurl.com/3733kam**.

53 Nicor Gas Company, Franchise Cost Adjustment. See **http://tinyurl.com/37d4jwm**.

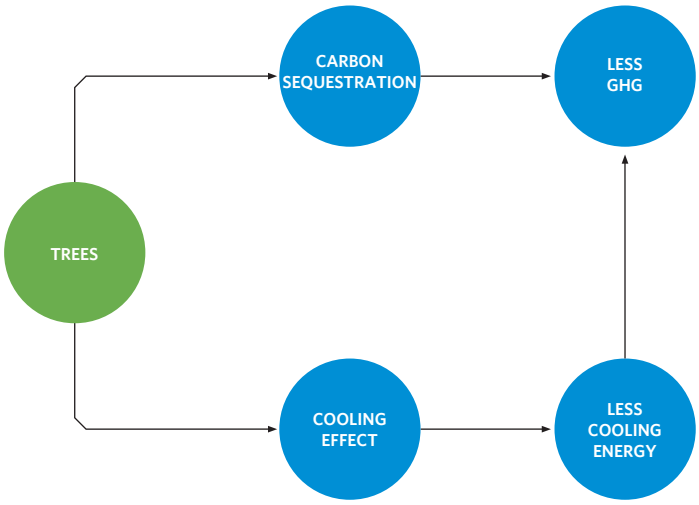
54 B. Kirby and M. Milligan, "Facilitating Wind Development: The Importance of Electric Industry Structure," National Renewable Energy Laboratory, 2008. See **http://www.nrel.gov/docs/fy08osti/43251.pdf**.

55 Center for Neighborhood Technology, "Empowering Consumers Through a Modern Electric Grid," summary report for the Illinois Smart Grid Initiative, 2009. See **http://www.cnt.org/repository/ISGI.SummaryReport.pdf**.

At the local level, communities should use their own facilities as demonstration and pilot projects for promoting small-scale renewable generation, which could involve wind, geothermal, and solar power as well as other strategies such as combined heat and power for public buildings. They should review their zoning ordinances to make sure they incorporate best practices for siting renewable energy facilities, such as wind turbines; more research may be needed at the regional level to support actions by local governments. Local governments should also make a commitment to using alternative fuels in their fleets and public works equipment. At least one municipality in the region has considered using biodiesel generated from locally-gathered waste vegetable oil.[56] Indeed, communities could undertake a multitude of actions to "lead by example," including the review of procurement processes to ensure the inclusion of green materials for governmental equipment (e.g., increased use of recycled materials in construction activities), a higher commitment to waste reduction and recycling, and so forth.

Other approaches are less obvious, such as urban forestry. Apart from the quality of life benefit that mature trees yield, they also provide shade and encourage evaporative cooling, which together help mitigate urban heat island effects (see **Figure 26**), thereby reducing demand for electricity to power air conditioning. They also absorb carbon dioxide while growing. It has been estimated that a large scale tree-planting program in the Chicago region could cool air temperature by up to 2.5 degrees F in summer, leading to significant savings in air conditioning costs.[57] At the same time, urban trees provide significant stormwater management benefits, in that, for instance, their leaves intercept rainfall.[58] Urban forest and tree programs should be implemented at the local level to mitigate the urban heat island effect and provide other important benefits. In addition, the restoration of lands recommended for preservation by GO TO 2040 would provide a significant amount of carbon sequestration.[59] However, it should be noted that preserved lands may themselves require attention and changed management strategies in the face of climate change, as described in the Chicago Wilderness *Climate Action Plan for Nature*.

Figure 26. Effect of trees on greenhouse gas emissions



Source: Chicago Metropolitan Agency for Planning, 2010

56 The Village of Algonquin is studying the use of vegetable oil for municipal fleets and equipment. Algonquin Environmental Action Plan, 2009.

57 Gregory E. McPherson, David J. Nowak, and Rowan A. Rowntree eds., "Chicago's Urban Forest Ecosystem: Results of the Chicago Urban Forest Climate Project," Gen. Tech. Rep. NE-186 (Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station, 1994).

58 Jennifer Seitz and Francisco Escobedo. n.d. "Urban Forests in Florida: Trees Control Stormwater Runoff and Improve Water Quality." University of Florida Extension. **http://edis.ifas.ufl.edu/fr239**.

59 See the GO TO 2040 section titled "Expand and Improve Parks and Open Space."

2.9 Energy-Water Nexus

Recognizing the nexus between energy and water, GO TO 2040 encourages solutions that address energy, water, and climate together. To further this, the plan recommends policies that will lead to energy use reductions in water and wastewater utilities.

At the local government level, energy use is tightly linked with water treatment and distribution. Electricity constitutes 24 to 40 percent of a typical wastewater treatment plant's budget and 80 percent of the cost of treating and distributing drinking water.[60] Depending on the treatment processes and source of water, it can require 2,700 to 3,700 kWh of electricity per million gallons to withdraw raw water, treat it to drinking water standards, and distribute it to households, then collect and treat the resulting wastewater.[61] When demand for water is reduced, water utilities should see energy savings because of the reduced need for water treatment and conveyance. At the same time, reduced water use results in less wastewater being produced, which in turn can save energy used in treatment. These energy savings are closely tied to reduced greenhouse gas emissions. Options such as waterless urinals and composting toilets, among others, should be further studied as means to further reduce effluent volumes.

While water production clearly requires energy, the reverse is also true: energy production requires significant water supplies. Thermoelectric power generation uses far more water than any other use sector, at least by total withdrawals.[62] To some extent, energy efficiency measures and a shift to renewable sources would help temper withdrawals for power generation. Therefore, water utilities should address reductions in energy consumption, and potentially costs, through renewable generation. Increased utilization of solar and wind energy may lower utility energy bills, afford power security, and improve air quality. Furthermore, utilities should include energy consumption and costs when conducting studies for plant and service expansion. Energy and water are inextricably linked because of the energy required to treat and distribute drinking water, and because of the water required in thermoelectric generation.

There are many other ways of gaining water and energy efficiencies simultaneously. Simply reducing water demand is expected to reduce energy demand and vice versa, but the two could be better integrated at the program level. For instance, energy retrofit or appliance rebate programs could also consider replacement of water fixtures with better water efficiency or appliances with reduced water use; in most cases they will also be more energy efficient.

60 Bevan Griffiths-Sattenspiel and Wendy Wilson, "The Carbon Footprint of Water," a River Network Report, 2009. At the Metropolitan Water Reclamation District of Greater Chicago, 24 percent of the Maintenance and Operations Department budget is allocated for electricity and natural gas for plant and pumping station operation.

61 Bevan Griffiths-Sattenspiel and Wendy Wilson, "The Carbon Footprint of Water," a River Network Report, 2009, 44. The lower figure is for surface water and wastewater treatment with activated sludge; the higher figure is for groundwater withdrawal followed by advanced treatment.

62 B. Dziegielewski and F.J. Chowdhury, "Regional Water Demand Scenarios for Northeastern Illinois: 2005-2050," Southern Illinois University at Carbondale, 2008. See **http://tinyurl.com/294pv8q**.

2.10 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on five implementation areas for managing and conserving water and energy resources:

Implementing Energy and Water Retrofit Programs

Integrating Land Use Planning and Resource Conservation

Pricing

Funding

Local Governments as Early Adopters of Sustainable Practices

Implementation Action Area #1: Implementing Energy and Water Retrofit Programs

Develop a framework for retrofit program administration LEAD IMPLEMENTERS: CMAP, City of Chicago, City of Rockford	Implement the Chicago Region Retrofit Ramp-Up program, which was funded in April 2010 at a level of $25 million by the U.S. Department of Energy (DOE).
Provide a financial framework for retrofit programs LEAD IMPLEMENTERS: State (DCEO), municipalities, utilities, lending institutions	Support the development and delivery of financing products targeted across retrofit customer segments. Help support a market transformation to broaden retrofit demand and to give private lenders the confidence to lend to customers for energy efficiency measures. Provide case study data that shows that energy savings are an effective and dependable cash flow stream that can be used to secure loans. Utilities and municipalities should emulate programs as the ones the Illinois Department of Commerce and Economic Opportunity (DCEO) is currently administering for financing energy and water efficiencies by partnering with retailers to conduct rebate programs to replace appliances/fittings with more efficient models.
Increase access to a trained workforce LEAD IMPLEMENTERS: State, trade associations, community colleges, Workforce Investment Boards	Develop a regional training center for certified efficiency work. Establish consistent standards and certifications for workers and contractors and create a network to match building owners with certified contractors. Create a "central broker" to match trained job-seekers to businesses seeking certified workers.
Increase access to information concerning retrofits LEAD IMPLEMENTERS: Chicago Regional Retrofit Steering Committee (DCEO, CMAP, City of Chicago, utilities, nonprofits)	Develop a regional information center for connecting building owners to qualified contractors and financial products, conduct outreach via community-based/ trade associations and Chambers of Commerce, use energy audits and web-based applications to provide information to building owners, and introduce marketing and branding strategies for retrofits. Expand the use of financing that is already available, such as the funding from the EEPS.

Implementation Action Area #2: Integrating Land Use Planning and Resource Conservation

Create model codes/ordinances LEAD IMPLEMENTERS: CMAP	Assist communities in amending or adopting codes for water conservation by providing ordinance language and related resources. Assist implementation by making available guidance for model review processes.
Accelerate use of efficient appliances/ fixtures through green code adoption LEAD IMPLEMENTERS: Counties, Municipalities	Amend ordinances to reflect requirements of the Illinois Energy Efficiency Building Act and expand on it to include items such as appliances and fixtures. Utilize EnergyStar Portfolio Manager/Energy Performance Indicator or other performance indicators for energy efficiency review in commercial and residential buildings. Also amend ordinances to encourage water conservation, including use of plumbing fixtures and fittings that conform to WaterSense standards.[63]
Provide technical assistance to local governments LEAD IMPLEMENTERS: State (DCEO), CMAP	Encourage incorporation of sustainability plans or codes in local planning practices during energy-related grant award processes by prioritizing funding to communities that have taken these initiatives. Allocate funding for the development of green codes. CMAP should offer conservation coordination assistance to communities that wish to employ water conservation practices.
Promote rainwater harvesting for non-potable indoor uses LEAD IMPLEMENTERS: State, counties, municipalities, nonprofits	Local governments should ensure that existing regulations do not prohibit the indoor handling of rainwater. Collaborate in executing informational/demonstrational efforts for the implementation of rainwater harvesting. Amend ordinances and codes accordingly.
Increase commitment to conservation in the Lake Michigan Service Region LEAD IMPLEMENTERS: State (IDNR), CMAP	Encourage Lake Michigan Service Region permittees to develop conservation plans and set conservation targets that can be reported to IDNR. Encourage annual water audit reports that follow the International Water Association and American Water Works Association standard water balance protocol while eliminating the maximum unavoidable loss allowance. Conserving Lake Michigan water by individual permittees is in the interest of the region because it would potentially make Lake Michigan water available to more communities. Permittees should make information available online to encourage increased engagement in conservation activities. CMAP should use its relationships and access to communities to assist IDNR with outreach efforts to achieve these recommendations. CMAP should develop a reporting framework/ template for communities to demonstrate water management activities to the Lake Michigan Management Section. CMAP should encourage communities to publicize their water conservation milestones.
Identify and protect sensitive recharge areas LEAD IMPLEMENTERS: State (ISWS, ISGS), CMAP, counties, municipalities	CMAP should lead a collaboration to identify SARAs, prioritize those most important for protection, and develop and disseminate model ordinances to ensure their preservation.
Encourage the integration of resource conservation in land use planning LEAD IMPLEMENTERS: State (DCEO), CMAP	Use planning grant programs to assist communities in incorporating resource conservation in local comprehensive planning. Encourage communities to indicate available future water supplies for projected population growth in comprehensive plans.
Adopt policies to encourage attainment of zero water footprints/water neutrality for large scale projects LEAD IMPLEMENTERS: Municipalities, water utilities	Water utilities should require large-scale projects to seek water neutrality. Project sponsors should work with utilities to set an annual water budget following an audit that identifies water saving mechanisms. Project operators should then adhere to the water budget. If the budget is exceeded, as determined by water billing triggers, operators would contribute to local conservation efforts to offset that amount elsewhere in the system.

63 Chicago Metropolitan Agency for Planning Model Water Conservation Ordinance, 2010. See **http://tinyurl.com/2wln57f**.

Implementation Action Area #2: Integrating Land Use Planning and Resource Conservation (continued)

Implement urban and community forestry programs LEAD IMPLEMENTERS: Counties, municipalities, park districts	Adopt minimum standards for tree coverage in development projects along with tree preservation and maintenance regulations. Undertake these programs through park districts in public sites. Incentives should be provided for residents to plant trees, such as discounted sales and/or planting assistance.
Use green infrastructure practices to manage stormwater in new development and redevelopment LEAD IMPLEMENTERS: Counties, municipalities	Ensure that stormwater management using green infrastructure is integrated in the planning and design phase of development projects. Use infill or redevelopment as opportunities to promote retrofits with green infrastructure in developed areas. Require maintenance plans in the stormwater management permitting process that specify maintenance activities and indicate responsible parties. These plans should be transferrable with property deeds.
Implement green infrastructure retrofits LEAD IMPLEMENTERS: Counties, municipalities	Watershed plans for developed areas should identify potential green infrastructure retrofits, such as rain gardens, green streets, parking lot bioretention, and so forth. These plans should be used to help secure capital funding for retrofits.

Implementation Action Area #3: Pricing

Utilize full cost pricing to incentivize more efficient water use and to fund conservation programs LEAD IMPLEMENTERS: Illinois Commerce Commission, CMAP, municipalities, utilities	Municipalities should decouple water utility budgets from the municipal general revenue fund and ensure that revenues collected from water billing meet capital and operations and maintenance (O & M) budgets. Utilities should implement metering and appropriate bill designs. Utilities should ensure that bills reflect the full cost of treatment and delivery of water. CMAP should offer technical assistance on conservation pricing and rate-setting.
Institute stormwater utility fees LEAD IMPLEMENTERS: Counties, municipalities	Local governments with stormwater management responsibilities should charge dedicated user fees to property owners to cover the costs of maintaining stormwater infrastructure. Such fees should be directly linked to the amount of impervious area on a site. With these revenues in hand, local governments should consider taking maintenance responsibility for stormwater infrastructure on private property, as property owners may not be willing or able to do so.

Implementation Action Area #4: Funding

Use State Revolving Funds as mechanism for implementing water conservation measures LEAD IMPLEMENTERS: State (IEPA)	Develop criteria that prioritize PWSLP to utilities that adopt full-supply cost pricing structures in their water billing. Require that water supply utilities develop conservation plans that set annual water use targets to be reported to IEPA as a condition for granting loans.
Use the Green Project Reserve for energy and water efficiencies LEAD IMPLEMENTERS: State (IEPA)	Utilize the 20 percent of the State Revolving Funds for water and energy efficiency projects, such as retrofits to pumps and treatment processes, irrigation equipment, reuse of rainwater/stormwater, leak detection equipment, and on-site clean power production.
Implement Energy Performance Contracting LEAD IMPLEMENTERS: Counties, municipalities, utilities	Contract with private ESCOs to identify energy savings potential. Offer cost sharing or loans for property owners for improvements to be paid by consequent cost savings resulting from the installation of energy efficient equipment and fixtures. ESCOs provide guarantees that cost savings will be attained; if not, they pay the difference.

Implementation Action Area #4: Funding (continued)

Pursue innovative financing mechanisms for retrofits LEAD IMPLEMENTERS: State (General Assembly, IFA), counties, municipalities, utilities, lenders	Explore the use of PACE financing, Green Loan Programs, New Market Tax Credits, Energy Efficiency Ratings Incentives, revolving loan funds and loan pools, etc. for funding energy and water efficiency programs. Form partnerships required to implement these programs with utilities, lending institutions and contractors.
Establish comprehensive energy and climate change policy LEAD IMPLEMENTERS: Federal (Congress)	Address greenhouse gas emissions economy-wide by such actions as improving the carbon content of fuels, reducing industrial emissions, and limiting emissions from electricity generation, as well as establishing policies to promote energy conservation and renewable energy. The federal government should have a strong role in this area.

Implementation Action Area #5: Local Governments as Early Adopters of Sustainable Practices

Implement green infrastructure demonstration projects LEAD IMPLEMENTERS: Counties, forest preserve and conservation districts, municipalities, park districts	Local governments in the region should implement green infrastructure demonstration projects with regular performance monitoring to further evaluate the applicability of such measures to local conditions. They should utilize available staff and technical expertise/resources to construct and maintain green infrastructure facilities and perform seasonal monitoring, modifying designs to adapt to local conditions as necessary. Local governments should partner with developers in establishing demonstration projects by offering financial assistance/cost share with construction costs.
Utilize green infrastructure practices in all public improvement projects LEAD IMPLEMENTERS: State (IDOT, IDNR), counties, forest preserve and conservation districts, municipalities, school and park districts	All governmental bodies that undertake construction activities should implement policies that require the use of site-appropriate green infrastructure practices for stormwater management.
Consolidate water supply and wastewater treatment services to achieve energy efficiencies and economies of scale LEAD IMPLEMENTERS: COGs	Local governments should investigate coordinating or consolidating water utilities to enhance cost-effectiveness and lower financial risks. The expansion of existing water supply plants should be emphasized over the development of smaller plants for individual utilities. A common funding stream for plant expansion could be obtained by tapping into collective resources.
Consider devoting the cost of power under franchise agreements to retrofit and rebate programs instead LEAD IMPLEMENTERS: Municipalities	Municipalities often receive free electric service by utilities as compensation for granting the franchise privilege of using the municipality's public rights of way for the delivery of electricity.[64] Discussion should be initiated to use the funds instead for retrofit and rebate programs.
Utilize renewable energy generation in water utilities LEAD IMPLEMENTERS: Municipalities, utilities	Municipal utilities should seek to employ solar and wind energy to generate all or part of the power required for utility operations. Unused power can be sold back to the grid.
Develop energy and water efficiency and conservation strategies LEAD IMPLEMENTERS: Municipalities	Communities should develop a baseline analysis of energy and water use, broadly identify potential efficiency and conservation measures, and analyze the feasibility of implementing them, including the availability of financing. This strategy should be used as an input to local comprehensive planning and as a guide to implementation.

64 ComEd. Rate information available through tariff documents, under "Rider FCA—Franchise Cost Additions," see **http://tinyurl.com/2eqkzwk**.

2.11 Costs and Financing

This section discusses financing for the energy efficiency, water conservation, and stormwater management recommendations in GO TO 2040, focusing on local units of government.

All of the resource conservation recommendations are expected to provide net savings for local governments and taxpayers over the medium to long-term, although upfront investment is necessary.

Water Use

The water conservation measures recommended in GO TO 2040 and *Water 2050* are expected to reduce the capital costs growing communities face to expand their water systems. In both growing and built-out communities, water rates can be redesigned so that conservation does not decrease revenue for the utility. Conservation measures can be funded through a range of mechanisms, including loans from the State Revolving Fund, but most conservation is financed locally. Two of these local financing approaches are as follows. First, the use of full-cost pricing, as GO TO 2040 advocates, will tend to reduce water use by customers, and it will also provide funding that is adequate for a utility to address the system water loss (e.g., through leaking water mains) that acts as a drag on utility budgets. Second, user fees can be charged to customers to fund water conservation, much like the electric and gas utilities' small charge to pay for efficiency programs. This fee can be as much or as little as appropriate, and much of it can be returned to customers through water savings or appliance rebates. Conservation finance is outlined in much more detail in *Water 2050*,[65] but it is worth noting here that strong local leadership and effective education are crucial prerequisites for funding conservation locally.

Stormwater Management

According to case studies in the Midwest, the use of green infrastructure can reduce site development and long-term maintenance costs by eliminating the need for gray infrastructure.[66] This is not always the case, however; savings depend on site conditions and the specific green infrastructure techniques used. The Center for Neighborhood Technology (CNT) has developed a useful online calculator[67] that estimates the costs associated with using conventional and green infrastructure techniques for a chosen soil type, lot size, and slope, etc. Costs and cost savings are divided helpfully into private (developers and building owners) and public (mainly municipalities). It is important to note that local government permitting plays a significant role in the cost-effectiveness of green infrastructure. Frequently the implementation of stormwater ordinances will take a "both-and" approach where many kinds of gray infrastructure are still required even if green infrastructure is used on site, eliminating the potential for cost savings. To save on development and maintenance costs, it will be necessary to reduce the requirements for other infrastructure. A common way of doing this in other states — but not the only way — is to provide a detention volume credit for the use of green infrastructure that reduces the volume of detention storage required, thus saving space on site and decreasing installation costs. However, local government engineering staff may have concerns that not enough data are available to show that green infrastructure performs well enough to give such credits. CMAP, the state, and regional partners should continue to provide information on performance to support a shift to green infrastructure.

Provision must be made for maintaining any stormwater management practice, and green infrastructure is no different. In older areas of the region, stormwater infrastructure (like regional detention basins and storm sewers) is often owned and maintained by local governments, most frequently by municipalities but sometimes by park districts. General revenue is typically used for maintenance. In newer areas, by contrast, stormwater management practices such as detention basins and buffer areas remain on private property and subject to private maintenance. The detention basins in subdivisions, for instance, will generally be maintained by homeowners' associations. Some jurisdictions require a Special

65 Chicago Metropolitan Agency for Planning, "Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan," 2010, 117 and following. See **http://www.cmap.illinois.gov/waterplan**.

66 Conservation Research Institute, "Changing Cost Perceptions: An Analysis of Conservation Development," 2005. See **http://tinyurl.com/2g6xmrr**.

67 Center for Neighborhood Technology, Green Values Stormwater Toolbox. See **http://greenvalues.cnt.org/**.

Service Area (SSA) as a backup to fund maintenance if it is not performed by the homeowners' association, but local governments are often reluctant to activate the SSA and assess property owners for maintenance.

Like any form of infrastructure, the effectiveness of green infrastructure will decline without maintenance, and maintenance depends on funding. It is crucial to establish a dedicated revenue stream to maintain stormwater management infrastructure. An important technique for local governments to consider is the stormwater utility fee, which is typically charged to property owners in proportion to the amount of runoff from their property (typically proxied by the amount of impervious surface on site). It replaces the general revenues that currently support local government stormwater programs with an enterprise fund, and can be designed to be revenue neutral. The amount of the fee must bear a reasonable relationship to the cost of service, so the charge for a stormwater fee depends on the need for stormwater infrastructure maintenance. It is arguably more equitable than funding stormwater programs out of general revenue since those who "use" the service more (i.e., place more demands on the stormwater management system) will pay more.[68]

Energy Conservation

The many local units of government in northeastern Illinois own a significant number of buildings, from village halls to libraries to police stations to schools, and there are many opportunities to retrofit them to improve their energy performance. It is crucial for local government to lead residents and businesses by example, and a number of programs are available to provide partial financing. One of the most significant, and underutilized, sources of finance that can be accessed by public sector entities is the EEPS funding, which provides incentives for certain kinds of efficiency improvements. The program will be funded at $150 million statewide in 2010 through system benefit charges on ComEd and Ameren customers' bills. DCEO administers the EEPS for public sector clients, which can include a variety of local government units and special districts, public schools, etc.[69] The standard set of improvements includes lighting, refrigeration, heating, ventilating, and air conditioning (HVAC) equipment, as well as other improvements to municipal operations like the use of light-emitting diodes (LEDs) in traffic signals, but a customized set of improvements can also be funded. EEPS will also fund energy efficiency beyond code in new public buildings. Restructuring of municipal franchise agreements — described further in the recommendations section of this chapter — can also help to provide financial resources for energy efficiency improvements.

ARRA provided significant funding to the Energy Efficiency and Conservation Block Grant (EECBG) program, a sizeable portion of which went to local governments through direct grants from DOE. Those communities which were not eligible for direct grants in the region are eligible for funds from DCEO and administered by the Metropolitan Mayors Caucus (MMC). While these funds have helped local governments make inroads into the need for energy conservation, more can be done. In addition to making their own operations more efficient, municipalities can try to build energy efficiency into their approaches to issues that are more squarely in their traditional domains of concern, such as economic development and commercial revitalization. For instance, typical façade improvement financing could include updating windows for improved energy efficiency, or assistance with energy audits could be provided for downtown businesses to help them cut operating costs and improve their financial positions. Local governments can also help property owners by setting up PACE programs (or Energy Financing Districts, as they are sometimes called). These allow local governments to raise money by issuing bonds to fund energy conservation projects in buildings or to serve a district, and the debt is serviced over a set number of years through a special assessment on the property owners who choose to participate in the program.[70] Authorizing legislation is required to make PACE available.

68 L. Wilson and G. Lindsey, "Authority for Local Stormwater User Fees in Indiana," Indiana University Center for Urban Policy and the Environment, 1995. See **http://stormwaterfinance.urbancenter.iupui.edu/PDFs/Indiana.pdf**.

69 Illinois Department of Commerce and Economic Opportunity, "Energy Efficiency." See **http://tinyurl.com/38gh7wh**.

70 Merrian C. Fuller, Cathy Kunkel, and Daniel M. Kammen, "Guide to Energy Efficiency and Renewable Energy Financing Districts for Local Governments," Renewable and Appropriate Energy Laboratory (RAEL), University of California, Berkeley, 2009. See **http://www.tinyurl.com/2ectd8m**.

RECOMMENDATION

3 Expand and improve parks and open space



The parks and natural areas of northeastern Illinois are among the region's greatest assets, offering an enhanced quality of life, protecting environmental quality, and contributing significantly to the region's identity.

A recommended network of parks connected by open space corridors was central to Daniel Burnham's and Edward Bennett's 1909 *Plan of Chicago*, meant at that time to bring refreshment to a newly urban citizenry. This objective is just as important a century later, and Burnham's network remains a work in progress. Less than half of the region's residents currently live in places with adequate access to nearby parks or open space, and much of the unique natural heritage of the region remains unprotected and unmanaged. As the region has expanded beyond the urban footprint in Burnham's time, the corridors of open space Burnham envisioned must expand as well. Our knowledge of open space's benefits has also progressed, so that we now understand its crucial role in flood protection, the promotion of public health, and potentially even adaptation to climate change.

Our network of parks and natural areas is considered part of our region's "green" infrastructure because of its similarity to the "gray" infrastructure networks that are likewise central to prosperity and livability. Like other forms of infrastructure, it can be managed, restored, and expanded.

A top GO TO 2040 priority is to expand the green infrastructure network. To do so, CMAP recommends making significant, criteria-based investments in parks and open space. Major benefits will follow from this, including enhanced quality of life and property values, improved public health through the promotion of active lifestyles, and the protection of ecosystem services like water supply, flood storage, and water purification. In brief, CMAP recommends the following actions:

Provide more parks in developed areas to increase park accessibility
The region should work to provide all residents with at least a minimum standard of park access by 2040. The total acreage required for new parks is not extremely high, but it is challenging to provide land in already developed places where it is needed most. Local governments should collaborate to provide additional parks in the areas least served by them, and municipalities in particular should look on redevelopment as an opportunity to provide additional park space even in the context of moderate residential density increases. Such parks can become important public spaces that contribute to the overall livability of a community.

Preserve the most important natural areas in the region
Across the seven counties, an additional 150,000 acres of land should be preserved over the next 30 years through a collaborative, multi-organizational, public-private approach. Most of this should be sought with the goal of conserving and improving a network of land and water — the green infrastructure network — that follows waterway corridors, expands existing preserves, and creates new preserves in the region. Coordinated investment in land protection and a commitment to the restoration and management of preserved lands will be necessary to achieve this. Forest preserve and conservation districts, the state, private funders, and others should all prioritize land preservation within the green infrastructure network. This will mean reexamining funding criteria and grant scoring systems so that they align with the overarching goal of a connected green infrastructure network.

Provide functional connections between parks and preserves, using the green infrastructure network as a design concept
Another way of establishing connections between parks and preserves is a greenway trail, and the network of such trails identified in the Northeastern Illinois Regional Greenways and Trails Plan should continue to be expanded. The region has been very successful in developing off-street trails over the past two decades, and GO TO 2040 envisions organizations in the region continuing to use the Greenways and Trails Plan to establish potential connections between preserves and parks, as well as to support walking and biking as an alternative mode choice. The region's objective should be to double existing greenway trail mileage by 2040.

Municipalities, the seven counties, and the state should harmonize policies with the natural resource protection recommendations in GO TO 2040, reducing land consumption and thereby helping protect green infrastructure. At the local level, this means increased attention to networks of open space and important natural areas during municipal comprehensive planning, followed by zoning changes to reinforce that policy direction. Establishing livable communities — compact, mixed-use places with amenities and transit nearby — will also reduce land consumption on a regional level. Where growth is expected within the green infrastructure network, local governments should encourage the use of conservation design. At the state and regional level, efforts should be made to ensure that policies do not inadvertently contribute to the loss of important natural areas.

In summary, the region should, by 2040, be substantially closer to having a fully connected network of protected land and water along waterway corridors. Park access for all residents of the region should meet at least a minimum standard, and the network of greenway trails should be at least doubled.

3.1 Benefits

Open space was noted as a high priority in the GO TO 2040 Regional Vision, which states: "The region's nationally-recognized system of open space — including forest preserves, conservation districts, and parks — will continue to shape regional identity and contribute to the health of our communities.

Especially along sensitive waterways, open space will be preserved and expanded, creating green infrastructure networks that enhance people's connection with nature and serve as habitat corridors."

During the 2009 "Invent the Future" phase of GO TO 2040 public engagement, open space came up in almost every workshop. Participants felt that preserving our natural environment was imperative to promote the health of residents and create more livable communities. Participants were also asked to prioritize what outcomes were most important. Land consumption was one of the top four indicators chosen, along with regional economy, transportation choice, and energy reduction. Reducing the loss of open space is clearly a significant concern among residents of the region.

The following subsections describe some primary benefits of parks and open space.



Quality of Life

Parks and preserves are much coveted amenities that have been shown over and over to be among the top priorities in quality-of-life surveys. According to a 2002 poll by the Illinois Association of Park Districts, more than 80 percent of residents in Chicago and collar counties said that they visited a park in the past year, averaging more than a dozen visits.[1] Open space is a primary contributor to overall environmental quality, which is desirable in itself, but it also makes the region more attractive to people and businesses considering locating in northeastern Illinois. Its importance can also be seen in its popularity: for example, the county forest preserve and conservation districts have been able to raise about $1.2 billion in current dollars for land acquisition since 1999 through voter referenda on bond issuance.[2] People also vote with their feet, as research indicates that people prefer to live near parks and protected natural areas if the opportunity is available, which translates into property value increases near parks and protected lands.[3]

Parks and preserves have a number of documented public health benefits.[4] While establishing additional parks only provides an opportunity to engage in recreational activities and does not assure a positive health outcome, parks are indeed associated with improved public health. One study examining total park area within a community found the percentage of total park area within neighborhoods was a significant predictor of increased physical activity levels among children, amounting to a 1.4-percent increase in physical activity levels for each one percent increase in park acreage.[5] In another study, subjects who regularly used their local parks were about three times more likely to achieve recommended levels of daily activity.[6] Parks also improve the equity of public health by providing exercise facilities to low-income residents who may find gym fees prohibitive.[7] Providing nearby opportunities for outdoor recreation also guards against what is figuratively called "nature deficit disorder."[8]

In short, parks and open space have measurable positive impacts on health and well-being.

Finally, parks benefit quality of life by supporting social connections — they can help build community. Recreational activities at parks, especially those involving children, undoubtedly bring neighbors together. Furthermore, parks provide a place for people to gather simply because they are public spaces. Thus they can serve as a stitch in the social fabric apart from any special recreational programming, but attention must be paid to their placement and design to make them desirable places to be.[9] Parks also help build community if neighbors are involved in the management and even the maintenance of parks through local park councils or conservancies; this can also help spare park districts some expenses associated with park administration.

1 Illinois Environmental Council Education Fund, "Illinois State Land Conservation Funding," developed in partnership with the Trust for Public Land and The Nature Conservancy, 2007.

2 Data from referenda results tracked by Illinois Association of Park Districts. See **http://www.ilparks.org/?page=referendum_results**.

3 Economic Research Associates, "Real Estate Impact Review of Parks and Recreation," 2005. See **http://www.ilparks.org/resource/resmgr/research_documents/research_era_real_estate.pdf**.

4 Summarized in "Parks, Playgrounds, and Active Living" Research Synthesis (Robert Wood Johnson Foundation, February 2010). See **http://www.activelivingresearch.org/files/Synthesis_Mowen_Feb2010.pdf**.

5 J. Roemmich, L. Epstein, S. Raja, et al, "Association of Access to Parks and Recreational Facilities with the Physical Activity of Young Children." Preventive Medicine, 43(6; 2006): 437-441.

6 B. Giles-Corti, M. H. Broomhall, M. Knuiman, C. Collins, K. Douglas, K. Ng, A. Lange, R. J. Donovan, "Increasing Walking: How Important Is Distance To, Attractiveness, and Size of Public Open Space?" American Journal of Preventive Medicine 28(2S2; 2005):169-176.

7 Erica Gies, "The Health Benefits of Parks: How Parks Help Keep Americans and Their Communities Fit and Healthy," The Trust for Public Land, 2006.

8 Richard Louv, Last Child in the Woods, Algonquin Paperbacks, 2005.

9 The classic study on this aspect of parks and plazas is William H. Whyte, The Social Life of Small Urban Places (1980).

Environmental

One of the most important benefits of protecting land is that it also protects water. Open space helps ensure the replenishment of aquifers with uncontaminated water, which benefits communities that use groundwater as a source of drinking water as well as protecting plants and animals in groundwater-fed wetlands. Furthermore, floodplains and wetlands play a significant role in flood reduction. The Illinois State Water Survey (ISWS) found that for every one percent increase in the amount of wetland area in a watershed, peak flood flows could decrease by up to eight percent.[10] Because climate change may result in increased flooding, it is especially important to preserve floodplains and wetlands in a protected corridor along streams. In another example, wetlands tend to act as "sinks" for nutrients, in most cases removing nutrients from the water flowing through them. These often-irreplaceable natural functions that support human activity are called "ecosystem services," and land protection can help preserve them.[11]

Wildlife benefits from land preservation as well. Protecting large "hubs" of open space connected by corridors ensures species can migrate with relative ease between large blocks of habitat. This is important because, aside from habitat destruction itself, habitat fragmentation is one of the biggest threats to biodiversity in the region. Conservation biologists also suspect that some species will try to migrate northward as climate change progresses, and a north-south network of protected open space may facilitate this movement. Furthermore, wildlife watching has become a popular form of outdoor recreation in Illinois and nationwide. The U.S. Department of Commerce reports that in 2006, the most recent year for which data are available, more than two million Illinois residents together spent more than $1 billion to watch wildlife in Illinois.[12]

10 M. Demissie and A. Khan, "Influence of Wetlands on Streamflow in Illinois," ISWS Contract Report 561, 1993, 26 Table 3. See **http://www.sws.uiuc.edu/pubdoc/CR/ISWSCR-561.pdf**.

11 Robert Costanza et al, "The Value of the World's Ecosystem Services and Natural Capital," Nature 387 (1997): 253-260.

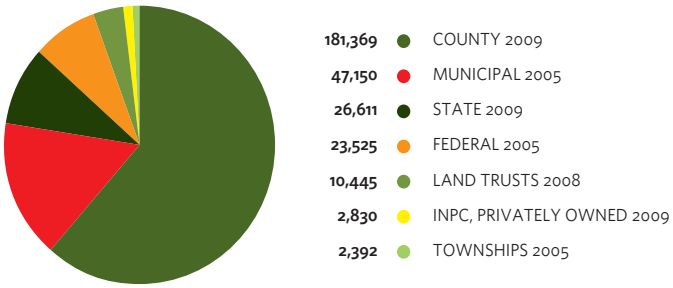
12 U.S. Department of the Interior, Fish and Wildlife Service, U.S. Department of Commerce, U.S. Census Bureau, "National Survey of Fishing, Hunting, and Wildlife-Associated Recreation," 2006.

3.2 Current Conditions

The region now has approximately 300,000 acres in municipal parks, private conservation easements, private nature preserves, county preserves, township parks, and state and federal holdings (see **Figure 27**).

Open space can be categorized as conservation-oriented ("preserves" or "natural areas") or recreation-oriented ("parks"), although the distinction is by no means cut and dried. For instance, a number of park districts, which have traditionally focused on recreation, hold natural areas and have conservation programming. The region has about 50,000 acres of recreational open space or parks and about 250,000 acres of conservation open space. There is a third type to consider: connections or corridors between two or more parks and preserves. Often known as "greenways," these may also simply be a trail or another type of recreational or cultural amenity. CMAP recommends protection and expansion of all three aspects of the regional green infrastructure network.

Figure 27. Total parks and open space holdings, in acres

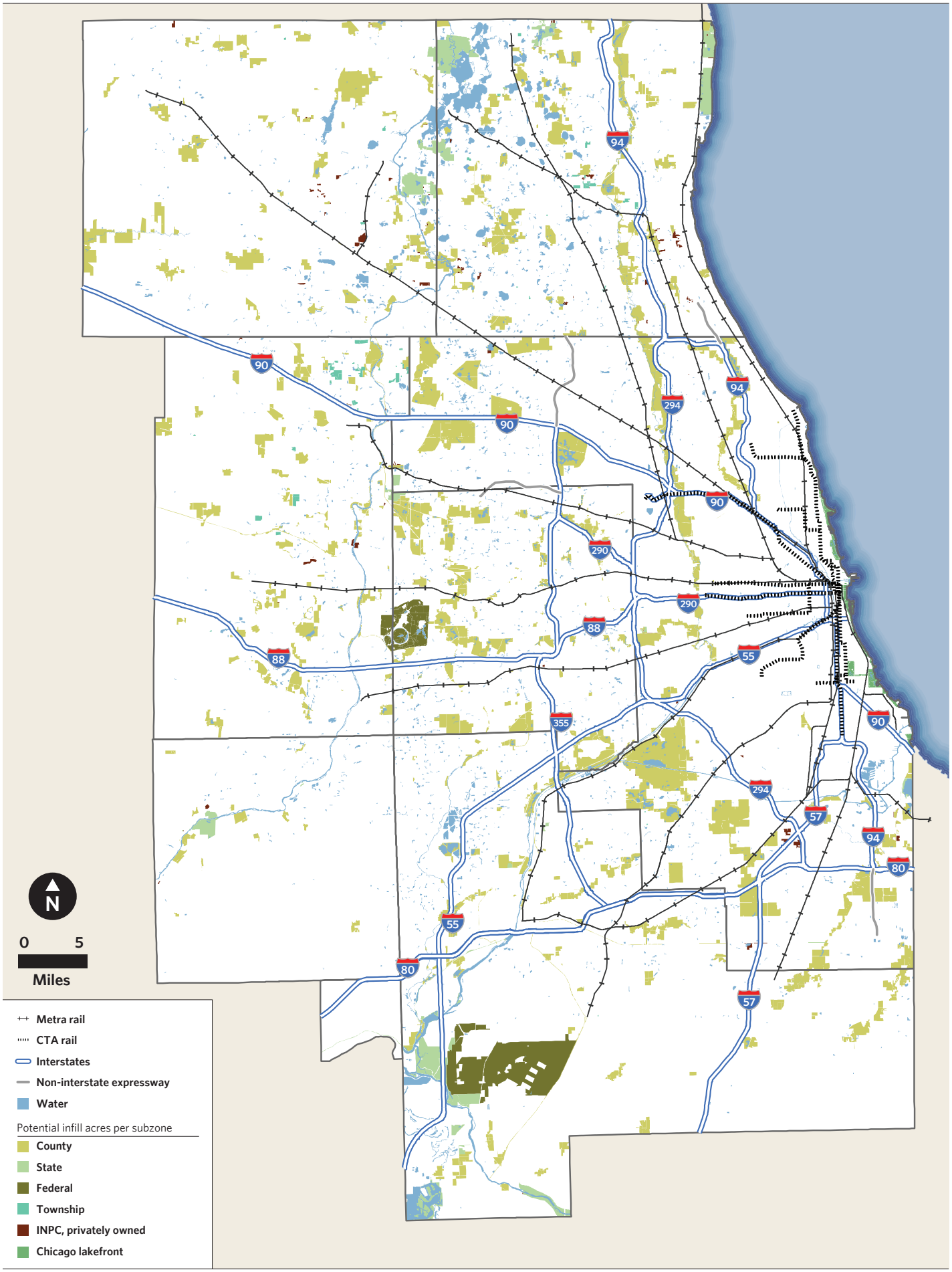


Source: County Forest Preserve and Conservation District Geospatial Data; CMAP 2005 Land Use Inventory; Illinois Nature Preserves Commission (INPC) Geospatial Data; Grand Victoria Foundation

In terms of acreage, the county forest preserve and conservation districts have the most open space in the region. As distinct units of government, the six forest preserve districts (Cook, DuPage, Kane, Kendall, Lake, and Will Counties) and the conservation district (McHenry County) own or manage over 180,000 acres of public preserves.[13] Much of the land is conservation open space, but 3,500 acres of golf courses and some additional recreational and farm facilities are also included. Together, these agencies are responsible for the majority of protected conservation open space in the region. The forest preserve and conservation districts protect land through many approaches, including using grant funds for acquisition, accepting donations, and agreeing to manage privately held land under conservation easements. But their main approach is to issue bonds to purchase land, the debt service on the bonds generally being paid through county property taxes. The locations of the forest preserves and other conservation open space are shown in **Figure 28**.

13 Summarized from 2009 geospatial data provided by forest preserve and conservation districts. See Figure 28.

Figure 28. Regional conservation open space



Color shadings represent the body that owns and operates the conservation open space. Municipal parks are not shown, except for protected land along the lakefront.
Sources: County Forest Preserve and Conservation District Geospatial Data; CMAP 2005 Land Use Inventory; Illinois Nature Preserves Commission Geospatial Data; Grand Victoria Foundation.

The Illinois Department of Natural Resources (IDNR) owns about 26,600 acres of public land in the Chicago region. This includes state parks, fish and wildlife areas, natural areas, one state museum property, and several other types of holdings. In addition, IDNR administers several funding programs that local government units can tap for parks and open space. Through the Illinois Nature Preserves Commission (INPC), the State of Illinois also provides support to landowners who wish to dedicate qualifying land as a Nature Preserve or as a Land and Water Reserve. Often nature preserves are owned by a public agency, but sometimes they are not; about 2,800 acres in northeastern Illinois are privately owned Nature Preserves or Land and Water Reserves.

Parks are generally owned and operated by park districts or by the park departments of the region's municipalities. Together they hold approximately 47,000 acres that provide a variety of recreational opportunities from tennis to basketball to cross-country skiing. The townships also own a small amount of land that is usually conservation open space, though it may have a recreational aspect.

To date, the federal role in open space protection in the Chicago region has been fairly minor in terms of acreage, but it has resulted in the largest single preserve in the region. The U.S. Forest Service owns and operates the Midewin National Tallgrass Prairie, which contains more than 18,000 acres of preserved land in Will County. Most of the land at the Fermi National Accelerator Laboratory in western DuPage County, about 5,400 acres, is also effectively protected open space.

Finally, the private sector's role has been expanding over time. Increasingly, nonprofit land conservation organizations ("land trusts") own or hold easements on land in northeastern Illinois, and the number of active land trusts has been growing rapidly.[14] Though the total acreage they conserve is not tracked in a central location, these organizations are estimated to have bought, accepted donations for, or taken easements on at least 10,500 acres in northeastern Illinois[15] in less than 10 years, or about 1,200 acres per year. In many instances, nonprofit land conservation organizations work with landowners who wish to take advantage of tax benefits offered to those who forgo development rights on their property. They also accept voluntary donations of conservation easements from those who wish to permanently preserve their land. In some cases these organizations may also purchase conservation land outright from willing sellers.

14 2005 National Land Trust Census.
See **http://www.landtrustalliance.org/about-us/land-trust-census/census**.

15 From data on easements and holdings of nine land trusts over ten years provided by Grand Victoria Foundation, February 19, 2010.

3.3 Indicators and Targets

The current amount of conservation open space in the region is approximately 250,000 acres. By 2040, an additional 150,000 new acres should be protected for 400,000 total acres (see **Figure 29**).

The interim target for 2015 should be 25,000 new acres, or 275,000 total acres, which is one-sixth of the 2040 target. While this may seem high given fiscal conditions, it is worth pointing out that there is still public appetite for preservation of open space despite the present recession.[16] It is also likely that falling land prices will make acquisition at current rates more affordable than when the real estate sector rebounds. Options available today will be lost with the passage of time and a return to a more robust economy.

ACRES OF CONSERVATION OPEN SPACE

275,000 acres by 2015

400,000 acres by 2040

Currently, only 49 percent of people in the region have adequate access to parks, as defined by a standard of 10 acres per 1,000 people. This will not be appropriate for the densest areas of the region, however, which should use a level of service of at least 4 acres per 1,000 people (see **Figure 30**). Meeting the park accessibility targets will require approximately 5,200 acres of new parks.

REGIONAL ACCESS TO PARKS PER PERSON IN ACRES

72% at a level of four acres per 1,000 people; 52% at a level of 10 acres per 1,000 people by 2015

All people at a level of four acres per 1,000 people; 70% at a level of 10 acres per 1,000 people by 2040

The region now has 700 miles of trail greenways. The region should approximately double the mileage of trail greenways between now and 2040, for a total of 1,348 miles of trail greenway (see **Figure 31**). An interim target for 2015 is to establish one-sixth of the total recommended new greenway mileage.

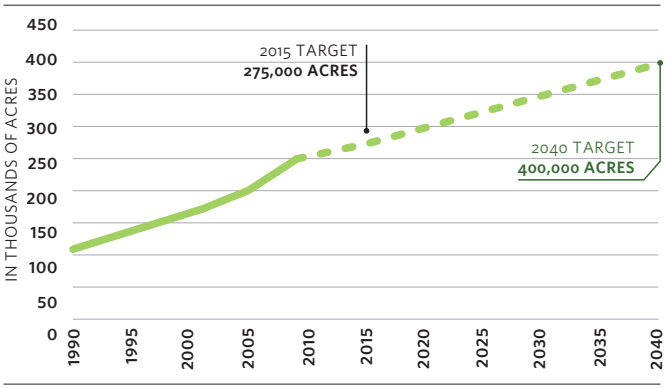
NEW GREENWAY MILEAGE

808 total miles by 2015

1,348 total miles by 2040

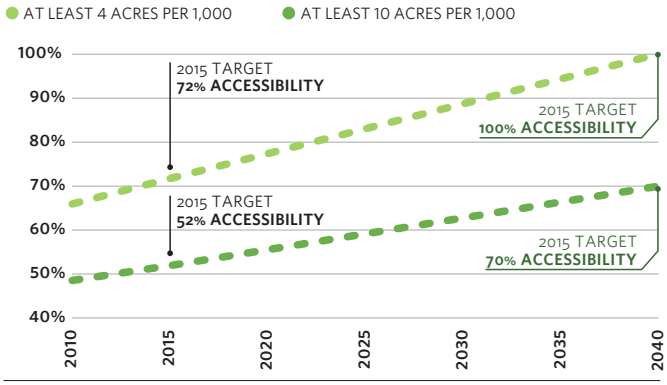
16 Fairbank, Maslin, Maullin & Associates and Public Opinion Strategies, "Key Findings from National Voter Survey on Conservation," September 25, 2009.

Figure 29. Conservation of open space targets, 1990-2040



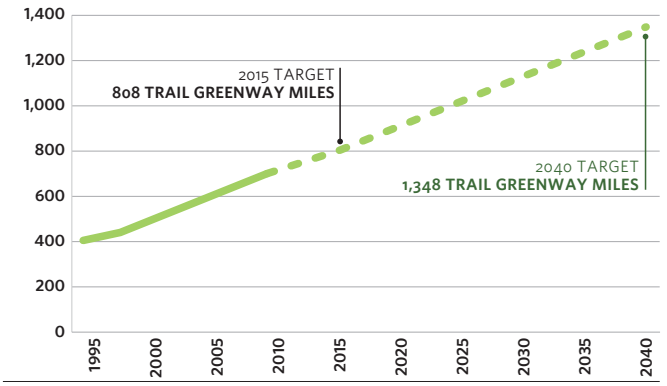
Source: Chicago Metropolitan Agency for Planning, 2010

Figure 30. Access to parks targets, percent of regional population, 2010-2040



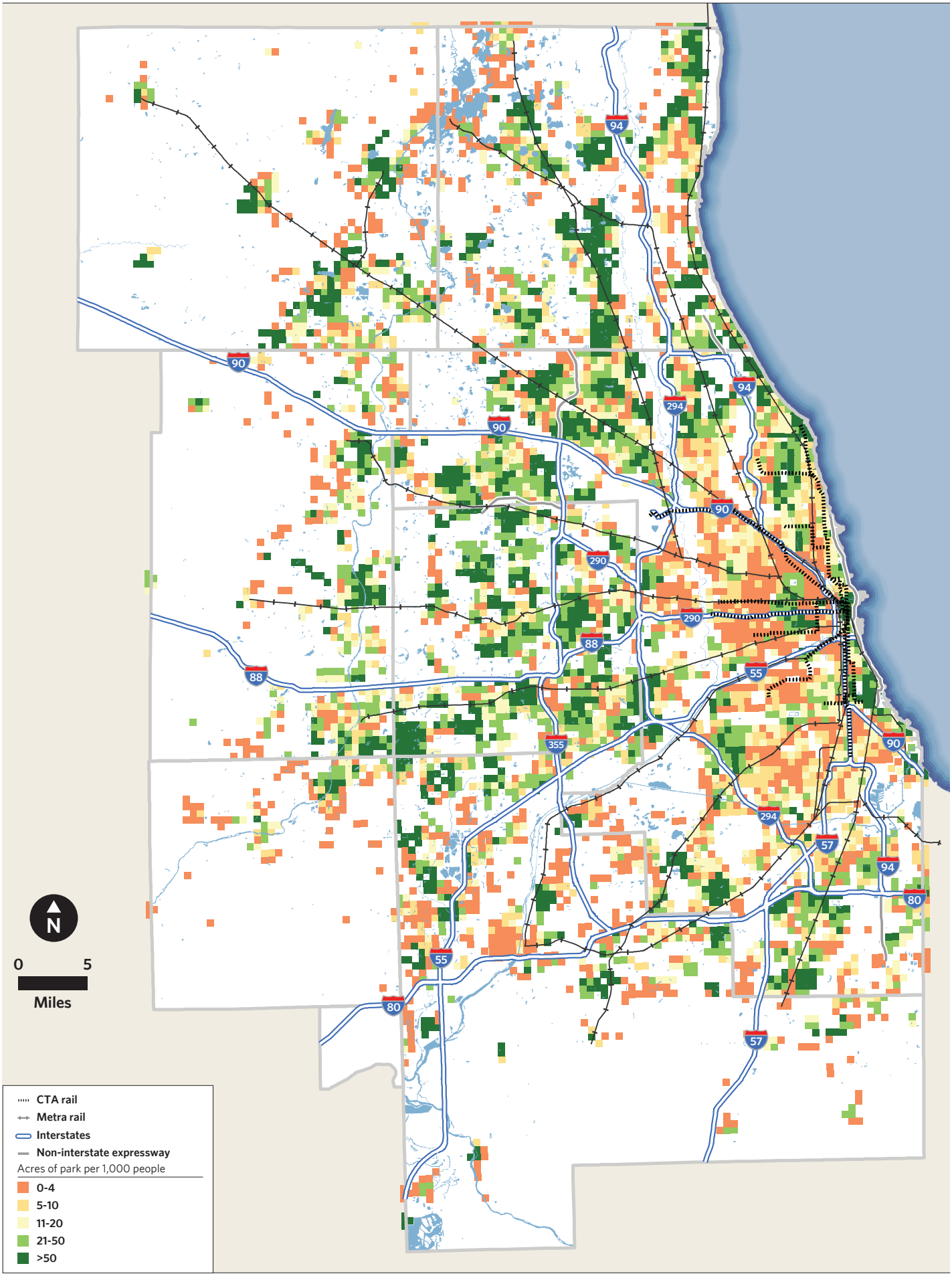
Source: Chicago Metropolitan Agency for Planning, 2010

Figure 31. Miles of trail greenway targets, 1995-2040



Source: Chicago Metropolitan Agency for Planning, 2010

Figure 32. Access to parks



This map shows the accessible park acreage per 1,000 people. Orange areas have less than 10 acres of parks per 1,000 people and pink areas have less than four acres of parks. Areas in white were not analyzed because they have less than the Census-defined "urban" density of 1,000 people per square mile. Source: Chicago Metropolitan Agency for Planning, 2010

3.4 Recommendations

The following sections describe in detail the actions recommended by CMAP to establish parks, preserve open space, and establish connections within the green infrastructure network.

Parks Recommendations

The region needs additional parks to provide recreation and open space access to as many people in the region as possible. The total acreage required for new parks is not exceedingly high, but it is challenging to provide land in already developed places where it is needed most. Local governments should collaborate to provide additional parks in the areas least served by them, and municipalities in particular should look at redevelopment as an opportunity to provide additional park space even within the context of moderate residential density increases. Such parks can become an important public space that contributes to the overall livability of a community.

To evaluate the need for urban open space, CMAP evaluated existing parks against standards for park accessibility from the National Recreation and Park Association (NRPA).[17] The park types considered are community and neighborhood parks under NRPA's definitions, rather than regional parks or regional reserves, which correspond to the forest preserves here in Illinois. Based on the NRPA standard of 10 acres per 1,000 people, it was found that only about 49 percent of people in the region have adequate access to park space (see **Figure 32**). Areas with the lowest accessibility are often older and denser, but there are many places in growing areas that do not meet the NRPA standard.

Because opportunities are scarce to provide additional parks in some places, however, it probably would not be possible to achieve 10 acres per 1,000 people across the region. In denser areas, this goal is too rigorous. The Chicago Park District and City of Chicago use instead a long-term goal of four to five acres per 1,000 people,[18] which is likely an adequate value for the under-parked places within inner-ring suburban areas as well. Still, only 66 percent of people in the region have even this level of service. GO TO 2040 proposes establishing more parks so that an increasing number of people in the region have adequate park access.

In newly growing areas, park districts acquire the majority of their holdings through donations as stipulated in local land-cash ordinances, which require developers to reserve land for parks or donate the equivalent in cash. Yet the park accessibility analysis indicates that there are still shortfalls in parks even in developing areas. This seems to suggest that some growing communities may need to adopt best practices in requirements for developer donations.[19] In already developed communities, by contrast, redevelopment over the next 30 years could provide many opportunities to increase open space. One means for this is the use of open space impact fees that apply during redevelopment, though these should be carefully tailored so that they do not discourage development. Park districts would then use the funding to increase open space access in the area; cash can be especially attractive because it can be used for park development capital projects and as a match for state and federal grants.

17 Derived from Roger A. Lancaster ed, "Recreation, Park, and Open Space Standards and Guidelines," National Recreation and Park Association, 1983. See **http://tinyurl.com/2cd9xar**. Park accessibility is a distance-based standard, where a 0.5-mile radius service area was assumed for neighborhood parks, and a one-mile radius service area was used for community parks.

18 CitySpace: an Open Space Plan for Chicago, 1998, p. iii. See **http://tinyurl.com/24qg9gd**.

19 Although land-cash donation requirements have not been catalogued for northeastern Illinois, a statewide survey by the Illinois Association of Park Districts suggested that 30 percent of municipalities (working with park districts) require a donation or cash equivalent of 5.5 acres per 1,000 people, 27 percent require 10 acres per 1,000, and 5 percent required 15 acres per 1,000 people. See **http://www.ilparks.org/resource/resmgr/research_documents/land_cash_donation_survey.pdf**.

Since imposing a fee does not solve the problem of the availability of land, a better long-term solution is to require building public open space into site plans during redevelopment, at least in larger projects. This is an especially strong possibility in places undergoing the moderate density increases envisioned in the GO TO 2040 plan. As in conservation design, it is crucial that the resulting open space be publicly accessible. Note, too, that in some places, a park component could be a critical part of a project's success. A riverfront revitalization project with public open space would be one example. The success of Millennium Park in downtown Chicago suggests that well-conceived park developments can have powerful catalytic effects and support nearby real estate development. More broadly, there are many possibilities for gleaning economic development opportunities from parks projects, such as greenway trails that lead bicyclists near historic business districts for shopping and dining opportunities.

Even after leveraging private investment through redevelopment, however, local governments will still need to find creative, low-capital ways to provide parks directly. There are many potential ways to do this, such as using school grounds for community recreation purposes, considering capped landfills for open space use, and closing low-traffic local streets or removing parking lots to convert them to parks, among others.[20] Some possibilities may have potential locally, while others will be inappropriate. It should be noted that adding park uses will increase management costs to some extent, even with low-capital approaches to park development. Management costs are estimated in the following Costs and Financing subsection. It will be important to ensure that park districts and other government units providing and managing parks have access to adequate funding for their operations.

Preserves Recommendations

CMAP recommends that the region preserve an additional 150,000 acres of land over the next 30 years through a collaborative, multi-organizational, public-private approach. More than this, it is crucial that the preserves function as a connected network of green infrastructure. Therefore at least two-thirds of the total should be targeted to conserve a network of land and water that follows river corridors and connects major existing and new preserves in the region. Coordinated investment in land protection will be necessary to achieve this. Forest preserve and conservation districts, the state, and private funders should all prioritize land preservation within the green infrastructure network. Municipalities and the state should harmonize policies to promote the preservation of green infrastructure. In 2040, the region should be substantially closer to having a fully connected network of protected land and water along river corridors, a considerable portion of which has been restored to natural conditions.

Engagement with stakeholders in the conservation community indicated that the Chicago Wilderness (CW) Green Infrastructure Vision[21] (GIV) should be the primary conservation basis of the GO TO 2040 Plan. **Figure 33** shows the boundaries of the GIV within northeastern Illinois and the broader CW area. Developed in 2002-2004 by the Northeastern Illinois Planning Commission (NIPC) and CW members, including forest preserve and conservation district professional staff, the GIV is a broad identification of the places in the region ("Resource Protection Areas") considered most significant from a conservation perspective. The GIV Resource Protection Areas identify large preserves or "hubs" linked with a set of open space corridors that generally follow rivers and streams. In other words, rivers and streams provide the basic organization for the network of open space corridors, showing the importance of protecting the land along streams and investing in the protection of the waterways themselves. In a generalized way, the Resource Protection Areas indicate where it is most important to protect undeveloped land, restore degraded ecosystems through increased management, provide buffers for protected natural areas, and provide functional connections between protected natural areas. For each of the Resource Protection Areas, the GIV includes a short synopsis of its conservation values, threats to the resources, and the amount of land that could reasonably be protected.

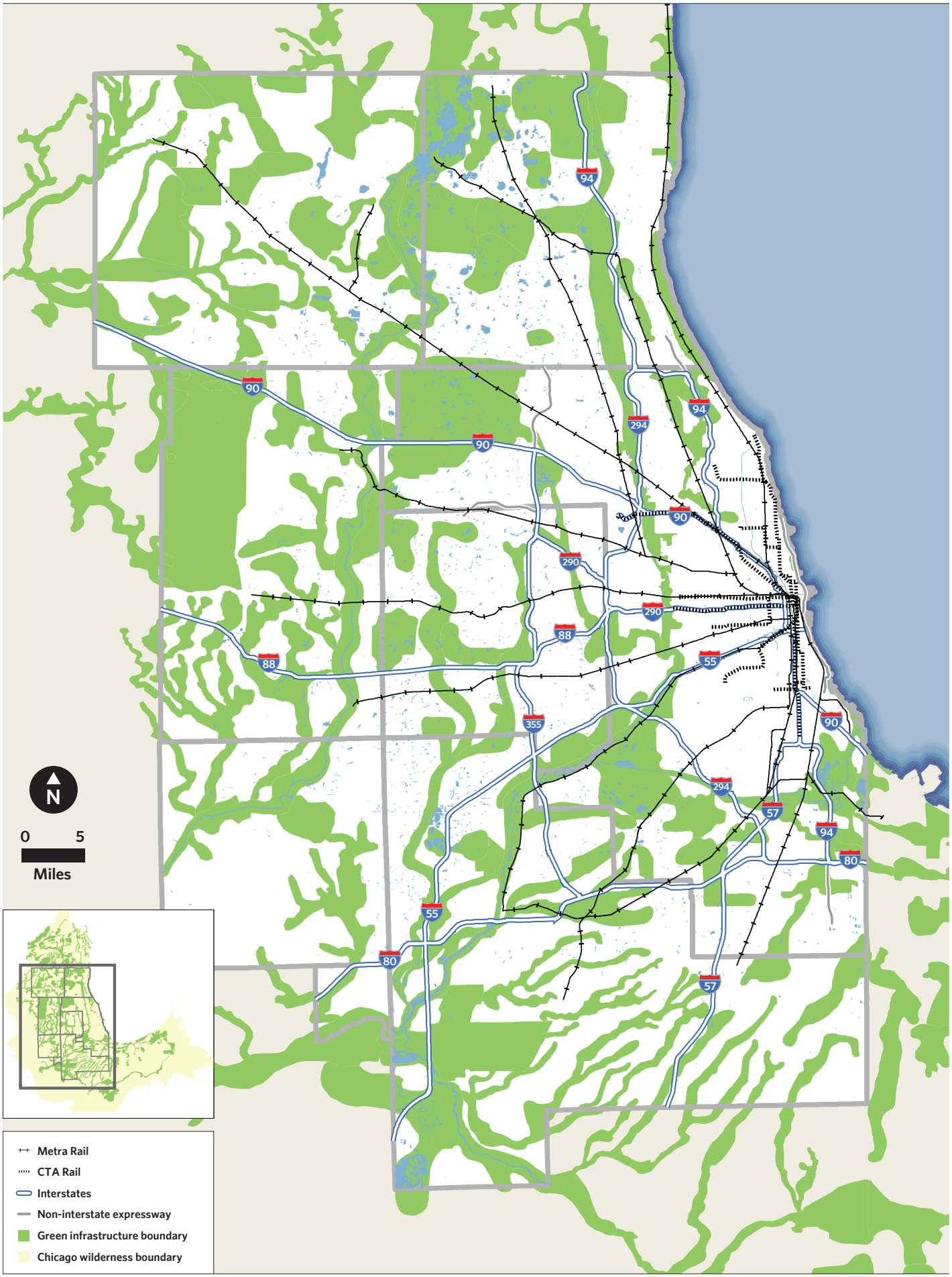
In 2008 and 2009, CW refined needs estimates for additional land protection within the GIV.[22] These estimates, which come to approximately 100,000 acres in total, reflect best professional judgment of the areas that would be suitable for new preserves or

20 A recent book covers many of these opportunities in more detail — see Peter Harnik, *Urban Green: Innovative Parks for Resurgent Cities* (Island Press, 2010).

21 For more information on the Chicago Wilderness Green Infrastructure Vision, see **http://tinyurl.com/2ekr5yv**.

22 Chicago Wilderness Grant #TR0710, "Integrating the Green Infrastructure Vision into the CMAP Regional Comprehensive Plan," 2008.

Figure 33. Green Infrastructure Vision



This map shows the Resource Protection Areas in the Green Infrastructure Vision for northeastern Illinois. The inset map shows the full extent of the Chicago Wilderness GIV that extends outside the CMAP region. Sources: Chicago Wilderness and Northeastern Illinois Planning Commission

buffers to existing preserves.[23] Protecting this amount of land would bring the region substantially closer to a connected network of green infrastructure by 2040, tending to preserve the most important natural areas in the region. However, these areas within the GIV have not been ranked either for their value in preserving connectivity or for their quality and rarity. Thus, there is still a need to prioritize protection of the most important natural areas within the GIV.

While most of the land historically protected in northeastern Illinois is within the GIV, and the GO TO 2040 plan recommends continuing this trend, there will be additional opportunities to protect land outside it. In addition, the level of importance the public attaches to preserving the landscape, as indicated by CMAP's public engagement efforts as well as by the success of open space referenda, suggests that the overall target for the region should be more ambitious. Over the past 20 years, the forest preserve and conservation districts and the state have acquired or taken management responsibilities for an average of 4,400 acres per year.[24] Thus, the GO TO 2040 plan recommends an aggressive but achievable target of 5,000 acres per year on average, or 150,000 acres in total. This is consistent with Chicago area residents' estimated willingness to pay for natural area acquisition or improvement based on survey research and economic analysis.[25] Two-thirds of the target (or 100,000 acres) should be sought within the GIV Resource Protection Areas. Some of the additional acreage could be protected through state or federal acquisitions and municipal or township park districts. Recent survey research shows considerable interest by state voters in land protection, even given recession conditions.[26] Additional acreage could be provided through conservation easements, including easements established as part of a conservation development. Furthermore, the holdings of private land conservation organizations ("land trusts") have been expanding rapidly. It is certain that the private and nonprofit sectors must be called upon to play a growing role in land preservation in northeastern Illinois.

The emphasis of GO TO 2040 is on establishing livable communities — compact, mixed-use places with amenities and transit nearby, especially reinvesting in existing communities.

Establishing livable communities will also reduce land consumption on a regional level. Where growth is expected within the green infrastructure network, local governments should encourage the use of conservation design. Local governments permitting conservation developments should encourage the resulting open space to be legally accessible to the general public and linked through greenways and trails to other publicly held natural areas. At the state and regional level, efforts should be made to ensure that policies do not inadvertently contribute to the loss of important natural areas.

There have been a number of regional and statewide open space and natural area protection planning efforts in recent years. These include the Illinois Wildlife Action Plan (IDNR), the Sustainable Natural Areas Plan (IDNR and Illinois Natural History Survey), the Grand Victoria Foundation's Vital Lands Illinois (which provides land acquisition capital primarily to nonprofit conservation organizations), as well as the GIV and the Biodiversity Recovery Plan. Important subregional planning efforts are also taking place, like the Open Space Vision developed by a consortium of organizations working in Lake County. All recognize the importance of preserving land in a connected network and largely follow the pattern in the GIV. What remains now is to move beyond planning and to make sure funding programs and preservation activities are aligned with the plans so that all organizations are seeking to protect the most important natural areas and ensure functional linkages between them as part of a green infrastructure network. For example, Grand Victoria Foundation requires land acquisition projects it supports to further the goals of the Illinois Wildlife Action Plan and contribute to a connected system of natural lands, criteria well aligned with the GIV.

As with new parks, the establishment of new preserves carries with it the need to manage protected lands appropriately. In some cases land management agencies have been able to acquire or otherwise protect land but have not been able to manage it adequately at a basic level. Funding for major restoration work — such as the removal of invasive species, disabling field drainage, etc. — may be in even shorter supply. Thus it is crucial to develop stable sources of funding for restoration and ongoing management of conserved lands, and to make sure that authorizing statutes are not unduly limiting the ability of land management agencies to raise revenue. As with parks, volunteer efforts are an important piece of restoration and management, and volunteer involvement should be encouraged further.

23 Note that the GIV boundaries include 1.8 million acres within the Chicago Wilderness area, including parts of Wisconsin and Indiana as well as northeastern Illinois. Some of this is already protected, while some of it is already urbanized. It is important not to confuse the targets for land protection in northeastern Illinois with the much larger expanse of land that the GIV encompasses within the three-state Chicago Wilderness area. Besides the map shown in Figure 5, the GIV also includes a set of concepts that later became the Sustainable Development Principles for Protecting Nature in the Chicago Wilderness Region, which are generally consistent with the policy context recommendations in the GO TO 2040 Plan.

24 Calculated from 2009 shapefiles from county conservation and forest preserve districts, Chicago Metropolitan Agency for Planning 2001 Land Use Inventory (version 2 DRAFT), 2005 Land Use Inventory (version 1 DRAFT), and Northeastern Illinois Planning Commission 1990 Land Use Inventory (version 4).

25 R. F. Kosobud, "Urban Deconcentration and Biodiversity Valuation in the Chicago Region," report to the Chicago Wilderness Project Coalition, 1998.

26 Trust for Public Land and the Nature Conservancy, "Illinois Voters Strongly Support Land Protection," press release, May 26, 2009.

Finally, implementing organizations are also encouraged to look on agricultural preservation as one of the purposes of the GIV and land protection in general. While farmland preservation has its own merits in many areas — especially as smaller-scale, near-market farms are a crucial part of local food systems — farming also preserves more environmental benefits than most alternative uses and can be an interim link in the green infrastructure network. For instance, farming newly preserved open space will tend to limit the spread of noxious weeds relative to leaving it in an unmanaged fallow state. However, the primary long-term goal of the GIV should be seen as the protection and proper management of natural communities.[27]

Connections Recommendations

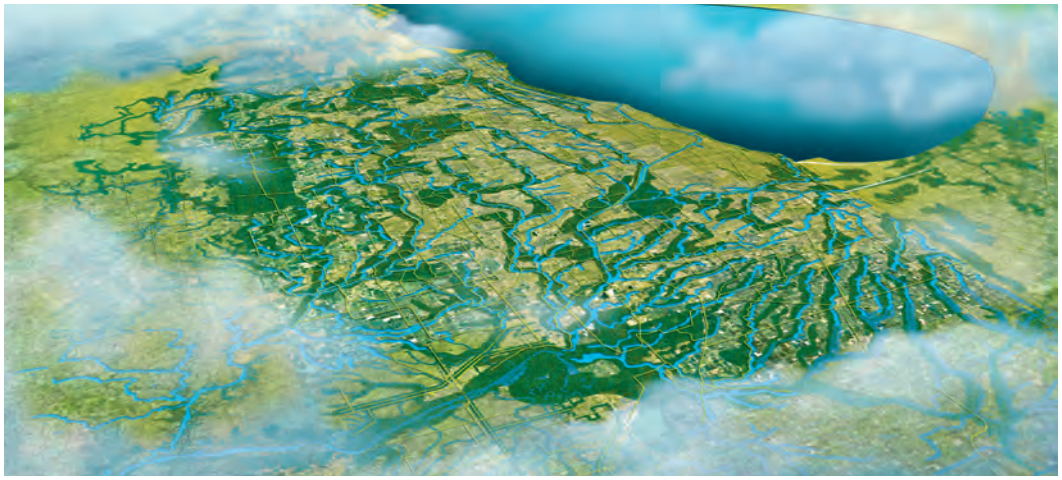
The *Northeastern Illinois Regional Greenways and Trails Plan*[28] has helped guide recreational trail and greenway development for almost 20 years. The *Greenways and Trails Plan* is a long-range, multi-jurisdictional plan for mostly off-street trails that complements county and other local bikeway plans. Work undertaken for the 2009 update revealed that trail mileage had doubled since 1997, when the *Greenways and Trails Plan* was last updated. Approximately 500 miles of trails were established in that time period; this is significant progress. GO TO 2040 envisions organizations in the region continuing to use the *Greenways and Trails Plan* to support walking and biking as an alternative mode choice, as well as a way of delineating potential connections between preserves and parks. Only some trails are associated with greenways, however. Of the 1,700 miles of new trail facilities proposed in the *Greenways and Trails Plan*, almost 650 have a greenways component and could serve as a means of connecting parks and preserves.

Other kinds of open space connections should not be overlooked. In particular, the Green Legacy projects developed for the Burnham Centennial identified 20 catalytic open space projects within northeastern Illinois[29] that are worthy of pursuit, one of the most important being the *Last Four Miles Plan*[30] to complete the park system along the Lake Michigan shoreline. A fully public and accessible lakefront was part of Burnham's vision for the region, and the *Last Four Miles Plan* lays out a modernized approach to complete the lakefront park system. Because it calls for lakefill in certain places to construct additional open space, the *Last Four Miles Plan* would also result in better park accessibility in some of the most underserved areas of the region.

Waterways are a crucial link connecting the network of open space in the region. Protecting streams and the stream corridor, as called for under the GIV, has many environmental benefits, but it can also be accompanied by recreational programming to create "blueways." Considerable work has been done in the region and in neighboring regions to support the development of such water trails, which generally includes the installation of boat launches, the development of interpretive signage, and so forth. Openlands, along with several other organizations, has developed the *Northeastern Illinois Regional Water Trails Plan*[31] as well as a *Greenways and Blueways*[32] plan for northwest Indiana. Besides the need for boating infrastructure, there is also a great need along many waterways to improve shoreline and buffer conditions. In many places, erosion (among other problems) has taken a toll on water quality, while a lack of vegetated buffers between the waterway and other uses has compromised habitat and aesthetics. A robust approach to blueway development will require addressing these conditions in and around the waterway.

Figure 34. Green infrastructure network of northeastern Illinois

GO TO 2040 proposes a green infrastructure network that follows waterway corridors, expands existing preserves, and creates new preserves in the region.



27 These are the first two key recommendations of the Chicago Wilderness Biodiversity Recovery Plan, 1999.

28 Chicago Metropolitan Agency for Planning, Northeastern Illinois Regional Greenways and Trails Plan. See **http://www.cmap.illinois.gov/bike-ped/greenways-and-trails**.

29 The Burnham Plan Centennial, Green Legacy Projects, 2009. See **http://tinyurl.com/c7jfuc**.

30 Friends of the Parks, The Last Four Miles: Completing Chicago's Lakefront Paths. See **http://tinyurl.com/2ewjkmp**.

31 Openlands, Northeastern Illinois Regional Water Trails. See **http://openlands.org/Greenways/Projects/northeastern-illinois-water-trails.html**.

32 Greenways & Blueways: Northwest Indiana Regional Plan. See **http://tinyurl.com/2f88uv8**.

3.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on five implementation areas for expanding and improving parks and open space:

Coordinate Open Space Investment to Create a Connected Regional Green Infrastructure Network

Invest in the Establishment of New Parks in Developed Areas

Harmonize Actions by State and Local Government with Natural Resource Protection

Increase Funding to Achieve the Level of Park Provision and Land Conservation

Treat Management Needs as an Important Part of Landscape Preservation

Implementation Action Area #1: Coordinate Open Space Investment to Create a Connected Regional Green Infrastructure Network

Prioritize direct land protection within the green infrastructure network LEAD IMPLEMENTERS: Federal government, state (IDNR), county forest preserve and conservation districts, land trusts	The forest preserve and conservation districts should adopt and periodically update acquisition plans. These acquisition plans should set targets that are consistent with the overall objective of preserving 150,000 acres of land, two-thirds of it within the green infrastructure network. The plans should be oriented toward protecting the areas most important from a natural resources perspective. Other things being equal, a parcel within the GIV boundaries should have substantially higher priority for protection or restoration than a parcel outside it. Furthermore, direct state acquisitions should take into account whether an acquisition opportunity is within the green infrastructure network.
Include green infrastructure connectivity in open space grant programs LEAD IMPLEMENTERS: State (IDNR), philanthropic	A replenished Open Land Trust program should have a specific set-aside, or at least a set number of points in a score-based system, to help fill out the green infrastructure network. Natural Areas Acquisition Fund (NAAF) should continue to be used as it is to acquire the most important natural areas. Almost all of the candidate properties for the NAAF are likely within the GIV, but location within the GIV per se should not be a criterion. Open Space Lands Acquisition and Development (OSLAD) criteria should be revised to assign points for connectivity with other parks and protected open space. Private foundations that fund open space preservation should make preservation of the green infrastructure network part of their prioritization metrics.
Prioritize development of greenway trails with Transportation Enhancement funds LEAD IMPLEMENTERS: State (IDOT), counties, municipalities	Multimodal design ("complete streets") should be the rule, not an exception funded as an add-on through the Transportation Enhancement (TE) program. TE can be used for 12 eligible activities including providing bicycle and pedestrian facilities. The development of multiuse, off-street greenway trails identified in the 2009 Greenways and Trails Plan should be considered an important use of the TE funds as long as they last.

Implementation Action Area #1: Coordinate Open Space Investment to Create a Connected Regional Green Infrastructure Network (continued)

Refine the Green Infrastructure Vision further LEAD IMPLEMENTERS: State (IDNR, INHS), CMAP, CW	The GIV provides a broad, qualitative identification of the lands that are most important to protect and restore. A number of scientific issues remain, however. One is whether it is more important to concentrate on expanding hubs or on linking the hubs with corridors. Another is the actual "least-cost paths" for species migration, as could be determined by quantitative analysis. In short, the revised GIV should help inform scientific preserve design. Furthermore, groundwater recharge and surface water protection should be included more robustly. Additional emphasis should be placed on already developed areas of the region, including the City of Chicago, and on the potential contributions of urban forestry. Finally, it is of the utmost importance that corridors be identified at a finer scale in the next version so that it can guide local development and infrastructure planning.

Implementation Action Area #2: Invest in the Establishment of New Parks in Developed Areas

Foster cooperation between park districts and school districts in dense areas to share use of open space LEAD IMPLEMENTERS: Municipalities, park districts, school districts	Develop inter-local agreement between the districts, followed by a planning study to determine land and facilities that could be used jointly to meet education and recreational needs, and then by specific improvements to meet identified needs.
Use innovative financing and delivery mechanisms to meet the need for more park space LEAD IMPLEMENTERS: Counties, municipalities, park districts	Redevelopment can be a major opportunity to provide more park space for a community. Codes can be altered to incentivize developers to provide open space during redevelopment by providing density bonuses, making reinvestment in existing communities more attractive. Furthermore, local governments can ask developers to provide connections to greenways or even trail segments as part of redevelopment. When appropriate, they could also fund park improvements through tax increment financing, considering that parks are known to have a positive effect on the value of nearby properties.
Review land-cash donation ordinances LEAD IMPLEMENTERS: Counties, municipalities, park districts	Older communities should review their subdivision codes or land-cash donation ordinances to make sure open space donation requirements or in-lieu fees apply during redevelopment, that they are at least 10 acres per 1,000 people (or at least 4 acres per 1,000 in dense areas), and that in-lieu fee values reflect current land values. Municipalities should work closely with park districts in this regard; higher donation requirements coupled with higher allowable densities will tend to encourage compact development. Communities expecting new growth should review their ordinances to ensure they provide rules on land donation to ensure land is well-located. It is also in the public interest to allow developers to donate land in the floodplain; park districts should strongly consider accepting these lands as part of the donation and manage them as passive recreational open space.
Encourage volunteerism and non-traditional staffing LEAD IMPLEMENTERS: Forest preserve and conservation districts, park districts	Park and forest preserve districts should actively encourage the creation of conservancies and partner with them to reduce the cost burden of maintenance and park programming while giving more "ownership" to users.
Make Open Space Land Acquisition and Development match requirements more equitable LEAD IMPLEMENTERS: State (IDNR)	Local governments in the most "under-parked" areas will frequently find it most challenging to provide the 50 percent match required for OSLAD. The state should decrease the match required in communities with lower fiscal capacity, as measured (for example) by equalized assessed value per capita.
Identify and protect sensitive recharge areas LEAD IMPLEMENTERS: State (ISWS, ISGS), CMAP, counties, municipalities	CMAP should lead a collaboration to identify SARAs, prioritize those most important for protection, and develop and disseminate model ordinances to ensure their preservation.

Implementation Action Area #2: Invest in the Establishment of New Parks in Developed Areas (continued)

Encourage the integration of resource conservation in land use planning LEAD IMPLEMENTERS: State (DCEO), CMAP	Use planning grant programs to assist communities in incorporating resource conservation in local comprehensive planning.
Implement "urban greening" projects LEAD IMPLEMENTERS: Counties, municipalities, park districts	Although it does not provide recreational opportunities for the most part, providing more extensive landscaping, tree cover, etc. does make developed areas more attractive and hence more livable. It can help increase access to open space and connect people with nature. Municipalities should build such practices into local infrastructure projects they undertake, such as street and sidewalk reconstruction. They should also review the potential to include requirements for them in new development through local ordinances.
Implement urban farms and community gardens LEAD IMPLEMENTERS: Municipalities, park districts	In some cases, it will be more appropriate to utilize available urban land for farming,[33] rather than for recreational parks. This will depend on local interests and the current availability of either type of land. Urban farming and community gardening have become increasingly important, as they satisfy a consumer preference for locally grown food, reduce food transportation costs, and provide a number of other benefits.

Implementation Action Area #3: Harmonize Actions by State and Local Government with Natural Resource Protection

Adopt progressive conservation design ordinances LEAD IMPLEMENTERS: Counties, municipalities	The most important thing a local government can do to protect open space is to plan for livability.[34] This will reduce overall land consumption. Some development will continue to occur within the green infrastructure network, however. In this case, local governments should require or at least encourage conservation design, resulting in the legal protection of a significant portion of the site through a conservation easement. The protected areas should be fully accessible to the public and linked to any offsite trails. Conservation design should produce site yields equal to or greater than allowable with the underlying zoning, so that gross density does not change. Local governments should adopt a conservation design ordinance based from the *Conservation Design Resource Manual*[35] to make it a by-right form of development. Some consideration should be given to having conservation design requirements apply automatically on sites containing important natural resources, as identified in a local comprehensive plan. A funding source and requirements for the management of common open space must be part of the development approval process.
Emphasize the protection of the green infrastructure network in local comprehensive plans LEAD IMPLEMENTERS: Counties, municipalities	As part of its comprehensive plan, a municipality should (in collaboration with the park district) specifically identify areas preferred to serve as parks, greenways, and natural areas. These areas should be zoned as such in accordance with the municipality's comprehensive plan.

33 See the GO TO 2040 section titled Promote Sustainable Local Food.

34 See the GO TO 2040 section titled "Achieve Greater Livability through Land Use and Housing."

35 Northeastern Illinois Planning Commission and Chicago Wilderness, Conservation Design Resource Manual: Language and Guidelines for Updating Local Ordinances, 2003. See **http://www.nipc.org/environment/sustainable/content.htm#Conservation%20Design%20Resource%20Manual**.

Implementation Action Area #3: Harmonize Actions by State and Local Government with Natural Resource Protection (continued)

Protect natural resources in transportation corridors and focus compensatory mitigation into the green infrastructure network LEAD IMPLEMENTERS: Federal (U.S. ACE), state (IDOT, Tollway), CMAP, forest preserve and conservation districts	One way of maximizing resources for preservation and restoration within the green infrastructure network is to stipulate that compensatory wetland mitigation required under federal or local ordinances occur within that network, but still focused within the watershed where the impact occurred. Requiring mitigation in this predefined area could help resolve the problem that entities required to do mitigation are often pressed to find a land management agency willing to take ownership and management responsibilities for the wetlands. It remains important to adhere to a sequence of avoiding and minimizing wetland impacts before utilizing compensatory mitigation. Furthermore, transportation agencies should use advanced design techniques to protect resources in project corridors, such as those spelled out in the I-LAST (Illinois — Livable and Sustainable Transportation) manual developed by IDOT.
Limit urban infrastructure expansion within the green infrastructure network LEAD IMPLEMENTERS: State (IEPA), CMAP, municipalities	Sewer service should not be permitted in especially sensitive areas of the green infrastructure network. These especially sensitive areas should be precisely defined and identified in a refined version of the GIV, after which they should be specifically excluded from the incremental new area added to expanding facility planning areas.

Implementation Action Area #4: Increase Funding to Achieve the Level of Park Provision and Land Conservation

Secure additional dedicated state open space funding LEAD IMPLEMENTERS: State (IDNR), nonprofits	State funding for land acquisition, recreational facility development, and state park operations have declined significantly in the past few years. While a state capital bill was passed in 2009, more significant and stable funding is needed to replenish the state's Open Land Trust account. A set-aside specifically for acquisitions within the GIV and for parks programming in northeastern Illinois would be ideal.
Stop diverting revenue from Illinois Department of Natural Resources programs LEAD IMPLEMENTERS: State (General Assembly, IDNR)	Despite the dedicated revenue stream, OSLAD and NAAF have been significantly underfunded in recent years. In some years, IDNR has spent less than half of OSLAD and NAAF funds, with the remainder raided for other state budgetary priorities.[36] IDNR had $60 million less in funding in 2006 compared to four years earlier. Diverting Illinois Real Estate Transfer Tax (RETT) funds and raiding the IDNR budget for other state priorities must cease.
Increase involvement by private landowners in conservation activities LEAD IMPLEMENTERS: State (General Assembly), federal (Congress)	Private land conservation activities must play an increasingly important role in northeastern Illinois, but the state should provide incentives to encourage this, such as a state income tax credit for the donation of a conservation easement.[37] Federal tax incentives should be strengthened and extended. These actions could help encourage people to donate easements. In some cases, landowners may wish to provide public access to certain portions of their property for recreation or volunteer restoration work. However, landowners are inadequately protected from liability at present. The state should seek to offer liability protection to landowners who wish to allow these uses.
Build capacity in private conservation organizations LEAD IMPLEMENTERS: Land Trust Alliance, CW, Openlands, and others	To help them fulfill their important role in regional conservation, additional technical and administrative capacity needs to be built up at land trusts. This could entail training in real estate instruments, finance, and land management, among other areas.

36 Illinois Environmental Council Education Fund, Illinois State Land Conservation Funding, 2007. See **http://img.ilenviro.org/attachments/2007ISLCF_report.pdf**.

37 As an example, the state currently reduces real estate taxes on qualifying land enrolled in an Illinois Nature Preserves Commission program.

Implementation Action Area #4: Increase Funding to Achieve the Level of Park Provision and Land Conservation (continued)

Support direct federal investment in open space LEAD IMPLEMENTERS: Federal (Congress, U.S. FS)	Some of the biggest hubs or "macrosites" in the region are based on land protected by the federal government. Direct federal investment in open space in the region is an important form of funding that could be expanded; the federal government should take on a more significant role in open space protection in the region. This could happen through the formation of national wildlife refuges and the transfer of appropriate surplus federal property for open space uses, as happened at Midewin National Tallgrass Prairie and Fort Sheridan. Organizations in the region should support these opportunities as they arise.
Increase funding for federal open space grant programs LEAD IMPLEMENTERS: Federal (Congress)	The federal Urban Park and Recreation Recovery (UPARR) program has not been funded since 2002. It is the only federal program specifically for constructing and rehabilitating local parks, and has been in place for more than three decades. The state portion of the Land and Water Conservation Fund has seen very limited budgetary authorization in recent years.

Implementation Action Area #5: Treat Management Needs as an Important Part of Landscape Preservation

Restore open space within the green infrastructure network to natural land cover and hydrology and commit to long-term management LEAD IMPLEMENTERS: Forest preserve and conservation districts, land trusts, state (IDNR), utilities	From an environmental viewpoint, the central purposes of protecting the green infrastructure network are to protect water resources and to preserve biodiversity within the region. Ecosystem restoration, which often depends on at least partial reversal of hydrologic modifications, must be a major activity within the green infrastructure network. Local park sites are successfully being redesigned to include smaller green infrastructure practices for stormwater management; this is an important role they can play in the future in addition to providing recreation opportunities. Lands that are not protected open space per se are also candidates for management as green infrastructure. For instance, utility companies should make additional effort to put right-of-way into natural land cover.
Devise and commit to a system to prioritize restoration needs based on regional criteria LEAD IMPLEMENTERS: State (INHS, IDNR), CMAP, forest preserve and conservation districts, nonprofits	It is not yet clear which areas are most important for restoration from a regionwide standpoint. CW or other partners, such as the Illinois Natural History Survey (INHS), should develop or simply adapt a system to rank natural areas by the viability and importance of restoring them. Restoration projects by organizations in the region should then be based on these priorities, as should external funding for restoration projects. Standardization of collection and sharing of data on restoration success should be encouraged as part of this system.
Consider purchase of agricultural land as an interim link in the green infrastructure network LEAD IMPLEMENTERS: Forest preserve and conservation districts, counties	Although the long-term goal is to restore land within the green infrastructure network to natural land cover, it is important to acquire farmland as an interim link. This can be licensed to producers to continue farming, which should be done in accordance with a conservation plan approved by the forest preserve or conservation district. Provision should be made to offset lost tax revenue for other taxing bodies in rural areas.
Support efforts to provide adequate operating budgets for implementing agencies LEAD IMPLEMENTERS: State (General Assembly), CMAP, nonprofits	Reevaluate statutory restrictions on the ability of park districts and forest preserve and conservation districts to raise property taxes to manage lands they acquire. Consider inclusion of funds for management in open space referenda. Estimate financial needs for restoration work in the region.

3.6 Costs and Financing

Most of the recommendations in the GO TO 2040 plan involve reallocating existing funds or they simply save money over current practice. The protection of natural areas and the provision of parks, however, is an area where it is important for the region to make an investment in a public good.

Federal transportation planning regulations require long-range transportation plans to be constrained to the projected availability of funds. While this is not required for other topic areas, it is sensible in the case of open space. This section therefore provides a conceptual budget with the sources and uses of projected funds.

The preservation target of 150,000 acres is within reach if a number of conditions are met. First, the forest preserve and conservation districts would need to continue to play the primary role in preserving land in northeastern Illinois. Second, private land trusts would need to play a growing role, second only to the forest preserves and conservation districts. In many cases now they work together collaboratively; these partnerships would need to expand even further. Third, conservation design will need to play a significant role, with some conditions attached. Fourth, additional investment by the federal government and by the state beyond existing grant programs will be needed.

About 5,200 acres would be required to meet the targets for park access in already developed areas. This is likewise possible if several conditions are met. First, local governments would need to employ density bonuses or other techniques to encourage the provision of publicly accessible urban open space as part of larger redevelopment projects. Second, park districts would need to continue to employ their bonding authority as they have in the past. Solutions that do not require additional funding, such as sharing open space with school districts, must be part of the approach as well.

Forest Preserve and Conservation Districts

Based on their expertise, the portfolio of properties they maintain, and their continued success with open space referenda, the county forest preserve and conservation districts would be the chief implementers of the regional targets for open space. Over the period 1999-2009, the county forest preserve and conservation districts issued bonds of $1.2 billion in current dollars, or $124 million per year on an annualized basis.[38] Note that these funding estimates are based on historical revenue covering more than one economic cycle. If the districts are able to maintain this revenue stream, it would provide approximately $3.7 billion in 2010 dollars. Voters have reliably supported open space bonds.

Not all of this could be used for acquisition, however. Some would be used for other capital programming, such as trails and other facilities, but also major ecosystem restoration projects. If 75 percent on average were used for acquisitions, then approximately $2.8 billion would be available for filling out the green infrastructure network and protecting other important lands. One long-term difficulty for the forest preserve and conservation districts, however, is the strain additional land protection places on operating budgets, which are generally derived from property taxes. This will be especially true given the increased restoration of land proposed in GO TO 2040. It has proven harder to get voter approval for increases in forest preserve and conservation district tax rates than for bond issues to buy open space, the latter having never failed in the past 10 years. Furthermore, limits on tax rates established by statute may affect the long-term ability to manage protected lands.[39]

38 From Openlands, "Forest Preserve and Conservation Districts in Northeastern Illinois: Meeting the Challenges of the 21st Century," 2006; and from referenda results tracked by Illinois Association of Park Districts. This value includes $100 million in bonding authority given to the Forest Preserve District of Cook County by the General Assembly in 2004.

39 See 70 ILCS 805/13.1 for tax rate limits for forest preserve districts outside Cook County.

Park Districts

Park districts would be the chief implementers of the recommendation to increase the acreage of parks in developed areas. There are sources of grant financing, such as the OSLAD Program from IDNR as well as the federal UPARR program, which has not received funding appropriations in recent years. Park districts retain the ability to raise their own revenue, however. They issued bonds to buy recreation-oriented open space at a rate of $15.2 million per year between 2000 and 2009.[40] If these rates were to continue, it would provide about $457 million by 2040.

Conservation Design

The GO TO 2040 plan supports the use of conservation design in the region. This term has come to mean many things to many people, but in this context it means the protection of sensitive natural features on a development site (amounting to 40-50 percent of the site preserved) and placing them under an easement. While CMAP emphasizes compact development and moderate density increases in the region, some growth is still expected within the GIV boundaries. If conservation design that averaged 40 percent protection of the site were pursued in those areas, approximately 28,000 protected acres would result. Local governments permitting conservation developments should stipulate that the resulting open space is accessible to the general public and linked through greenways and trails to other publicly or privately held natural areas. Redevelopment projects in developed areas can also be encouraged to provide parks to meet park accessibility needs.

It is estimated that if density bonuses of 10 percent were given to encourage the provision of open space as part of redevelopment projects, it could provide 2,500 acres of urban open space.

State Parks and Open Space Funding

The State of Illinois could contribute to the conservation target for northeastern Illinois in several ways. Existing open space grant programs can provide some resources, but the larger opportunities are likely through direct state acquisition or through a sustained funding mechanism that would replenish the Open Land Trust account. The main existing grant programs are the NAAF, which is meant to provide funds primarily for land acquisition, and the OSLAD program, which provides funds primarily for park development. Both are paid from Illinois RETT revenue as required by state statute, although in fact these funds have been diverted extensively in recent years and used for other purposes.

The average total statewide revenue from the RETT was $85.5 million per year over 1996-2008 in 2010 dollars. The NAAF is funded by a 15-percent set-aside from the RETT, and OSLAD is funded by a 35-percent set-aside from the RETT. Currently, RETT revenue is very low because of the slack housing market. As the housing market picks up, however, RETT revenues should as well. If average RETT collections to 2040 remain the same (even if they are low in the early years), it would translate into $39 million per year for OSLAD and $13 million for NAAF. Historically, 44 percent of NAAF has been spent in northeastern Illinois.[41] This fund is supposed to be used exclusively for acquisition, and would provide $169 million over thirty years to protect the most important natural areas in the region, but it must not be diverted and used for other purposes.

About 69 percent of OSLAD funding has gone to northeastern Illinois historically, and 13 percent of that has gone to the county forest preserve and conservation districts.[42] If these trends continue, OSLAD would provide about $80 million by 2040 for preserves in northeastern Illinois. Most OSLAD funding, however, goes to park districts and municipalities. Approximately 25 percent of OSLAD funding has been used for park land acquisition historically. Assuming that none of the RETT funds are diverted for other purposes, then, OSLAD would provide $135 million for park land acquisition. Note that OSLAD requires a 50 percent match; IDNR should consider a sliding scale for disadvantaged urban communities seeking to remedy park access deficits.

There is also the potential for the state to acquire land directly and operate it as a state park, state conservation area or similar public preserve. Most importantly, however, the state could fund the Open Land Trust (OLT) program as it did from 1999 to 2003. The OLT provided $63.6 million for local agencies for the acquisition of 8,735 acres statewide. A small amount of funding was provided to the state for open space acquisition in the 2009 capital bill, but most of

40 Calculated from referenda results tracked by Illinois Association of Park Districts. See **http://www.ilparks.org/?page=referendum_results**. The referenda questions were examined to determine whether they were primarily for acquisition of recreational land.

41 Based on list of Natural Areas Acquisition Fund acquisitions from 1991 to 2008 provided by the Illinois Department of Natural Resources.

42 Based on list of Open Space Land Acquisition and Development grants made from 1999 to 2009 provided by Illinois Department of Natural Resources.

that funding has not materialized. The best new means of financing the OLT program is not clear,[43] but a number of groups have been investigating potential revenue streams.[44] Because the amount the OLT or direct acquisition could fund is unknown, only a small amount of preservation (5,000 acres) is projected for the budget.

Private Land Trusts

Nonprofit conservation organizations have become a major force in conservation across the country, and they own or manage a number of important natural areas in the region. Continuing their present annual rate of land preservation — about 1,200 acres per year on average — would amount to 36,000 acres by 2040. A number of foundations also provide funding for land acquisition, including Illinois Clean Energy Community Foundation, Donnelly Foundation, and Grand Victoria Foundation. GO TO 2040 also recommends establishing additional incentives for private conservation, such as state income tax credits, to help stimulate preservation activity by land trusts.

Conceptual Budget

Table 2 shows the projected sources of funding[45] for the preservation of important natural areas in the region. The recommended target, again, is 150,000 acres, about two-thirds of which would be devoted to completing the regional green infrastructure network. The budget shows an "equivalent value" for lands preserved. This represents the approximate cost for fee simple acquisition of the land, even though 42 percent of the land under the GO TO 2040 recommendations would be preserved less expensively by taking out conservation easements.

Table 3 shows the projected sources of funding for parks in already developed areas of the region. The "equivalent value" again represents the approximate cost for fee simple acquisition of the land, even though almost half would be provided through redevelopment. Similarly, the cumulative operating cost represents what would be expected for recreational land owned by a park district. This cost can be reduced by the use of volunteer staffing and encouraging conservancies or neighborhood groups to perform park maintenance.

Table 2. Projected sources of funding for preservation of important natural areas

SOURCES	ACRES	EQUIVALENT VALUE	CUMULATIVE OPERATING COST
County bonds	62,144	$2,782,657,095	$818,743,270
OSLAD	2,523	$80,485,373	$33,241,214
OSLAD local match	2,523	$80,485,373	$33,241,214
LWCF	461	$14,695,717	$6,069,469
NAAF	5,304	$169,200,019	$69,881,195
Conservation design	28,000	$893,200,047	$368,900,000
Land trusts (acquisition, donations, private grants, etc.)	36,000	$1,148,400,061	$474,300,000
Federal (wildlife refuge, etc.)	8,000	$255,200,013	$105,400,000
Direct state investment or Open Land Trust	5,000	$159,500,008	$65,875,000
GO TO 2040 natural area preservation target	150,000	$5,649,046,088	—
Estimate of reasonably expected funds	149,955	$5,583,823,705	—

Note: Equivalent value is based on acquisition costs from 2006-2008 average prices paid by each forest preserve or conservation district. Operating costs were assumed to be $850 per acre for each district based on an average taken from the most recent available district budget. Cost estimates based on information from the forest preserve and conservation districts were assumed to be fairly representative of costs for other organizations.

43 The Illinois Open Land Trust Act (525 ILCS 33) does not specify a source of financing for the Open Lands Loan Fund (which can also be used for grants). It previously was funded through state bonds in the Illinois FIRST capital program.

44 Illinois Environmental Council Education Fund, "Illinois State Land Conservation Funding," 2007. See **http://img.ilenviro.org/attachments/2007ISLCF_report.pdf**.

45 Note that there are other sources of funding which are considered minor in northeastern Illinois or available only episodically, such as Illinois Department of Natural Resources' hunting-related programs, occasional donations of corporate property as part of settlements for environmental violations, and the Partners in Conservation (Conservation 2000) program, the funding of which has been sporadic and little used for acquisition. These are not included.

Table 3. Projected sources of funding for parks in already developed areas

SOURCES	ACRES	EQUIVALENT VALUE	CUMULATIVE OPERATING COST
Park district bonds	1,720	$457,173,739	$799,771,962
OSLAD	507	$134,658,219	$235,568,798
OSLAD match	507	$134,658,219	$235,568,798
Parks in redevelopment	2,500	$664,520,010	$1,140,645,000
GO TO 2040 park provision target	5,200	$1,366,993,331	—
Estimate of reasonably expected funds	5,233	$1,391,010,188	—

Note: Equivalent value is estimated from the 25th percentile of land values in the quarter section where the park would be located. The use of the 25th percentile is meant to account for park districts seeking to purchase less expensive land within their jurisdictions. Operating costs were estimated to be $30,000 per acre, based from FY 2006 revenues and expenditures in a sample of 31 metropolitan Chicago area park districts in the U.S. Census of Governments.

Tax Impacts

There is the potential for open space acquisition to reduce the fiscal capacity of taxing districts in the region. In other words, if the state or a county forest preserve or conservation district acquires property, a municipality, township, school district, etc., would forgo the ability to site a taxable use on the property. However, there are several reasons to believe that this effect will be limited. First, many studies suggest that residential land uses, in comparison to commercial, industrial, open space, and agriculture, generate less in local tax revenue than they require in local services.[46] The specific ratio of revenues to costs varies considerably depending on the details of the case, but in general residential land does not "pay its own way." Open space held by a public agency generates no tax revenue, and private land assessed at open space rates[47] generates very little, but these lands also require fewer public services (fire, schools, snow plowing, street lighting, etc.) than residential uses. On balance, the net fiscal impact of open space preservation on municipalities, townships, school districts, and fire districts tends to be more positive than with residential development.

By acreage, most of the new development in the region will be residential. Hence residential development would be the most likely alternative use for the majority of the open space recommended for protection in GO TO 2040, suggesting that the net fiscal impact from residential development under a trend growth scenario would be negative. Industrial and commercial uses, on the other hand, have a strongly positive net fiscal impact.[48] However, these uses tend to cluster along major roads; commercial uses especially tend to locate at the intersections of arterials. Such locations are not generally desirable for preserves, except in the atypical case where there are very important, rare, or high-quality natural communities on site. Thus, while the most common alternative use would be residential, the fiscal impact of residential use will generally be negative; on the other hand, the land uses with the most positive net fiscal impact, commercial and industrial uses, tend not to conflict with open space preservation, some counterexamples aside.

The situation is somewhat different with agricultural uses. Agriculture generates local tax revenue and its service costs are very low, so its net fiscal impact is positive, although not very high. More than just a loss of the opportunity to site a higher-value land use, other taxing districts will face loss of current revenue if agricultural land is purchased by a public agency. In those areas where it is a high priority to preserve agricultural land, one remedy is for land trusts or other organizations to purchase or accept donations of agricultural conservation easements rather than to pursue fee simple acquisition by a public agency, thus preserving the taxable use. Acquisition by a public agency may still be the best land protection approach for the circumstances, e.g., if it is unlikely that there will be ongoing demand for agricultural use of the property. In that case, the agency will likely license the land to a producer to continue farming.

46 See, for instance, M.J. Kotchen and S.L. Schulte, "A Meta-Analysis of Cost of Community Service Studies," 2008. See **http://www.farmlandinfo.org/documents/37969/Meta-analysis_COCS.pdf**. This meta-analysis compared the findings of 125 cost of services studies.

47 See Property Tax Code 35 ILCS 200/10-155 and 35 ILCS 200/10-400.

48 Estimates of net revenue per acre in CMAP State and Local Taxation, 2009. See **http://www.cmap.illinois.gov/snapshot.aspx#Tax**.

A second major reason why fiscal capacity is likely to be maintained even with open space acquisition has to do with the recommended development pattern itself. GO TO 2040 recommends moderate residential density increases, the appropriate level of increase being a matter for local decision. For the same number of projected households, a denser development pattern will tend to limit land consumption. Density also has effects on the ratio between revenue and service cost. For one, the assessed value of an acre of land will tend to go up the more densely it can be developed. For the same tax rate, then, revenue should increase as well. Density also decreases the cost of providing services on a per-household or per-employee basis, at least for physical infrastructure, an effect which is well-established in the literature.[49] Working together, these two effects will tend to offset the reduction in taxable land.

Finally, a third reason why local fiscal capacity would generally be protected even with aggressive land preservation is that open space drives up the assessed value of property nearby. Extensive research has been conducted to validate this effect, which has been known for more than a century.[50] It is not merely the presence of any open space nearby (i.e., developable farm land, forest, etc.), but specifically protected open space.[51] The effect is strongest for community parks, but it also applies to "greenbelts," another name for a connected network of green infrastructure. One researcher has put the premium at 20 percent as a general value for lots abutting or fronting a passive park area; some level of increase can often be detected up to 2,500 feet away.[52] Premiums more or less than this can be expected depending on the circumstances and especially the level of maintenance of the park, with poorly maintained parks or those with security concerns actually being detrimental to property values. This need for maintenance to protect property values is one reason why it is especially important to ensure that park districts are able to raise revenue for operating costs.

On the whole, then, the program of open space preservation and park establishment recommended in GO TO 2040 would not tend to reduce the fiscal capacity of other local taxing bodies, while offering many benefits to quality of life, public health, and the environment.

49 Reviewed in Mark Muro and Robert Puentes, "Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns," Brookings Institution Center on Urban and Metropolitan Policy, 2004.

50 Reviewed in Economic Research Associates, "Real Estate Impact Review of Parks and Recreation," 2005. See **http://www.ilparks.org/resource/resmgr/research_documents/research_era_real_estate.pdf**. Also summarized in GO TO 2040 Preservation of Parks and Open Space Strategy Paper, 2009.See **http://www.goto2040.org/open_space/**.

51 J. Geoghegan, "The Value of Open Spaces in Residential Land Use," Land Use Policy 19 (2002):91-98.

52 Economic Research Associates, "Real Estate Impact Review of Parks and Recreation," 2005. See **http://www.ilparks.org/resource/resmgr/research_documents/research_era_real_estate.pdf**.

RECOMMENDATION

4 Promote sustainable local food



Food — like air, water, and shelter — is a basic human need. In addition to sustaining life and influencing health, food and the act of eating are part of our culture and everyday existence. Three times per day, we decide *what* to eat, often without consideration of *how* that food was produced or *where* it comes from. These daily decisions have consequences whether or not we are aware of them, and they directly shape the food industry that feeds us.

There is growing concern about the environmental impacts, safety, and quality of our food. Also gaining widespread attention are the disparities of access to fresh, nutritious, and affordable foods and the health implications of "food deserts" (areas without nearby retail outlets that have fresh, nutritious, and affordable food). How residents and institutions in our region get their food may seem like an issue best left up to individual lifestyle choices and private business decisions. However, food systems are already highly influenced by public policies related to land use, transportation, and many other issues addressed in the GO TO 2040 plan. In turn, food directly influences the economy, environment, public health, equity, and overall quality of life.

This chapter addresses local food in two separate but related categories: (1) **production** of food in the region, and (2) people's ability to **access** affordable, nutritious, fresh food. Issues of local food production and access are not mutually exclusive. For example, some particularly effective policies, such as urban agriculture projects in food deserts, can address both production and access. But often these two categories require different policy solutions, as demonstrated by the fact that people need access to fresh, nutritious, affordable food no matter where it is produced.

"Local foods" are products available for direct human consumption that are grown, processed, packaged, and distributed within our seven counties and adjacent regions. A local food system can include a variety of production options, from backyard and community gardens to commercial farms and combinations in between. "Sustainable" is defined as meeting the needs of the present without compromising the future. Sustainability should be essential to all aspects of any local food system, from farming practices to food product distribution to waste disposal. Therefore, the term "sustainable local food" combines these two definitions.

The region should strengthen the sustainability of its local food system by:

Facilitating sustainable local food production and processing in our region by supporting urban agriculture and farmland protection and helping to develop a market for local foods, and increasing the profitability of all kinds of agricultural enterprises.

Increasing access to safe, fresh, nutritious, and affordable foods, especially for those residents in food deserts, and linking anti-hunger programs to local food production.

Raising awareness by providing data, research, training, and information for public officials, planners and residents, and increasing data and research efforts to understand and support investments in sustainable local food.

A local food system is part of a larger diverse farm economy, which includes commodity crops as well as agritourism, and CMAP recognizes the robust role that agriculture has in our region. The following section describes current conditions, explains the importance of sustainable local food, and provides details about the recommended actions.[1]

1 This section of GO TO 2040 has been informed by GO TO 2040 Food Systems Strategy Report, 2009. See **http://www.goto2040.org/foodsystems/**.

4.1 Benefits

During CMAP's GO TO 2040 "Invent the Future" phase of public engagement, issues surrounding local foods such as food access and the environmental impacts of food choices were raised frequently by residents.

Significant public interest in sustainable local food was also uncovered during research conducted for the food systems report funded by the Chicago Community Trust.

Recent federal and state legislation demonstrates support for public sector involvement in local food. The 2008 Farm Bill includes $1.3 billion in new funding over a 10-year period for specialty crops (vegetables, fruits, etc.) through programs that support local food production and expand distribution of local, healthy food.[2] At the state level, the 2009 Illinois Local Food, Farms, and Jobs Act (Public Act 96-0579) set procurement goals for purchase of local food by state and state-funded agencies. The Act also created the Local Food, Farms, and Jobs Council to address local food issues such as infrastructure, training and interagency coordination.[3] These recent efforts show growing recognition of the positive benefits of local foods.

Quality of Life

More than 61 percent of people in the region are overweight or obese, but not necessarily well nourished.[4] Poor diets can result from insufficient access to high-quality produce and in part contribute to childhood obesity, diabetes, and other nutrition-related disease. One in three Americans born in 2000 are estimated to develop Type 2 diabetes (previously known as adult-onset diabetes) in their lifetimes, and the estimates are even higher for African Americans and Latinos.[5] Strategies to increase access to fresh food combined with nutritional education can help to overcome these problems and are already highlighted at federal, state, and local levels.[6]

While reporting that 23.5 million Americans do not have access to a nearby supermarket, a recent study noted that access to healthy food decreases the risk of obesity and other diet-related chronic diseases.[7] Research also has shown that, when new grocery stores with fresh food are introduced in food-deficient areas, nearby residents' consumption of fruits and vegetables will increase, especially in the lowest income families.[8] Additionally, a 2009 report on food access in Chicago found that distance to the nearest grocer (compared to fringe food outlets like convenience stores) correlated to increases in cancer, cardiovascular disease, diabetes, and liver disease, especially in African American communities.[9]

Linking local food policy with hunger assistance programs can positively affect both efforts. Expanding the types of food retail outlets that accept hunger assistance benefits (to include farmers' markets, community supported agriculture, or other grocery delivery services) would make fresh food more accessible to low-income people, and arrangements between local food producers and food banks would have a similar effect.

The production and consumption of local foods can create a thriving culture, regional identity, and sense of community heritage. Regional and local relationships between residents, businesses, and farms can be fostered by better integrating local food into the community. For example, a Saturday farmers' market is more than just a retail outlet to buy food. It also provides a social gathering spot for the community and allows people to meet the farmers who grow their food.

2 American Farmland Trust, "A Rightful Place at the Table for Local and Healthy Foods," analysis of the 2008 Farm Bill, 2010. See **http://www.farmland.org/programs/farm-bill/analysis/localfoodpolicy.asp**.

3 Illinois Local and Organic Food and Farm Task Force, "Local Food, Farms, & Jobs: Growing the Illinois Economy," report to the Illinois General Assembly, March 2009. See **http://www.foodfarmsjobs.org/**.

4 National Center for Chronic Disease Prevention and Health Promotion of the Centers for Disease Control, Behavioral Risk Factor Surveillance System, selected Metropolitan/Metropolitan Area Risk Trends used for comparison of Health Risk Data for the Chicago-Naperville-Joliet, IL-IN-WI Metropolitan Statistical Area from 2002, 2003, 2004, 2005, 2006, 2007.

5 Center for Disease Control, "Learn Your Risk for Diabetes and Take Steps to Protect Your Health," updated March 2010. See **http://wwwtest.cdc.gov/Features/DiabetesAlert/**.

6 Let's Move! Campaign, 2010. See **http://www.letsmove.gov/**. Consortium to Lower Obesity in Chicago's Children (CLOCC). See **http://www.clocc.net/** .

7 Policy Link and The Food Trust, "The Grocery Gap, Who Has Access to Healthy Food and Why It Matters Report," 2010. See **http://www.policylink.org/site/c.lkIXLbMNJrE/b.5860321/k.A5BD/The_Grocery_Gap.htm**.

8 Neil Wrigley, Daniel Warm, Barrie Margetts, and Amanda Whelan, "Assessing the Impact of Improved Retail Access on Diet in a 'Food Desert': A Preliminary Report," Urban Studies, October 2002, 2074-2075.

9 Mari Gallagher Research & Consulting Group, "The Chicago Food Desert Progress Report," June 2009. See **http://tinyurl.com/22whbv5**.

Economic

Food production and processing have become increasingly efficient over the course of human history. Yields have improved dramatically, particularly in the last century, due to technological advances, modern production systems, machinery, and increased use of fertilizers and pesticides. Local foods are currently not a major part of the agricultural economy. But when barriers — such as existing regulations and business practices, or artificial price structures — are removed and markets are allowed to function, local food systems can become economically self-sustaining.

Increasing the production, distribution, and purchase of local foods will strengthen our regional economy. Illinois residents spend $48 billion annually on food, nearly all of which (an estimated $46 billion) is spent on imported food that sends our food dollars out of state.[10] Purchasing food that is grown locally captures and retains those dollars for continued use within our region, supporting local businesses and jobs. Based on estimates for other regions, a 20-percent increase in local food production and purchasing would generate approximately $2.5 billion in economic activity within the region.[11] Estimates from the March 2009 report, *Local Food, Farms & Jobs: Growing the Illinois Economy*, are even larger, at $20 billion to $30 billion for the entire state. Similarly, a report released by the Leopold Center for Sustainable Agriculture in March of 2010 found that increased production of fruits and vegetables for local consumption would have positive economic impacts for Illinois and the entire upper Midwest.[12]

Improving food access could also have positive economic impacts. A full-service urban grocery store typically provides jobs for 150 to 200 employees and generates weekly sales of $200,000 to $300,000.[13] While some neighborhoods may initially need public financing to attract a grocery, "food desert" residents' demand for healthier food will reward both public and private investments. Additionally, the health impacts described above have positive economic impacts, as good health is an important precondition for individuals to succeed in the education system and in the workforce.

Strengthening a local food system can make preservation of existing farmland more economically viable. Over the past several decades, the region has lost around 16,000 acres of farmland per year and currently has about 800,000 acres remaining; as development has occurred, it has become more difficult to assemble large sites that are appropriate for production of commodity crops or livestock.[14] Increasing demand for local foods like vegetables, which can more easily be produced on small or scattered sites, provides aspiring farmers with more production options. Farmland preservation, in addition to maintaining an economic asset, also helps to preserve the rural character of much of our region and keep agriculture as a thriving economic activity.

Local food production can also improve land value and be used as a neighborhood revitalization tool in some communities. Vacant, unused parcels of land (particularly brownfields) are deleterious to the surrounding neighborhood, and putting this land to productive use can have positive impacts on nearby property values — by as much as 30 percent, according to one study of an urban neighborhood in Philadelphia.[15]

10 U.S. Department of Agriculture's National Agricultural Statistics Service, "Annual Bullentin," Census of Agriculture data, 2007, 93.

11 Viki Sonntag, "Why Local Linkages Matter: Findings from the Local Food Economy Study," report for Sustainable Seattle, 2008.

12 Dave Swenson, "Selected Measures of the Economic Values of Increased Fruit and Vegetable Production and Consumption in the Upper Midwest,." Department of Economics, Iowa State University, Leopold Center for Sustainable Agriculture, March 2010. See **http://www.leopold.iastate.edu/research/marketing_files/midwest.html**.

13 Pennsylvania Fresh Food Financing Initiative — The Reinvestment Fund, 2010. See **http://tinyurl.com/26bzvkc**.

14 U.S. Department of Agriculture, National Agriculture Statistic Services Fact Finders for Agriculture, 2002 Census of Agriculture, State Profile for Illinois. See **http://www.nass.usda.gov/**.

15 Susan Wachter, "The Determinants of Neighborhood Transformations in Philadelphia — Identification and Analysis: The New Kensington Pilot Study," from the University of Pennsylvania's Wharton School, July 12, 2004. See **http://www.nkcdc.org/controlpanel/images/nkcdc/Wharton_Study.pdf**.

Environmental

A sustainable local food system has many environmental and conservation benefits. First, sustainable local food systems can be a strategy to mitigate climate change. Food production, including inputs such as farm machinery, fertilizers and pesticides, is by far the most energy-intensive component of the food system,[16] but sustainable farming practices could reduce that footprint. Sustainable farming can also provide direct environmental benefits associated with green space such as stormwater management, water quality improvements, and reduction of urban heat islands.[17] Water demand and availability must also be considered.

The distance food travels from farm to plate — referred to as "food miles" — is also of concern. The average food item travels 1,500 miles, compared to the average locally produced item that travels only 56 miles.[18] Although food miles account for only 11 percent of the food system's greenhouse gas emissions, a reduction of food miles also reduces the impact that rising fuel costs have on food prices. If the cost of gasoline continues to rise as it has over the last two decades, the global food system may no longer be as economical as it has been in the past.

A food system can also be a waste management technique and energy producer. By promoting a "closed loop" food system, in which every stage of the food system is used as a resource, the region can divert food waste from our landfills. An estimated 41 percent of U.S. food waste goes to landfills, where it takes up space, loses its nutrients, and releases methane.[19] However, the nutrients can be retained by composting food scraps for use in local food production, home gardens, or landscaping; this can reduce or eliminate the need for fertilizers and thereby improve water quality.[20] Additionally, food wastes can be integrated into animal feed or converted into renewable energy and fuel.[21]

Furthermore, the production of local food will contribute to biodiversity and the implementation of the Green Infrastructure Vision (GIV) by providing habitat, protecting valuable green space, and creating opportunities for green infrastructure connections in our region.[22]

16 Christopher L. Weber and H. Scott Matthews, "Food-Miles and the Relative Climate Impacts of Food Choices in the United States," Department of Civil and Environmental Engineering and Department of Engineering and Public Policy, Carnegie Mellon University, November 28, 2007. Revised manuscript received March 4, 2008. Accepted March 14, 2008. See **http://psufoodscience.typepad.com/psu_food_science/files/es702969f.pdf**.

17 U.S. Environmental Protection Agency, Heat Island Effect, April 15, 2010. See **http://www.epa.gov/hiri/**.

18 Rich Pirog and Andrew Benjamin, "Checking the Food Odometer: Comparing Food Miles for Local Versus Conventional Produce Sales to Iowa Institutions," July 2003. See **http://tinyurl.com/dcyr2c**.

19 Dr. Carol Diggelmann and Dr. Robert K. Ham, "Life-Cycle Comparison of Five Engineered Systems for Managing Food Waste," Department of Civil and Environmental Engineering at the University of Wisconsin, January 1998. See **http://www.insinkerator.com/pdf/uwstudy.pdf**.

20 U. S. Environmental Protection Agency, Wastes — Resource Conservation — Reduce, Reuse, Recycle — Composting, updated March 11, 2010. See **http://www.epa.gov/osw/conserve/rrr/composting/basic.htm**.

21 University of California Davis, Biogas Energy Project, March 2008. See **http://frontiers.ucdavis.edu/9a.html**.

22 Chicago Wilderness, "Green Infrastructure Vision Final Report," March 2004. See **http://tinyurl.com/35lckn4**.

4.2 Current Conditions

Local Food Production

The region has served as a focal point for the production, processing, and trading of food for many decades. But currently, most of what is grown doesn't directly feed humans, partly as a result of federal policies that subsidize high-volume crops like grains but not specialty crops like fruits and vegetables.

Our region primarily grows corn, soybeans, and forage crops.[23] This reflects the historical shift away from local food production to a global system, aided by government policies, competitive advantages (including location, water availability, climate, soil, infrastructure, and marketing), and technology investment designed to build economies of scale and efficiency in agriculture.[24] Today fewer farms produce greater amounts of food: While the number of farms declined from 6.8 million in 1935 to 2.1 million in 2005, U.S. farm output grew by 152 percent over the same approximate period.[25] However, these long-term trends of consolidation, specialization, and mechanization of agriculture have also had repercussions that include negative environmental externalities.

Partially in response to these issues and a growing consumer demand for local food, alternative methods of farming and food distribution are attracting interest and investment. While only eight percent of the region's 3,748 farms produced food directly for human consumption in 2007, the number has been rising due to an increase in organic farms, urban agriculture, food cooperatives, community supported agriculture (CSA), and farmers' markets.[26] Increased demand for local and sustainably grown foods can be seen in the growth of local food distribution outlets; between 1999 and 2008, the number of farmers' markets and CSAs statewide increased dramatically.[27] The fastest growing sector of the food industry has been organic food, reaching almost 20-percent annual growth in recent years. However, this has increased imports of organic products because U.S. producers could not meet demand.[28] This rising demand presents an opportunity for local food production in the region.

Consistent with national trends, the number of small farms in the region increased by seven percent from 2002-07, with more diversity of both crops and farmers.[29] This has occurred despite continued loss of agricultural land. See **Figure 35** for two charts describing the number of farms and their sizes by county throughout the region. Every county in the region has lost farmland over the past several decades, despite the efforts of many counties to preserve this important part of their heritage.[30]

23 National Agricultural Statistics Service of the U.S. Department of Agriculture, Census of Agriculture 2007, County summaries for Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will Counties, 2.

24 U.S. Department of Agriculture and Economic Research Service, "Milestones in U.S. Farming and Farm Policy," Amber Waves, June 2005. See **http://www.ers.usda.gov/Amberwaves/June05/DataFeature/**.

25 David E. Banker and Robert A. Hoppe, "Structure and Finances of U.S. Farms: 2005 Family Farm Report," Economic Research Service, U.S. Department of Agriculture, May 2006. See **http://www.tinyurl.com/3749pd7**.

26 National Agricultural Statistics Service of the U.S. Department of Agriculture, Census of Agriculture 2007, County Level Data, Table 30.

27 Robert Schirmer (Maywood, IL) database; Indiana Department of Agriculture as referenced in "Local Food, Farms, & Jobs: Growing the Illinois Economy," March 2009, 9.

28 Illinois Local and Organic Food and Farm Task Force, "Local Food, Farms, & Jobs: Growing the Illinois Economy," March 2009, 8. See **http://www.foodfarmsjobs.org/**.

29 National Agricultural Statistics Service of the U.S. Department of Agriculture, Census of Agriculture 2002 and 2007, County Level Data, Table 2. Small farm as defined by USDA is a farm with a market value of less than $250,000.

30 National Agricultural Statistics Service of the U.S. Department of Agriculture, Census of Agriculture 1997, 2002 and 2007, County Level Data, Table 1.

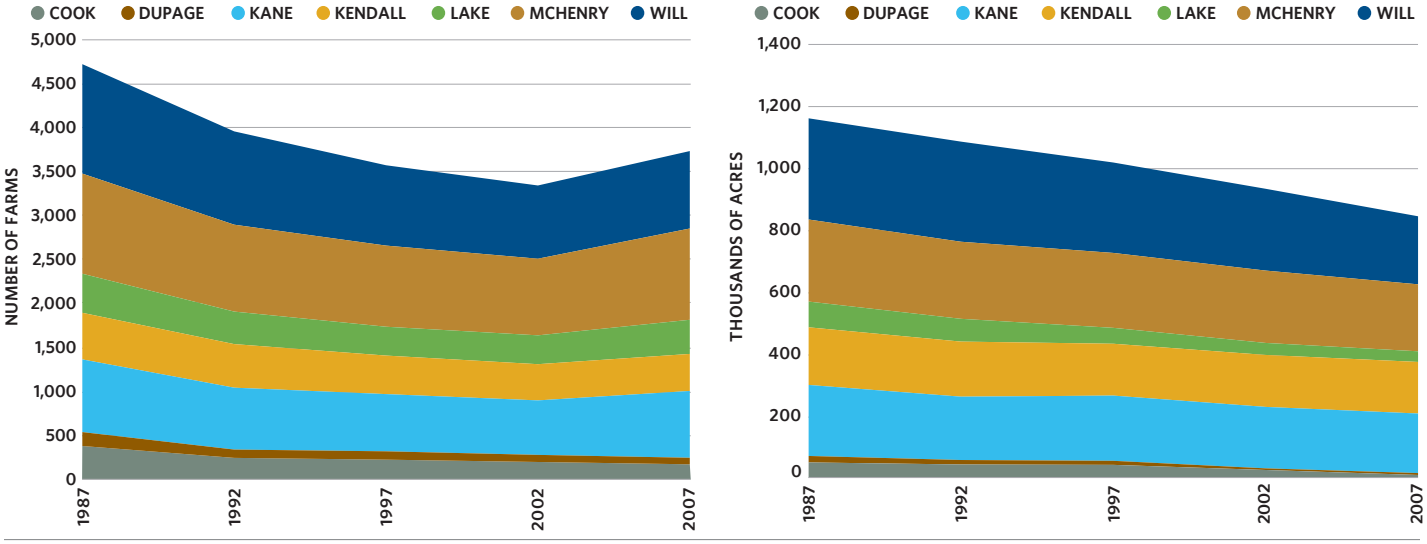
Another important input for food production is workforce: farmers and laborers. Of the 76,000 farmers in Illinois, only several hundred produce food for local markets.[31] Furthermore the average age of the principal farm operator in our region was 56 in 2007 and is increasing, meaning that agriculture needs to attract younger workers.[32] These statistics reveal that expanding the workforce is needed to maintain a sustainable local food production system. Despite some promising trends, significant economic and policy impediments combine to keep the market for local food small. Differences in local regulations, past economic practices, and infrastructure requirements (distribution, storage, processing facilities, etc.) all combine to limit growth of local food production and drive up the price of locally produced food. CMAP does not anticipate that the region, even in conjunction with surrounding regions, will ever produce all of the food that its residents require. The global food system will continue to serve the region, partly because some types of foods are impractical to produce in the Midwest. Still, production of food in the region can certainly be increased beyond its current levels.

Food Access

Localizing food production is only one side of the story. Fresh, nutritious, and affordable food must also be accessible to all residents. More than nine percent (730,866) of our region's population is located in "food deserts" that lack access to nearby stores with fresh, nutritious food. Most often, food deserts exist in low-income, minority urban, and suburban neighborhoods. **Figure 36** displays the location of low-access areas, which are equivalent to food deserts. This analysis is normalized for urban, suburban, and rural areas because the definition of acceptable distance to a large supermarket varies based on population density, and it also excludes areas with incomes above the regional average.

While hunger is a symptom of poverty that is not necessarily related to local food, it is still useful to consider in the context of food systems. The U.S. Department of Agriculture (USDA) estimates that 9.5 percent of Illinois households between 2005 and 2007 lacked access to enough food to fully meet basic needs due to inadequate financial resources, which is termed "food insecurity." The system of food banks and programs that provide hunger assistance is hard to navigate, and participation in food assistance programs is relatively low compared to need. Food banks depend on donated food and may lack an adequate supply of nutritious or fresh food.

Figure 35. Number and size of farms in region, 1987-2007

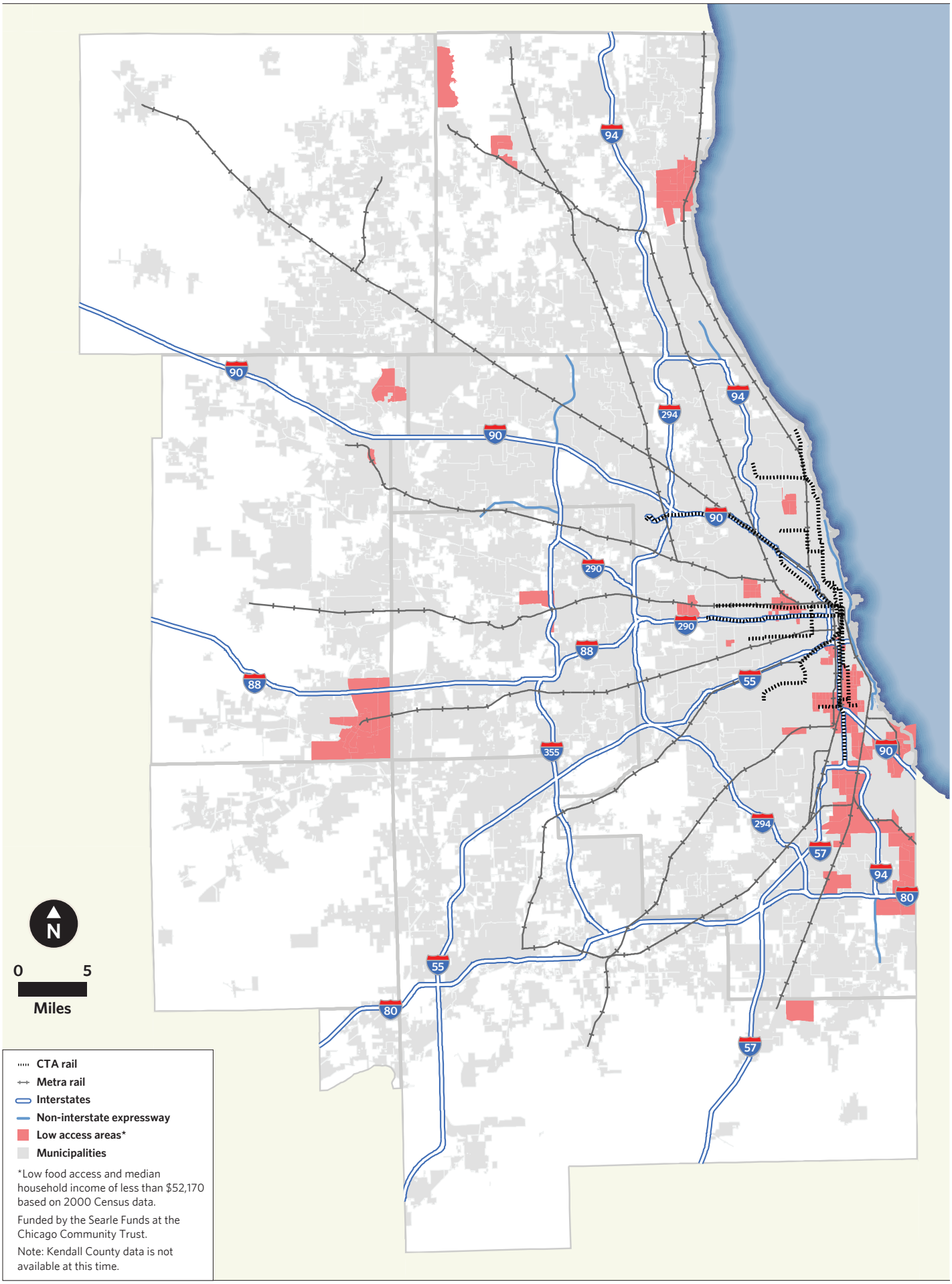


Source: U.S. Department of Agriculture, National Agricultural Statistics Services, Census of Agriculture, County Profile, 1987, 1992, 1997, 2002, 2007.

31 Illinois Local and Organic Food and Farm Task Force, "Local Food, Farms, & Jobs: Growing the Illinois Economy," report to the Illinois General Assembly, March 2009, data from 2007. See **http://www.foodfarmsjobs.org/**.

32 National Agricultural Statistics Service of the U.S. Department of Agriculture, Census of Agriculture, County Profiles, 2007.

Figure 36. Areas with low access to large supermarkets



Sources: Northeastern Illinois Community Food Security Assessment, Chicago State University, 2007 and 2000 Census Data

4.3 Indicators and Targets

GO TO 2040 proposes to measure the region's progress towards a sustainable local food system using two indicators: production is measured using acres of land in the region harvesting food for human consumption, and access is measured using the percent of the region's population who live in a "food desert."

Food Production

Food production will be measured by two indicators derived from USDA data. The first will track the acreage of land in the region that is being used to harvest food for human consumption. Currently, the region has approximately 5,518 acres harvested for direct consumption,[33] representing 0.71 percent of the total harvested acres (772,308) in the region as of 2007.[34] Acres harvested for direct consumption has steadily decreased over the last decade, from 10,989 in 1997 to 8,389 in 2002, finally to its most recent 2007 acreage listed above. The goal is to increase the regional acreage dedicated to local food over time. This increased acreage is expected to be reached through a variety of strategies, including urban agriculture in denser environments on vacant and underutilized land, as well as existing farmland where the market and farmers support its adoption. Pilot programs in which local food varieties are introduced into existing crop rotations are one mechanism to consider in achieving this regional goal.

The second will track the value of agricultural products sold directly to individuals for human consumption in the region. This value has been steadily increasing over the last decade, from $2,482,000 in 1997 to $4,661,000 in 2002, and finally $6,484,000 in 2007.

For both of these indicators, quantitative targets for 2040 have not been set. Further research and analysis are needed to determine what a reasonable target would be. Improving data on local foods is one of the key recommendations of GO TO 2040 on this topic.

Food Deserts

Along with production, food access must also be measured. Food deserts and food access are inversely related. As food deserts are eliminated, food access is increased. Currently nine percent of our region's population (excluding Kendall County, for which data has not yet been collected) is located in a food desert or a low-access area relative to a large supermarket that is below the weighted average median income level ($52,170) for the seven counties. Food deserts in the region are shown in **Figure 2.** The goal is to eliminate food deserts in the region by 2040.

PERCENTAGE OF POPULATION LIVING IN FOOD DESERTS IN THE REGION

7% by 2015

0% by 2040

33 Direct consumption as defined by the USDA for the 2002 Census of Agriculture includes orchards, peanuts, potatoes, sweet potatoes, and vegetables.

34 National Agricultural Statistics Service of the U.S. Department of Agriculture, Census of Agriculture, Desktop Data Query Tool, 2007.

4.4 Recommendations

GO TO 2040 recommendations for sustainable local food cover three areas: food production, food access, and overarching needs such as raising awareness and improving available data and research.

The purpose of these recommendations is to move local food from a "niche" market to a self-sustaining, thriving system. More detail of these and other recommendations can be found in a report on local food prepared by the Chicago Community Trust, Chicago Food Policy Advisory Council (CFPAC), and the City of Chicago in partnership with CMAP.[35]

Facilitate Sustainable Local Food Production and Processing

An important requirement for food production is land availability. Two distinct approaches are to promote urban agriculture within already developed areas and to pursue agricultural preservation in areas that are currently farmed or preserved as open space. Urban agriculture provides opportunities to convert land and space to local food production and includes backyard gardens, community gardens, allotment gardens, greenhouses, green roofs, aquaponics, and small scale commercial sites in more dense locations. In addition to producing food, urban agriculture increases open space and community vitality, adds value to underutilized land, increases economic activity, and can provide on-site job training. The process of acquiring and converting vacant or underutilized lots and rooftops into agricultural uses needs to be streamlined and simplified. Site maintenance including landscaping, stormwater and fencing requirements should be compatible with local food practices. As soil condition is a major concern for urban agriculture, standards need to be established for acceptable soil conditions and procedures to achieve those standards to ensure the land is safe for food production.[36] Often soil testing and remediation costs can be high, but there are alternatives such as capping the lot and growing in raised beds.

Protecting and adding value to existing agricultural land also supports local food production. Agricultural preservation programs typically facilitate the purchase or donation of development rights of current farmland, which restricts development on the site but allows farming to continue. Kane County's Farmland Protection Program is based on this concept and to date has preserved 39 farms totaling over 5,000 acres of farmland, with numerous properties on a waiting list for future funding. Since 2001, Kane County has invested almost $20 million from gaming and riverboat revenue in the program, supplemented by $12.6 million in federal funding from the Farm and Ranch Lands Protection Program. Although currently none of the properties in the program are used for local food production, they may be in the future because land in this program will remain in agricultural use in perpetuity.

McHenry and Kendall Counties also have similar farmland protection programs in place, but all three programs would benefit from a more permanent funding source, which would increase the amount of land protected. GO TO 2040 supports these programs and recommends that they continue and be strengthened. The plan also supports state legislation that would permit counties to hold referenda to raise funds for agricultural protection. Furthermore, innovative developments can also support local food production; for example, Prairie Crossing in Lake County permits residential and commercial development while preserving agricultural land and operating an on-site farm.[37] Where land ownership by local food producers is not an option, leasing farmland can provide an alternative.

Federal farm policies, such as the Federal Farm Bill, should promote viable local food systems through incentives and funding that encourage resource conservation, minimize the distance food travels, mitigate environmental degradation, and promote techniques that assure food safety and the production of nutrition-rich healthy foods. Furthermore federal production and processing standards should reflect the need of small scale operations to process food locally while still ensuring food safety. Assets such as certified kitchens and mobile processing units can increase the economic opportunities for local food production by providing value-added products and in-region processing capacity.

35 GO TO 2040 has been informed by GO TO 2040 Food Systems Strategy Report, 2009. See **http://www.goto2040.org/foodsystems/**.

36 U.S. Environmental Protection Agency, "How Does your Garden Grow? Brownfields Redevelopment and Local Agriculture," March 2009. See **http://www.epa.gov/brownfields/success/local_ag.pdf**.

37 Prairie Crossing website. See **http://www.prairiecrossing.com**.

Once certain regulatory barriers are removed, widespread wholesale institutional procurement of local food products will give farmers confidence in future demand and may entice new farmers to enter the farming profession and the emerging marketplace.[38] The 2009 Local Food, Farms and Jobs Act established a 20-percent institutional procurement goal for state agencies and a 10 percent goal for state funded institutions such as schools by 2020. Additionally, the Act gives preference and incentive for local food by permitting agencies and institutions to pay a 10-percent premium for contract bids that include a local farm or local food products over similar non-local food bids. Federal and state governments should work with school districts and other institutions to link nutrition assistance programs with local food production through school, afterschool, summer, and weekend nutrition sites. "Farm to School" programs are gaining momentum, and several successful models already exist in school districts in Chicago, Grayslake, and Palatine.[39]

Increase Access to Fresh, Nutritious, and Affordable Foods

GO TO 2040 seeks to eliminate food deserts, meaning that every resident in the region should have access to fresh, nutritious, and affordable food within a reasonable distance and accessible by multiple transportation modes. Various local food strategies such as community gardens, farmers' markets, and alternative food retail outlets can be used for this purpose and could serve as demonstration programs to expand the diversity of retail options.

Fresh food financing, an emerging strategy, both supports local food production and provides greater access to fresh food. Pennsylvania has developed a model that other states, like Illinois, are considering. In 2004, the Pennsylvania Food Financing Initiative began as a public, private, and nonprofit collaboration. With an initial state investment of $30 million, the program leveraged an additional $165 million dollars in private investment to fund supermarket and fresh food outlet projects in underserved areas. This resulted in access to nutritious food for 400,000 people and created or retained 5,000 jobs.[40]



38 For more information, see **http://www.familyfarmed.org**.

39 Illinois Farm to School Programs, 2010. See **http://www.farmtoschool.org/IL/programs.htm**.

40 Policy Link, The Food Trust, and The Reinvestment Fund, "A National Fresh Food Financing Initiative: An Innovative Approach to Improve Health and Spark Economic Development," 2010. See **http://www.thefoodtrust.org/catalog/download.php?product_id=168**.

Similarly, Illinois has recently created (but has not yet funded) a $10 million Fresh Food Fund to increase fresh food access and stimulate supermarket and grocery store development in underserved areas by assisting with land acquisition, equipment purchases and infrastructure, and an additional $20 million is being sought from philanthropic groups to enhance the program.[41] The proposed 2011 federal budget includes a $345 million Healthy Food Financing Initiative, a program also modeled after the Pennsylvania program that provides financing for local grocers.[42] GO TO 2040 recommends continuing and strengthening these fresh food financing initiatives. Similar innovative programs are already happening in our region. For example, the City of Chicago provided $5.5 million dollars in assistance by selling city-owned land, appraised for $6.5 million, for $1 million to Pete's Fresh Market to open a 55,170 square foot full service grocery store on the near west side. Set to open in 2011, the new store will provide 120 full-time and 30 part-time jobs.

Linking local food policy with anti-hunger strategies can provide mutual support to both systems. Every year nearly 700,000 people in the region rely on food banks and other anti-hunger programs for basic food needs.[43] Programs and policies should link local food production programs with those that address food access issues, particularly for residents who live in hunger. For example, linking urban agriculture programs with food pantries could combine solutions to workforce development, nutritional education, and hunger. Similar programs can already be found in our region. Ginkgo Organic Gardens in Chicago donates all vegetables, herbs, fruit, and flowers, approximately 1,500 pounds a year, to Uptown-area nonprofit organizations such as the Vital Bridges' GroceryLand, a food pantry dedicated to serving low-income residents living with AIDS.[44] Furthermore, the USDA, state and local governments, and farmers' markets should permit and encourage the use of public assistance (Link benefits) at farmers' markets and other outlets for local, fresh products. Additional benefits such as "double voucher" programs may be needed to increase the affordability of local food at these locations.[45] Nutrition and anti-hunger programs should be coupled in a streamlined, seamless fashion, regardless of whether they are federal, state, municipal or private in nature. Further recommendations concerning hunger are contained in the 2009 Hunger Strategy Report, prepared by the Greater Chicago Food Depository and the Northern Illinois Food Bank, and are supported by GO TO 2040.[46]

Raise Awareness by Providing Data, Research, Training, and Information to Support Local Food Systems

A regional food system policy organization should be established to position the region as a leader in regional food systems and allow rapid response to national and state initiatives. The goal of such an organization should be to build capacity of other local food policy councils and nonprofits, increase economic activity, utilize and protect the region's assets, promote entrepreneurism and innovations, and foster a healthier region through better access to local foods and nutrition education. To achieve this goal, the regional food organization should support policy development, identify training and technical assistance needs, and work to identify initiatives that support the marketability of locally grown food to meet business needs. The organization should have comprehensive representation of the types of organizations involved in sustainable local foods, and is likely to require a combination of private, public, and philanthropic support.

Through the Regional Indicators Project,[47] CMAP should be the central repository for local food data. A variety of local food data should be collected, standardized, and analyzed to provide policy makers, farmers, businesses, retailers, and residents with the tools to make responsible and realistic funding and policy decisions. Beyond simple collection of data, research is needed to understand how local food can best be supported and operate within the larger agricultural economy. While some resources already exist such as the Illinois Council on Food and Agricultural Research, further study, research, and analysis is necessary to address the complexities of local food systems, the associated market, and its relationship to existing policies.[48]

Food systems require production, transportation and distribution infrastructure, and new forms of infrastructure may be needed to support local foods. While currently the global food market involves high volumes of food being transported, stored, and distributed, local food systems are typically lower volume and will need to consolidate and coordinate distribution strategies. The travel patterns of food within our region are another important part of the puzzle. In the Philadelphia area, the regional planning agency (Delaware Valley Regional Planning Commission, or DVRPC) analyzed food freight to understand how far food typically travels from producer to consumer. The study showed that 99 percent of food tonnage is moved by trucks through the region, and the movement of food accounted for 13 percent of total freight movements for the region in 2002, with significant future increases

41 The Robert Wood Johnson Foundation, "Illinois Approves Spending for Fresh Food Fund," 2010.

42 Policy Link, The Food Trust, and The Reinvestment Fund, "A National Fresh Food Financing Initiative: An Innovative Approach to Improve Health and Spark Economic Development," 2010. See **http://www.thefoodtrust.org/catalog/download.php?product_id=168**.

43 GO TO 2040 Hunger Strategy Report, 2009. See **http://goto2040.org/hunger/**.

44 Ginkgo Organic Gardens, 2010. See **http://www.ginkgogardens.org**.

45 August Schumacher, Rachel Winch, and Angel Park, "Fresh, Local, Affordable: Nutrition Incentives at Farmers' Markets 2009 Update," Wholesome Wave Foundation, November, 2009. See **http://wholesomewave.org/wp-content/uploads/winch-full.pdf**.

46 For further recommendations concerning hunger — going beyond its relationship with local food — see GO TO 2040 Hunger Strategy Report, 2009, at **http://www.goto2040.org/hunger/**.

47 Described further in the GO TO 2040 section Access to Information.

48 Illinois Council for Food and Agricultural Research, 2010. See **http://www.ilcfar.org/**.

49 Delaware Valley Regional Planning Commission, "Greater Pennsylvania Food Study," January 2010, 73 and 76. See **http://www.dvrpc.org/reports/09066A.pdf**.

projected.[49] CMAP and its transportation partners should conduct a similar study for our region, which is particularly relevant due to the region's status as the nation's freight hub.

As local food production is still an emerging industry, workforce training, technical assistance, and information sharing will be needed in the near future. Initiatives at the local level through academic institutions such as University of Illinois Extension and other agriculture workforce training programs should connect farmers to available resources and provide the education (including local food related business and legal practices) necessary to create viable economic models for local food production. Information sharing between farmers, particularly those involved in sustainable farming practices, urban agriculture, or other non-traditional practices, is especially valuable. Developing information resources to connect farmers, distributors, and retailers would help local foods to grow as a stand-alone economic sector; this should be a responsibility of the regional food policy organization described above. Finally, integrating local food topics into university and community college programs will raise awareness about food systems and potential job opportunities in this field.

GO TO 2040 supports including local food components in local plans, ordinances, and planning decisions. In CMAP's role as a technical assistance provider, the agency should assist with the incorporation of local food components into county and municipal comprehensive plans and ordinances.

This should build on existing work and best practices; Kane County will be including a local food system component in their upcoming comprehensive plan. Other resources for planners include the American Planning Association (APA) *Policy Guide on Community and Regional Food Planning*, which gives direction on how to incorporate food systems in communities and *A Planners Guide to Community and Regional Planning: Transforming Food Environments, Facilitating Healthy Eating*.[50]

In other regions, regional agencies (such as DVRPC) have integrated local food system planning as part of their land use planning and as a part of envisioning a sustainable future for their residents. Municipalities such as Seattle, Detroit, Madison, and Kansas City are including local food in comprehensive plans, adopting zoning regulations and districts that permit urban gardens and composting, and removing policy barriers to farmers' markets. Within the urban garden district in Cleveland, community and market gardens are permitted as well as greenhouses, hoop houses, chicken coops, beehives, compost bins and seasonal farm stands. Locally, farmers' markets are located in a variety of municipalities in all parts of the region. Furthermore, Chicago is looking at municipal codes and standards to allow for the commercial growing of local foods in the urban landscape. The region's local governments should continue these efforts.

Finally, providing information to the general public about sustainable local food systems is important and should be a responsibility of the proposed regional food policy organization. Although public awareness is increasing, ambiguity still exists about where our food comes from, as well as who raises it, processes it, and makes policy decisions about it. This lack of awareness is a formidable barrier to creating a more sustainable system. Education begins at the consumer level through school and community gardens, farmers' markets, and agricultural endeavors close to where consumers live. While such ventures provide a limited proportion of the food consumed in the region, they reconnect individuals to how food is grown and produced, and they prepare the region's consumers to become active participants in decisions about the food system. The economic viability of a sustainable local food system depends on a strong market for its products. Local governments, business organizations, philanthropic groups, and advocacy groups can build demand for sustainable local food through public education campaigns that promote the benefits of local and healthy eating to all citizens.

50 American Planning Association, Policy Guide on Community and Regional Food Planning, 2007. See **http://www.planning.org/policy/guides/adopted/food.htm** ; American Planning Association, A Planners Guide to Community and Regional Planning: Transforming Food Environments, Facilitating Healthy Eating, 2009. See **http://www.planning.org/apastore/search/Default.aspx?p=3886**.

4.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on three implementation areas for promoting sustainable local food:

Facilitate Sustainable Local Food Production

Increase Access to Safe, Fresh, Affordable, and Healthy Foods

Increase Data, Research, Training, and Information Sharing

Implementation Action Area #1: Facilitate Sustainable Local Food Production

Support urban agriculture as a source of local food LEAD IMPLEMENTERS: Federal (USDA, U.S. EPA), state (Dept. of Agriculture, IDPH, IEPA), counties, municipalities, nonprofits	Urban agriculture can be a productive use of vacant or underutilized urban land. Local governments should simplify and incentivize the conversion of vacant and underutilized lots, spaces, and rooftops into agricultural uses. Research groups should support this by developing an inventory of underutilized publicly owned land that could be appropriate for urban agriculture. Brownfield remediation funding can and should be used to support community gardens and farmers' markets.
Continue and expand farmland protection programs LEAD IMPLEMENTERS: Counties, forest preserve districts and conservation districts, municipalities, park districts, land trusts	The region's local governments should maintain and improve their current farmland protection programs and develop new programs where needed. Kane County's Farmland Protection Program can serve as a model for the region. Focused on the goal of preserving land, their program provides equal opportunity to applicants regardless of crop selection. Counties and municipalities should work together to remove barriers to local food production on their respective lands and encourage inter-jurisdictional business opportunities. Where appropriate, agriculture should be supported as part of preserved open space such as forest preserves, park districts, or land trusts. The state should also permit counties to hold referenda to raise revenue for agricultural preservation.
Encourage revisions of federal policy to promote local food LEAD IMPLEMENTERS: Federal (USDA)	Farm and food policies and food regulations at the federal level should be reassessed to accommodate local and small farm operations. Most federal incentives have been geared to encourage large industrial farming practices, and current regulations can inhibit local and small farm production and infrastructure development. Recent federal policy changes to recognize the importance of local food should continue and be strengthened.
Support local food production through other institutional support and procurement processes LEAD IMPLEMENTERS: State agencies and institutions, wholesale farmers, University of Illinois Extension	In line with the 2009 Local Food, Farms and Jobs Act, a procurement process for state institutions that favors local foods (such as schools, hospitals, and other government facilities) could bolster the local foods economy by creating a stable demand for local food. Sharing of best practice information between participating institutions is also recommended.

Implementation Action Area #2: Increase Access to Safe, Fresh, Affordable and Healthy Foods

Increase community access to fresh food through demonstration programs LEAD IMPLEMENTERS: Federal (USDA), state (DCEO), counties, municipalities, philanthropic, private investors, banking institutions	Support and expand various demonstration programs for providing better food access in food deserts, such as farmers' markets, farm carts and stands, fresh food delivery trucks, food cooperatives, on-site school programs, and other alternative retail options and direct sales from community vegetable gardens. On-site school farms could also be used to increase access and develop a local food curriculum. Funding should be identified to implement these programs. These programs also can be supported by examining health and licensing regulations to ensure that they do not create barriers to local access to fresh food.
Implement fresh food financing initiatives LEAD IMPLEMENTERS: Federal, state, counties, municipalities, Illinois Food Marketing Task Force, philanthropic, private investors, traditional lending institutions	Illinois should replicate the Pennsylvania Fresh Food Financing Initiative, which used state funding to spur private investment in supermarket and fresh food outlet projects in underserved areas. The recently created Illinois Fresh Food Fund could provide a similar opportunity for Illinois; however, sufficient funding is required. The federal government should also continue and strengthen its efforts to fund similar programs.
Link hunger assistance programs to local foods LEAD IMPLEMENTERS: Federal (USDA), state (Dept. of Agriculture), public health organizations, food pantries, individual farmers' markets	A partnership between hunger assistance and local food production can benefit both parties. Food pantries can work with local food producers to increase their quantities of fresh food. Additionally farmers' markets and other alternative local food outlets should accept Supplemental Nutrition Assistance Program (SNAP) benefits and conduct outreach to SNAP recipients to utilize these locations to purchase food. To support this effort, Illinois passed the Farmers' Market Technology Improvement Program Act in 2010, which establishes a fund to provide financial assistance for equipment (such as electronic benefit transfer [EBT] card readers) and transaction fees to facilitate the use of SNAP benefits at farmers' markets and other alternative retail locations. Resources such as grants and loans should be provided to support the fund and the other efforts listed above.

Implementation Action Area #3: Increase Data, Research, Training, and Information Sharing

Build regional nonprofit capacity for local foods systems LEAD IMPLEMENTERS: Nonprofits, philanthropic	Identify and support a regional food entity (nonprofit). The entity should be represented by a variety of members (economic, environmental, transportation, agricultural, public health, etc.) to analyze and support food policy issues from a comprehensive perspective and coordinate federal grant and loan programs. This entity should coordinate with the activities of the Illinois Food, Farms, and Jobs Council. It should also host summits and informative meetings for local officials and policymakers, including health departments, community organizations, and environmental groups.
Improve data collection and research on local food production, distribution, and other needs LEAD IMPLEMENTERS: State, CMAP, counties, nonprofits, universities, philanthropic	The region needs improved data on the production and distribution of local food and specialty crops. Also, infrastructure needs for the transportation, storage, and distribution of food (such as regional distribution hubs or refrigerated storage facilities, for example) should be identified and analyzed. CMAP should work with neighboring metropolitan planning organizations like the Northwest Indiana Regional Planning Commission and the Southwest Michigan Regional Planning Council to accelerate effective planning, and regional food systems development.
Provide training and information sharing LEAD IMPLEMENTERS: Universities, community colleges, other education and training providers, philanthropic, local businesses and restaurants	Local food training and technical assistance programs for farmers and laborers should be provided to assist in the transition to local food production. These should be linked with workforce development programs. Sustainable and conservation oriented farming techniques should be particular focuses. Also, information sharing between practitioners on a variety of local food topics, including food waste reduction, processing, and reuse, should be encouraged. Develop comprehensive information resources to develop and connect the value chain between farmers, distributors, retailers, producers, and consumers, such as the University of Illinois MarketMaker website.[51] Universities and community colleges should offer food related courses to cover a variety of topics from nutrition to distribution. Businesses and restaurants can also support local food by purchasing from local food farms/vendors and providing information to customers about food origin (such as menu and product labeling).
Provide technical assistance to incorporate local food systems in comprehensive plans and ordinances LEAD IMPLEMENTERS: CMAP, counties, municipalities, nonprofits	Assist government officials and planners to incorporate local foods and agricultural protection into comprehensive plans and ordinances. Local food could also be integrated into economic development plans. Technical assistance should accommodate the full spectrum of local food production from community gardens to commercial farm operations, and could include activities such as removing barriers to local food distribution or designating certain zones for permitted small-scale food production. Additionally, CMAP and other technical assistance providers should produce local food model ordinances for consideration by local governments.

51 University of Illinois MarketMaker website, 2010. See **http://www.marketmaker.uiuc.edu/**.

4.6 Costs and Financing

Supporting the development of sustainable local food systems is not free, and some of the recommendations contained on the previous pages would involve costs to the public sector which, though small, are not negligible.

However, this needs to be placed in context. The U.S. already spends a significant amount of money on agriculture production through the Farm Bill, legislation passed every five years to guide national agricultural policy. The most recent Farm Bill (the Food, Conservation and Energy Act of 2008) has a cost of $307 billion dollars between 2008 and 2012.[52] While the majority of this funding, $209 billion, is directed toward nutrition programs like food stamps under the Supplemental Nutrition Assistance Program (SNAP), nearly $35 billion over the next few years will be spent on direct payment subsidies, or about $5.2 billion annually.[53]

Federal policy is shifting toward supporting local food, as seen in modest monetary gains found in the 2008 Farm Bill for both production and access of local food. Supportive programs such as the Farmers' Market Promotion Program or the USDA "Food Desert" Study have either been expanded or created to elevate local food as a viable agricultural use. But this transition will require further investment. Commodity and local food farming require different machinery, tools, maintenance, training, labor, packaging, marketing, and transport. Our region's food infrastructure is currently set up to produce and export commodity crops such as corn, soybeans and alfalfa. While there will be a cost associated with transitioning to local food production, much of this would likely be borne by the private sector, without public sector cost, if the playing field for local food was leveled.

Furthermore, as a result of the 2009 Illinois Local Food, Farms and Jobs Act, publicly funded or owned institutions are encouraged to buy local food, and can pay a 10-percent premium for locally grown produce. In the past these institutions were required to choose the lowest reasonable bid. This increase in spending is voluntary, and depends on the budget situations of these institutions, but creating demand for local food among large food producers could support the emergence of local food as a viable economic sector.

The preservation of farmland or conversion of vacant lots to urban agriculture can have positive financial impacts for the public sector. Although the initial land purchase may be costly, agriculture generates local tax revenue and has very low service costs, meaning that it generally has more favorable fiscal impacts than residential development. Municipal-owned vacant lots that are converted to local food production provide another opportunity to add local tax revenue, so initial investments in urban agriculture by local governments can pay off over time.

Improving food access also has associated costs, but initial, small-scale investments by the public sector can leverage larger private sector investments. In the Pennsylvania Food Financing Initiative, private investors matched public funds at a ratio of 5.5:1. Overall, public investments and financing in the short term can create a local food system (including both production and access) that will sustain itself in the long term.

52 Congressional Budget Office, May 13, 2008. See **http://www.cbo.gov/ftpdocs/92xx/doc9230/hr2419conf.pdf**.

53 Congressional Budget Office, May 13, 2008. See **http://www.cbo.gov/ftpdocs/92xx/doc9230/hr2419conf.pdf**.

Human Capital
Learning, Working, and Innovating

This theme addresses factors that determine whether our region's economy will thrive due to the availability of skilled workers and a climate in which commercial creativity can flourish. The chapter on Human Capital includes two areas of recommended actions:

5. Improve Education and Workforce Development 164

6. Support Economic Innovation 180

The Regional Vision describes a future economy with a "global status" that "ensures superior job opportunities" by "enhancing our...education systems and physical infrastructure... [as well as] workforce development programs and other training" and being a "center of innovation across all disciplines."

To achieve this, GO TO 2040 supports economic growth and innovation without overly involving the public sector in private sector decisions, by investing in infrastructure, education, and workforce training for jobs of all skill levels, by seeking ways to support new economic sectors such as green jobs, and by creating a supportive business environment, including addressing tax policy.

The seven-county metropolitan Chicago region is among the nation's few global economic centers. GO TO 2040 seeks to maintain and strengthen this position. A global region needs to have a modern infrastructure; a diversity of business types and economic activity; a skilled workforce, including a strong higher education system; active cultural institutions; and a high overall quality of life.




TO TRAINS

RECOMMENDATION

5 Improve education and workforce development



For our region to prosper economically and sustain a high quality of life, it needs an educated, skilled labor force. Researchers, business leaders, and elected officials agree that the quality of our workforce is one of the most important factors — if not the most important — in strengthening the region's economy.

A skilled labor force does not develop on its own; strategic investments in education and workforce development that tie these systems to the needs of employers are needed. Therefore, GO TO 2040 recommends that the region's education and workforce development systems be improved to create a high-quality labor force for our future.

However, there are significant challenges to achieving this goal. Not just in the region but across the U.S., student achievement has been declining compared to other industrialized nations. Access to high-quality educational opportunities is quite inequitable, with dramatic differences in achievement across racial, ethnic, and economic lines. The workforce development system — which is meant to provide people with skills they need to succeed in the workplace — is complex, with a variety of programs, initiatives, and funding sources. Because of the number of players, coordination and communication between both the education and the workforce development systems is limited, and the actual needs of employers and workers are often not fully reflected. As the rate of economic and technological change grows, individuals increasingly need to learn new skills and be retrained multiple times, meaning that effective, adaptable, and coordinated systems for education and workforce development are increasingly important.

To improve the quality of the region's labor force, GO TO 2040 makes recommendations in the following areas:

Coordination of education, workforce development, and economic development, with a strengthened role for local service providers — including community colleges, universities, vocational training programs, community based workforce organizations, and other workforce intermediaries — that can coordinate between employers' needs and training and education. Alignment between these systems is difficult due to the large number of organizations active in each of these fields, but is necessary to create the efficient and adaptable systems that we need.

Available information and data in the education and workforce development fields. Tracking progress, assessing program effectiveness, and planning for future needs require better data sources than are currently available.

Delivery of workforce development services. Inflexible funding programs pose a particular barrier to improving workforce development systems; more flexible service delivery is needed.

Education quality, access, and coherence. The plan does not make specific policy recommendations in this area, but supports efforts by state, local, and other groups that seek to improve the region's education system.

The focus of these recommendations is on improving the region's workforce. That is clearly not the only purpose of education, which also is meant to provide for social, civic, and personal development. The education system must not be viewed solely as a means of preparing individuals for the workforce. Therefore, while workforce readiness is the focus of GO TO 2040's approach to education, it is important to recognize there are numerous other important purposes of the education system that are not fully addressed in this recommendation area.

5.1 Benefits

The importance of education to our region's future is universally recognized. Education quality is among the top issues that people in our region, from members of the public to business leaders to elected officials, believe will drive our future economy and overall quality of life.

Participants in CMAP's GO TO 2040 "Invent the Future" workshops during summer 2009 consistently discussed the need for a strong economy that provides good jobs for all residents, and they emphasized the need for better educational opportunities to reach this goal. Although the important role of workforce development is generally less recognized by the general public, it is also a central component of having a skilled, well-trained workforce, which is a precondition of a prosperous region. The benefits of quality education and workforce systems — including but not limited to their economic impacts — are described in the following pages.

Economic

For our region to maintain its place as an important player in the global economy, it must successfully compete with other major metropolitan areas, both nationally and internationally, to retain and attract businesses. Both businesses and people are increasingly mobile, easily able to move to desirable regions or leave undesirable ones, so there is a continual need to improve the region's global standing.

The quality of the labor force is probably the single most important factor driving future economic prosperity, according to academic research, surveys of businesses, and anecdotal evidence from economic development experts.[1] Academics and business leaders alike increasingly stress "human capital" — or the knowledge and skills of the labor force — as the primary driver of today's economy.[2] While workforce quality has always been an important component of economic success, there is evidence that this is increasing, as economic growth occurs in industries that require more knowledge and skills. A review of recent academic studies that examined the causes of economic growth found that educational levels were the most consistent predictor of future regional growth.[3] In other words, having an educated, skilled workforce is more important than any other factor in creating economic prosperity.

This academic evidence is echoed by regional business leaders and the economic development community. Businesses of all types consistently rate the quality and availability of a diverse and talented workforce as one of the most important factors influencing their location decisions and ability to succeed. In an April 2009 survey conducted by the Illinois Chamber of Commerce, the availability of skilled and educated employees was one of the most important factors in site selection decisions. A 2008 survey by ComEd of businesses in northern Illinois generated similar results; respondents agreed that it was critically important but had mixed opinions as to whether the quality of the region's labor force was a strength or a weakness. This result indicates that the seven counties of metropolitan Chicago have some economic sectors where the labor force is meeting the needs of businesses, but more where it needs improvement.

1 Based on internal research and interviews conducted by the Chicago Metropolitan Agency for Planning from 2007-2009. Other significant factors include infrastructure supply and quality, the overall business environment (including tax policy, the regulatory environment, and support for innovation), proximity to consumers and suppliers, and amenities.

2 Robert Weissbourd, "Into the Economic Mainstream: A Discussion Paper on Bipartisan Policies for Inclusive Economic Growth," Opportunity Finance Network and Robert Weissbourd, RW Ventures, LLC., August 1, 2006.

3 Based on a review of the following studies: C. Simon, "Human Capital and Metropolitan Employment Growth," Journal of Urban Economics 43 (1998): 223-243. E. Glaeser, et al, "Economic Growth in a Cross-Section of Cities," Journal of Monetary Economics 36 (1995): 117-43. E. Glaeser and J. Shapiro, "Urban Growth in the 1990s: Is City Living Back," Journal of Regional Science 43 (2003): 139-65. J. Pack, Growth and Convergence in Metropolitan America (Washington, D.C : Brookings Institution, 2002). E. Glaeser and A. Saiz, "The Rise of the Skilled City," Brookings-Wharton Papers on Urban Affairs 5 (2004): 47-94. R. Green, "Airports and Economic Development," Real Estate Economics 35 (2007): 91-112. P. Blumenthal et al., "Understanding the Economic Performance of Metropolitan Areas in the

The region is in constant competition with other metropolitan areas to attract both businesses and skilled workers. Regions that lack a strong labor force will have difficulty competing because, for most industries, labor force quality has become more important than physical assets or location.[4] Skilled and educated workers drive the productivity of today's economy and the decisions of businesses, making them the most valuable assets that a metropolitan area can have.[5]

An important consideration, but one that goes beyond the scope of this recommendation, is retaining skilled workers in the region after they graduate or receive training. Beyond developing highly skilled workers, the region also needs abundant economic opportunities and a high quality of life to keep them here or to attract skilled workers from other regions. In other words, developing a skilled workforce through education and workforce improvements is not by itself sufficient but is a primary component of prosperity.

In contrast, failure to improve education and workforce systems will have serious negative economic consequences. Lower levels of educational attainment correspond to lower workplace skills, with long-term consequences for individual earning power and the region's economic vitality. From an economic perspective, low educational performance can make some residents an economic liability to the region and its communities rather than an asset; for example, incarceration rates of high school dropouts are double the rates of graduates.

Quality of Life

While the economic benefits of improving our labor force are clear, there are other quality-of-life benefits as well. Education is essential for an overall healthy society, and high levels of education are correlated with increased civic participation and health status, lower risk of incarceration, and improvements in most other measures of personal well-being. Educational attainment prepares residents to be positive participants in society, not just employees.

Therefore, while the economic impacts of education are critical and improved coordination between educational institutions and employers is needed, education should not be equated with vocational training only. It should also foster personal growth, social development, an appreciation for the arts, and other desirable outcomes. According to the *Education for the Future of Northeast Illinois* report:

> *Preparing students for employment should not be the sole purpose of education, however. Although it is impossible to predict the relative proportion of information-intensive jobs vs. low-skill, service-sector jobs in the coming decades, or even whether there will be sufficient work to sustain a standard 40-hour work week, the workplace cannot be the sole or even the primary determinant of educational policy and curriculum in K-12 schools. As the nature of work changes and reduces the skill level required for some jobs, it may be tempting to "dumb down" the public school curriculum for lower-performing students to match the needs of the low-skill workplace, as historians tell us occurred a century ago. This temptation must be resisted on ethical and democratic grounds, as each student deserves to be educated to his or her fullest potential. It would likely be bad economic policy as well. Even in the service sector, inadequate levels of literacy and poor analytic and problem-solving skills are costly to employers.*[6]

This is not an argument against better coordination across educational institutions and workforce training programs; it is a reminder that quality education has many benefits beyond economic growth.

United States," Urban Studies 46 (2009): 605-27. M. Greenstone and E. Moretti, "Bidding for Industrial Plants: Does Winning a Million Dollar Plant Increase Welfare?" NBER Working Paper 9844 (2003). See **http://www.nber.org/papers/w9844**. Z. Acs and C. Armington, "Employment Growth and Entrepreneurial Activity in Cities," Regional Studies 388 (2004): 911-927.

4 Economic Modeling Specialists Inc., "Labor Market Data & Analysis for Site Selection," White Paper, February 2008. See **http://www.economicmodeling.com/?p=emsi**.

5 Robert Weissbourd of RW Ventures discusses the main attributes of global economies, especially the importance of human capital in Moscow in the following: H. Michael, Henry H. Perritt, Jr., and Adele Simmons, "The Global Edge: An Agenda for Chicago's Future," Chicago Council on Global Affairs, 2007. See **http://tinyurl.com/2fmhmnv**.

6 GO TO 2040 Education Strategy Report, 2009. See **http://www.goto2040.org/education/**.

5.2 Current Conditions

Although this recommendation addresses both education and workforce development, these two different systems exist in separate worlds. There are obvious logical intersections between them, but in practice, communication and coordination is limited and often inefficient.

In this subsection, current conditions within the region's education system will be presented, followed by current conditions with the workforce development system. In conclusion, areas of current and potential coordination between education and workforce systems will be presented, as well as a discussion of why this coordination is so important in the changing economy.

Figure 37. Higher education degrees conferred regionwide, 2007

20,987	38,774	30,207
Associate Degrees	Bachelor Degrees	Master Degrees

Source: Integrated Postsecondary Education Data System

Education

The education system is not a single, unitary system, but a variety of institutions and organizations, each with their own decision-making processes and funding structures.[7] At the K-12 level, the region contains 293 public school districts (slightly higher than its number of municipalities) and over 2,000 public schools, not to mention a wide variety of private schools. The administration of early childhood education, which occurs before entry into the K-12 system, is quite complex; it is funded through federal, state, and local sources, and different elements of it are governed by the federal government and various state agencies (including the Illinois Department of Human Services [IDHS] and the Illinois State Board of Education [ISBE]). Public universities and community colleges and private colleges and universities are also part of the mix; because community colleges are of particular interest to GO TO 2040 due to their links with workforce development training, they will be covered in greater detail later in this section. With so many decision makers, coordinating reforms or changes to the education system is far from a simple task.

Funding of education is a critical issue, and there are significant concerns about both the overall level of funding and its distribution. In Illinois, public education at the K-12 level is funded through a combination of state and local funds. The primary funding source is the local property tax, which Illinois relies upon more heavily to fund education than most other states do; only Nevada relies on it more. For school districts where reliance on property tax would result in per-pupil-expenditures that are below a certain "foundation" level ($6,119 per student), the state contributes funding to meet this foundation. Through this system, all school districts in the state are guaranteed at least a certain level of per-pupil-expenditures, but school districts with higher property tax receipts can exceed this level. The adequacy of the foundation funding level to provide a high-quality education remains a matter of debate. In contrast to K-12 funding, which tends to be publicly supported, higher education is, for the most part, individually financed. The State of Illinois Monetary Award Program (MAP) provides aid to lower-income college students and is one of the nation's largest and most successful programs of its kind. Despite this, the ever-increasing costs of higher education have made college inaccessible to many.

7 This section relies heavily on GO TO 2040 Education Strategy Report, 2009. See **http://www.goto2040.org/education/**.

There is broad agreement that the quality of education in our region — as measured through student achievement and overall educational attainment — is lacking and in many cases getting worse. As a nation, the U.S. lags behind other industrialized nations in standardized test scores as well as high school and college graduation rates, and Illinois fares even worse than the national average in meeting basic achievement standards. This has occurred even though instruction has often focused on improving achievement test scores, to the neglect of broader educational goals.

The quality of education also varies tremendously between schools. Despite the negative trends and overall performance cited above, many schools in the region provide excellent educational opportunities. But there are serious, systematic inequities in access to education and in educational achievement and attainment by income and race and ethnicity. Educational outcomes at all levels of the education system are considerably lower for African Americans and Latinos than for other racial and ethnic groups. In 2004-2005, the high school graduation rate for African Americans in Illinois was 44 percent, compared to 83 percent for whites.[8] College attendance and graduation is also correlated with race and ethnicity; in 2000, only 12 percent of African Americans and 8 percent of Latinos in Illinois had college degrees, compared to a 34-percent statewide average. By 2040, African Americans and Latinos are expected to make up a much larger share of the region's workforce than today. The negative effects of poor education outcomes often persist throughout a person's life, so low educational attainment leads to lower workplace skills and income levels — and the disparities noted above will have ever-increasing economic impacts on the region as a whole.

Workforce Development

GO TO 2040 broadly defines "workforce development" as services that provide people with skills they need to succeed in the workplace and advance their careers.[9] The most identifiable workforce development program is the federal Workforce Investment Act (WIA), but it provides only a fraction of public funds for workforce development (about 16 percent of public workforce funding in Chicago). Nine federal agencies administer 20 programs related to economic development which often include training components, and six federal agencies administer 15 programs related to workforce development.[10] Funding flows through 10 state departments, and local governments and philanthropy add to the myriad of workforce development programs and services.

The role of the private sector is also substantial. Workforce development is highly related to and partially funded by other systems, such as economic development, education, and human services, which often have goals and policies related to workforce. However, this has resulted in a fragmented approach to improving the region's labor force, in which institutions and programs often operate independently of each other despite sharing similar goals. A variety of services and programs are needed to serve the diverse regional labor market, of which a quarter has only a high school degree and an additional 15 percent has less than a high school degree. Despite the range of workforce development programs offered, access to training by low skilled adults continues to be limited. Overall, the workforce development "system" — which is really a dispersed network of organizations that provide training and other types of services — has an extremely important role to play in making our region economically strong, but is not currently meeting its potential.

The core workforce development program, WIA, receives funding from the federal government, which is passed through the Illinois Department of Commerce and Economic Opportunity (DCEO) to local Workforce Investment Boards (WIBs), which are tasked with administering this funding for workforce development purposes. There are eight of these boards in the region, organized primarily by county, and made up of representatives from education, community based organizations, human service agencies, the business community, and others. Service delivery generally takes place at workNet Centers (as they are called in Illinois) — local one-stop centers for all types of workforce training needs — or at community-based providers or affiliates. At the 60 service delivery locations in our region, most provide general services, while two (in Chicago) are focused on specific industries.

8 The Schott 50 State Report (2008).

9 This section relies heavily on GO TO 2040 Workforce Development Strategy Report, 2009. See **http://www.goto2040.org/workforce/**.

10 Beth Siegel and Karl Seidman, "The Economic Development and Workforce Systems: A Briefing Paper," prepared for the Surdna Foundation, December 14, 2009. See **http://tinyurl.com/3yqz74t**.

Public investment in workforce training also occurs outside of traditional workforce development systems. Having long recognized the importance of a skilled labor force, economic development organizations often sponsor programs to help employers pay for training; the Employer Training Incentive Program, administered through DCEO, is an example of this.

Workforce training has become increasingly important to human service organizations, as federal public assistance programs are oriented toward workforce participation by recipients. Private and nonprofit organizations also play a significant role in workforce development systems, sometimes acting as contractors for publicly-funded workforce services.

It should be noted that most workforce development is not publicly funded at all. Beyond traditional education systems, most training occurs through employers and is funded entirely by the employer or the individual; this includes professional development activities, for example. Generally, low-income workers are more likely to use publicly funded systems for their workforce training needs, while higher-income workers either pursue this individually or through their employer.

To summarize, the region's network of workforce development services is extremely complex, reflecting the diversity of the groups interested in improving the region's labor force and the funding streams available for workforce training. This complexity presents a challenge to the efficiency and effectiveness of the workforce development system. Because so many public and private entities operate workforce development programs, service delivery is at best complicated and in some cases duplicative. These problems are exacerbated by limited coordination between the many different workforce programs, each of which operates within its own "silo" of funding and decision making. Job seekers and businesses often have difficulty navigating the maze of systems and programs; due to the variety of organizations offering assistance, there is no comprehensive source of clear, up-to-date information for job seekers and businesses. The same lack of coordinated data and information can be equally problematic for the service providers themselves, as they try to design effective and non-duplicative programs.

A particular challenge in the workforce development field is the lack of flexibility in many public funding streams. The federal WIA program requires that "universal services," such as basic work-readiness and job-search skills, must be provided before direct training can occur.[11] This requirement has reduced the amount of actual training — arguably the core function of workforce development — that programs funded through WIA can offer. At the same time, these programs have needed to serve more people due to workforce-focused requirements of public assistance programs, which have increased demands on the workforce development system without accompanying funding increases or policy guidance. In fact, the focus of public assistance (placing recipients in jobs) sometimes is contradictory to workforce development efforts, as recipients are encouraged to take any job they can find, rather than developing their skills for more productive employment later. These federal requirements have limited the ability of publicly funded workforce development efforts to adapt to changing conditions and needs. To add to these challenges, public workforce funds are often geographically specific to political jurisdictions. This does not align with the reality that economies are regional in scale, meaning that workers and jobs are quite mobile and frequently cross jurisdictional boundaries.

11 David Campbell, Cathy Lemp, Jeanette Treiber, "WIA Implementation in California: Findings and Recommendations," November 2006. See **http://groups.ucanr.org/CCP/files/33964.pdf**.

Coordination Between Education and Workforce Development

Though there are significant challenges within education and workforce development, one of the most difficult issues involves transitions between systems — for example, going from an early childhood education program into kindergarten, or from a low-skilled job to a workforce training program and then on to a higher-skilled job. In the education system, students need considerable support during points of transition. If institutions are not ready to provide this — and often they are not, due to incomplete coordination across education levels — it can begin a downward spiral of student performance and ultimately lead to lower educational attainment. An even greater challenge is moving from the education system or workforce training programs to employment. There are mismatches between the skills that employers need and the focus of education and training programs. Ironically, this is particularly true in fast-growing industries, because education and workforce development programs do not adapt quickly enough to changing business needs.

The importance of having an advanced degree (beyond a high school diploma) to succeed in the labor market has increased for decades, and this is expected to continue.[12] However, a recent analysis of the Illinois economy showed that nearly half of the jobs in the state were at a skill level between some post-secondary education and a four-year college degree.[13] In other words, "middle skill" jobs — that require more than a high school degree, but not as much as a four-year college degree — make up the majority of the jobs in the state's economy, and this is expected to continue. There are labor shortages in this skill range, particularly in critical industries such as health care and freight. This further emphasizes the importance of institutions like community colleges and accredited occupational training institutions, which are well-placed to provide specialized workforce training at this level.

Improving alignment between education, workforce development, and the needs of employers is critical in our constantly changing economy. As technological changes continue to accelerate, workers are likely to hold multiple jobs and need to learn new skills multiple times over their careers. It is simply not possible to predict which specific workplace skills will be most desirable in 2040. Therefore, in the long term, our education and workforce systems need to be flexible enough to constantly adapt to the changing skills needed by businesses and the changing demographic characteristics of the labor market. The business community needs to take a stronger role in developing workforce programs.

5.3 Indicators and Targets

It is important to establish indicators to measure the quality and outcomes of education and workforce development policies, programs, and investments.

However, because of the complexity of these systems, these indicators are not fully developed, meaning that existing data does not cover the entire region or the full range of education and training outcomes. Because comprehensive and complete datasets are not available or accessible, GO TO 2040 recommends pursuing strategies to collect, develop, and integrate additional information into accessible data systems so decisions can be based on better information and the outcomes can be measured more completely.

12 David H. Autor, Frank Levy, Richard J. Murnane, "The Skill Content of Recent Technological Change: An Empirical Exploration," Federal Reserve Bank of San Francisco, November 2003. The authors found that computerization between 1970 and 1998 decreased the demand for rote manual and cognitive labor, and increased demand for workers with college degrees.

13 The Workforce Alliance, "Illinois' Forgotten Middle-Skill Jobs," September 2008.

5.4 Recommendations

GO TO 2040 recognizes that improving education and workforce development systems is absolutely necessary for our region's future, and this is a high priority of the plan.

The plan's recommendations primarily approach education and workforce development from an economic perspective, and therefore its focus is improving the quality of the region's labor force. GO TO 2040 makes recommendations for improvements in four major areas: coordination between education, workforce, and economic development; availability of information and data to guide both education and workforce development decisions; delivery of workforce development services through increased funding flexibility and other means; and education quality, access, and cohesion. It does not provide detailed education policy recommendations, but focuses on strengthening coordination between education and other systems, and supporting the work of other organizations as they seek to improve our region's education system.

More detailed recommendations are contained in the source reports on education and workforce development, developed for GO TO 2040 with funding from the Chicago Community Trust.[14]

Improve Coordination of Education, Workforce Development, and Economic Development

One of the most difficult challenges in improving the quality of our labor force is aligning education and workforce training programs with the needs of employers. The importance of strengthening the connections between these systems is clear: the education and workforce development systems have central roles in creating a skilled labor force, but cross-system coordination between these players is limited and not well aligned with employer needs. Solving this will require proactive efforts to improve communication by educational institutions, workforce training providers, and representatives of the economic development and business community.

A first step in addressing this challenge is analyzing the degree to which coordination occurs now. Performing this analysis for the entire economy is impossibly complex, due to the thousands of organizations involved. Therefore, GO TO 2040 recommends focusing on a few key economic sectors and drilling down in detail to understand current conditions. To start with, the sectors of focus should be the freight/logistics and energy industries because these are growth industries within the region, have a rather high level of public sector involvement, are related to other GO TO 2040 priorities, and are the subject of ongoing coordination work by CMAP and its partners.[15] The assessment should include identifying and convening existing economic development, education, and workforce leaders who are active in each sector, determining areas of duplication or gaps, and producing an "assessment report" that describes current practices and recommends steps to improve coordination. The assessment report should be used as a baseline for further work, including setting common goals among the economic development, education, and workforce organizations involved in each industry, establishing ongoing mechanisms for communication between them, and beginning to implement the assessment report's recommendations. While CMAP should assist in the preparation of the assessment report and can serve as the official convener of the effort, it should be led by an agency with workforce development expertise.

14 These reports are available at **http://www.goto2040.org/education/** and **http://www.goto2040.org/workforce/**.

15 These include the Green Collar Jobs initiative, the Chicago Region Retrofit Ramp-up program, and State Energy Sector Partnership and Critical Skills Shortage Initiative research on freight.

A number of successful regional examples can serve as best practices to guide efforts to improve coordination within specific industries. For example, the Chicago LEADS (Leading Economic Advancement, Development, and Stability) program was formed in 2007 to improve the performance of workforce development programs in the city and better match them to employer needs, having shown positive results already in sectors such as health care, transportation and logistics, and hospitality; this program has now been transitioned into the work of the Chicago Workforce Investment Council (CWIC).

Another example is the Shifting Gears initiative, led by the state's community colleges, which developed "bridge" programs that combine basic education and occupational training, allowing participants to acquire both post-secondary education and specific, short-term credentials that help them with finding employment immediately. And finally, in the state's Critical Skills Shortage Initiative led by DCEO, health care employers worked with workforce and education stakeholders to identify their most pressing employment needs and develop strategies to fill them. These efforts combined public and private funding, with significant support from philanthropic organizations, and they serve as models for future cross-system coordination work and opportunities to apply lessons learned to future projects. GO TO 2040 supports a stronger role for community colleges (which include the City Colleges of Chicago), universities, vocational training programs, apprenticeship programs, and other programs that provide a critical link between the education and workforce development systems.

An important function of these organizations is to effectively link education, workforce development, and employers. There are 20 community colleges in the region, many of which have multiple branch campuses, meaning that they are widely accessible. These institutions offer degree programs, along with specialized occupational training and adult education that include basic math and reading, English as a second language, and high school completion programs. Many community colleges collaborate with nearby employers, nonprofits, or public agencies to support programs focused on particular industries or businesses; these are positive initiatives that should continue and expand. GO TO 2040 does not recommend significant changes to the structure or function of community colleges, but they should assert their role as a critical link in preparing our workforce, and actively engage the business community in designing programs. Increasing coordination between community colleges within the region would help with this and should be pursued.

In addition to education and training institutions, WIA affiliates and a variety of community based organizations connect many residents to education, training, and employment. Importantly, because so many residents access training and employment through different channels, our region must strengthen these links for workers at all skill levels. WIBs are designed to be business-led intermediaries that link employers' needs to training programs and education curriculum. The eight WIBs that serve the seven-county region collaborate through a consortium known as Workforce Boards of Metropolitan Chicago. Collaboration between these intermediaries provides an opportunity to address workforce issues and opportunities with a regional perspective. The role of the Workforce Boards of Metropolitan Chicago should be strengthened to ensure the businesses' workforce needs are met efficiently and effectively.

Both within and beyond community colleges, "career pathways" are recognized as useful workforce development tools. Career pathways lay out long-term programs of education and training that prepare students and workers for future employment and advancement in a certain industry or combination of industries, or occupation.

These should be developed in partnership with representatives from the selected industry, to ensure that the pathways accurately show which skills are needed by employers. There has been considerable work already completed to determine and map out career pathways; the state's community colleges have done this for a variety of industries[16] and several community based organizations have developed career pathways as well. Due to the variety of organizations involved in workforce development, however, the components of these career pathways analyses are dispersed, resulting in gaps and the potential for duplication of effort. These disparate career pathway analyses should be compiled to identify areas of duplication, overlap, and gaps. Publishing the results online, continually updating them, and making them widely available to workforce development organizations, education institutions, and economic development agencies would help to avoid future duplication of effort. Most importantly, making this information broadly available would help workers to advance their careers and employers to have access to the skilled labor they need. This activity would be most effectively undertaken by a regional nonprofit organization with expertise in workforce development, with funding from interested philanthropic groups.

16 Natasha A. Jankowski, Catherine L. Kirby, Debra D. Bragg, Jason L. Taylor, and Kathleen M. Oertle, "Illinois' Career Cluster Model," Office of Community College Research and Leadership at the University of Illinois at Urbana-Champaign, June 2009. See **http://tinyurl.com/2bcpy7a**.

Information and Data

Education and workforce development experts agree that better information and data are necessary to improve the performance of both of these systems. Tracking our progress, assessing the impact of programs, and planning for future needs all rely on robust, comprehensive sources of data. Unfortunately, complete sets of such data are not currently available. In addition, available data from the variety of local, state, and federal programs as well as other sources are not fully utilized due to lack of integration and analysis. In partnership with the Chicago Community Trust, CMAP will launch the Regional Indicators Project website, MetroPulse, which will track the region's progress in implementing the principles of GO TO 2040. This is a necessary step, but further work is needed to completely fill the need for better data in both the education and workforce fields.

ISBE is currently developing a longitudinal data resource, the Student Information System, which will track education information over time. When fully developed, the system could track student performance as they progress through the system, from entering state-funded preschool programs to finishing high school. Beyond tracking academic performance, it is hoped that the system can also compile data that can be used to assess physical health, social development, and participation in the arts. This type of robust data is critical because it allows researchers to assess the performance of pilot programs, for example, or to identify transition points that negatively affect student performance. GO TO 2040 supports the state's efforts, and further encourages ISBE to coordinate with early childhood, higher education, and workforce training providers to expand the Student Information System beyond preschool and K-12 education.

A particular need for improved data exists for early childhood education. Considerable scientific research has shown that early childhood learning improves educational outcomes, and this research has been effectively used by advocates to make Illinois a leader in offering early childhood education. But more data and information on the effectiveness of early childhood education programs is necessary to ensure that they are increasing school readiness. A critical transition point in the education system occurs when students first enter kindergarten; not being prepared for kindergarten can limit student performance for the rest of their educational careers. Measuring school readiness can help to ensure that students are prepared to succeed, and many states — but not Illinois — use kindergarten readiness assessments to monitor trends and improve educational outcomes. The state should create an early childhood education data system, linked with the Student Information System described above, for this purpose.

Better data and information are also needed in the workforce development system. The Regional Indicators Project, through its MetroPulse website, should be used as the initial basis for improved data provision. It should collect and warehouse existing relevant data, and should continually be improved through input from educational institutions, workforce development providers, and economic development groups. More than just raw data, there is also a need for data to be analyzed and translated into information that guides decision making and communicates labor market and industry trends.

In the longer term, the region should investigate possibly expanding the City of Chicago's CWICstats program throughout the region. This program tracks individual participants as they use services through public agencies, including Chicago Public Schools (CPS), the City Colleges, and various City departments. In addition, the new system aims to measure impact by tracking program participants' wage earnings. At present, as individuals enter and leave education, workforce, and employment systems, their history is generally not tracked, meaning that each new system starts with no information about the individual. For example, a person may drop out of high school, work for a period before earning a General Education Development (GED), receive public assistance while taking classes at a community college, and receive training through a WIA-funded program; currently there is no communication between the public agencies involved in this sequence. This data can be used not only to improve service delivery, but also to determine what types of services are in greatest demand, and allow robust analysis of different types of programs. Expanding this program across jurisdictions faces many barriers — not the least of which are privacy concerns — but it also has promise to improve the workforce development system considerably. GO TO 2040 recommends that the regional implementation of a program like CWICstats be scoped by identifying obstacles, determining data management needs, and estimating approximate costs. CWICstat leaders are well-positioned to lead this scoping, which could be supported by philanthropic resources.

Improve Workforce Development Service Delivery

In general, GO TO 2040 recommends that the workforce development system play a stronger role in meeting the region's labor force needs. The recommendations described above — improving coordination with education systems and the needs of employers, and improving data and information — would go a long way toward improving its performance. Beyond these, increasing the flexibility of workforce development funding sources, strengthening community-focused delivery of workforce training, and increasing regional coordination would also strengthen the workforce development system. Further details on all of these recommendations can be found in the workforce development report prepared for CMAP by the Chicago Jobs Council (CJC), with funding support from the Chicago Community Trust.[17]

A critical barrier to improving workforce training programs is inflexible public funding. Federal WIA programs have requirements that limit flexibility in service delivery. During the upcoming reauthorization of WIA, the federal government should loosen the restrictions on using these funds, allowing workforce boards to be more adaptive and effective in their design of programs. Other public funding sources that can be used for workforce training, like Community Development Block Grants (CDBGs), have considerably fewer requirements, and increasing their use should be explored; other state-funded programs have varying degrees of flexibility. A regionwide documentation of existing public funding streams is a necessary starting point to address this issue, and to make it possible to make informed recommendations for changes; the CJC should take on this project, with funding support from philanthropic organizations or public sources like DCEO.

It should be noted that GO TO 2040 does not recommend dramatic changes to the structure of workforce development programs, nor the establishment of a regional entity that would add another layer of administration to the system. The current structure has challenges associated with it, but these can be overcome through better coordination and shared information.

In addition, the structure of the current system does have strengths; for example, a community-focused, decentralized system with multiple funding sources can often respond to new opportunities or challenges more quickly than a centralized and entirely publicly-funded system. In fact, workforce training by community-based organizations, often offered in conjunction with other services, can be very effective. GO TO 2040 recommends that community-focused workforce efforts should continue, but that duplication should be avoided through regional coordination.

Improve Education Quality, Access, and Coherence

The above recommendations have focused mostly on workforce development, rather than education. This is not because reform of our education system is unimportant; it is critical to our region's future. The approach of GO TO 2040 is to highlight the extreme importance of this issue, and support the work of other organizations that are trying to solve the difficult and intractable challenges of improving our region's education system.

The *Education for the Future in Northeast Illinois* report, prepared for CMAP by a coalition of education groups and funded by the Chicago Community Trust, lays out a framework for improving the region's education system. An overarching recommendation is to support a "P-20" approach — which goes beyond K-12 to include early childhood and post-secondary education — to comprehensively improve education.

Beyond taking a comprehensive, P-20 approach, the region should address three major challenges to improve education:

> **Raise the *quality of education* in the region. Education quality relies heavily on quality of educators, so professional preparation of teachers and principals should be a focus.**
>
> **Strengthen *equitable* access to high quality education and ensure all students' readiness for success. Students from lower-income families simply do not have adequate access to educational opportunities; addressing public school funding and the rising cost of higher education is necessary to solve this problem.**
>
> **Create greater *coherence and collaboration* within and across levels of education. Improving data systems and strengthening transitions between levels of education, and beyond that to the workforce, should be pursued.[18]**

As noted earlier in this section, the "education system" is really made up of a variety of institutions and organizations, so improving it will require considerable coordination, and ultimately action by many groups. GO TO 2040 recommends that the *Education for the Future in Northeast Illinois* report, which was developed through an inclusive and consensus-based process, be used by leaders of education, civic, business, and community-based organizations to lay out a strategy for improving education in the region.

17 GO TO 2040 Workforce Development Strategy Report, 2009. See **http://www.goto2040.org/workforce/**.

18 GO TO 2040 Education Strategy Report. See **http://www.goto2040.org/education/**.

5.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on three implementation areas for improving education and workforce development:

Improve Coordination Between Education, Workforce Development, and Economic Development

Data and Information Systems

Improve Delivery of Workforce Development Services

Implementation Action Area #1: Improve Coordination Between Education, Workforce Development, and Economic Development

Prepare assessment reports on cross-system coordination LEAD IMPLEMENTERS: Nonprofits, philanthropic	Focus initially on the freight and energy industries of the economy; later expand to other industries. Identify and convene economic development, education, and workforce leaders in each industry, and determine areas of duplication or gaps. Summarize the conclusions of this work in a report for each sector with recommendations for next steps, including setting of common goals and pursuit of pilot programs to improve coordination.
Expand on successful workforce development coordination programs LEAD IMPLEMENTERS: State (DCEO), community colleges, Workforce Investment Boards, economic development organizations	Build on successful programs like CWIC to expand it beyond the City of Chicago. Also build on the Shifting Gears initiative of the state's community colleges and DCEO's Critical Skills Shortage Initiative to expand them to cover additional industries. Expand other initiatives that engage the private sector and economic development organizations and strengthen partnerships between education institutions and the business community.
Strengthen role of workforce intermediaries — including community colleges, universities, proprietary schools, apprenticeship programs, vocational programs, community based organizations, Workforce Investment Boards, and Workforce Investment Act affiliates LEAD IMPLEMENTERS: Community colleges, nonprofits, other education, workforce and economic development groups	Expand programs that have succeeded at individual education institutions and training providers to be applied broadly across the region. Improve communication between education institutions and training providers through regional forums that also involve economic development groups. Increase the profile of workforce intermediaries as a critical link in the education and workforce development system.
Collect, compile, and publicize career pathways analyses LEAD IMPLEMENTERS: Community colleges, nonprofits, philanthropic	Identify existing analyses of career pathways, or programs of education and training that prepare students for future employment in a certain field. Compile these and make them available to education institutions, workforce service providers, and employers. Update this compilation frequently to reduce duplication, and prepare new career pathways to eliminate any gaps in coverage of new or expanding industries.

Implementation Action Area #2: Data and Information Systems

Launch and continually improve the Regional Indicators Project website LEAD IMPLEMENTERS: CMAP, the Chicago Community Trust	Develop and maintain a website that describes the tracking indicators and allows users to tabulate, graph, or map this information. The website will be continually improved to incorporate new data sets and new technologies as they become available. Education and workforce development indicators are among those featured on the website.
Identify additional data sources concerning education and workforce, including existing data and newly developed or innovative data measures LEAD IMPLEMENTERS: State (IDES, DCEO), CMAP, higher education institutions and community colleges	Analyze existing education and workforce information and data sources, including CWICstats, Illinois Department of Employment Security (IDES), DCEO, Illinois Community College Board (ICCB), Northern Illinois University (NIU), and Shifting Gears, among other sources. Identify barriers to making new data sources publicly available on the Regional Indicators Project website and determine incentives or mechanisms needed to overcome these barriers.
Expand the CWICstats system to cover the region LEAD IMPLEMENTERS: CMAP, CWICstats leaders, WIBs, education institutions, workforce providers	The CWICstats program tracks education and training participants as they move through public education, workforce development, and other social service systems. It promises to be an extremely useful data source for monitoring program effectiveness, but currently only covers the City of Chicago. There are significant barriers to expanding it, including institutional coordination, data management, and cost; these should be scoped in partnership with current CWICstats leaders and potential participants outside of Chicago.
Expand the Student Information System beyond K-12 education LEAD IMPLEMENTERS: State (ISBE), early childhood educators, higher education institutions, workforce providers	Implement the Student Information System to track student performance over their educational careers, including data beyond academic achievement. Expand this to coordinate with early childhood education, higher education, and workforce development data systems.
Create measures of school readiness to improve early childhood education programs LEAD IMPLEMENTERS: State (ISBE), early childhood educators	Create a measure of school readiness for students entering kindergarten. Use this to evaluate the effectiveness of various early childhood education programs at preparing students for success in school. Link this assessment with the Student Information System described above.

Implementation Action Area #3: Improve Delivery of Workforce Development Services

Increase the flexibility and federal funding for workforce development and increase flexibility of State discretionary workforce funds LEAD IMPLEMENTERS: Federal, state (DCEO), WIBs, workforce providers	Modify the requirements of WIA funding to allow workforce boards to exercise more flexibility in how these funds are used. Permit differences in how WIA funds are used between regions to reflect their different economic profiles and related training needs.
Investigate the use of other funding sources for workforce development LEAD IMPLEMENTERS: Nonprofit, philanthropic	Explore the use of more flexible funding sources such as CDBGs to be used more extensively for workforce development. Create a regionwide documentation of existing public funding streams to allow the development of specific recommendations for funding changes.
Monitor impact of more flexible funding and communicate outcomes LEAD IMPLEMENTERS: Federal, workforce providers	The outcomes of modified policies and funding streams should result in better matches in workforce skills and business needs. Routine and regular monitoring of effectiveness in meeting regional goals will be an ongoing activity.
Strengthen community-focused provision of workforce services LEAD IMPLEMENTERS: State (DCEO, Governor's Office), community based organizations, business community, WIBs, other workforce funders	Continue offering workforce development services through community-based organizations, in conjunction with other services. Evaluate local community-focused programs, determine which approaches are most effective, and promote further use of these programs.

5.6 Costs and Financing

Education

Education makes up a significant portion of the expenditures of federal, state, and local governments. As noted in the "current conditions" section of this document, different types and levels of education are funded through different means, both public and private. It is expected that the actions included in this recommendation — in particular, improving educational quality and making access to educational opportunities more equitable — will require additional public sector expenditures. Because these recommendations are quite high-level and conceptual, cost estimates for their implementation have not been prepared. GO TO 2040 encourages education stakeholders to develop more specific recommendations for policy changes and estimate the cost of achieving them.

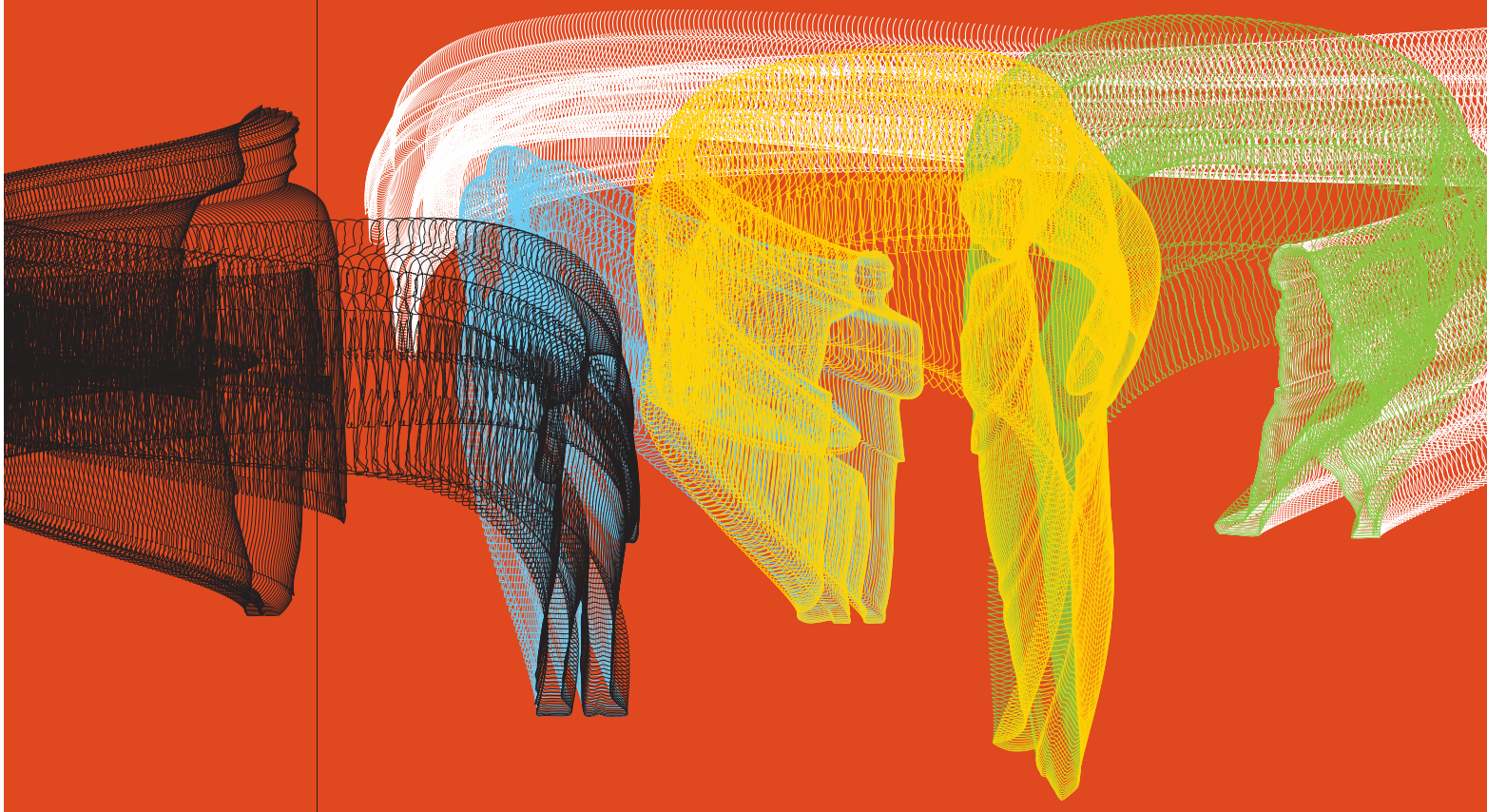
Workforce Development

The recommendations related to the workforce development system are likely to be revenue-neutral, and may even reduce costs. Improving coordination and reducing duplication in service delivery are likely to make the workforce development system more efficient; relatively small expenditures to catalog existing career pathways and make them broadly accessible, for example, will help to prevent this work from being unknowingly duplicated by other groups in the future. Some recommendations, such as those related to regional data systems, will have start-up costs in the short term, but these will be more than compensated for by the improved coordination and efficiency that they will create.

GO TO 2040 calls for a central role for philanthropic organizations in some of the plan's recommendations; this is among them. Because philanthropic groups have considerable flexibility and discretion in their funding decisions, they can fund coordination efforts— such as the coordination assessment reports and career pathways research — that may be difficult or unwieldy to fund with public sector resources. Therefore it is recommended that philanthropic groups take a leadership role in working with nonprofit organizations with expertise in workforce development to achieve many of the recommendations on the previous pages.

RECOMMENDATION

6 Support economic innovation



The process by which new ideas transform into new goods and services is certainly not as visible as infrastructure or the layout of a community. It is also not as well researched as the education system, nor does it necessarily demand the level of public investment.

However, economic innovation plays a major role in producing sustainable economic prosperity and enhancing the global competitiveness of places around the world. The propensity to conceive and develop new products, technologies, processes, business models, and markets results in goods and services that are faster, cheaper, and better.

Transforming new ideas into concrete, tangible realities has long been a part of the U.S. mindset. Over the last two centuries, Americans have experienced a 20-fold increase in living standards.[1] While this is due in part to increased accumulation and better allocation of capital, it is also due to the commercialization of new forms of production, products, business models, and in the creation of new markets and how they are served. These are advances clearly generated by the private sector but also supported through public policy.

While innovation is not easy to define with precision, the concept is not completely obscure either. The more tangible breakthroughs of contemporary human history — inventions like the light bulb and airplane — are examples of innovations. But the same goes for things like biotech breakthroughs, allowing more drugs to be produced easily and cheaply, or business model breakthroughs like changes in inventory systems that let manufacturers purchase and receive components just before they're needed on the assembly line. Innovations can manifest themselves in both astounding breakthroughs and more mundane, subtle shifts in process. Both of these types of outputs can generate tremendous efficiencies and increased economic vitality.

While the metropolitan Chicago region is certainly imbued with the types of assets to support innovation — world class research institutions, a diverse industry mix, and strong civic organizations and foundations — the available data indicate that the region has been underperforming relative to other metro areas, in terms of its success at commercializing technologies and other processes. For the region to remain globally competitive and a retainer of world class talent, these trends must change. As economies are fundamentally metropolitan in scale, strategies targeting clusters of regional specialization can help address the fragmentation and unfocused investment that sometimes undermines the emergence of new marketable products and technologies.

Since innovation is generated by the private sector, the role of the public sector is to find ways to help spur innovation by supporting ideas, institutions, and relationships. The public sector should be primarily focused on providing support and services that are essential to innovation, but that are unlikely to be provided by private businesses. The public sector can also play important roles in identifying and measuring innovation. Other organizations, including civic groups, foundations, and economic development agencies, can also play important roles in enhancing the regional culture around innovation.

1 Advisory Committee on Measuring Innovation in the 21st Century, "Innovation Measurement: Tracking the State of Innovation in the American Economy," report prepared for the U.S. Secretary of Commerce, January 2008.

The metropolitan Chicago area should be focused on several activities that can help industries to innovate and grow. GO TO 2040 recommends the following actions:

Improve Data and Information Systems
Better systems for collecting, tracking, and analyzing important measures should be pursued. This includes both outcome indicators of innovation, like number of businesses and jobs in key sectors, as well as the success of particular programs and financial incentives, which should make public sector investment decisions more efficient.

Nurture the Region's Industry Clusters
Organizing the region strategically around clusters of regional specialization can help target investment decisions and reduce duplication of effort. These efforts should focus on how to make the region's successful clusters grow and prosper in the 21st Century and enable the region to be proactive in terms of funding and other opportunities.

Increase the Commercialization of Research, Target Investment Decisions, and Pursue New Financing Opportunities
Increasing the commercialization of research requires better linkages among diverse groups, more awareness about what research is being done, and better training for both researchers and entrepreneurs. Leaders should also explore ways to increase the supply of venture capital to enable entrepreneurs and start-up firms to locate and thrive in this region.

Create a Culture of Innovation
To become a leader in innovation, our region needs to change attitudes to support the experimentation and creativity necessary to produce commercial innovations. Innovative success stories should be publicized to help educate the region about the value of experimentation. Furthermore, the state and local government should identify and reform regulations or ordinances which might be creating barriers to innovation.

Beyond these actions, a highly skilled workforce is vital to support economic innovation.[2]

6.1 Benefits

Innovation directly impacts major economic outcomes, like increased global competitiveness and good jobs. The outputs of innovation — goods and services that are faster, cheaper, and better — benefit consumers in a multitude of ways.

New technologies and processes can save people money and time, enhance quality of life, and improve health and life expectancy. Businesses that operationalize new ideas can achieve profitable growth and gain a competitive advantage in the marketplace. The fact that innovative businesses generate more economic growth is common sense, and well known in business[3] and academia.[4]

The regional economy can gain substantial benefits from innovation through the creation of high-paying jobs, specifically knowledge and high tech jobs. The types of institutions and firms directly involved with innovation — research laboratories, technology parks, and advanced manufacturing firms, to name a few — attract and retain the kind of human capital the region requires to remain thriving and globally competitive. The metropolitan Chicago region is already home to powerhouse universities and other research institutions. Harnessing the ideas and people involved in these institutions will be a vitally important strategy for our region to pursue. Seeing that the ideas generated in these institutions are brought to market locally should be a top priority, given the large positive economic returns that will result.

2 See the GO TO 2040 section titled "Improve Education and Workforce Development."

3 Blair Kingslad, "Thinking Big for Innovation and Growth," Industry Week, June 6, 2007.

4 F.M. Scherer, Innovation and Growth, (MIT Press, Cambridge, MA) 1986.

6.2 Current Conditions

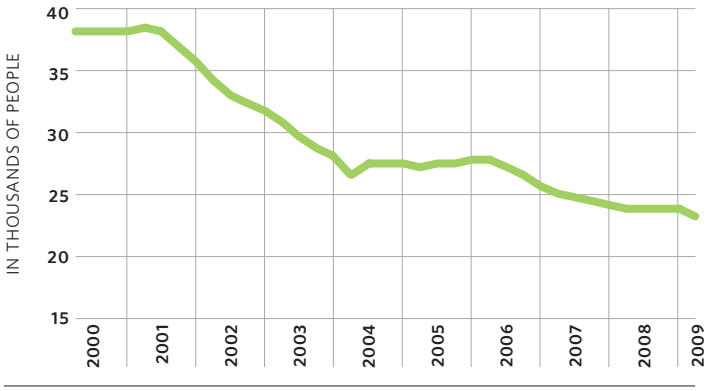
The metropolitan Chicago region has many assets, including a diversified economy with regional specializations in several key sectors, including biomedical/biotechnical, advanced materials manufacturing, and transportation/logistics, as well as emerging specialization clusters like green energy and technology.

The region is home to a number of world class universities, such as Northwestern University, the University of Chicago, and the University of Illinois at Chicago (UIC) and research laboratories like Argonne, Abbott, and Fermilab. The region has strong business and civic organizations as well as a philanthropic community with a long history of supporting diverse initiatives.

In recent years, numerous important innovations have been brought to market by our region's firms and research institutions. While examples abound, here are just a few recent notable cases. Abbott Laboratories, with its national headquarters in Lake County, produced a new drug-eluting stent that prevents previously opened arteries from closing. The Gas Technology Institute (GTI), located in Des Plaines, developed a method for enhanced heat recovery from steam generators and water heaters, a new process that can greatly increase fuel-to-steam efficiency and result in greener, more fuel efficient industrial products. Groupon, a popular website based in Chicago and now operating in markets across the U.S., has harnessed the unique concept of collective buying to promise businesses a minimum number of customers and, in turn, offer deals for consumers that aren't available elsewhere.

At the same time, both the available data, as well as interviews with practitioners in the innovation field, indicate that the region is underperforming and falling behind other places in the U.S. While new types of technologies and business models are certainly emerging locally, the available data indicate that our region is not doing as well as it should. The metropolitan Chicago region is generating fewer successful commercialized innovations from technology transfer programs, employing fewer workers in research and development (R&D) jobs (see **Figure 38**), and receiving less venture capital funding. The pace of innovation (as reflected in the number of patent applications) has stagnated. Furthermore, there is a strong sense within the business community that the Chicago region is simply not perceived as being a hotbed of innovation, in comparison to other places such as Silicon Valley, Boston's Route 128 Technology Corridor, or North Carolina's "Research Triangle."

Figure 38. Research and development employees in northeastern Illinois, 2000-2009



Source: Moody's Analytics

Clusters of Regional Specialization

Our region's industry clusters play a critical role, not only in creating quality jobs, but also in spurring innovation through research and collaboration. Clusters are interdependent firms that share common resources and technologies and depend on a similar labor pool and institutions. Industries and firms in clusters can draw a productive advantage in their close geographic proximity, which can help develop innovative products, build knowledge creation, and enhance cooperation and competition among firms. Clusters of regional specialization provide a substantial amount of the "value added" that the Chicago region brings to the economies of the Midwest, the nation, and the world. These specialization clusters include freight and logistics, advanced manufacturing, financial and related services, health and biomedical products and services, and emerging clusters like green energy and technology. An understanding of regional clusters can focus the efforts of public policy and investment decisions.

Several of these sectors are becoming increasingly more important and merit particular focus. The growing green economy sectors, including green manufacturing, have competitive advantages in the Chicago region, especially for headquarters and white collar jobs. Growth in new wind farms in or near the region has been dramatic in the last two years following the adoption of the state Renewable Portfolio Standard — one of the most aggressive in the country — and the extension of the federal production tax credit for wind power producers. The region's substantial manufacturing base supports technological advances by enabling energy entrepreneurs to interact with engineers, build prototypes when they need to, and purchase goods and services locally. An example of this is the turbine and turbine generator manufacturing industry (the Chicago region produces about four percent of U.S. sales).[5] This industry enjoys a competitive advantage by being able to purchase a much larger share of inputs and specialized labor within the region than similar businesses in neighboring states.

While industry clusters have generated a good deal of research and discussion, many disconnects remain, including a lack of coordination between researchers and entrepreneurs, and unfocused and insufficient public investment. Job training, research collaborations, and even the simple discussion of ideas are subject to "market failure" problems — individual firms cannot capture all the benefits of job training, and understandably, private companies often do not encourage potentially mutually beneficial discussion of ideas because they are concerned that their ideas may be taken by their competitors. Since this is a tendency that cuts across all businesses and sectors, there is a very real economic justification for public sector involvement as well as other collaborative efforts to develop and nurture industry clusters. The region's economic development community may find that "rallying behind" the region's clusters can maximize the effectiveness of different strategies and initiatives, and also get the region organized to respond to funding opportunities, particularly on the federal level.

5 "Turbine and Turbine Generators Industry," 2007 Illinois, Iowa, Indiana, Wisconsin and U.S. Industry Input-Out Model compiled by IMPLAN, based on data collected by the U.S. Census Bureau, Bureau of Economic Analysis and the Bureau of Labor Statistics.

Research Institutions and Technology Transfer

Numerous studies have found that the most essential ingredient for innovation and economic growth is human capital and the production of knowledge.[6] By that standard, the metropolitan Chicago region should be doing very well, given the world class research institutions in the area. These places are obviously important for the research they bring to bear, which is often of both scientific and commercial interest. However, this research needs to be transferred to something tangible of commercial value for it to be profitable in the marketplace. "Technology transfer" encapsulates the process, usually accomplished between entrepreneurs and research institutions, of commercializing theoretical innovations into new goods and services. Universities, other research institutions, and private firms often have technology transfer staff dedicated to this process. However, technology transfer does not happen easily or automatically — it requires coherent information sharing and coordination across different institutions and people.

Despite the number and quality of research institutions in the region, local technology transfer program performance lags other metropolitan areas. Available data indicates that the rate of success in the Chicago region is relatively low, given the stature of the universities. Technology transfer can be measured by a number of metrics, including license income due to patents, number of active licenses, R&D expenditures at universities, and number of start-up firms generated through the process. Northwestern University ranks fourth nationally in license income ($85.3 million in 2007), though much of this income comes from a single drug, Lyrica. The number of active licenses generated by Northwestern (173), University of Chicago (192), and the University of Illinois (399), is much less than places like the University of Washington (1040), University of Minnesota (756), or the University of California system (1819).[7]

While the region can pride itself on a number of technology transfer success stories across diverse areas like life and medical sciences, nanotechnology, engineering, and clean technologies, a number of challenges persist. Early efforts by scientists and engineers to raise working capital for developing and marketing ideas are often counterproductive. Researchers often present overly technical ideas that may confuse or fail to interest prospective funders. Some of the region's research institutions are sometimes seen as aloof and overly focused on theory rather than practicality. At the same time, research leaders have remarked that public investments in technology infrastructure and facilities have been unfocused and scattershot, and more recently, lacking altogether.[8]

6 See W. Baumol, R. Litan, and C. Schramm, Good Capitalism, Bad Capitalism (New Haven: Yale University Press) 2007; P. Blumenthal, H. Wolman, and E. Hill, "Understanding the Economic Performance of Metropolitan Areas in the United States," Urban Studies, Vol. 46 (2009): 605-627.

7 Association of University Technology Managers (AUTM), annual surveys.

8 These views are based on interviews with officials from the Illinois Institute of Technology (IIT) and Samuel Pruitt, President of the Chicago Technology Park (CTP) in the Illinois Medical District at the University of Illinois at Chicago.

Patents and Venture Capital

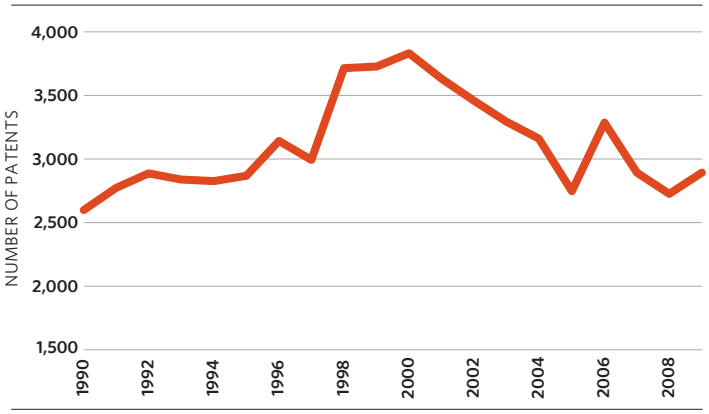
Firms which can develop and get patents for new products have more competitive advantages and can pay higher wages. Metropolitan areas imbued with high tech and R&D jobs, labs, and corporate facilities — places like the San Francisco Bay Area, Boston, and Austin — usually generate the highest numbers of patents. From 1990 to 2001, Illinois and the Chicago region typically experienced annual yearly increases in the number of total patents granted (see **Figure 39**). However, since that time these numbers have shown steady declines. This is in contrast to some other metropolitan areas, such as Boston, which had historically trailed the Chicago region, but now eclipse it in terms of annual patents issued.[9]

Once ideas have been created, and patents filed, funding for commercialization is crucial. The availability of venture capital is an important factor that can incent or limit the amount of innovation-to-market success. Venture capital is the seed money that helps move a small business with a solid marketing plan into a stage where production can advance to actual marketing, and products can be produced. Not all companies need venture capital, but access to venture capital speeds the development of companies and enables them to enter new markets with strength and the backing of resources to help ensure success. There are more than 80 venture capital firms with offices in the metropolitan Chicago region. One major example is the ARCH Development Corporation and its affiliate, ARCH Venture Partners, which work on commercialization with Argonne National Laboratory and focus on seed and early stage investing.

During the period 2000-2009, venture capital funding to the Chicago area fell dramatically, from $2.4 billion to $175 million (see **Figure 40**). This mirrors a national trend post the "dot-com boom," and venture capital has fallen in other places as well, though the declines have often been less dramatic — for example, the Boston area received over $9.6 billion in 2000, but only $1.6 billion in 2009.[10] Although the Chicago region is rich in resources, industry, and intellectual firepower, the majority of venture capital funding that enables production and marketing remains directed toward the coasts. Venture capital funding in Illinois represents only 1.7 percent of the total for the nation, relative to places like Massachusetts (12 percent) and New York (over four percent). Pennsylvania and Minnesota both outpace Illinois as well.[11]

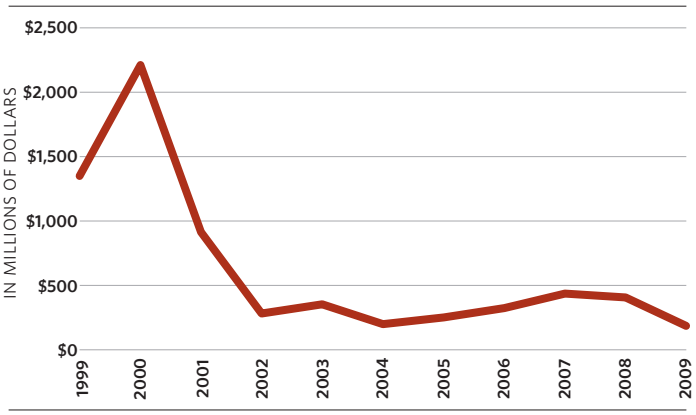
Low and reduced levels of venture capital funding is a trend not just in metropolitan Chicago, but across the Great Lakes states, which are not keeping pace with venture capital powerhouses like California and Massachusetts. Some of the challenges to venture capital in our region and across the Great Lakes include inadequate local deal flow (caused in part by a failure to commercialize research ideas), higher costs for early stage investors, and quite simply, venture capital funds that remain too small. There is some evidence that early-stage companies often choose to relocate to the coasts as a necessary condition of receiving funding.[12]

Figure 39. Total patents granted in Illinois, 1990-2009



Source: U.S. Patent and Trademark Office, Calendar Year Patent Statistics.

Figure 40. Venture capital funding in northeastern Illinois, 1999-2009



Source: PricewaterhouseCooper/Thomson Reuters/National Venture Capital Association MoneyTree Survey

9 U.S. Patent and Trademark Office, Calendar Year Patent Statistics. See **http://tinyurl.com/2vszo8l**.

10 2010 PricewaterhouseCooper/Thomson Reuters/National Venture Capital Association MoneyTree Survey.

11 Frank E. Samuel Jr., "Turning Up the Heat: How Venture Capital Can Help Fuel the Economic Transformation of the Great Lakes Region," Brookings Institution, January 2010.

12 Frank E. Samuel Jr., "Turning Up the Heat: How Venture Capital Can Help Fuel the Economic Transformation of the Great Lakes Region," Brookings Institution, January 2010.

Government and Nongovernment Institutions Involved with Innovation

Beyond the private sector and universities, numerous other organizations and groups work to encourage and fuel innovation by providing an array of financial resources, technical assistance, and support networks. Many programs and financial resources are offered through public-private partnerships (PPPs) and some operate in the region but are part of a larger national or international network. Some programs target specific industries and others target specific types of firms like start-up companies. The variety of programs is significant; the following provides a brief overview of the key agencies and programs that facilitate business development and innovation in the Chicago region.

The Illinois Department of Commerce and Economic Opportunity (DCEO) is the state agency that is most directly involved with programs that relate to innovation. DCEO administers a variety of programs that provide access to capital through loans, grants, and tax incentives. DCEO oversees nine loan programs, six grant programs, and seven tax incentive programs for businesses and financial institutions to promote economic development, job creation, and innovation. Each program targets different markets and utilizes different delivery mechanisms. For example, some programs focus on modernizing equipment while other resources are directed towards upgrading employee skills. The Illinois Department of Employment Security (IDES) complements these efforts. IDES collects and disseminates data on unemployment by sector in the region, serving as an information clearinghouse for workers to help them find information about benefits, jobs, and training.

In addition to the state, many municipal and county governments operate financial assistance programs to support business development and innovation within their own jurisdictions. The City of Chicago offers one of the only publically administered financial assistance programs that targets a specific innovation industry, the Laboratory Facilities Fund. This program expends tax increment financing (TIF) capital to pay for up to 25 percent of eligible lab construction costs, targeted towards companies involved in technology.

In addition to financial assistance, the state and many local governments provide other services to businesses to support their success. DCEO's Illinois Entrepreneurship Network (IEN) offers entrepreneurship centers geared towards different types of businesses. These centers are operated by business development organizations and education institution partners, and a variety of services are offered, including business plan development and access to capital, technology, and networks. Two nongovernmental agencies that operate Entrepreneurship Centers in the Chicago region include the Chicago Entrepreneurial Center, an affiliate of the Chicagoland Chamber of Commerce, and the iBIO Entrepreneurship Center, which operates within the iBIO organization and focuses specifically on biotechnology companies. Another key IEN center in the region is the Chicago Manufacturing Center. Previously, DCEO also provided the Illinois Technology Enterprise Centers (ITEC) program, which helped innovators and small businesses with critical business startup and marketing needs, and served to create new connections between academia, business, and budding entrepreneurs.

Beyond state funded programs, other resources support institutions and agencies that provide focus on promoting innovation and economic development. The Chicagoland Chamber houses the InnovateNow initiative, which brings together businesses, schools, and government to promote the relationships needed for economic prosperity and innovation. The Chicagoland Chamber also facilitated the development of an alliance of several key Chicago innovators to position Illinois to be a leader in the clean technology industry. Known as the Illinois Clean Energy Trust, this group includes leaders in business, government, education, research, and finance. World Business Chicago (WBC) is another regional agency with a focus on attracting businesses and promoting business expansion. The Metropolitan Economic Growth Alliance (MEGA) is an emerging coalition of county economic development agencies and other members with the mission to support effective business development.

6.3 Indicators and Targets

Despite the popular consensus that innovation drives economic growth and prosperity, measuring success in innovation remains elusive. Little consensus exists on the right performance measures, or how best to weigh them.

Innovation indicators often include elements such as number of high tech jobs, degrees granted in science and engineering, number of patents, research and development funding, venture capital funding, or license income (or number of licenses) resulting from technology transfer programs. None of these measures, in isolation, work well to measure progress. For example, high license income resulting from technology transfer programs often reflects only one active license, which does not serve to measure overall success. On the other hand, technology transfer programs which are evaluated based on quantity of patents may be incentivized to encourage innovators to present one idea over several patents, instead of producing a single idea and proceeding to market it.

While problems persist in the data, tracking certain indicators is still important. The longer term goal should be improving collection and analysis of the measures. The most optimal outcome will likely be combining a number of different measures to create an "innovation index" that can be tracked over time. Recently, some groups, including a national Advisory Committee on Measuring Innovation in the 21st Century, have issued reports offering frameworks for how to measure innovation.[13]

GO TO 2040 will track the following indicators related to innovation, with the recommendation that better data collection and analysis on these measures be pursued.

Employment in Research and Development

Employment in "R&D" comprises jobs in high-tech knowledge economy jobs. These are typically good, high-paying jobs that attract and retain talented workers. Since the year 2000, R&D jobs have been on the decline in the Chicago region. On the whole, implementation of GO TO 2040 should increase the number of these knowledge workers, which should improve the overall regional economy.

Venture Capital Funding

Venture capital funding peaked in the year 2000, fell dramatically by 2002, and has remained relatively the same since then. On the whole, the implementation areas listed in this section should increase the amount of venture capital to a level more consistent with other metropolitan areas, like Boston.

13 Advisory Committee on Measuring Innovation in the 21st Century Economy ,"Innovation Measurement: Tracking the State of Innovation in the American Economy," a report to the Secretary of Commerce, January 2008.

6.4 Recommendations

It will require serious action to increase economic innovation to keep the metropolitan Chicago region thriving and globally competitive.

The data indicate that the region is underperforming across a variety of innovation measures, and that the region is falling behind compared to other U.S. metropolitan areas. Relative to other regions, there are fewer successful commercialized innovations coming out of technology transfer programs, there is less venture capital available, and the pace of innovation (as reflected in the number of patent applications) appears to have stagnated. The plan's innovation recommendations seek to address these deficiencies and capitalize on new opportunities.

The goal of the innovation recommendations are to improve government policies, measurement and tracking, regional coordination, and services that can enhance innovation and support our regional industry specializations. Progress toward these goals will increase economic prosperity and provide more jobs in the region. Research, collaboration, and policy implementation are major elements of these recommendations. Emerging funding opportunities, particularly from the federal government, will require regions to be highly organized to be competitive. These recommendations can help position the region to be more competitive for public and private funding over the long term.

It should be stressed that the primary driver of the region's future economic prosperity is the quality of the labor force. Though innovation requires a supportive environment, at its heart it is created by people with ideas — in most cases, these people are educated, well-trained, and experienced. Improving the region's workforce is critical to both meeting current hiring needs as well as showing businesses within and outside of the region that Chicago has a high quality labor pool ready to help the region grow. GO TO 2040 includes a separate chapter with recommendations on these issues.

Improve Data and Information Systems

Improving data and information systems relative to innovation should be a top priority for the region and the State of Illinois. Innovation remains a rather elusive concept for many policymakers to grasp. Better systems for collecting, tracking, and analyzing important measures, including the success of particular programs and financial incentives, will make public sector investment decisions more efficient. Particularly desirable metrics include the number of new business openings, movements, closures, and jobs created within specific, innovation-intensive sectors (a similar measure was developed by San Diego's CONNECT program).[14] These measures could help assess the region's ability to commercialize innovative ideas into the outcomes that truly matter for the region: new businesses and good jobs.

Improved measurements of the success of technology transfer and commercialization are also necessary. The problem with judging success on the basis of the number of licenses is that one idea can be developed into multiple licenses, while the energy spent on meeting the standard for reward might be better spent on developing commercial applications of the idea. A sector-specific analysis of the problem, oriented to improving innovation in the Chicago region, may be able to produce a better evaluation framework that could improve the region's technology transfer programs.

Some measures of innovation are specific to particular sectors. Tracking this data can inform the public and private sector about particular economic trends. Advances in environmentally sustainable/green practices are a good example. Energy consumption and source by sector, the number of energy efficient homes, and greenhouse gas emissions by sector and county are all outcomes that show evidence of regional innovations in energy. There is an effort underway at the federal level to measure this part of the economy. The U.S. Bureau of Labor Statistics is in the process of formulating measures for green economic activity and green jobs. These data, once defined, should be useful for tracking the progress of the region's companies to adopt green technologies and business practices and for charting the development of the growing green technology and energy cluster.

14 For more information on San Diego's CONNECT program, see **http://www.connect.org/**.

Nurture the Region's Industry Clusters

Chicago's regional specializations should be supported to better enable them to compete nationally and internationally. Since each industry faces unique challenges, opportunities for innovation will vary by sector. Using a sector or cluster-based approach to innovation will help identify shared research, collaboration, and implementation needs. An implementation strategy that focuses on specific strategic industries will help build our regional specializations and support long term job growth and regional prosperity. Some examples of clusters of particular importance are freight/logistics, advanced manufacturing, and biomed/biotech. The developing cluster of green energy/technology businesses and institutions is also likely to be fundamental to long term economic growth. Additional sectors should also be targeted to identify specific actions for implementation.

Organizing the region strategically around clusters can help target investment decisions (such as training and infrastructure) and reduce duplication of effort. While the region does not necessarily require a single overall "innovation leader," the presence of a lead organization or group for each cluster will help coordinate efforts, act as a clearinghouse for information, and form coalitions to apply for and receive external funding. The Illinois Clean Energy Trust, established by several key area investors and facilitated by the Chicagoland Chamber of Commerce, is an example of this type of coordination. This group aims to accelerate the development and increase the number of clean tech jobs and companies in the region. This type of leadership should be supported and it can potentially serve as a model for other efforts around industry clusters. It should be stressed that these types of efforts should not revolve around "picking winners" or specific firms to attract. Rather, the efforts should focus on how to make the region's successful clusters grow and prosper in the 21st Century and enable the region to be proactive in terms of funding and other opportunities.

Lastly, 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. Solutions may include highly visible efforts like building wind turbines, or they may mean continuing business as usual but with more environmentally sensitive production processes. Changing to meet green business practice standards may be difficult; providing training information on how to make these changes may be an important role for the public sector and other organizations. It will be very important to publicize the practices of different green innovations across industries to give credit to early adopters and to provide ideas about how to become green for other businesses in the region.

Enhance the Commercialization of Research, Target Investment Decisions and Pursue New Funding Opportunities

Private sector industries must be more closely linked with the region's researchers to draw ideas from them for implementation. The transfer of ideas will provide a valuable testing ground for research, and commercialize ideas into tangible products that can be brought to market. Coordination has sometimes proven difficult among researchers and entrepreneurs, as well as among other groups in the region with an interest in innovation. Multiple programs and resources are offered by both the public sector and nongovernmental groups. In many cases, these resources are not known to a wide swath of the business community and often the programs may be duplicative.

Increasing the commercialization of research requires better linkages among diverse groups, more awareness about what research is being done, better training for both researchers and entrepreneurs, and more targeted public sector investment. At this time, there is no one entity specifically positioned to lead these efforts, though many different entities currently have involvement. Organizations like DCEO, Innovate Now, the Illinois Technology Development Alliance, the Illinois Science and Technology Coalition, and the Illinois Clean Energy Trust should facilitate dialogue and information exchange within and across private industries, universities and other research institutions (including the region's federal laboratories), entrepreneurial programs, and producers and consumers.

Creating new connections among academia, business, and budding entrepreneurs is vital. State programs like IEN and the formerly funded ITEC program have effectively served technology-based entrepreneurs, innovators, and small businesses by assisting them with critical business startup and marketing needs. The ITEC program has been particularly mentioned by some practitioners as being an effective vehicle for assisting entrepreneurs to locate pre-seed and early stage financing, furthering technical or managerial skills, and assisting with new product development and marketing, thus nurturing new venture development in Illinois. Under this program, universities donated faculty time to review technology commercialization plans for start-up firms in a competitive setting. While the costs for this program were quite modest, state funding for this program has unfortunately been cut — while eight ITEC centers existed in 2002, none remain today. The effectiveness of present and past programs like IEN and ITEC should be evaluated, and the state should increase funding for those that have produced positive outcomes.

In an era of constrained state finances, Chicago area businesses, governments, and other organizations must work together to insure that some key innovative businesses survive and move toward expansion.

While Chicago has several venture capital firms, the amount of venture capital funding in the region is relatively low. Collaborative work by businesses, civic organizations, philanthropic groups, and government can seek private and public monies to make some kind of development funding available to the Chicago region. A new major venture capital fund, focused on the metropolitan Chicago region but possibly designed to extend to other regions and states in the Great Lakes region, should be explored. The fund should be targeted toward particular industry clusters. A particular focus on green technology may be a wise focus for this fund.

The Illinois Innovation Accelerator Fund (I2A) may be a good model. I2A is a public-private partnership that has raised several million dollars and makes early investments in well managed companies that have developed a value plan based on recent innovations. I2A makes investments in local companies and in companies willing to relocate to Illinois.

Federal funding opportunities on the horizon increasingly encourage more regional collaboration across business, government, and nonprofits. Federal funding has historically been of great importance in promoting and enabling new science and technology in laboratories, research facilities, and factories across the U.S. Reauthorization of the federal America COMPETES Act (Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science), which invests in science and innovation, is likely to include the establishment of a competitive regional industry cluster grant program that would make available competitive grants and information to stimulate the collaborative interactions of firms and other institutions to produce more commercial innovations and higher paying jobs.[15] Planning activities, including technical assistance and data analysis, are likely to be a major component of this. Given the Chicago region's current room for improvement across a variety of innovation metrics, the region can be competitive for these types of dollars, but it will need to organize its efforts.

On the state side, until June 2008, the State of Illinois provided funding through the Illinois Innovation Challenge Grant, matching grants to recipients of two federal grant programs — the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR). These were relatively small grants, with a corresponding small program cost: approximately $1 million per year for the entire program for the entire state. These grants, however, had an important impact. For example, a two-person Chicago-based firm specializing in radar imaging applications received this grant in 2008. This firm survived and now has 10 employees. Both Indiana and Wisconsin continue to offer similar matching grants. The experience of the Illinois Innovation Challenge Grant should be analyzed and a new, similar program should be instituted in its place.

Other financing strategies should also be addressed. Challenges faced by small businesses should be identified along with new models to support entrepreneurship. For example, micro-loan programs, social entrepreneurship programs, and tax incentives that are most likely to support innovation should be enhanced. It will be important to identify opportunities, gaps, and redundancies in existing state and local programs that seek to assist these sectors.

15 A five-year reauthorization of the America COMPETES Act passed the U.S. House of Representatives in May 2010.

Develop a "Culture of Innovation"

The Chicago region has some of the world's best research institutions, human capital, preeminent foundations, and capable industry which should make the region a hotbed of innovation and economic development. While a host of factors are involved, there is some evidence that few businesses, within or outside the region, envision this region as a powerful engine of growth. To become a leader in innovation, our region needs to change attitudes to support the experimentation and creativity necessary to produce commercial innovations. Furthermore, all levels of government should ensure that their regulatory environments are not creating undue barriers to innovation.

Innovation, by its nature, involves risk-taking and, frequently, failure. These are characteristics that many people do not believe are supported by the culture of the Chicago region.

The cultures that are present in highly innovative parts of the country, and in highly innovative industries in the Chicago region, should be explored to see if any lessons can be applied in other, more risk-averse sectors. Many of the region's innovators have been successful despite initial setbacks; these people should be consulted to learn what barriers they faced and how they overcame them, and their stories should be publicized to help educate the region about the value of experimentation and resiliency following initial setbacks.

There are several existing programs at all educational levels that promote innovative thinking, provided by both civic and academic organizations. Educational programs and competitions that encourage innovation among students should be expanded upon and linked to foster greater dissemination of knowledge and expose more thinkers to each other. Students must learn that often mistakes are valuable learning experiences; the increasingly popular business motto of "Fail Fast and Learn" emphasizes this mentality. Existing innovation competitions, such as the Chicago Innovation Awards, should be continued and expanded to encourage budding entrepreneurs to experiment and provide them with practical experience in how to present their ideas and innovations to external audiences.

There may be a large role for the philanthropic community to play in creating a better culture for innovation. The region's foundations are a strong asset and to date have funded extensive efforts in education, arts and culture, and human services. Focusing more on the regional economy and innovation makes sense on many levels for foundations, as these are truly the catalytic investments which can help the region sustain a high level of prosperity and vitality. Foundations might start their entrée into innovation through an initial group of forums which showcase the region's innovative success stories and create linkages among divergent groups involved in the various fields. Foundations can also strive to support those groups working to organize regional initiatives and policy around a "cluster approach."

Lastly, government can play a role in ensuring that outdated regulations do not create barriers to innovation. Regulations and development ordinances tend to be oriented toward the technological standards in existence when they were promulgated or amended, and there are few avenues for regulations and ordinances to be updated as technology advances. For example, many municipal ordinances regulating the construction and placement of household green energy improvements such as solar panels, small-scale windmills, and energy efficiency retrofitting are based upon 1970s era technologies. This limits what can be developed and deployed and opportunities to harness renewable energy may be precluded because past technologies used for this purpose created problems for their neighbors. By modernizing the technical standards in development regulations, opportunities for local businesses to innovate and capitalize on green energy demands will be created, making local businesses stronger and the region greener.

6.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on four implementation areas for supporting economic innovation:

Improve Data and Information Systems

Nurture the Region's Industry Clusters

Increase the Commercialization of Research, Target Investment Decisions, and Pursue New Financing Opportunities

Create a Culture of Innovation

Implementation Action Area #1: Improve Data and Information Systems

Evaluate the success of state innovation programs and financial incentives LEAD IMPLEMENTERS: State (DCEO, and other relevant state agencies)	The history and impacts of state programs and incentives for innovation should be evaluated. Such an evaluation can inform the re-creation of certain programs, like ITEC and Innovation Challenge grants, which have experienced funding cuts in recent years. The state should also evaluate current programs, like IEN as well as the range of other financial incentives and services offered to entrepreneurs and businesses. There is good evidence that many of these state programs have been quite successful — these successes need to be better documented and publicized to inform future state legislation.
Collect data relative to innovative business starts and closures in the region LEAD IMPLEMENTERS: CMAP, WBC, InnovateNow, IDES	Currently there is no solid information about how innovations translate into larger economic effects, such as jobs and business starts. CMAP should measure the number of new innovation start-up firms and jobs created (a similar measurement was developed by San Diego's CONNECT program). This is the best way to track the growth in new firms, as well as their longevity. This information should also have useful research consequences beyond the study of innovation.
Collect and analyze other pertinent data related to innovation outcomes LEAD IMPLEMENTERS: CMAP, WBC, InnovateNow, CMRC, IDES, additional outside experts	CMAP can serve a vital role as a central repository for the collection of data related to innovation. CMAP should also consider how to best measure success through this data — other groups have created weighted measures of a variety of variables — an "innovation index" — which can work to measure future success.
Research and redesign technology transfer evaluation criteria LEAD IMPLEMENTERS: State (DCEO), technology transfer programs at universities and other institutions	There is some evidence that innovators are changing their products to be responsive to the criteria by which technology transfer programs are judged. This is likely inefficient. Alternative metrics that better reward commercialization of new innovations should be explored. Applied research should be carried out by interviewing tech transfer officials and researching other evaluation metrics.

Implementation Action Area #2: Nurture the Region's Industry Clusters

Form coalitions around the region's vital industry clusters to organize regional strategies and obtain public and/or private funding LEAD IMPLEMENTERS: State (DCEO), CMAP, local governments, nonprofits (Chicagoland Chamber, CMC, MEGA, WBC), Chicago Fed, workforce boards, philanthropic, private sector	The region should use its various clusters of regional specialization as an overarching organizing framework for future coordination, collaboration, and proactive initiatives, including organizing around potential funding opportunities such as the reauthorization of America COMPETES, which should include funding for a Regional Innovation Clusters Initiative. Build public/private coalitions to attract funding and involve research labs and universities as appropriate. The Clean Energy Trust, hosted by the Chicagoland Chamber, is a recent initiative that may be a model for such future activity.
Perform a "drill down" analysis into specific established industry clusters, including freight/logistics, advanced manufacturing, and biotech/biomed, as well as emerging clusters such as green technology and energy LEAD IMPLEMENTERS: CMAP, Chicago Fed, regional leaders or coalitions around industry clusters	Industry clusters have been researched extensively, but many gaps, practical linkages and pertinent policy responses remain poorly understood. CMAP should direct research toward "drilling down" into specific industry clusters and groups of interrelated firms in the fields of freight/logistics, energy and advanced manufacturing, and biotech/biomed, for starters. Analyses will present data specific to these clusters, identify infrastructure, workforce and financing needs, present strategies for coordination and communication, and make policy recommendations.

Implementation Action Area #3: Increase the Commercialization of Research, Target Investment Decisions, and Pursue New Financing Opportunities

Bolster or reinstitute successful state programs which assist entrepreneurs and create linkages between researchers and the private sector LEAD IMPLEMENTERS: State (General Assembly, DCEO)	State elected officials should bolster or reinstitute state programs with a track record of success in assisting entrepreneurs with critical business startup and marketing needs, locating pre-seed and early stage financing, furthering technical or managerial skills, and assisting with new product development and marketing. IEN is one current program along these lines. In addition, the ITEC programs previously awarded funding that could be used to put together documentation for venture capital or "angel" investors, apply for federal SBIR money, apply for a patent, or put together a business plan. ITEC is currently unfunded by the state.
Re-institute the Illinois Innovation Challenge Matching Grant program LEAD IMPLEMENTERS: State (General Assembly, DCEO)	Some version of the Innovation Challenge Matching Grant program should be reinstated to provide matching funding for federal SBIR and STTR recipients. SBIR and STTR are federal programs funding small businesses working with universities.
Explore the creation of a major new venture capital fund, at the regional or mega-regional level LEAD IMPLEMENTERS: State (Governor's office, DCEO), the business community, the Federal Reserve Bank of Chicago, nonprofits, I2A fund, philanthropic	A new venture capital fund should be created to help investors and entrepreneurs create and grow profitable businesses in the metropolitan Chicago region and potentially beyond. The fund should be managed and operated by a private firm, but exploration should be done first by government, civic organizations, foundations, and the private sector. The fund should be targeted toward clusters of regional specialization. A range of private and public revenue sources should contribute to such a fund, and philanthropic organizations can play a large role.
Create a more robust national innovation policy LEAD IMPLEMENTERS: Federal (Congress)	Provide more incentives for public/private collaboration around innovation. Provide federal funds that can be leveraged with private resources. Provide competitive funding for regional approaches around specific industry clusters. Many of these types of approaches are being discussed as part of the upcoming reauthorization of America COMPETES, a federal technology, research and education act.

Implementation Action Area #4: Create a Culture of Innovation

Research, compile, and publicize examples of successful innovation LEAD IMPLEMENTERS: State (DCEO), nonprofits (Chicagoland Chamber, CMC, MEGA, WBC) philanthropic, private sector, universities	Innovation success stories should be collected and publicized. Commonalities of these experiences should be emphasized, and the role of experimentation and perseverance must be taught so that workers, entrepreneurs, and sources of funding see experimentation as an important stepping stone to innovation and growth.
Expand and link innovation related training LEAD IMPLEMENTERS: Nonprofit (Chicagoland Chamber, MEGA, WBC), universities	There are multiple conferences and educational programs that support innovative thinking in the region. These programs should be expanded to reach wider audiences. Educational programs, conferences, and innovation competitions should also be linked so that budding innovators can interact across fields and disciplines to share experiences and foster further innovative thinking.
Reorient philanthropic giving toward innovation LEAD IMPLEMENTERS: Philanthropic	The region's foundations are a strong asset and to date have funded extensive efforts in education, arts and culture, and human services. Focusing more on the regional economy and innovation makes sense on many levels for foundations, as these are truly the catalytic investments which can help the region sustain a high level of prosperity and vitality. Foundations can work to support those groups working to organize regional initiatives and policy around a "cluster approach."
Identify opportunities for state and local regulatory reform and modernize local ordinances LEAD IMPLEMENTERS: State (DCEO), municipalities, nonprofits (Chicagoland Chamber, MEGA, WBC), the business community	Review and implement reforms in existing state and local regulations, especially in areas of rapidly changing technology and changes in federal regulation. Convene innovative companies to learn about potentially limiting local regulations or ordinances. Provide model ordinances that contain language about up-to-date regulation and how to keep it updated. Review validation, information sharing, and technical assistance programs for new technology development and implementation. Recommend updates as appropriate.

6.6 Costs and Financing

The costs of the innovation recommendations to the public sector should be modest. The recommendations in this section were designed to minimize costs and to make the best possible use of existing, available resources.

Any gains made, such as businesses remaining in business through the recession, or even expanding, will be substantial, especially in comparison with the modest costs of the programs. The small-scale training and funding programs recommended are the most easily identifiable costs. When the recommended programs (ITEC and the Illinois Competitive Matching Grant) were in place in the past, they were funded at a combined level of $3 million per year, for the entire state. Other initiatives and incentives can be specifically retargeted.

Other efforts, such as the proposed venture capital fund, would require significant financing. A recent report estimated that a new Great Lakes region venture capital fund would likely require in the range of $1 billion to $2 billion in financing.[16] A regional effort could be much smaller than this, though financing needs would still be significant. Public and private sources, as well as philanthropic giving, would likely play a role.

16 Frank E. Samuel Jr., "Turning Up the Heat: How Venture Capital Can Help Fuel the Economic Transformation of the Great Lakes Region," Brookings Institution, January 2010.

Efficient Governance
Achieving Transparency

This theme addresses the need for increased effectiveness of governments in the region and beyond, which is important to meet residents' needs regarding accountability and transparency. The chapter on Efficient Governance includes three sections of recommended actions:

7. Reform State and Local Tax Policy 202

8. Improve Access to Information 218

9. Pursue Coordinated Investments 229

The Regional Vision describes a region where "governance systems [are] characterized by high degrees of intergovernmental coordination" with links between physical planning and "social systems like health care, public safety, education, and social services." To achieve this, GO TO 2040 seeks to increase data sharing, governmental transparency, and intergovernmental collaboration, and to remove artificial barriers across programs at the local, regional, state, and federal levels.

Efficient and effective decision making by government is necessary to meet the goals of GO TO 2040. Public sector investments are needed to make progress in many of the areas described earlier in this chapter, but in an environment of limited fiscal resources, these must be carefully prioritized. Increased coordination between government agencies, transparency of data and decision making, and careful analysis of the impact of tax systems on our economy and community livability are needed.





RECOMMENDATION

7 Reform state and local tax policy

56
Average number of services taxed in all states

12
Number of services taxed in Illinois

$318,000
Highest municipal tax base per capita
(Retail sales + Equalized Assessed Value for municipalities over 5,000 population)

$**8,000**
Lowest municipal tax base per capita
(Retail sales + Equalized Assessed Value for municipalities over 5,000 population)

↑ **27%**
Change in annual state sales tax revenues
(adjusted for inflation)
1992–2008

↓ -15%
Change in annual state gas tax revenues
(adjusted for inflation)

7
Jobs per acre: Auto Dealership

$**107,500**
Local net tax revenue per acre: Auto Dealership

61
Jobs per acre: Corporate Office

$45,900
Local net tax revenue per acre: Corporate Office

$12,000,000,000
Amount of property tax revenue collected by school districts in northeastern Illinois

$**5,000,000,000**
Amount of state tax revenue disbursed to local governments in northeastern Illinois

State and local taxes have an impact beyond the public revenue they raise. To a great extent, they create incentives that shape the commercial and residential development of our communities. Such decisions are often motivated by the imperative of raising local revenues rather than by the goal of building a stronger regional economy and livable communities.

Tax policies frequently distort land use decisions rather than allow markets or quality-of-life factors to guide them. Tax rates are often set very high, and the tax base is overly narrow rather than broad, which further stifles economic competitiveness.

Because the current tax structure of Illinois and metropolitan Chicago is not meeting the needs of our residents and businesses, CMAP recommends the reform of state and local tax policies to make them consistent with the GO TO 2040 plan's vision. The benefits will be substantial in terms of economic development and quality of life in communities across the seven counties.

Reforming these policies can make revenues adequate to support essential public services, while avoiding undesired consequences, such as inefficient land use decisions or inequitable tax burdens that can impair regional economic productivity. The reformed tax system can also achieve greater overall efficiency by minimizing economic distortions created by the current system. And the reforms should bring about improvements in terms of equity, simplicity, and transparency.

Tax policy should encourage local decisions that make effective use of land, generate good jobs, and trigger sustainable economic activity. It should set high standards of transparency and predictability for the taxpayer. And it should not create large inequities across households, businesses, and local governments. By reforming state and local taxation, the region would benefit from new policies that help to advance rather than undermine GO TO 2040's goal for sustained regional economic competitiveness.

CMAP recommends the following areas be fully analyzed for potential reform.

Existing State and Local Revenue Sharing Arrangements, with a Specific Focus on the Sales Tax
Currently, nearly $5 billion annually in state tax revenue is disbursed to local governments in northeastern Illinois based on various criteria. More than one quarter of this amount comprises sales tax revenue shared between the state and municipalities, which receive 16 percent of the sales tax collections based on local point of sale. This disbursement structure creates an incentive for many local governments to emphasize retail land use — such as the attraction of auto dealerships and big box stores — perhaps at the expense of other uses more beneficial to the regional economy — such as offices or industrial uses. These revenue sharing structures should be addressed and adjusted to support economic efficiency and fairness.

Sales Tax and the Service Sector
Currently, the State of Illinois taxes many goods but only a few services, which make up a much larger and growing portion of the economy. Services make up 70 percent of personal expenditures today, substantially more than 40 years ago, when goods and services were roughly equal. Expanding the sales tax to include some types of industries in the service sector will expand the tax base, which could also allow lower sales tax rates without reducing overall revenue. It also will make the sales tax more progressive, because low-income earners consume more goods relative to their incomes than do high income earners.

Property Tax Caps, Classification, and Exemptions
Property taxes provide vital revenues for local government services, yet the systems in our region are often saddled with complexities and incentives that distort economic decision making and place undue stress on households, businesses, and local governments. Statutory and constitutional limitations on the property tax include tax caps (the Property Tax Extension Limitation Law, or "PTELL"), differing assessment classifications in Cook County, and other exemptions. These limitations can alter residential and business location decisions, create unpredictability for the taxpayer, and undermine local control. The property tax systems in northeastern Illinois need to be simplified and the process should be more transparent.

State Income Tax
The state's individual and corporate income tax rates (three percent and 4.8 percent, respectively) are among the lowest rates in the U.S. The tax is also imposed on a flat rather than graduated basis, whereby tax rates would be applied based on income levels. Moving to a graduated state income tax system, with marginal rates, could not only raise more revenue but also make the overall tax system more progressive. In addition, the state income tax base remains narrower than most other states due to its exemption of most retirement income, including public and private pensions.

Local Tax Capacity
Some areas within the region have a much larger economic base than others, which gives them a greater "tax capacity." While this should be expected to some extent in any metropolitan area, extreme divergences render many local governments helpless in terms of providing essential services and attracting new residents and businesses. Moreover, this divergence is anticipated to grow over time, as municipalities endowed with strong revenues can keep property tax rates lower while also providing quality services and infrastructure. A strong and sustainable region must address how tax policies can often hinder the future economic well-being of many of its communities.

The following section describes current conditions, explains the importance of reforming tax policies, and provides details about the recommended actions. The overall desired outcome is for state and local tax policies to serve their intended role — efficient and effective financing of public services — without impeding the overall economic competiveness of the region.

7.1 Benefits

Local tax policies address various themes from the Regional Vision, most prominently the strength of the regional economy, sustainability, equity, and intergovernmental coordination and planning. The vision states that "leaders will recognize the interdependence of our communities and will work across political boundaries to address issues facing multiple jurisdictions."

State and local tax policy exemplifies one of these issues. From a regional planning perspective, it is vital to understand the dynamics of tax policy especially in terms of their potential impacts on development decisions and regional economic productivity.

The following sections describe some benefits of addressing state and local tax policy issues.

Economic

A burdensome, complex, or unpredictable taxation system is likely to have negative economic consequences for households, businesses, and local governments. Poorly designed tax systems tend to distort residential or business location decisions, with subsequent ripple effects throughout the overall regional economy. States, metropolitan regions, and local governments can all enhance their business climates (and improve livability for residents) through predictability, transparency, and fairness in taxation. Furthermore, an overreliance on some forms of taxation — like the sales tax, which usually mirrors fluctuations in the economy more closely than the property tax — can lead to deficits and an inability to deliver key services at times when residents and businesses need those most.[1]

To keep tax rates low and economically competitive, the tax base must also be broad. A "broad tax base" is one with few exemptions or limitations among different businesses, services, or properties. GO TO 2040's tax policy recommendations would seek to broaden the tax base (for example, by applying the sales tax to some services), limit land use distortions associated with the property and sales tax, and make the system more predictable and transparent, all of which should lead to a better economic climate for residents and businesses.

1 For a more thorough description of the stability of the property tax relative to other sources like the sales tax, see David Brunori, "Local Tax Policy — A Federalist Perspective," (The Urban Institute Press, 2003).

Land Use

Local governments have a strong incentive, particularly in today's difficult fiscal climate, to orient land use planning and decision-making to maximize local tax revenues. In some other states, particularly California (which places more extreme caps on the ability of municipalities to raise local property tax revenues), the orientation of land use decisions to maximize the sales tax has been dubbed the "fiscalization of land use." This occurs when municipalities choose retail and other industries that generate local tax revenues rather than industrial or office uses that generate more jobs or grow the metropolitan economy. In northeastern Illinois, state and local sales tax revenues generated by retail land use are vital for ensuring the fiscal health of many local governments. Without harming local government abilities to raise adequate revenue, altering the dynamics of the current state/local sales tax disbursement arrangement may generate development patterns that are less distortive and more sustainable regionally.

Equity

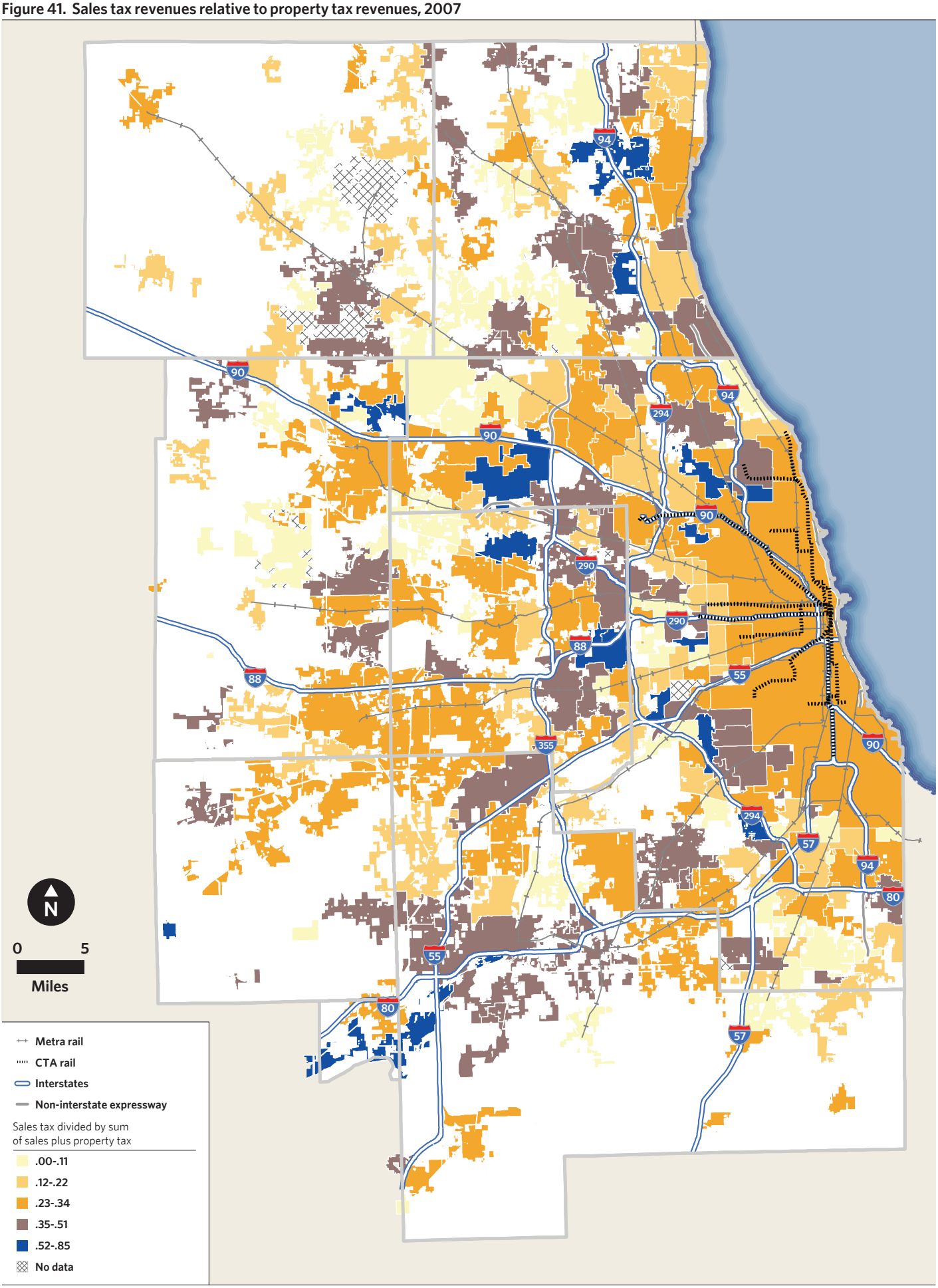
While equity can be defined in different ways, it is generally agreed that taxes and fees should strive for two different principles. The first, "horizontal equity," means that similar people and firms should share similar burdens. The second, "vertical equity," means that the tax system should be based on the entity's ability to pay. Vertical equity is consistent with a tax system that tends toward the progressive rather than the regressive. GO TO 2040's tax policy recommendations, on the whole, strive to uphold these principles. Expanding the sales tax to services, graduating the state income tax, and addressing property tax classification and exemption issues will all have a positive impact on equity. Furthermore, addressing state and local revenue sharing arrangements should not only positively impact the economy, but it should also positively impact the ability of all local governments, including those in the most economically disadvantaged parts of our region, to provide needed services.

Governance

The reliance on the property and sales tax in northeastern Illinois can set the stage for competition over development and tax revenues. Many businesses that can move relatively cheaply within the metropolitan region may do so in order to take advantage of tax differentials. This can sometimes pit one local government against another in terms of business attraction or retention efforts, and oftentimes taxpayer dollars are expended in the process, with little or no positive impact to the region's economy.[2] GO TO 2040's tax policy recommendations seek to address the degree to which tax policies incent local competition, rather than cooperation, throughout the region. In particular, reforming the current state sales tax disbursement criteria away from a sole focus on local point of sale should lessen the degree of local competition of certain types of development.

2 For more information on local tax incentives, see GO TO 2040 Economic Development Incentives Strategy Paper, 2009. See **http://www.goto2040.org/incentives/**.

Figure 41. Sales tax revenues relative to property tax revenues, 2007



This map shows municipal state & local sales tax revenues (2007) divided by the sum of sales tax and derived property tax levies (2007). Derived property tax levies include municipal plus predominate park, library, and fire districts. Darker shading indicates a higher reliance on sales tax relative to property tax. Lighter shading indicates a higher reliance on property tax.
Sources: Illinois Department of Revenue and County Clerk's Offices.

7.2 Current Conditions

In northeastern Illinois, over 1,200 units of government collect revenues and provide services to residents, businesses, and visitors. Compared to other Midwest and Northeast states, the State of Illinois and local governments remain more reliant on sales and property tax, and less reliant on the income tax.

But our region's local governments, particularly our municipalities, vary widely in terms of reliance on revenue sources. One striking variation is the reliance on state and local sales tax revenues, relative to the property tax (see **Figure 41**).

State and local tax policies in Illinois and the CMAP region often fail to satisfy the most important principles of good tax policy: efficiency, equity, and transparency. A "good" system of taxation is typically one with a broad base and low rates that do not create de facto incentives for inefficient decisions regarding the location of residential and commercial development. GO TO 2040's emphasis on the regional economy, sustainability, and intergovernmental coordination requires serious consideration of our region's particular reliance on the sales and property tax, the mechanics by which these and other taxes are administered, and other issues related to state and local revenue sharing arrangements.[3]

The following subsections describe several imperative action areas of state and local tax policy.

State and Local Revenue Sharing

In 2008, local governments in northeastern Illinois received over $4.2 billion in state revenue through various arrangements typically referred to as "state and local revenue sharing."[4] The criteria for these disbursements vary considerably across the revenue sources, as shown in **Table 4**. For instance, sales tax is allocated on the basis of local retail sales, while income tax allocations are based on population. Allocations of other revenue sources like the Motor Fuel Tax (MFT)[5] and Personal Property Replacement Tax (PPRT) rely on formulas that are complex (in the case of the MFT) or are based on antiquated metrics (in the case of the PPRT). The main policy question is whether such revenue sharing formulas promote desired regional outcomes such as economic productivity, efficient development patterns, and equity.

3 For a comprehensive survey of existing conditions, see the CMAP State and Location Taxation Snapshot, 2009. See **http://www.cmap.illinois.gov/snapshot.aspx#Tax**.

4 Illinois Department of Revenue, Monthly Detailed Disbursement Amounts. This figure does not include local option sales tax revenues, which are also collected by the state for the local governments that impose them.

5 Given its inherent connection to transportation policy, the state motor fuel tax is discussed in greater detail in the GO TO 2040 section titled "Invest Strategically in Transportation."

Table 4. Examples of state/local revenue sharing arrangements in the State of Illinois

STATE TAX SOURCE	HOW IMPOSED	LOCAL GOVERNMENTS RECEIVING DISBURSEMENT	DISBURSEMENT FORMULA	AMOUNT DISBURSED TO LOCAL GOVERNMENTS IN NORTHEASTERN ILLINOIS (2008)
Sales Tax	6.25% state rate for retail sales of general merchandise and 1% state rate for sales of qualifying food, drugs, and medical appliances.	Counties, municipalities, and the Regional Transportation Authority*	16% of the state collections from retail sales of general merchandise and 100% of the collections from sales of qualifying food, drugs, and medical appliances are returned to the municipal or county government (if unincorporated) where the sale took place. 4% of the tax collected from general merchandise sales is disbursed to county governments (except Cook County) for sales that occurred anywhere within their county boundaries. For sales made in Cook County, this 4 % share is allocated to the RTA.	$1.9 billion**
Personal Property Replacement Tax	Corporations pay 2.5% tax on income, partnerships, trusts, and S-corporations pay 1.5% tax on income, and public utilities pay 0.8% tax on invested capital. The PPRT is submitted along with state income tax payments.	All taxing units of government †	The total collections are divided into two portions. One portion (51.65%) goes to Cook County. The other portion (48.35%) goes to other counties. The Cook County portion is then distributed to the taxing districts in Cook County on the basis of each district's share of personal property tax collections for the 1976 tax year. (For example, if total taxes collected by all districts were $1 million and District A collected $35,000 of that total, District A's share of any future distributions would be 3.5%.) The downstate portion is distributed similarly, except that the collections from the 1977 tax year are used to calculate each district's share of the distribution.	$1 billion
Income Tax	Individuals, trusts, and estates: 3% of net income; Corporations: 4.8% of net income.	Counties and municipalities	One tenth of total collections minus the amount deposited in the refund fund. The amount that each municipality or county receives is based on its population in proportion to the total state population.	$792 million
Motor Fuel Tax	$0.19/gallon for gasoline and gasohol, $0.215/gallon for diesel and $0.215/gallon for combustible gases.	Counties, municipalities, townships	After a variety of deductions, 54.4% of the balance is allocated to local governments. Of this portion, 49.1% is distributed to municipalities, 16.74% to counties over 1,000,000 in population, 18.27% to counties under 1,000,000 in population, and 15.89% to townships. The municipality's share of the total MFT allocation is based on population. The county share is based on the amount of motor vehicle license fees received. The road district/township share is based on mileage of township roads. MFT funds must be used for transportation purposes.‡	$377 million
Telecommunications Tax	Imposed by local ordinance or resolution in 1/4% increments with a 6% maximum rate limit.	Municipalities	After taking a 1/2% administrative fee retained by the state treasurer, the Illinois Department of Revenue administers and disburses the full value of the tax revenue collected.	$216 million

* The RTA sales tax rate was increased 0.25 percent in Cook County and 0.50 percent in the collar counties effective April 1, 2008. The RTA receives Cook County government's portion of the disbursement share from the state. In addition, the RTA imposes additional rates in Cook County and the collar counties — but these are not part of the disbursement from the base sales tax rate of 6.25 percent.

** This figure does not include home rule/non home rule sales taxes, which are also disbursed (in full) by the IDOR to the municipalities and counties which impose them.

† The Personal Property Replacement Tax disbursement formula is extremely complex. See the Illinois Department of Revenue fact sheet on this issue at **http://www.revenue.state.il.us/LocalGovernment/Overview/HowDisbursed/replacement.htm**

‡ Eligible uses can be found in **http://www.dot.state.il.us/blr/mftbooklet.pdf**

Source: Illinois Department of Revenue — "General Overview — How Local Tax is Disbursed"

Sales Tax and the Fiscalization of Land Use

Sales tax generates just over one-third of all state revenue collections (over $10 billion was collected in FY 2008[6]). It is also the largest of the state and local revenue-sharing disbursements. The state re-allocates to a municipality one percent of retail sales within its borders, corresponding to 16 percent of the state's 6.25 percent sales tax rate. In 2008, these disbursements totaled roughly $1.1 billion for northeastern Illinois municipalities.[7]

This structure creates an incentive to attract retail land use and may lead many local governments to overemphasize retail, perhaps at the expense of other economic activities more beneficial to the region. It rewards communities that have the point of sale but not others that were involved in the economic process, because manufacturing, distribution, and corporate offices provide no sales tax revenues unless the point of sale coincides in these locations. Because the region's ability to support retail is finite, the need for this revenue may be one (though not the only) major driver of counterproductive local competition and unfocused growth in parts of the metropolitan area.[8] **Figure 42** shows the percent change in these revenues, in constant 2008 dollars, between 2003 and 2008. The map indicates a trend of high sales tax growth (shown in blue) in communities located at the outer edge of the region, while older communities experienced lower rates of growth, or in many cases, actual declines.

Table 5 shows the results of a fiscal and economic impact analysis of four different land uses. Because each would result in large-scale development with significant impacts, contrasting them can help to highlight the fiscal and economic disparities associated with current tax policies. The analysis assumes that a typical Chicago-area municipality possesses a 30 acre greenfield site with good access and visibility that could be developed under one of four scenarios:

1. **Retail power center (typically anchored by a home improvement store, warehouse club, or office supply store)**
2. **Auto dealership**
3. **Corporate office park**
4. **"Light" industrial (e.g., distribution center or manufacturing)**

The tax, jobs, wage, and other economic data used for the fiscal and economic impact analysis are specific to the metropolitan Chicago region.

"Fiscal impacts" include municipal revenues (sales, property, telecom, electricity, and natural gas taxes) and expenses (general fund, fire, police, and public safety services). "Direct impacts" are generated by the project itself (i.e., new employees hired to work at each establishment) and "indirect impacts" are caused by local economic activity triggered as the business(es) associated with the development purchase goods and services nearby. All impacts are given per acre.

Table 5. Fiscal and economic impact comparison by acre

	RETAIL POWER CENTER	AUTO DEALERSHIP	CORPORATE OFFICE	INDUSTRIAL
Fiscal Impacts				
Fiscal Revenues/Acre	$62,200 - $85,600	$92,700 - $111,400	$23,500 - $68,400	$4,500 - $6,700
Fiscal Expenses/Acre	$9,900	$3,900	$22,500	$3,500
Net Fiscal Impact/Acre	$52,300 - $75,700	$88,900 - $107,500	$1,000 - $45,900	$1,000 - $3,200
Direct Economic Impacts				
Direct FTE Jobs/Acre	16	7	61	11
Direct Wages/Acre	$573,100	$452,900	$6,873,700	$814,000
Indirect Economic Impacts				
Indirect FTE Jobs/Acre	6	4	80	17
Indirect Wages/Acre	$334,700	$231,900	$4,490,900	$1,065,700
Total Regional Output/Acre	$2,649,500	$1,736,600	$31,165,000	$7,892,400

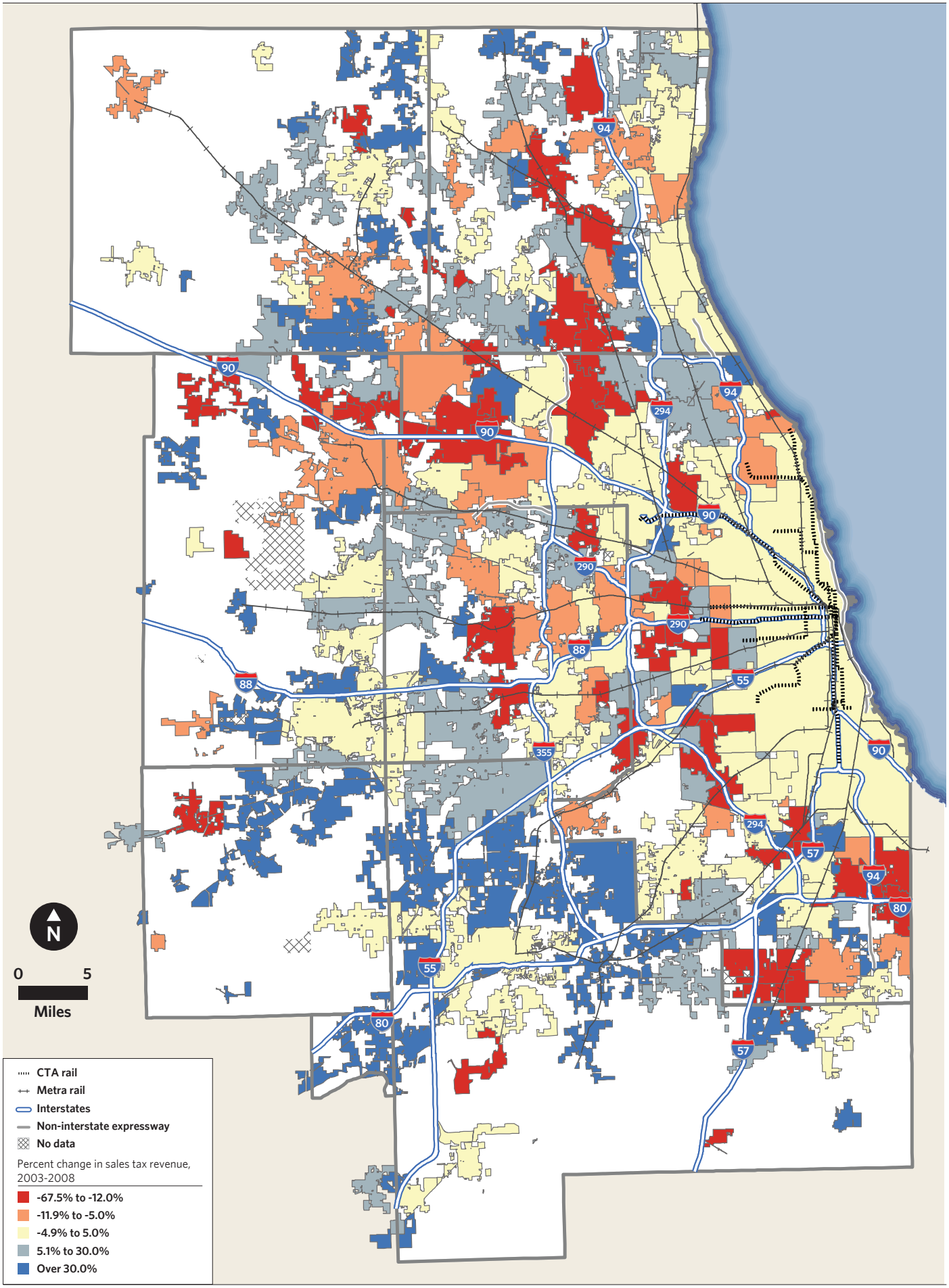
Sources: Minnesota IMPLAN Group, Bureau of Labor Statistics, and S. B. Friedman & Co. Data is specific to the suburban Chicago region and is from 2006-2009.

6 Illinois Department of Revenue, Annual Report of Collections and Distributions, 2008.

7 Illinois Department of Revenue, Monthly Detailed Disbursement Amounts.

8 See 1) Paul G. Lewis, "Retail Politics: Local Sales Taxes and the Fiscalization of Land Use," *Economic Development Quarterly*, 15 (1; 2001): 21-35; 2) Paul G. Lewis, and Elisa Barbour, "California Cities and the Local Sales Tax," (Public Policy Institute of California, 1999); 3) Robert W. Wassmer, "Fiscalization of Land Use, Urban Growth Boundaries, and Non-Central Retail Sprawl in the Western United States," *Urban Studies* 39 (8, 2002): 1307-1327; 4) Robert W. Wassmer, "The Influence of Local Urban Containment Policies and Statewide Growth Management on the Size of United States Urban Areas," *Journal of Regional Science* 46 (1, 2006): 25-65; 5) Michael C. Pagano, "City Fiscal Structures and Land Development," (Brookings Institution Center on Urban and Metropolitan Policy, 2003) ; 6) David Newell and Jennifer Robinson, "Local Economic Development: Importance of Sales Tax and Other Factors," University of Utah Center for Public Policy and Administration and the Utah Foundation, *Policy-In-Depth* paper series, number: 04-15-2008.

Figure 42. Percent change in municipal share of state sales tax revenue for CMAP municipalities, 2003-2008



This map shows the percentage change in state sales tax disbursements to municipalities. Local option sales tax revenues are not included. Measured in 2008 constant dollars.
Source: Illinois Department of Revenue

These results indicate a significant difference between the retail and auto uses, which generate high sales taxes, versus the office and industrial uses. In fact, the single most important factor driving the high net fiscal impact for retail and auto is the sales tax these uses generate. Retail and auto dealerships actually generate very little in other taxes, relative to the corporate office use (industrial generates fewer tax dollars across the board). While a retail power center and an auto dealership cluster are estimated to generate significantly more tax dollars at the municipal level, they generate jobs with lower salaries and have much lower economic output than the office and industrial options. In other words, local governments have powerful financial incentives to attract types of businesses that do not have the greatest economic contributions. These results highlight the potential for disparity between local land use decisions and regional planning for jobs and industry.

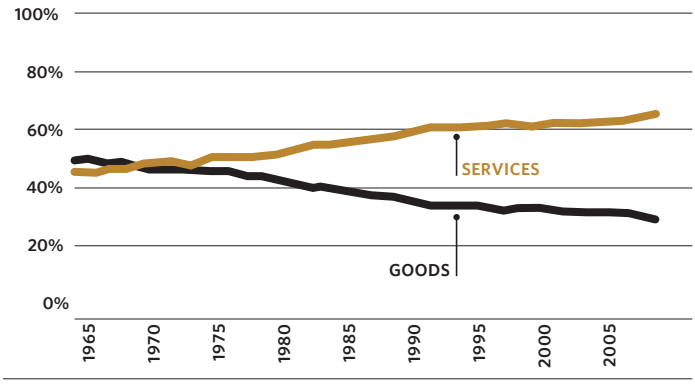
Sales Tax and the Service Sector

The service sector represents a large and growing portion of the regional economy. Today 68 percent of personal consumption expenditures consist of services, up from 48 percent nearly a half century ago.[9] Sales taxes were originally imposed by many states in the 1930s, when services accounted for only a small fraction of economic activity. As the economy has become more service-oriented over time, states like Illinois should respond accordingly by broadening the tax base to account for this changing dynamic, as shown in **Figure 43**.

The economy of Illinois has largely mirrored that of the U.S. as a whole in terms of service sector growth. Today, service sector industries make up nearly 44 percent of the total Illinois economy today, up from 30 percent in 1975. Furthermore, Illinois currently taxes only 17 services, which ranks 47th lowest in the U.S.[10] Illinois predominately taxes utilities services, but not business services, personal services, or repair and installation services, which are all taxed to a greater degree by most other states.

Extending the sales tax to more services could raise considerable revenue, or be structured to be revenue-neutral through a corresponding lowering of overall sales tax rates. Expanding the sales tax to some services could also limit the highly regressive nature of the sales tax, as lower-income people typically spend a higher percentage of their incomes on everyday necessities (which are largely goods and thus taxed) than higher-income people do. One illustrative example is household lawn care. Lawn-mowing equipment (as goods) is taxed, while lawn services and landscaping (services more likely to be hired by high income earners) are not.

Figure 43. U.S. personal consumption expenditures, 1965-2009



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Personal Consumption Expenditures by Major Type of Product.

9 Bureau of Labor Statistics, Personal Consumption Expenditures by Major Type of Product, 2009.

10 Commission on Government Forecasting and Accountability of the Illinois General Assembly, Service Taxes, 2009 Update, August 2009.

Property Tax Classification, Limitations, and Exemptions

Assuming a well-designed system, the property tax is an effective and efficient means of raising local revenues.[11] With over $18 billion in annual revenues generated, it also constitutes the largest source of funding for the local units of government in northeastern Illinois. Property tax revenues skew heavily toward the region's school districts, which collect over 60 percent of the total revenues.[12] Many municipalities, as well as most townships and other special taxing districts, are also highly reliant on the property tax. Virtues of the tax include its stability and reliability, ease of administration, and the intrinsic connection between the source of revenue (property) and what is being provided in return (public services).

However, the property tax system in northeastern Illinois can also be quite complex. In some parts of the region, and particularly in Cook County, the property tax system does not satisfy the important principles of horizontal equity, transparency, adequacy, or sustainability.

Cook County assesses commercial property at a higher percentage of market value than residential property. This "classification" differs from the collar counties, which assess both commercial and residential property at the same percentage. The main impact of this arrangement is to shift the property tax burden toward businesses in Cook County.[13] Furthermore, Cook County's Seven Percent Expanded Homeowner Exemption, which in recent years has been shown to shift the tax burden away from homeowners and toward other property owners,[14] is currently being phased out. The future ramifications of both of these policies are extremely difficult to predict and generate considerable confusion and uncertainty for many residents and businesses in Cook County.

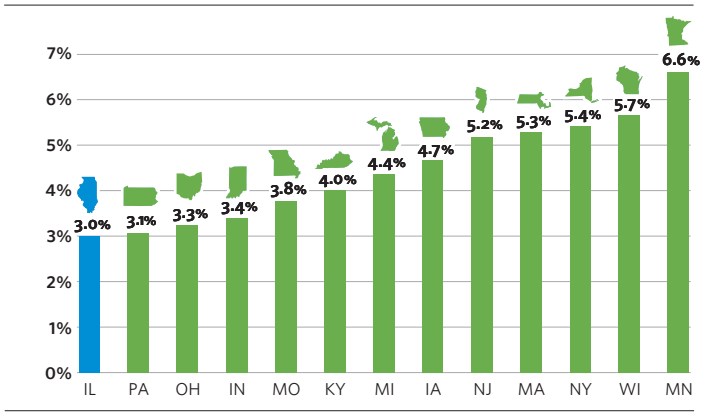
The state's Property Tax Exclusion Limitation Law (PTELL) also limits property tax extensions for most non-home rule governments, including municipalities, townships, and school districts. This is an important policy issue because the tax cap serves to constrain some local revenues but not others, which may lead local governments toward reliance on less efficient and effective revenue sources, such as the sales tax, to fund government services. Furthermore, PTELL is based on limiting exemptions to the lesser of five percent or the increase in the Consumer Price Index (CPI). In difficult economic climates with zero or negative inflation, local governments can barely raise property tax extensions at all.

State Income Tax

As the largest revenue source for the State of Illinois, income taxes generate over half of total state revenue collections — nearly $15 billion was collected in FY 2008.[15] Roughly a tenth of these collections are disbursed to counties and municipalities based on population. While the state income tax does not have the same local land use implications of the sales and property taxes, it comprises a substantial portion of the state's annual budget. Illinois has one of the lowest individual (three percent) and corporate (4.8 percent) income tax rates in the U.S. (see **Figure 44**). It also remains one of if not the least progressive income taxes in the U.S., due to its flat rate application.[16] Most states opt instead for a graduated system, which expands tax capacity with marginal rates for different brackets based on ability to pay. In Illinois, the approval of a state constitutional amendment would be required to authorize a graduated rather than flat income tax.

The state income tax base also remains narrower in Illinois relative to most other states because Illinois exempts most retirement income. While a majority of states (including Illinois) exempt Social Security income, Illinois is one of only ten states to fully exempt public pension income, and one of only three states to fully exempt private pension income.[17]

Figure 44. Individual income tax rates by state



Ohio, Missouri, Kentucky, Iowa, New Jersey, New York, Wisconsin, and Minnesota have graduated income tax rates — for the purposes of this chart, the average graduated rate is given.

Source: The Tax Foundation, "Facts and Figures Handbook — How Does Your State Compare?"

11 The property tax does have vertical equity considerations, a full examination of which is beyond the scope of this recommendation.

12 Illinois Department of Revenue, Property Tax Extensions by Type of District, 2007.

13 Civic Federation, "State of Illinois Constitutional Convention Fiscal Issues," April 10, 2008. See **http://civicfed.org/sites/default/files/civicfed_271.pdf**.

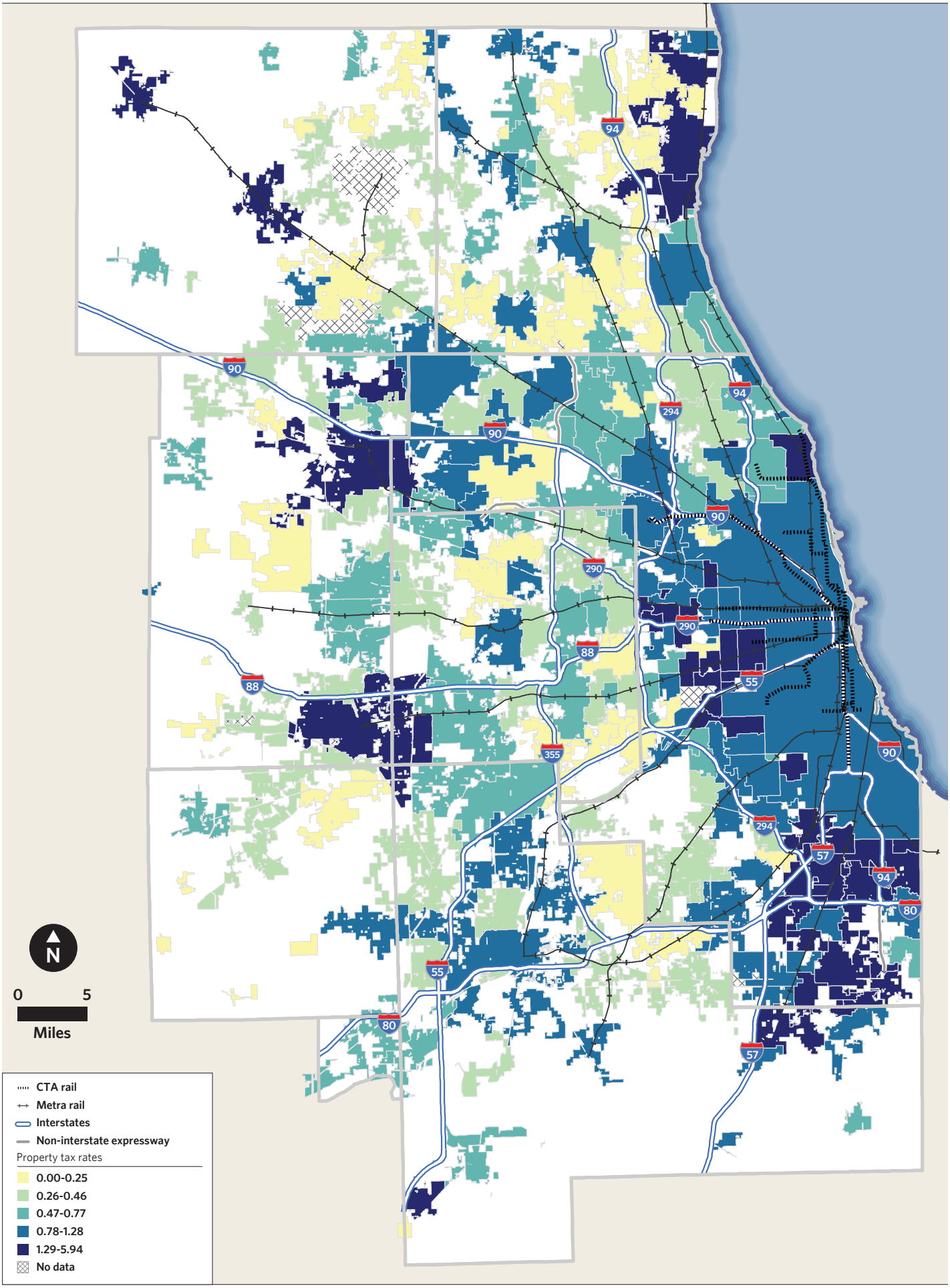
14 Civic Federation, "Effects of the 7% Cap on Property Tax Paid in Cook County: 2002-2008," March 26, 2007. See **http://bit.ly/bq6c2b**.

15 Illinois Department of Revenue, Annual Report of Collections and Distributions, 2008.

16 Institute on Taxation and Economic Policy, "Ready, Set Reform: How the Income Tax Can Help Make the Illinois Tax System Fairer and More Sustainable," May 2009.

17 The Institute for Illinois' Fiscal Sustainability at the Civic Federation, "A Fiscal Rehabilitation Plan for the State of Illinois," February 22, 2010.

Figure 45. Municipal property tax rates, 2007



Source: County Clerk's offices

Local Tax Capacity

Some areas within the region have a much greater economic base than others, hence a greater "tax capacity." While this should be expected to some extent in any metropolitan area, extreme divergences render many local governments helpless in terms of providing essential services and attracting new residents and businesses. Moreover, this divergence is anticipated to grow over time, as municipalities well endowed with strong revenues can keep property tax rates lower while also providing quality services and infrastructure, essential ingredients for attracting and retaining residents and businesses.

Figure 45 shows the wide divergence in property tax rates across the region. Many communities are able to keep property tax rates extremely low (and some do not even impose a property tax). Other communities impose much higher rates. High rates are often required to generate sufficient revenues from a base of low assessed value properties. The impacts of these inequities on school funding should not be ignored. Reliance on the property tax for school funding is related to large inequities in per-pupil spending across the region.

7.3 Indicators and Targets

The most important outcomes driving the reform of state and local tax policies should include a higher gross state and regional product, increased levels of business investment, higher paying jobs, and increased equity (both horizontal and vertical) across local governments, businesses, and households.

Unfortunately, isolating the causal impact of tax reforms upon these outcomes remains elusive. Thus, the indicators used to track progress should align more closely with metrics of "good tax practices" rather than the more important economic or equity outcomes impacted by multiple variables beyond taxation.

Suggested indicators to track progress include:

Efficiency of the Tax System
An efficient tax system minimizes economic distortions by having a broad rather than narrow, tax base. A broad tax base is one with few exemptions or limitations. The result is that similar households and businesses are taxed in similar ways. A broad tax base also allows for lower tax rates, which can enhance economic competitiveness. This metric should judge the region's success in broadening the tax base (e.g., in regards to the sales tax, number of services taxed) as well as lowering tax rates.

Equity of the Tax System
A tax system should strive for two different principles. The first, "horizontal equity," means that similar people and firms should share similar burdens. "Vertical equity" means that the tax system should be based on the entity's ability to pay. Vertical equity is consistent with a tax system that tends toward the progressive rather than the regressive. CMAP proposes measuring the regional equity of tax system in terms of local government revenues per capita. The Gini coefficient, a metric for measuring equity, can be used to quantify the equity of municipal government revenues per capita across the region.

Transparency of the Tax System
The public should have access to the most up-to-date state and local taxation and other fiscal data. The data should include revenues and expenditures by type. Data should be made available online.

7.4 Recommendations

The development of specific recommendations to address the issues of state and local tax policy should take further shape through the creation of a **Regional Tax Policy Task Force**.

This group will report to the CMAP Board and be housed at CMAP. Membership on this new group would include state and local government officials, academic experts, the business community, and other civic organizations.

The task force will exist to advise the Board and will have no statutory or independent authority. The CMAP Board will have ultimate discretion in terms of recruiting, forming, and managing this task force. The CMAP Board will also ensure that the group's research and recommendations reflect the varied challenges faced by local governments, residents, and businesses across the region. The group should conclude its work within 18 months of formation.

Broadly speaking, the task force will be charged with addressing issues central to state and local fiscal policy, viewed through the lens of the regional economy, sustainability, equity, and the connections between tax policies and development decisions. Recommendations might propose reforms to state law and/or suggest regional or subregional actions for improving the efficiency, equity, and transparency of the tax system. GO TO 2040 fully recognizes that state and local tax policy is a complex topic that requires prudence, since certain policy changes can lead to shifting burdens across residents, businesses, and governments.

The 14 members of the Regional Tax Policy Task Force should include state and local government officials, academic experts, the business community, and other civic organizations. In making its appointments, the Board should ensure that the Task Force's membership is balanced, including appropriate representation by geography, as well as representatives who understand the perspectives of both home-rule and non-home-rule governments. Its composition should be as follows, with specific membership subject to approval by the CMAP Board:

- **Two representatives from the State of Illinois**
- **Four municipal representatives, including one from the City of Chicago, one from the Cook County suburbs, and two from the collar counties**
- **Two county representatives, including one from Cook County**
- **Two public finance policy experts from academia who have conducted scholarly research on taxation issues in northeastern Illinois**
- **Two members from the business community to represent the private sector**
- **Two members from local civic organizations well-equipped to research and discuss matters of state and local taxation**

GO TO 2040 recommends the following topics for more thorough exploration by this group.

State and Local Revenue Sharing, with Emphasis on the Sales Tax

The Task Force should analyze the impacts of state and local revenue-sharing arrangements and recommend appropriate adjustments to the various disbursement formulas. Two overarching principles that may be used to analyze the disbursement criteria are 1) whether the formulas promote the most optimal and sustainable economic and development outcomes and 2) whether they achieve some degree of fairness across local governments. Particular attention should be paid to the criteria of local retail sales as a disbursement mechanism for the sales tax, given the likely land use implications. Further research should elucidate these impacts, as well as the regional economic and development ramifications of the sales tax disbursement formula.

Sales Tax and the Service Sector

The Task Force should analyze potential impacts of the state expanding the sales tax base to cover a number of appropriate services. Any change should be made incrementally and cautiously, so the Task Force should carefully assess the efficiency, equity, revenue potential, and administrative costs of instituting such a policy change. If administered with care, expanding the sales tax to the service sector would broaden the tax base, increase revenues, and reduce the regressive nature of the sales tax.

Property Tax: Classification, Limitations, and Exemptions

The Task Force should address Cook County's system of residential and commercial property tax assessments. This system should be simplified, and the process should be made more transparent to the taxpayer. Without sacrificing transparency, local governments across northeastern Illinois should enjoy wider latitude regarding property taxes, with fewer restrictions by the State of Illinois. Furthermore, the Task Force should consider effects of the PTELL on communities in northeastern Illinois and recommend modifications to the legislation where appropriate. Although voters can approve tax increases above PTELL, fiscal policy by means of referenda has often proved to be ineffective in other parts of the U.S.

State Income Tax

The Task Force should analyze the efficiency and equity of the state income tax. While the state's individual and corporate tax rates (3 percent and 4.8 percent, respectively) are among the lowest rates in the U.S., the more critical long term issues include the flat rate structure and narrow base of the tax. The flat rate structure imposes the same rate for all taxpayers regardless of ability to pay, and the narrow base of the tax is reflected in the exemptions granted to pensions and other retirement income. Moving toward a graduated system (with marginal rates for different tax brackets), and limiting these exemptions can improve efficiency and equity and raise more revenue without raising rates across the board. It is important to recognize that in Illinois, the approval of a state constitutional amendment would be required to authorize a graduated, rather than a flat, income tax.

Local Tax Capacity

The Task Force should analyze state and local tax policies' ramifications for equity in northeastern Illinois. It should be stressed that some of the GO TO 2040 tax-reform recommendations should improve intraregional equity by broadening the tax base and modifying certain taxes (sales and income tax) to make them more progressive in nature.

7.5 Implementation Action Areas

GO TO 2040 focuses on one major implementation area for state and local tax policy: the creation of a Regional Tax Policy Task Force that will be housed at and staffed by CMAP, answering to the CMAP Board.

The table below summarizes specific steps to be taken by this group and lists the state and local tax policy issues that CMAP considers high priorities for reform.

7.6 Costs and Financing

CMAP's tax policy recommendations do not focus on raising tax rates or on increasing net revenues through taxes for state and local governments.

While sustainable fiscal health and balanced public-sector budgets are crucial for attaining overall GO TO 2040 objectives, CMAP is most concerned with how the current tax system is helping or hindering economic competitiveness and equity in the region. The reforms suggested in this recommendation can be structured to be "revenue-neutral." An example of this is extending the sales tax base to some industries in the service sector. Broadening the base to services, all else equal, would increase revenue. However, rates can then be lowered to achieve a revenue-neutral outcome.

Implementation Action Areas

Create task force LEAD IMPLEMENTERS: CMAP	Membership on the task force should include local governments, academic experts, civic organizations, and the business community. The CMAP Board will have ultimate discretion in terms of recruiting, forming, and managing this group. CMAP will provide staff support to the task force and CMAP staff will lead the development of policy briefs, reports, and analysis on these matters.
Evaluate state and local revenue sharing criteria with particular emphasis on the sales tax LEAD IMPLEMENTERS: Task Force, CMAP Board, State, counties, municipalities	More than $4 billion in state tax revenue, much of which is made up of sales tax, is disbursed annually to local governments in northeastern Illinois. Evaluate state/local revenue sharing criteria including the sales tax, income tax, personal property replacement tax, and MFT. The task force should analyze the fiscal, economic, and equity impacts of altering disbursement criteria and make appropriate recommendations to the state and/or propose regional or subregional actions. The sales tax disbursement, which is based on local retail sales, should receive particular emphasis. Prepare detailed recommendation.
Evaluate property tax classification and the property tax extension limitation law LEAD IMPLEMENTERS: Task Force, CMAP Board, State, Cook County	Evaluate the property tax classification system in Cook County and propose reform, where appropriate. Special attention should be paid to impacts on businesses and households as well as residential and commercial location decisions. Evaluate the impacts of PTELL on local government revenues and services and propose reform, where appropriate. Prepare detailed recommendation.
Evaluate expanding the sales tax to the service sector LEAD IMPLEMENTERS: Task Force, CMAP Board, State	Evaluate the impacts of extending the sales tax to some services. Highlight the economic and equity impacts of extending the tax to particular services, but not others. Prepare detailed recommendation.
Evaluate the efficiency and equity of the state income tax LEAD IMPLEMENTERS: Task Force, CMAP Board, State	Evaluate the impacts of graduating the state income tax by applying marginal rates for different tax brackets. Also evaluate the relatively narrow nature of the state's income tax base, given its exemptions for retirement income, particularly public and private pensions. Prepare detailed recommendation.
Evaluate the various ramifications of local tax capacity LEAD IMPLEMENTERS: Task Force, CMAP Board, State, counties, municipalities	Evaluate the overall equity impacts of the tax system in northeastern Illinois. Recommend tax and other fiscal reforms that promise to increase equity without sacrificing regional economic productivity. Prepare detailed recommendation.

RECOMMENDATION

8 Improve access to information



↑

TRANSPORTATION
2,000,000
Public transit trips per weekday

EDUCATIONAL ATTAINMENT
40.8%
Residents age 25+ who have at least an associate degree

CIVIC INVOLVEMENT
56%
Eligible voters who cast ballots

CULTURE
29,783
People employed in the arts

COORDINATED PLANNING
41.3%
Municipalities that report having considered recommendations of regional plans prior to GO TO 2040

↓

ENVIRONMENT
139,800,000
Metric tons of greenhouse gas emissions per year

HOUSING
42.3%
Households spending at least 30% of income on housing

EMPLOYMENT
10.5%
Residents who are unemployed

INFANT MORTALITY
7.17
Deaths per 1,000 live births

ECONOMY
11.7%
Residents below federal poverty level

SAFETY
564
Violent crimes per 100,000 residents

LAND USE
100,000
Acres of under-utilized land

These are among more than 200 measures being tracked by the MetroPulse website created by the Regional Indicators Project (a partnership of CMAP and The Chicago Community Trust). The arrows represent the direction that we want to move these top-level indicators.

Communities across our region and the world become more interconnected with each passing day. Access to business transactions, travel options and directions, traffic reports, and weather forecasts that once may have required hours of research can now be accomplished with a few keystrokes. And just around the corner is some as-yet unknown invention to make these tasks even easier.

The public is demanding access to information at an increasing rate to know their options and to make better informed personal decisions. They are also making these demands of their government. Residents have a strong need for greater governmental transparency based on their right to see how tax dollars are spent, how government operates, and how decisions affecting their lives are made. Accessible public information also spurs economic competitiveness and innovation within the private sector. And, it is also necessary for measuring progress towards implementation of GO TO 2040.

For these reasons and more, information sharing is a core function of CMAP, which since its inception has been committed to providing high-quality information and analysis to facilitate regional decision making. Now the agency is prepared to lead by more than example by providing technical assistance for government units and other organizations across the seven counties to openly share their data with each other and with the public.

Data sharing should enable easy access to real-time, up-to-date public information, defined as any government data that does not jeopardize personal privacy or public safety, for example, construction permits or zoning ordinances. CMAP is committed to leading this regional effort based on the principle that governments operate most effectively when they have and provide access to complete, accurate, and timely information. This principle relies on three facts:

The public is best-served when government information is freely accessible to all.

Every action or decision by a government entity should be based on high-quality information so that costs, benefits, and alternatives can be quickly and accurately evaluated.

Coordination of policies and operations across jurisdictions depends on the open sharing of information between public entities.

Policy challenges cannot be solved — and efficient government operations cannot be achieved — without comprehensive, current, and accurate data resources. Most issues in today's policy and planning environment are fundamentally data-driven and cross-jurisdictional, so understanding them requires a robust sharing of information. Despite legitimate concerns about cost, staff capacity, liability, privacy, and security, local governments have strong incentives to increase the availability of their data. The expense is much less than the costs associated with inefficiency and ineffectiveness of efforts to retrieve data that is not readily accessible.

To bring about a new regionwide commitment to improving access to public-sector information, CMAP makes the following recommendations:

Develop a regional web portal
The Regional Indicators Project's new MetroPulse website (**www.metropulsechicago.org**), a collaboration of CMAP and the Chicago Community Trust, will be a hub for data about the region. This portal will allow public officials, business people, and residents to get the best available real-time regional and local data — and to measure progress — across more than 200 quality-of-life variables addressed by GO TO 2040. The site's launch will coincide with the start of the GO TO 2040 plan's implementation.

Define best practices for data sharing
By understanding how communities here and across the world address similar data challenges, our state and region can put these best practices to work for residents. CMAP will work with the State of Illinois, counties, municipalities, and other governmental bodies that possess data to implement technical improvements that facilitate open exchange of data.

Provide technical assistance to local governments and other pilot projects
CMAP will help local governments to post data online and host a regional online warehouse providing access to municipalities' information as an expansion of the Regional Indicators Project.

The remainder of this section has details about these and other information-sharing recommendations involving CMAP and many partners across the region. The section describes the benefits of improving information access, looks at current conditions (including inefficiencies and barriers), examines indicators and targets, summarizes a number of important implementation areas, and briefly considers costs and financing related to improving access to information.

8.1 Benefits

Governance

Elected officials need information to make informed decisions, and access to relevant data is fundamental to this process.

When information is not shared, governments spend time and money finding it (often buying it) from other sources — or they simply operate without the data, often yielding poor results. On a larger scale, by improving access to information through data sharing, each unit of government will achieve efficiencies by leveraging the good work that others have done, reducing costs, and freeing up resources that will then be available for other purposes.

Transparency is essential to good governance and public accountability. The current lack of transparency and accountability contributes to public cynicism about government in general, which is magnified significantly when corruption becomes a factor. This is reflected in low voter turnout, decreased civic involvement, and growing mistrust of government here and elsewhere in the U.S. One key to turning this distrust around is to make public information easily available, giving elected officials access to data resources for decision-making, and helping residents to see how those decisions are being made. Increased transparency also creates a participatory environment in which residents can regularly interact with units of government.

Like the region as a whole, CMAP depends on access to information. The agency needs better data — often at a high level of detail across geographies and time periods both large and small. Continual improvement in the quality and timeliness of data is necessary for CMAP to properly plan comprehensively by understanding the dynamic, interconnected factors of jobs, housing, water supply, human services, and many other policy issues.

Economic

Providing access to information is a fundamental part of creating a supportive business environment and can lead to a stronger economy, better business decision-making, and opportunities for innovation. Through GO TO 2040, CMAP is seeking to support economic growth and innovation, and one of the methods identified to achieve this is to promote data sharing. Businesses and individuals today are accustomed to basing their decisions on easily accessible information resources. With their enormous information resources, units of government can play a special role in providing crucial data for economic decision-making by individuals and businesses. While public information should be available free of charge, governments must act as wholesalers of data sources, not retailers. This means providing data resources across a broad range of topics so that consumers are free to pick and choose the data that best suits their specific needs. Examples include location decisions (where to live or open a business), transportation decisions (how and where to travel), educational decisions (where and how to access training and education), and human services access. Governments may not get directly involved in such choices, but they can provide information that is absolutely essential to businesses and individuals making the decisions.

Public information systems help to power economic growth. As metropolitan Chicago competes with other global centers of commerce, our region should follow examples being set by our most innovative peers. Open government and shared data resources are becoming the norm in many metropolitan regions across the U.S. Because modern society and the economy are increasingly driven by digital information, we can ill-afford to lag behind as an information-driven global center.

Such a commitment to data sharing can make economic development opportunities easier and more transparent. For example, when the Boeing Corporation sought a new location for its world headquarters in 2001, detailed public information about local markets and amenities was gathered by the public-private partnership (PPP) that submitted Chicago's successful bid package to Boeing. Chicago's growing reputation as a leader in technology and innovation played an important role in the selection process as well.

The private sector can take advantage of government data by developing innovative applications that better utilize and package this public information. For example, Chicago's own EveryBlock.com (recently acquired by MSNBC) has blazed an innovative and influential trail by making detailed municipal data available to millions of people in metropolitan regions across the country. And the Chicago Transit Authority (CTA) has partnered with Google to help establish a new standard for mapping transit routes, a model since adopted in many other cities.

Our seven-county region has the potential to stay at the forefront of information technology by pooling public and private data resources to create advanced information systems. Metropolitan Chicago's prominent position as a hub for transportation, communications, and tourism ensures that skilled individuals from all over the world pass through or otherwise experience greater Chicago — and many of them settle here, to the benefit of our collective capacity for innovation. Private sector assets in our region include technology corporations and startups. The region is home to many universities and two national laboratories that are world leaders in technology research, development, education, and dissemination. Our philanthropic and nonprofit communities show a keen interest in modern technologies, such as the CityForward urban data analysis initiative led by IBM's Chicago office, whose goal is to help urban areas gain a deeper understanding of the major issues that face them.

These and many other examples show the power of combining public data with private innovation. In each case, access to data sources was more difficult and time-consuming than it would have been if facilitating access to public information had been a high priority of government. Reducing the transaction costs associated with government information would increase the return on society's investments in government information systems.

Tracking Progress

Data sharing is indispensible for quantifying progress and for effective decision-making because every important policy issue transcends local borders and affects everyone in the seven-county region. Tracking performance and making adjustments to reach the region's desired future is critical to the implementation of GO TO 2040. The Regional Indicators Project creates metrics for measuring economic, environmental, social, and cultural variables that are essential for sustainable prosperity. This GO TO 2040 project is a collaboration of CMAP and the Chicago Community Trust, which together have invested over $1.5 million to develop a data warehouse and visualization tools that will improve understanding of how investment decisions affect the region, even down to the very local geographic scale.

The indicators are important for CMAP's efforts to develop and evaluate strategies for implementing GO TO 2040. As such, indicators are divided into the major themes identified in the Regional Vision, with equity, sustainability, and innovation woven throughout Starting in November 2010, the Regional Indicators Project's MetroPulse website will let users track progress as measured by more than 200 indicators across different times and regional geographies. Because the project relies on a shared pool of current, accurate data, the region's success at achieving its goals will rely on the availability of a broad spectrum of public data. The site's launch will coincide with the start of the GO TO 2040 plan's implementation.

8.2 Current Conditions

A few public agencies in our region have responded to the prevailing trend towards providing access to information through data sharing by releasing more data and documents.

But a vast amount of local government information remains publicly unavailable and will grow larger as new technologies enable more extensive data gathering by government agencies. Moreover, the costs associated with data management as currently practiced — with each local government processing data in isolation, often duplicating the efforts of its peers— are needlessly high.

Residents, businesses, and institutions in our communities will increasingly expect governments to provide up-to-date information, which is not possible without regional coordination of data assets. Today's businesses and residents enjoy high-quality online information systems for banking, retail, travel, medicine, and a startling variety of other human activities. Governments are expected to provide comparable levels of service, which requires open information systems across departmental and jurisdictional boundaries. This subsection of the GO TO 2040 plan describes a number of current inefficiencies and some barriers that should be addressed to create open data sharing.

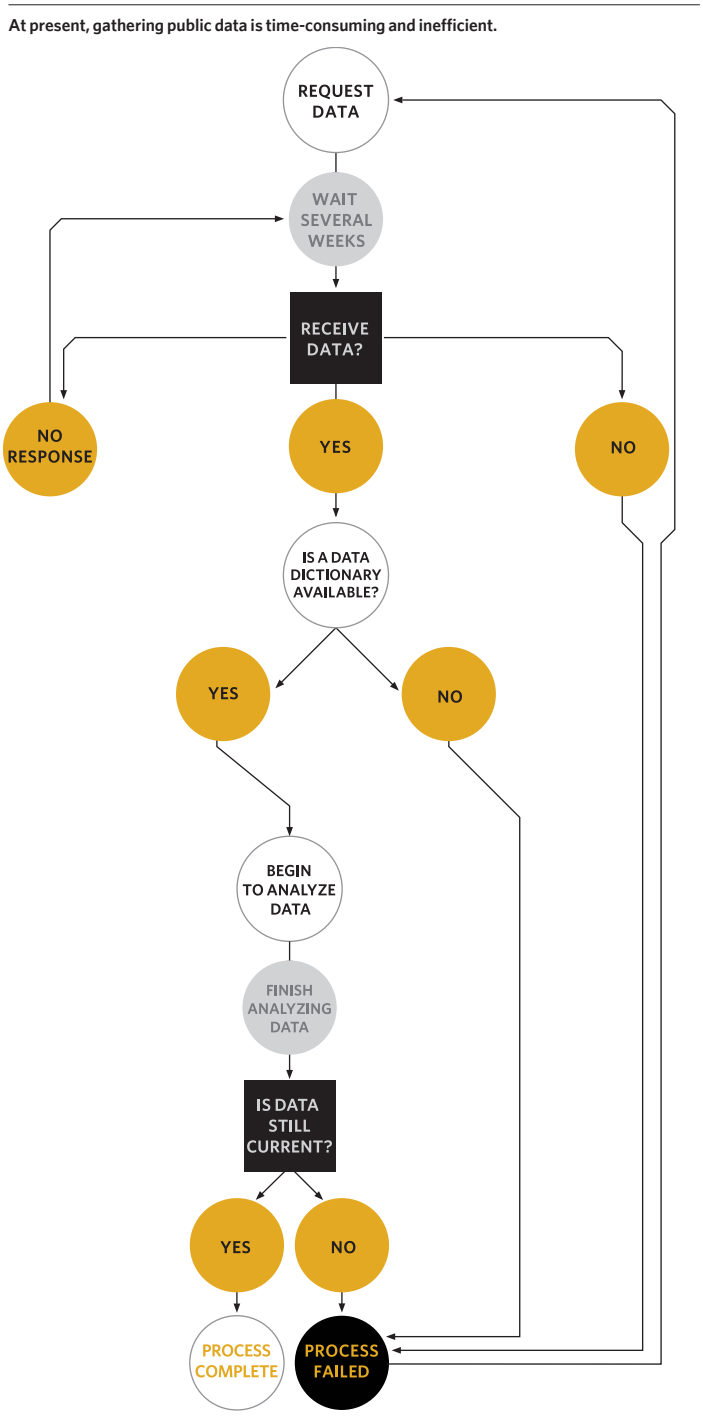
Inefficiencies

At present, gathering public data is time-consuming and inefficient. Here is a step-by-step example that is all-too-common among governments:

1. **One government agency or institution (the "requesting agency") asks for data from another (the "providing agency").**
2. **The request may be issued multiple times and may take many weeks to get a response. Sometimes the providing agency's response is negative (e.g., the data isn't available, or the point of contact doesn't know who has it). Sometimes there is no response.**
3. **Once acquired, the data must be processed by the requesting agency, which requires expertise that is in short supply at many local governments.**
4. **Processing the information requires a data dictionary that may or may not have been available from the providing agency.**
5. **By the time processing is complete, the data may be out of date, and so the next request cycle begins.**
6. **Meanwhile, other requesting agencies are seeking the same data and investing their scarce resources in processing that data — an ongoing duplication of effort.**
7. **Multiple agencies may process the data differently, creating the possibility of discrepancies.**
8. **Back at the providing agency, data requests are received over and over again, which consumes valuable staff time and stretches the already overburdened pool of technically skilled people.**

Inefficiencies inherent in this current practice reappear each time an important policy or planning decision is made. And this can happen over and over. For individual residents and businesses, the result is often a loss of confidence and a sense of cynicism or even suspicion about government capabilities and motives. Answers to simple questions (what day the garbage is collected) or more complex ones (precisely how are tax dollars being spent) need to be transparent and easily accessible. In this age of technology, requiring residents and businesses to make repeated phone calls in tracking down information is inefficient, unnecessary, and harmful to those governments and the communities they serve.

Figure 46. Step-by-step example of gathering public data



Source: Chicago Metropolitan Agency for Planning, 2010

Promising Trends

Data sharing and transparency (open data, documents, and communications) are gaining strength locally and nationally. This is an important foundation of experience on which our region must build. Meanwhile, new legal and administrative frameworks in Illinois and nationally have made government data sharing an important issue to address proactively, because it may be mandated in the future.

Several cities and regions across the U.S. have adopted sweeping open data policies, bringing new efficiencies to government operations, improving public satisfaction, and raising expectations for other state and local governments to adopt similar policies. Our seven-county region can learn from experiences of communities and regions elsewhere. Washington, D.C., and Baltimore established ambitious standards almost a decade ago, and other cities such as New York and San Francisco have followed suit. Some states, notably Utah and Massachusetts, have also implemented open data programs. These efforts and others have been accelerated by the increasing momentum of open standards (i.e., non-proprietary tools) for facilitating access to data.

The federal government adopted transparency as a comprehensive guiding policy following President Obama's Open Government Directive in January 2009. All federal executive departments and agencies were instructed to post their data online in formats that can be retrieved, indexed, and searched by commonly used web applications. More important for local governments were the reporting guidelines attached to federal American Recovery and Reinvestment Act of 2009 (ARRA) funds, which essentially mandated transparency regarding these expenditures. And it is likely that federal requirements for public data reporting will increase over the coming years.

In January 2010 the State of Illinois adopted a revised Freedom of Information Act (FOIA), which puts heightened responsibility on all public agencies to make their information available. Public institutions in Illinois are now required to respond in a timely way to information requests, or risk intervention by the Illinois Attorney General. This legal shift makes it even more advantageous for units of local government to proactively post their data in an Internet-accessible format.

Barriers

Often there are valid reasons that certain government data is not easily available. Reluctance to provide data does not necessarily represent recalcitrance on the part of local governments, but rather reflects concerns about cost, staff capacity, liability, privacy, and even public safety. These concerns are not unfounded, but their causes can be overcome in most cases by following standard practices. The following are some perceived barriers to providing open information access.

Many local governments are not equipped to quickly and accurately retrieve their administrative and operational data upon demand.

Potential inaccuracies in the data might lead constituents to make faulty decisions or reach unfounded conclusions.

The cost of procuring and maintaining robust data systems can be very high.

Staff reductions and attrition sometimes cause local governments to lose expertise and institutional knowledge about their own data resources.

Release of personally identifiable data can violate privacy in some cases.

Release of data about critical infrastructure can increase vulnerabilities to vandalism or terrorism.

The GO TO 2040 recommendations for improving access to information are intended to address and overcome these inefficiencies and barriers.

8.3 Indicators and Targets

Already, some local governments have posted useful data sets online, while others have provided raw data directly to CMAP and other stakeholders.

This trend should accelerate as the federal government ratchets up its requirements for open data reporting.

CMAP will measure the success of efforts at data sharing and transparency by tracking two data sets that should be made available by municipalities:

Construction permits

Zoning ordinances (including maps)

Initially, it should focus on making those data sets accessible online by targeting and working with large municipalities within the region (greater than 40,000 population).

The region's goal should be, within a decade, for all relevant data that does not jeopardize personal privacy or public safety to be available from every government entity and every publicly funded institution in the region. Each year should bring new data sets into the pool of available resources. Our goal should be to increase the number of high-quality public data sets made available each year by at least 10 percent.

8.4 Recommendations

Upon its creation, CMAP committed in its 2006 Strategic Report to providing high-quality information and analysis through coordinated technical assistance to facilitate regional decision making.

Long responsible for maintaining and providing access to the region's comprehensive inventory of information on land use, transportation, and environmental analysis, the regional planning agency is seeking to enhance this information and to serve as the definitive source for federal, state, and local planning databases and other public information.

To lead the region's data sharing efforts, CMAP will provide technical assistance for government units and other organizations across the seven counties to openly share their data with each other and with the public. By maintaining the Regional Indicators Project's MetroPulse website, defining best practices, and implementing technical assistance, the agency is committed to providing the latest, most-thorough information to the public and decision makers across the region.

CMAP's web-based data activities must focus on two areas: 1) Acquiring useful raw data (i.e., inputs); and 2) Providing useful data products (i.e., outputs).

The agency will aggressively acquire the data needed to build state-of-the-art data systems. By providing tangible data products to the region, CMAP will give government units and other partners a strong incentive to provide their best, most current data to CMAP. As these data products emerge, the agency will encourage willing local government entities and others to participate in pilot projects. With these factors in mind, the following are the recommendations for implementation of data sharing.

Develop a Regional Web Portal

CMAP will implement the Regional Indicators Project, which will make important data sets available on the Internet and serve as an online hub for data about the region, similar to the federal website at **http://data.gov**. CMAP has already acquired, cleaned, and uploaded more than 650 tables that describe the over 200 tracking indicators that will be available on the Regional Indicators Project's MetroPulse website. Following the launch of this site, CMAP will continue to acquire new data sets and integrate local data with state and federal data as seamlessly as possible in a regional online data warehouse, so that data about issues — transportation, housing, and natural resources, for example — can be accessed for varying geographic levels. This commitment will add value to planning, analysis, and governance activities in our region.

Define Best Practices for Data Sharing

CMAP will define best practices for transparency and data sharing for the region's units of government based on an assessment of best practices from other regions and input from the State of Illinois, counties, municipalities, and other governmental bodies that possess data, such as transportation agencies. The best practices will look to define the "who, what, where, and how" of data sharing and include more technical information, especially with regard to how data is shared. To define these, CMAP will participate in (and convene when appropriate) regional discussions about data sharing protocols and procedures.

Provide Technical Assistance to Local Governments and Other Pilot Projects

CMAP will provide technical assistance to local governments wishing to post data online and host a regional online data warehouse to provide access to this information. The online warehouse will be an expansion of the Regional Indicators Project. In addition to local governments, CMAP will also seek opportunities to form partnerships around data-sharing pilot projects with other interested regional partners, such as transportation agencies, workforce development agencies, and municipal water suppliers in order to make this data more accessible.

In addition to what is described above, CMAP will actively work with all willing units of government to promote data sharing and transparency with the goal of making all relevant administrative and operational data available to the public via the Internet, excluding data that compromises confidentiality or public safety. The State of Illinois should commit to adopting similar protocols as the federal government has in terms of data sharing and transparency. Federal and state governments should also require comprehensive, detailed reporting as a condition of federal and state funding programs.

Finally, CMAP will maintain a catalog of data sets provided by selected public entities and will evaluate our progress on a regular basis to determine effectiveness and identify possible alternatives. This last point is especially important since this recommendation is largely contingent on oftentimes rapidly changing technology, so a commitment to regular evaluation is a key to its success.

8.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on three implementation areas for improving access to information:

Launch the Regional Indicators Project's MetroPulse Website

Develop Regional Best Practices

Provide Direct Technical Assistance and Conduct Data Sharing Pilot Programs

Implementation Action Area #1: Launch the Regional Indicators Project's MetroPulse Website

Launch the Regional Indicators Project's MetroPulse website LEAD IMPLEMENTERS: CMAP, the Chicago Community Trust	In collaboration with the Trust, CMAP will roll out a website that describes the tracking indicators. The website will also allow users to tabulate, graph or map this information. It will also allow users to save visualizations on a free account for instant recall.
Continually improve the usability of the Regional Indicators Project's MetroPulse website LEAD IMPLEMENTERS: CMAP, the Chicago Community Trust	A MetroPulse iPhone application will be made available to the public free-of-charge. It will enable users to choose either a) one county or municipality and compare up to seven indicators datasets that describe that geography; or b) one indicator and compare up to seven counties or municipalities. It will also enable users to save these visualizations to their MetroPulse website account.
Train stakeholder groups in the use of the MetroPulse website LEAD IMPLEMENTERS: CMAP	CMAP will develop dual training/focus group sessions to help maximize the utility of the existing website for target user groups (i.e., municipal staff, community organizations, researchers, etc.). Information from focus group discussions will identify the level at which information is accessed, how data informs policy decisions, what are the most common barriers to sharing data, what datasets are in highest demand and how should data be visualized to make the greatest impact.
Prepare biennial Regional Indicators Project reports LEAD IMPLEMENTERS: CMAP, the Chicago Community Trust	Every two years, produce a report that summarizes the current state of the indicators. Produce the first "baseline" report in 2010, concurrent with the release of GO TO 2040.

Implementation Action Area #2: Develop Regional Best Practices

Increase the number of datasets shared by governments in the region with the public LEAD IMPLEMENTERS: CMAP	Develop a data warehouse with architecture flexible enough to store any new dataset that may arise in the foreseeable future. This warehouse should accommodate all types of geographies and all possible frequencies of update.
Enhance the region's data warehouse LEAD IMPLEMENTERS: CMAP	Continue to maintain, update and expand the region's data warehouse. Moving forward, this will include transitioning from a storage to an archival function. This includes integrating local data with federal and state data and creating live links to data providers similar to **http://data.gov**.
Define best practices for regional data sharing and transparency LEAD IMPLEMENTERS: CMAP	Convene a working group of willing governmental and nonprofit data providers (including the state, counties, and regional entities) to lead the development of policy briefs, reports and analyses based on a continuous assessment of existing conditions in our own region and in comparison with best practices identified across regions. Among other things, these deliverables will include technical documentation on server-to-server linkages, machine-readable formats, open APIs (application programming interfaces) and metadata.

Implementation Action Area #3: Provide Direct Technical Assistance and Conduct Data Sharing Pilot Programs

Develop and distribute data visualization tools to better inform decision making LEAD IMPLEMENTERS: CMAP	Expand and improve CMAP's data APIs so that partners can easily tap into the CMAP database using server-to-server links.
Develop pilot programs LEAD IMPLEMENTERS: CMAP	Conduct a pilot program to provide comprehensive technical assistance to one department from each of the following government entities: the state, one county, one municipality, and one regional transportation agency. Depending on the skill, technical capacity and organization of each entity's archive, these tasks will include data entry, data cleaning, development of data architecture, posting data online, development of server-to-server linkages and development of open APIs. This should be expanded to other willing partners who wish to participate.
Commit to increasing access to information through data sharing and transparency LEAD IMPLEMENTERS: State (various agencies), counties, municipalities	Post all administrative data online in either database or spreadsheet file formats.
Creating a mechanism to facilitate data sharing LEAD IMPLEMENTERS: CMAP	Create a data portal for every county and municipality in the region, based on the Regional Indicators Project engine. The Regional Indicators Project system is very powerful, but it focuses on regional, not municipal data. Moreover, the indicators data sets are limited to the 200+ indicators selected by CMAP working committees and advisory councils organized by the Chicago Community Trust. This additional functionality will also allow them to upload their datasets to our website, and see these data sets appear in their data portal.
Increasing the accessibility of data and encouraging innovation LEAD IMPLEMENTERS: CMAP	As mobile devices become more prevalent, continue on the path of tooling our data engine to support mobile applications.

8.6 Costs and Financing

Implementing data sharing will require significant investments for technical assistance and for re-tooling existing information systems.

These investments should be understood in the context of the ongoing upgrades that government entities routinely make, regardless of data sharing efforts. In other words, routine data system upgrades should always be viewed as opportunities to implement transparent data practices. In this way, costs would be incremental rather than abrupt.

Up-front investments would be needed for three of the implementation steps described above:

Create a regional web-based data warehouse and search engine similar to data.gov.

Provide technical assistance to local governments.

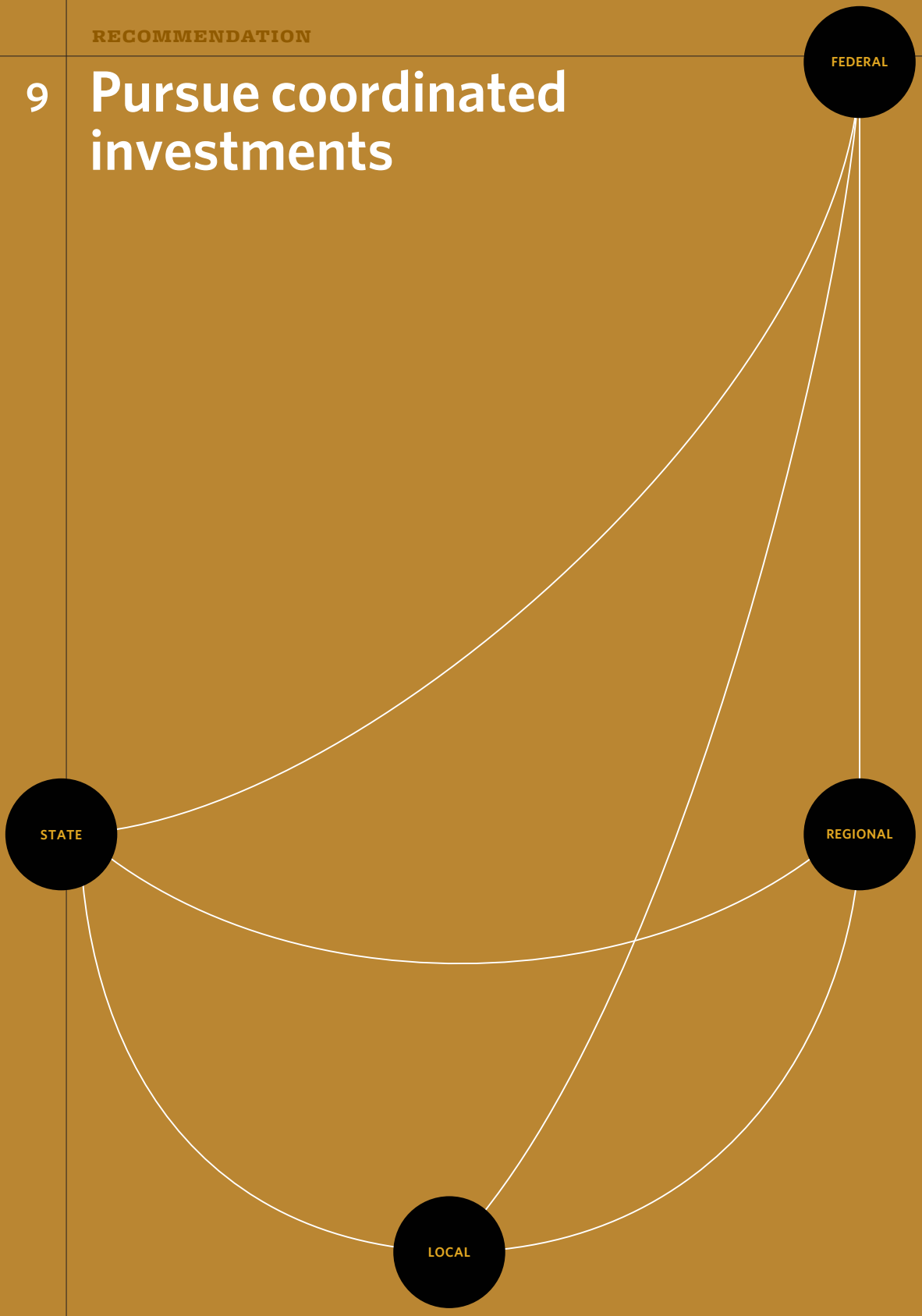
Conduct pilot projects for data sharing.

These initiatives might require investments in the hundreds of thousands of dollars. Costs should be set against the current cost of duplicative data processing, laborious exchange procedures, and operating with substandard data.

Financing for these activities should be built into CMAP's core operating budgets, and should include a meaningful investment in pass-through funds for partners in the selected pilot projects. Funding sources might include federal, state, and philanthropic contributions.

RECOMMENDATION

9 Pursue coordinated investments



GO TO 2040 emphasizes effective, collaborative approaches to common problems. With a region as large and diverse as northeastern Illinois, implementation of the plan's recommendations will require that leaders recognize the interdependence of our communities and work across political boundaries to address issues facing multiple jurisdictions.

If GO TO 2040 is to serve as a sustainable roadmap for the region's future, this will require changing the way in which major investment decisions are currently made. Many of our most pressing problems — in the areas of transportation, housing, climate change, economic vitality, and environmental quality — cannot be solved solely by the actions of any single level of government. These types of issues truly transcend individual government agencies and cross jurisdictional borders, and their solutions demand coordinated investment by all levels of government.

All the recommendations in previous chapters of GO TO 2040 require a more coordinated approach by various levels of government for service delivery, funding allocations, programmatic and regulatory authority, and increased efficiencies. This section should be viewed as the culmination of previous sections and an integral method to achieve the successful implementation of the plan's recommendations through better coordinated investment and more efficient government.

To effectively implement GO TO 2040 through coordinated investment, the following actions are recommended:

Take a Regional Approach
Metropolitan regions drive the U.S. economy, and this should be reflected in federal and state policy and programs. Comprehensive regional plans, like GO TO 2040, should guide investment decisions by identifying regional priorities and defining outcome-based performance measures.

Reform State and Federal Policies and Programs
GO TO 2040 makes the connections among policy areas that had previously been compartmentalized. To realize these plans, existing barriers among federal and state agency goals need to be removed and planning and grant requirements need to be revised to achieve comprehensive solutions to problems.

Increase Coordination or Consolidation of Local Services
At the local government level, pursue efficiencies through increased coordination, communication, and where appropriate, service consolidation.

9.1 Benefits

A Regional Approach

Metropolitan regions drive the economy of the United States. They are home to 80 percent of the nation's population, and they generate 85 percent of the gross domestic product (GDP). The geography of our metropolitan area best reflects economic life.

While our region remains a place of great diversity, it also lives and breathes as a single unit, brought together by the transportation system, a vast network of open space, water resources, shopping, cultural activities, and sports teams. Our residents certainly retain strong allegiances to their state as well as to their local communities, but in practice people increasingly live their lives on the metropolitan scale. An increasingly "regional approach" to investment decisions, which would both invest more in metropolitan areas as well as devolve more appropriate authority for funding decisions to the regional level, harnesses the economic power of regions.

To date, state and federal policy has not adequately reflected this metropolitan reality. Programs aimed at metropolitan areas often lack a consistent vision or a coordinated strategy. For example, federal transportation and housing resources are allocated to different state, regional, or local agencies that use different criteria that result in different — often conflicting — patterns of investment. Furthermore, as the region plans comprehensively to accommodate population growth, we lack the resources for implementing the integrated strategies, no matter how well-planned. By thinking and acting in a more regional context, the state and federal government must base its policy prescriptions, investment strategies, and decision making upon this reality.

Targeting more investment toward metropolitan areas like northeastern Illinois will increase economic prosperity, not only for our region, but for our state and nation. The Chicago region, home to roughly two-thirds of the Illinois population, contributes over 70 percent of the gross state product. And northeastern Illinois drives not only the economy of our state, but also the larger Midwestern economy. The future prospects of the entire Great Lakes region will be strongly impacted by the prosperity of northeastern Illinois.

Guiding Investment Decisions

GO TO 2040 is the region's long-range comprehensive plan to link transportation, land use, the natural environment, economic prosperity, housing, and human and community development. With a region as large and diverse as northeastern Illinois, CMAP chose to pursue a policy plan (dealing with the investments and high-level policies that shape our region) as opposed to a land use plan (planning for specific land uses in specific locations). This is an important distinction in terms of the plan's focus, the agency's future role, and overall implementation.

Increased interagency collaboration, particularly at the federal and state levels, remains vital to implementing many of the actions recommended in GO TO 2040. Many of the recommended actions require different agencies to work to align their goals, performance criteria, funding, and streamline grant requirements. The concept of livable communities, an overarching focus of GO TO 2040, truly cuts across a variety of policy areas and different public sector agencies and requires increased federal and state coordination that transcends existing agency silos. Realizing the potential of livable communities requires not only increased coordination, but also new innovative ways of governing and making investment decisions.

GO TO 2040 should serve as a sustainable roadmap for the region's future and help guide investment decisions at the federal, state, and local levels. The importance of prioritization by utilizing outcome-based performance measures is stressed throughout the plan. As a result of this planning process, regional priorities were identified by the recommendations that appear throughout GO TO 2040.

Increased Efficiencies

It is common for residents to demand that government operate more efficiently, and there are countless examples of perceived wasteful government spending. Some inefficiencies result from poor decision making, but some are the unintended consequences of policies and/or bureaucracies. By re-thinking and realigning government policies, programs, funding and regulations, the region can avoid these undesired outcomes. Targeted and coordinated investments should create efficiencies by streamlining programs and services and avoiding duplication of effort at all levels of government, therefore saving money. Similarly, coordination or consolidation of local services, if done prudently, should have numerous benefits.

9.2 Current Conditions

To implement GO TO 2040 and achieve coordinated investment, barriers at the federal, state, and local levels need to be identified and remedied.

Working in Silos

Federal and state agencies often implement their programs and funding in silos without much consideration of common goals across jurisdictions and topics. While issues such as transportation, housing, and environment are inextricably linked, federal and state departments responsible for these matters have historically remained largely isolated from one another, varying widely in their policy goals, priorities, and grant requirements. This has created barriers to delivering comprehensive solutions to the problems faced by our region and others across the nation.

For example, while the U.S. Environmental Protection Agency's (U.S. EPA) priorities include land preservation, clean air, and climate change mitigation and adaptation, they are not necessarily supported by federal transportation policy, which compartmentalizes highway and transit funding and apportions highway dollars largely based on road miles and vehicle miles traveled (VMT). Additionally, while federal transportation criteria may not be intended as incentives for states to expand their road networks, it is also fair to say that these policies do not give states an incentive to maintain and enhance rather than to expand their current system, thereby missing many opportunities to protect air and water and mitigate greenhouse gas emissions.

Workforce development policy is another area ripe for increased coordination and streamlining at both the federal and state levels. At the federal level, six different agencies (the departments of Education, Labor, Agriculture, Health and Human Services, Housing and Urban Development, and Energy) administer fifteen separate programs for workforce development. Similarly, at least four different State of Illinois agencies provide their own programs and services in this regard. Because the private sector requires a skilled workforce to create and retain jobs, making this system more coherent and collaborative is imperative to keep our economy strong.

Recently, the federal government has demonstrated a commitment to increasing interagency coordination and linking its investments to comprehensive planning. The U.S. Department of Transportation (U.S. DOT), U.S. Department of Housing and Urban Development (HUD), and U.S. EPA have recently collaborated on an interagency agreement, the Partnership for Sustainable Communities, to implement joint transportation, housing, and environmental initiatives. While the details and scope of this new program are yet to be determined, it shows great promise in helping to implement plans like GO TO 2040. The State of Illinois should follow suit to better coordinate its programs and program delivery to allow for a more focused approach to solve the issues that we face in northeastern Illinois.

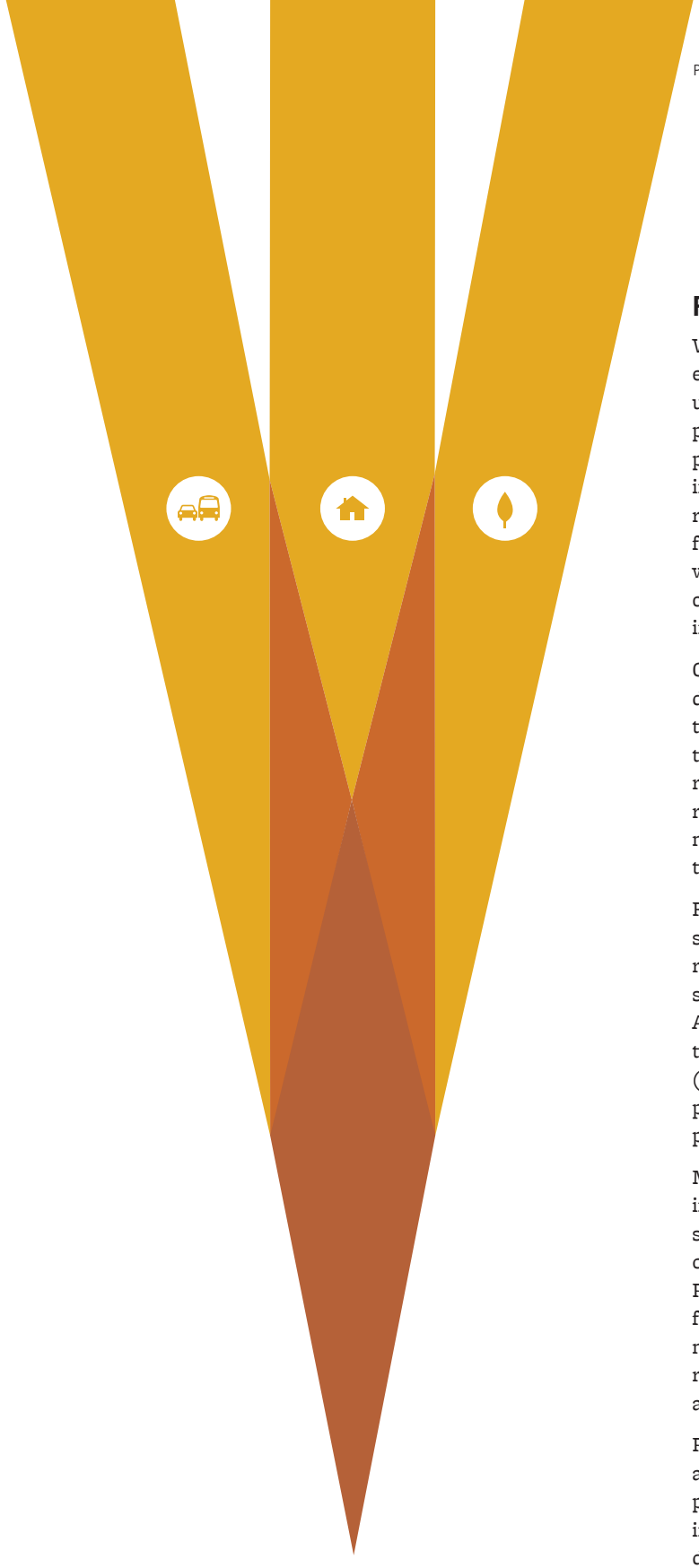


Figure 47. Sustainable communities

By removing "silos" to improve coordination of programs such as Transportation, Housing, and Environment at all levels – federal, state, regional, and local – we can make better use of public resources and maximize benefits to achieve desired outcomes.

Funding Allocations and Decision Making

While the geography of the metropolitan region best reflects economic life, most federal investment decisions are made using the delivery systems of states, which sometimes have a powerful incentive to disburse investments widely rather than pursue particular socioeconomic goals — including economic impact — which could be maximized through a metropolitan, regional focus. Alternatively, many investment decisions by the federal and state government flow directly to local governments with little consideration of regional economic benefits, equity concerns, or the additional efficiencies that could be gained through intergovernmental coordination.

One example of this is the flow of federal and state transportation dollars in Illinois. Federal and state dollars largely accumulate in the state's Road Fund and Construction Account. Expenditures are then made using an arbitrary formula by which northeastern Illinois receives 45 percent of the funds, while the remainder of the state receives 55 percent. As the leading driver of our state's economy, northeastern Illinois merits more consideration, and it would be in the state's best overall interest to invest more in our region.

For some types of investments, the most appropriate geographic scale for policy leadership and programming decisions may be regional. Nationally, decisions about where federal or state funds should ultimately flow have seldom been made at a regional level. Although transportation funds are planned and programmed at the regional level through the Metropolitan Planning Organization (MPO) process, MPOs have often followed the lead of individual project sponsors, rather than prioritizing projects based on regional priorities as CMAP has done with GO TO 2040.

More recently, there have been more steps taken toward implementing regional process for decision making and project selection. The U.S. Department of Energy's (DOE) recent award of $25 million to CMAP and the City of Chicago for the Retrofit Ramp-up Program exemplifies regional leadership and a new framework with criteria for programming federal funds within northeastern Illinois, in this case to create a sustainable building retrofit program that will increase energy efficiency of commercial and residential buildings across our seven-county region.

Regional decision making in terms of investment prioritization and developing consensus is not an easy task. Comprehensive plans like GO TO 2040 can help guide the investments, in areas like infrastructure, workforce, and quality of life, required to reach desired outcomes. To date, the federal government and State of Illinois have supported the creation of these plans. However, the federal government continues to fund regional planning through transportation dollars only, which constrains the ability of these plans to be truly comprehensive in nature. While the State of Illinois mandates regional comprehensive plans, it has not consistently appropriated the necessary funding. Furthermore, the federal government and states typically have not used the recommendations of such plans to target investments or change policies.

Units of Government and Intergovernmental Coordination

In the seven-county region of northeastern Illinois, 1,226 different units of government provide services to residents, businesses, and visitors (see **Table 6**). No region has nearly as many units of government as metropolitan Chicago. Highly localized provision of services like education, fire, and police is a tradition in the Chicago region. Providing services as locally as possible clearly creates greater efficiency in some cases. At the same time, many local governments are also experiencing significant fiscal stress resulting from a number of factors, including declining tax revenues due to the recession, political opposition to or caps on property taxes, or the rising costs of labor, capital, and pensions.

Intergovernmental coordination, both formal and informal, exists in various forms throughout the region. At the local level, nearly all of the municipalities participate in one or more Councils of Government (COGs) that draw municipalities together (based on geographic proximity) to discuss and address common problems and seek collaborative approaches. Units of government also can work together based on a certain issue, such as addressing water supply or economic development opportunities. A wide array of forums that take place throughout the region — anything from informal meetings between municipal managers to a state designated task force — involve the various levels of government and address particular issue areas by facilitating communication and coordination.[1]

Nongovernmental organizations also play an important role, both in coordinating among local governments and organizing regional responses to investment opportunities. Among many examples, the Metropolitan Mayors Caucus (MMC) has worked for over ten years to develop consensus on shared, cross-border challenges. Civic organizations like the Metropolitan Planning Council (MPC) and Chicago Metropolis 2020 and the region's philanthropic community have long championed the importance of regional coordination. Chicago Wilderness (CW) convenes stakeholders throughout the region to discuss and promote biodiversity. There are numerous other examples. Most recently, CMAP and the Chicago Community Trust formed the Regional ARRA Coordinating Council (RACC), recognizing the opportunities presented for the region through the stimulus funds made available through the American Recovery and Reinvestment Act of 2009 (ARRA). The RACC, which is composed primarily of nonprofit and philanthropic organizations, will continue to offer a range of assistance to state and local agencies in coordinating efforts that will strengthen the region's competitive advantage, especially in regard to preparing coordinated proposals for federal funds.

Table 6. Units of government in northeastern Illinois

7	Counties
284	Municipalities
123	Townships
307	School Districts
136	Fire Districts
173	Park Districts
108	Library Districts
88	Miscellaneous
1,226	TOTAL

Source: Illinois Department of Revenue

1 The various roles that units of government play are covered more thoroughly in the GO TO 2040 chapter titled "Context and Best Practices."

9.3 Indicators and Targets

This section has no specific indicators or targets. Instead, since coordinated investment is an integral method to achieve the successful implementation of the plan's recommendation, success will be measured by tracking the level of implementation of all of the recommendations made in GO TO 2040.

9.4 Recommendations

Take a Regional Approach

The state and federal government should use GO TO 2040 to align their investment decisions. As the region's planning agency, CMAP should work to foster inter-jurisdictional collaboration as much as possible.

To move from planning to implementation of GO TO 2040, in partnership with local governments and other agencies, CMAP should seek a greater role in the implementation of the types of strategies analyzed in GO TO 2040. While educational outreach and technical assistance remain important implementation tools, CMAP should also initiate a process to realign its current programmatic and review responsibilities, both in transportation and non-transportation areas, to support GO TO 2040.

CMAP should also move a step beyond this by organizing the region's response to available federal or state funding opportunities or through seeking a greater programming role for appropriate funds. The overall purpose of these actions should be to achieve the greatest possible efficiency and return on investment from federal and state funds spent within the region.

Through these efforts, CMAP should serve as a regional leader for increasing the efficiency and effectiveness of federal, state, and other public investments. Interagency federal agreements like the Partnership for Sustainable Communities, which seek to implement joint transportation, housing, and environmental initiatives in communities across the U.S., are an important beginning but should not simply provide funds for more planning. Specific funding should be set aside in these types of investments to implement policies and capital investments at the local level that support the policies of adopted regional plans. CMAP is poised to lead this effort on behalf of the region.

Along these lines, the federal government should award metropolitan regions "Sustainability Challenge Contracts" to transcend the compartmentalization of disparate programs that might be leading to undesirable outcomes. Challenge grants could incentivize regions to create partnerships across state and local governments, business and civic organizations and other groups for strategic implementation or capital investment activities. Strategies could include energy efficiency retrofit projects, brownfield remediation, mixed-use development, regional workforce initiatives, or congestion pricing initiatives.

Funding for comprehensive regional planning is also a top priority of GO TO 2040. Traditionally, federal transportation funds are the major source of funding for planning agencies throughout the country. The 21st Century has seen increased emphasis on planning comprehensively (not just for transportation), with a focus on creating livable communities and ensuring the region's economic future. To sustain and enhance this planning, the federal government should also support a more robust investment in comprehensive planning from sources other than transportation funds. If comprehensive planning is truly a high priority of the federal government, it requires involvement from other agencies, like U.S. EPA, HUD, DOE, and U.S. Department of Labor, in providing MPOs additional funds to do comprehensive planning and implementation.

Federal investment also needs to be matched and supplemented by state and local funding. The State of Illinois Regional Planning Act was amended in 2007 to include the Comprehensive Regional Planning Fund (CRPF) to provide stable, dedicated funding for comprehensive planning to CMAP and other regional planning agencies statewide. While funding for the CRPF was appropriated in the first two years, recent state budget shortfalls have endangered the availability of state funding for comprehensive regional planning. Moving forward, for GO TO 2040 to succeed, a guaranteed funding source that allows for flexibility in terms of comprehensive planning activities must be secured.

Reform State and Federal Policies and Programs

Beyond the initiatives to implement the GO TO 2040 recommendations noted above, there are a number of policy initiatives that should strive to better align programs, regulations, and funding at the state and federal levels to promote more efficient, effective, and collaborative implementation at the regional level. Often small programmatic actions — for example, with U.S. EPA addressing brownfield clean-up regulations in conjunction with HUD's programs to create more affordable housing — can scale up to have a larger impact and streamline policies that had previously been at odds with one another. As another example, the Federal Highway Administration apportions many of its programs to states based in part upon lane miles. That may incent road expansion relative to maintenance, even though this may not be a desirable strategy from a regional planning context, and this apportionment process should be reconsidered. Federal transportation funds also compartmentalize highway and transit funds and apportion them among many different programs with varying criteria, which may not maximize regional planning goals. On the environmental side, the Clean Water State Revolving Fund (CWSRF) was created to help pay for improvements to publicly owned wastewater treatment plants. While it has been successful in this, it also subsidizes the construction of wastewater capacity to support new development on greenfield sites, which tend to degrade the water resources the CWSRF is meant to protect.

Overall, GO TO 2040 recommends interdisciplinary efforts by federal and state agencies to modify apportionment formulas, project selection criteria and grant requirements that may be helping to cause unintended outcomes. These policy changes at the state and federal levels, while sometimes small in scale, can showcase the benefits of more coordinated governance. However, more should be done to address larger, more systemic barriers on both the federal and state levels and to reflect the regional context that exists.

Support Efforts to Coordinate and Consolidate Local Services

In this fiscal environment, it may be prudent for some local governments to consider sharing or consolidating services, where appropriate. At the extreme, some local governments may find it in their fiscal interest to fully consolidate all government functions.

The available research and experience of other places can help illuminate some of the challenges and opportunities involved in local service consolidation. The MMC recently completed a report specifically addressing these types of issues in relation to fire and police services. As the report highlights, many local governments across the country, including some in the Chicago region, have experimented with consolidating their services. In southern Lake County, Kildeer and Deer Park have combined policing services. The Will County Sheriff provides policing for the Village of Homer Glen. In nearby Milwaukee County, Wisconsin, seven formerly separate fire departments merged in the early 1990s to form a consolidated North Shore Fire Department. All of these efforts have demonstrated favorable results, both in terms of increasing service effectiveness and cost savings.[2]

Some other states have taken this idea further, in terms of consolidating school districts. In 2007, Maine consolidated its number of school districts from 290 to 215, which has greatly increased its share of instructional expenditures relative to administrative expenditures. The governors of Pennsylvania and Mississippi, one a Democrat and one a Republican, have also recently proposed massive consolidations of their school districts.[3]

Notwithstanding the multiple barriers to this kind of change, it is important to recognize that not all services are created equal and that consolidation does carry a fair degree of risk. Economies of scale in service delivery are realized to a greater extent in highly capital-intensive services, such as water or sewer.[4] Less capital-intensive services, including schools and police, may present more challenges. Opponents of consolidation argue that such action may result in a loss of both local control and efficiency, since the level of demand for services becomes more diffuse and varied across wider populations. Proponents of consolidation argue that public safety knows no jurisdictional boundaries and exists more as a metropolitan-wide rather than localized issue. As the issue does not lend itself to simple conclusions, it is important for local governments to analyze these issues intensely and to coordinate and communicate with each other regarding potential consolidation opportunities.

GO TO 2040 supports efforts toward increased local government service coordination and in some cases consolidation, but also stresses that these decisions should be made collaboratively and responsibly. Both *horizontal* and *vertical* service consolidation should be considered. *Horizontal* consolidation refers to non-overlapping units of government, such as two municipalities. *Vertical* consolidation refers to overlapping units of government, such as a county and township (or municipality). The recent research effort focusing on police and fire service consolidation led by the MMC should continue and be expanded.

Counties and COGs are well-positioned to help analyze and implement these efforts locally. The desirability and effectiveness of consolidation varies dramatically based on local conditions, so while regional research and support is helpful, local leadership is needed to actually achieve efficiencies. Local governments in cooperation with their COGs should analyze the fiscal, efficiency, and other consequences of sharing or consolidating some local services. Counties should also be involved with this effort, and should have a larger role in investigating the coordination and consolidation of services offered by units of local government beyond municipalities, such as townships. CMAP can also add value to this area through ongoing research and analysis on local services and highlight where these types of possibilities may exist.

2 Metropolitan Mayors Caucus, "Service Delivery Task Force — First Report to the Full Caucus," December 14, 2009. See **http://tinyurl.com/3xvwwnb**.

3 Bruce Katz, "The Metro Moment," Brookings Institution, April 16, 2010.

4 For more information, see the GO TO 2040 section "Manage and Conserve Water and Energy Resources."

9.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on three implementation areas for pursuing coordinated investments:

Take a Regional Approach to Federal and State Investment

Reform State and Federal Policies and Programs

Support Efforts to Consolidate Local Services

Implementation Action Area #1: Take a Regional Approach to Federal and State Investment

Realign current programmatic and review responsibilities, both in transportation and non-transportation areas, to support GO TO 2040 LEAD IMPLEMENTERS: CMAP	CMAP's programming activities should, as far as possible, be oriented toward implementing GO TO 2040. CMAP should realign its current programmatic and review responsibilities to support the plan. These responsibilities now include staffing project selection committees and selecting criteria for the allocation of Unified Work Program (UWP) and Congestion, Mitigation and Air Quality Improvement (CMAQ) funds, oversight and monitoring of the Surface Transportation Program (STP), and an advisory role in reviewing water quality management plan amendments (the Facility Planning Area [FPA] process) and in reviewing Developments of Regional Importance (DRIs).
Continue to lead regional efforts in implementing federal and state investments LEAD IMPLEMENTERS: CMAP	CMAP should seek a greater role in leading regional responses to some funding opportunities and, where appropriate, drive more efficient, effective, and collaborative programming decisions.
Identify linkages and opportunities for regional collaboration around federal and state funding sources; engage local governments on these issues LEAD IMPLEMENTERS: CMAP, nonprofits, philanthropic	CMAP in partnership with the Chicago Community Trust formed the RACC, composed of representatives from the region's civic organizations and the philanthropic community, to coordinate efforts to maximize the region's strategic advantage in acquiring and leveraging federal stimulus funds. The longer term goal of this group should be to identify and support opportunities for regional collaboration around future federal and state funding opportunities. This can demonstrate the power and effectiveness of regional collaboration. This group should increasingly seek the input of the region's local governments, which will further strengthen the supportive environment for regional decision-making.
Incent regional decision-making and empower regional institutions LEAD IMPLEMENTERS: Federal (U.S. DOT, U.S. EPA, HUD, EDA, DOE), state (IDOT, IHDA, DCEO)	Through challenge grants or similar mechanisms, incent regions to create partnerships across state and local governments, business and civic organizations, and other groups for strategic implementation or capital investment activities. Strategies could include: energy efficiency retrofit projects, brownfield remediation, mixed use development, transit oriented development (TOD), regional workforce initiatives, or congestion pricing schemes.
Support a more robust investment in comprehensive planning LEAD IMPLEMENTERS: Federal (U.S. DOT, U.S. EPA, HUD, EDA, DOE), state (IDOT, IHDA, DCEO)	Currently, MPOs receive only transportation planning funds from the U.S. DOT. If comprehensive planning is truly a high priority of the federal government, it requires involvement from other agencies, like U.S. EPA and HUD, in providing MPOs and regional planning agencies additional funds to do comprehensive planning and implementation. The State of Illinois mandates regional comprehensive planning, but has not sufficiently appropriated funds toward this purpose.

Implementation Action Area #2: Reform State and Federal Policies and Programs

Harmonize state and federal grant and program requirements to support more comprehensive approaches to policy decisions and capital investments LEAD IMPLEMENTERS: Federal (U.S. DOT, U.S. EPA, HUD, EDA, DOE), state (IDOT, IHDA, DCEO)	As federal agencies have begun to coordinate policies, initiatives, and grant programs (specifically, the agencies of U.S. DOT, U.S. EPA, and HUD) to remove barriers to creating more livable, sustainable communities, state agencies should similarly coordinate policies and programs in kind. Achieving "livable communities" requires prioritizing comprehensive investments in capital improvement projects like brownfield remediation and providing for affordable housing near public transit.
Modify certain apportionment formulas, project selection criteria, and grant requirements that may be helping to cause unintended outcomes LEAD IMPLEMENTERS: Federal (U.S. DOT, U.S. EPA, HUD, EDA, DOE), state (IDOT, IHDA, DCEO)	GO TO 2040 includes a number of recommendations that call for revisions to funding formulas and/or project selection for various programs that are based on performance-based criteria. Some examples, but not an exhaustive list: the end of the "55-45" split for state transportation dollars, the need for criteria for green infrastructure connectivity in open space grant programs, and the revision of the federal New Starts program for transit. These examples and others mentioned in the plan need to be addressed by state and federal agencies to achieve more optimal and transparent policy outcomes.
Focus metropolitan policy analysis and outreach on improving and empowering existing regional institutions LEAD IMPLEMENTERS: Nonprofits, philanthropic	A number of research civic organizations provide decision makers with policy ideas for improving the health and prosperity of cities and metropolitan areas. As a prime example, the Brookings Institution's "Blueprint for American Prosperity" reports have successfully made the case for regional investments and have helped invigorate discussion about the importance of comprehensive planning at the federal level. These are strengthened by work by numerous civic organizations based within our region. However, the importance of empowering existing regional institutions, especially MPOs, should be further prioritized in these discussions. Brookings and others should focus more energy analyzing and advocating for improving and empowering these institutions, through federal legislation.

Implementation Action Area #3: Support Efforts to Consolidate Local Services

Analyze the fiscal, efficiency, and other consequences of sharing or consolidating local services LEAD IMPLEMENTERS: MMC, COGs, municipalities	MMC recently completed a report specifically addressing these types of issues in relation to fire and police services. The Caucus should continue these efforts and make specific recommendations.
Analyze the effects of consolidating local governments, with a special focus on the township system LEAD IMPLEMENTERS: Counties, COGs, municipalities	It is important to analyze the costs and benefits of consolidation, and this effort should be undertaken by COGs or counties, who are well-placed to coordinate local efforts. CMAP should support and participate in such efforts as needed.

9.6 Costs and Financing

Fiscal benefits are a central feature of coordinated investment strategies. The overarching message of coordinated investment is one of increased efficiency and decreased duplication of effort.

Thus, the strategies outlined above should save money. Federal, state, and local governments should become leaner and increasingly responsive to effectively solving the comprehensive problems we face. Currently, all levels of government face challenges in minimizing duplication — a prime example is the multitude of workforce development programs at the federal and state level. Governments are also challenged in targeting investments toward the right things. These problems are challenging, but not insurmountable.

The cost savings due to coordinated investment approach include the following:

A more "regional" approach should increase the federal and state share of investments to metropolitan areas like northeastern Illinois, which should increase revenues flowing to this region. Furthermore, better targeting of investment implies more efficient expenditures by the state and federal government.

More "comprehensive" solutions require more coordination among different federal and state agencies on a range of different programs. The result should be more consolidation of programs and funding flows, which should reduce duplication and save money.

Similarly, coordination or consolidation of local services, if done prudently, should save money. Indeed, the potential for fiscal benefits is often one of the driving forces behind such efforts.

Regional Mobility
Getting Around

This theme addresses the efficiency and effectiveness of our region's transportation system, which is crucial for economic prosperity and overall quality of life. The chapter on Regional Mobility includes three sections of recommended actions:

10. Invest Strategically in Transportation 246

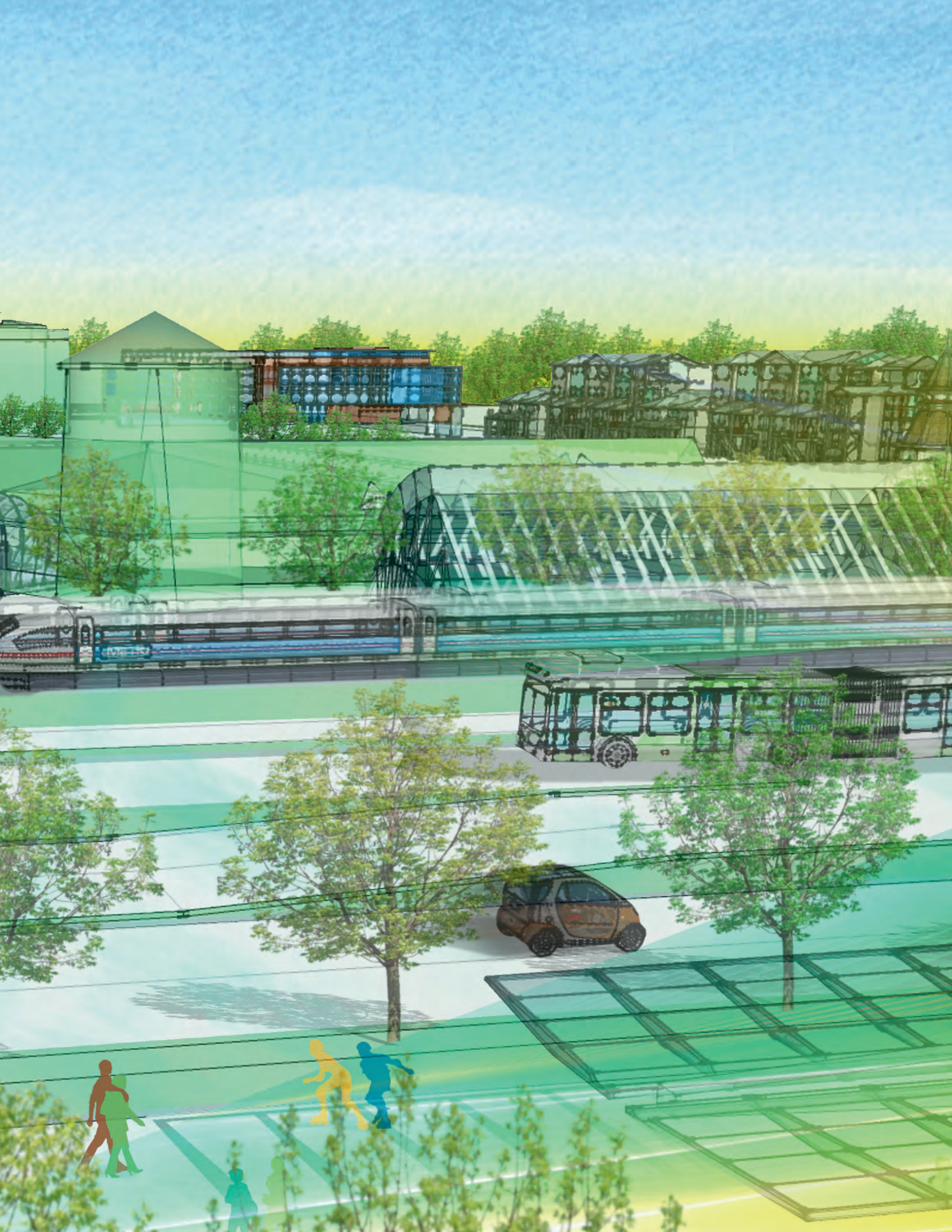
11. Increase Commitment to Public Transit 288

12. Create a More Efficient Freight Network 305

The Regional Vision describes a future multimodal transportation system that is "safe, accessible, easy to navigate, affordable, and coordinated with nearby land use," reduces congestion and improves regional mobility, and supports "reinvestment in our existing communities...leading to environmentally sensitive and fiscally efficient outcomes."

To achieve this, GO TO 2040 seeks to maintain existing infrastructure of all types and gain operational efficiencies from it, make additional investments in transit and freight, use innovative and sustainable finance and system management ideas, link transportation investments with housing and land use, and encourage choices that result in livable, walkable, transit-supportive communities.





RECOMMENDATION

10 Invest strategically in transportation



The transportation network is one of our region's most important assets, moving people and goods to and from jobs, markets, and recreation. While this advanced system of highways, trains, and buses retains an excellent national and global reputation, it is aging quickly and losing stride with 21st Century needs.

Our transportation infrastructure is key to the region's prosperity, yet it has fallen behind other industrialized parts of the world, many of which have invested significantly to create and preserve modern, world-class systems.

Symptoms of decline include the dehumanizing effects of ever-worsening traffic congestion, painful cuts to public transit, a backlog of deferred maintenance on roads and bridges, and antiquated buses, trains, and stations. Inadequate investment in transportation infrastructure is partly to blame. But ballooning costs, inefficient investment decisions, and a lack of consensus about priorities are at least equally at fault, and maybe more so.

CMAP urges the federal government, the State of Illinois, transit agencies, and local governments to develop innovative financing to support a world-class transportation system for this new century. The "costs of congestion" are real and serious, and include lost time and fuel, decreased productivity, inefficient freight movements, and pollution. Transportation user fees should reflect these costs more than they currently do. Certain revenue sources like the federal and state gas tax should be bolstered to bring a halt to continual declines in their purchasing power. At the same time, as vehicles become more fuel-efficient over time, alternatives to traditional financing mechanisms should be explored.

Regarding expenditures, funds for transportation need to be allocated more wisely, using performance-driven criteria rather than arbitrary formulas. Transportation implementers should prioritize efforts to maintain, enhance, and modernize the existing system. Expensive new capacity projects should be built only if they yield benefits that outweigh their costs. Examples of enhancements and modernizations that should be pursued include more attractive and comfortable buses and trains that improve the passenger experience, better traveler information systems, targeted transit extensions and arterial improvements, and multimodal approaches such as integrating bicycling and pedestrian accommodations in roadway design.

CMAP recommends changing how transportation is funded by:

Creating cost and investment efficiencies
To prioritize spending on system preservation, modernization, and (to a lesser extent) expansion, project evaluation criteria should be improved, including quantitative models to predict impacts. Performance criteria should guide how funds are allocated by the federal and state governments and how they are programmed locally and regionally. Allocations should be based on need, including a reassessment of the non-statutory but entrenched State of Illinois split that sends 55 percent of road funding downstate and 45 percent to northeastern Illinois.

Implementing congestion pricing
Applying supply-and-demand economic principles can reduce congestion by providing an incentive for some drivers to alter their travel behavior. Near-term implementation of congestion pricing on various parts of the transportation network will enhance mobility and also help to fund needed improvements.

Implementing pricing for parking
"Free" parking perpetuates automobile dependency, increases congestion, and leads to economic inefficiencies. The true costs of parking construction and maintenance are passed along to taxpayers. Pricing and related strategies can manage demand, promote efficient use of parking, and help to fund needed improvements, particularly around existing commuter and transit rail stations.

Increasing motor fuel taxes (and indexing them to inflation) in the short term
As primary sources of transportation funding, the levels of federal and state motor fuel taxes (MFTs) have not been sufficient to fund maintenance, operations, and capital improvements. Until a replacement for this source is identified, MFT rates need to be increased in the near term. The State of Illinois should increase the existing 19 cents per gallon MFT by 8 cents and index it to keep pace with inflation. The federal gas tax should also be raised and indexed to inflation.

Instituting a replacement for motor fuel taxes in the long term
MFTs will likely need to be replaced within 20 years as vehicles switch to alternative energy sources. One "pay as you drive" strategy is to fund transportation through fees based on vehicle miles traveled (VMT). If implemented carefully, VMTs would be a more efficient user fee than MFTs, which do not require all users to bear the full costs of their road use.

Pursuing public-private partnerships as appropriate
Among various public-private partnership (PPP) strategies, each has its pros and cons, and some can be extremely complicated and costly to enact. CMAP recommends particular consideration of the "design-build," which has been used elsewhere to reduce costs and drastically shorten the duration of project development and construction. The focus of PPPs should be on funding transportation system improvements, not on generating revenue for non-transportation purposes by leasing or privatizing transportation assets. At present, while cities and municipalities are able to execute PPPs, the State of Illinois has no such general enabling legislation.

CMAP's GO TO 2040 recommendations address ongoing fiscal shortfalls and economic inefficiencies of the current system. These changes are vitally important to improve the economic growth, the fiscal efficiency, and the safety and security of our region's transportation system.

This section describes benefits in detail, in addition to summarizing current conditions such as the sources of revenue, the costs of operations and maintenance, the mechanisms for allocating federal and state funds, the regional role in financing, and the potential for innovative approaches. The section explores how to measure the success of transportation finance by gauging the system's condition (including roads, transit, and bridges) and by calculating congestion trends (including vehicle hours traveled, or VHT). This section also explains the details of cost and financing in the context of federal requirements for prioritizing transportation investments.

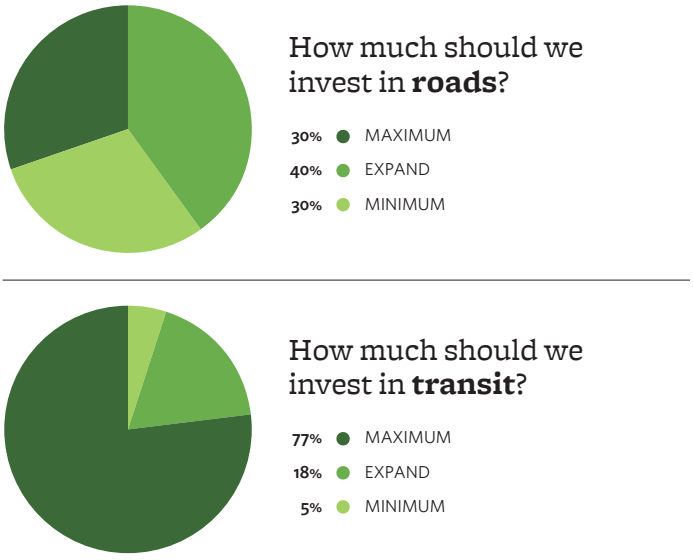
Finally, the region needs to unite around its transportation priorities, particularly regarding the construction of major capital projects recommended in GO TO 2040, which have been carefully evaluated to improve operations, access, mobility, and economic opportunity. The "fiscally constrained" major capital projects, as required by federal regulations, have the highest priority to move toward completion. The projects that our region should pursue between now and 2040 are described in this section.

10.1 Benefits

Residents in northeastern Illinois want more focused investment in transportation infrastructure. About 95 percent favor expanding or maximizing funding for transit improvements, while 70 percent favor expanding or maximizing funding for road improvements (see **Figure 48**).

As indicated by this clear public support for increased levels of investment and improved service, investments in transportation infrastructure have numerous important benefits, described as follows.

Figure 48. Preferences of amount and allocation of transportation investment



Source: CMAP GO TO 2040 "Invent the Future" participants, 2009

Economic

Infrastructure investment yields economic returns via short-term job creation but also via long-term economic productivity, largely by reducing the costs of congestion and making the region more attractive to businesses and residents. In the short term, transportation projects — whether maintenance projects, service enhancements, or capital expansions — require engineers, construction workers, and other labor. This employment then supports additional workers in retail, health care, entertainment, and other local service industries. Transportation infrastructure stimulates the economy, which is why the recent American Recovery and Reinvestment Act of 2009 (ARRA) placed such a high priority on "shovel-ready" projects to create and retain direct, on-project jobs in the short run. Recent analysis estimates that every billion dollars in ARRA highway spending created or retained roughly 8,781 direct, on-project job-months, and nearly twice that amount for transit projects.[1]

$7,300,000,000

Annual Cost of Congestion
Source: Metropolitan Planning Council

While short-term job creation is an important goal particularly during economic downturns, wise investment in transportation infrastructure yields significant benefits for years to come. Careful targeting of investments is key to long-term economic vitality. Transportation infrastructure investments, including implementation of strategies to reduce congestion, increase the efficient movement of goods and people. Economic benefits include:

Improved attraction and retention of businesses and skilled, innovative workers, who value a well-functioning transportation system.

Greater efficiency of freight movement which can enhance just-in-time inventory management.

Increased worker productivity due to fewer hours spent stuck in congestion.

Other positive effects on quality of life such as environmental benefits and enhanced access to jobs, education and medical care, and cultural and social interactions.

The need for increased transportation infrastructure investment is supported by empirical research, which demonstrates clear linkages between such investments and long-term economic impacts that last beyond the construction period. A $2 billion investment in transportation infrastructure is estimated to result in **$2.2 billion** (a benefit to investment **ratio of 1.1**) in long-term economic output from nine different sectors of the economy, particularly the sectors of services, trade, and nondurable goods. This number does not include short-term economic impacts of construction. The impacts are driven by efficiencies in the commercial trucking industry and reductions in commuting times.[2]

Long-term economic productivity increases further when transportation investments are more targeted. CMAP's analysis of the economic impacts of GO TO 2040's recommended major capital projects estimates a **$13.3 billion** increase in long-term economic activity (as measured by Gross Regional Product) from a public-sector expenditure of $10.5 billion. This produces a benefit-to-investment **ratio of 1.26**, larger than the 1.1 shown previously because the major regional plan's capital projects are highly targeted and were selected using a range of evaluation criteria. Reducing the various costs of traffic congestion is what drives these positive economic impacts. They include not only decreased pollution, shipping costs, and time delays, but also increased productivity. These costs due to congestion are serious — one recent study estimates our regional "costs of congestion" at $7.3 billion annually.[3] Investments must be carefully targeted toward congestion reduction and other closely related performance outcomes. Building expensive new projects in inefficient locations will not make an appreciable dent in these figures. Transportation projects, especially expansion projects, must be judged against their long-term economic impacts.

Achieving a modern, well-functioning system of roads and public transit simply makes good economic sense in light of our region's long-term goal to remain a vibrant and vital global destination. Surveys consistently indicate that businesses want good infrastructure systems, including rapid access to airports and efficient movement of goods. Residents want a more modern, world-class system for many similar reasons. The region should strive toward fostering an environment to attract residents who will create innovative new technologies and industries — one where ease of mobility is ensured and where car ownership is not a requirement for living, working, and recreation.

1 Center for Neighborhood Technology, Smart Growth America, and U.S. Public Interest Research Group, "What We Learned From the Stimulus," January 5, 2010. This analysis compares stimulus funds spent on public transportation and highway infrastructure. Surface Transportation Program funds are used as the unit of analysis for highway spending. Transit is found to create or retain more direct jobs per dollar spent because the systems tend to spend less money on land acquisition, be more complex, and buy and maintain vehicles.

2 GO TO 2040 Infrastructure including Telecommunications Strategy Report, 2009. See **http://www.goto2040.org/infrastructure/**. Impacts on output and income include both "direct" and "indirect" impacts. The impacts were calculated with the Chicago Regional Economic Impact Model, developed by the Regional Economics Applications Laboratory of the University of Illinois at Urbana-Champaign.

3 Metropolitan Planning Council, "Moving at the Speed of Congestion," August 2008.

Household and Public Cost Savings

Transportation outlays by the public sector are large, to the point that they can be difficult to comprehend. From 2011 to 2040, CMAP estimates that the region will accrue about $385 billion in core and reasonably expected transportation revenues for operating and capital from federal, state, and local sources. This $385 billion figure is calculated in "year of expenditure," which includes the effects of inflation and other forecasted increases due to population and economic growth. Transportation typically composes the largest domestic discretionary spending program by the federal government,[4] yet these federal revenues make up less than one-fifth of the transportation expenditures in the region. The dollars are large, in large part, because the system is simply massive — northeastern Illinois is home to 3,233 lane miles of expressway, 18,719 lane miles of arterial and collector roads, 35,856 lane miles of local roads, nearly 1,500 miles of passenger rail track, over 5,000 vehicles of rolling stock (i.e., all powered and unpowered rail vehicles such as locomotives, railroad cars, coaches, and wagons), 311 interchanges, 3,281 bridges, and 7,732 traffic signals.

Simply increasing investment, without goals or indicators of success, is obviously not the answer. The region can save money in the long term by making smarter investments focused on maintenance, modernization, and enhancements to mobility and access, compared to expensive major new expansions that prove costly to maintain and operate.

Furthermore, making users assume more of the costs of their infrastructure use (e.g., through congestion pricing or parking pricing) will also save the public sector money. The Federal Highway Administration (FHWA) has estimated that congestion pricing could cut annual investment in transportation infrastructure by 28 percent.[5]

Additionally, targeted strategic enhancements that emphasize multimodal approaches like transit improvements or bicycling and pedestrian accommodations can save households money. These modes of travel are less expensive for an individual than owning and maintaining an automobile. One study estimates the average savings of commuting by transit instead of by car at over $11,000 per year in the metropolitan Chicago area.[6] Furthermore, other types of cost savings, such as reductions in health care costs, have been found to be associated with investments in more active forms of transportation like bicycling and walking.[7]

Safety and Security

The maintenance and operation of a safe and adequate system are of paramount importance to all transportation implementers. Over 1,000 fatalities occur on Illinois roadways each year. Safety is not something that can be "traded off" within the regional planning process — available funds are allocated first to maintaining the system at a safe and adequate level before other projects involving modernization, enhancements, or major capital projects are considered. At the same time, investments that modernize the system and bring roads and transit toward a "state of good repair" can only help in making the transportation system safe and secure for all users.

4 FY 2011 Budget of the U.S. Government, Table 8.7 — Outlays for Discretionary Programs: 1962-2015.

5 Federal Highway Administration of the U.S. Department of Transportation, "2006 Status of the Nation's Highways, Bridges and Transit: Conditions and Performance," January 2007.

6 American Public Transportation Association, "Riding Public Transit Saves Individuals $9,242 Annually," media advisory, January 12, 2010. See **http://tinyurl.com/yznlg5a**.

7 Thomas Gotschi, PhD. "Cost-effectiveness of Bicycle Infrastructure and Promotion to Increase Physical Activity." **http://www.activelivingresearch.org/files/ALR2010Conf_PlenaryAbstract_Gotschi.pdf**. Accessed 7/29/2010.

10.2 Current Conditions

Where Revenues Originate

The federal government, the State of Illinois, and local governments all play a major role in financing the transportation system of northeastern Illinois.

The private sector plays a minimal role, limited to the City of Chicago's long-term leases of the Chicago Skyway toll road and 36,000 metered parking spots.

Public revenues originate in large part from user fees such as gas taxes, transit fares, tolls, and vehicle registrations. However, non-user fees, like the sales tax and local tax revenues, also a play a major financing role. **Figure 49** reflects the existing conditions, by funding source, for the region's transportation system.

While federal transportation programs arguably receive the most attention from a public policy perspective, the majority of our system is financed by state and local revenues. The amount of funding raised through State of Illinois MFT and vehicle registration fees is about the same as federal revenues received for both the highway and transit programs. The two major local sources for funding for our transit system come from passenger fares and the Regional Transportation Authority (RTA) sales tax, equivalent to one cent in Cook County and three-quarter cent in the collar counties, excluding Kendall. One-third of the collar county sales tax (equivalent to one-quarter cent) is disbursed by the State of Illinois to the county governments, and is used for transportation purposes and public safety. This is known as the "Collar County Transportation Empowerment Program." Kendall County also imposes its own sales tax for transportation, at a rate of one-half cent. Almost one-fifth of total funding for the region comprises "other local revenues for roads." This includes revenue sources used for maintaining and reconstructing local roads, such as local and county option gas taxes, and other sources of general revenue, such as property tax, sales tax, and state/local revenue sharing funds from state sales tax, income tax, and other sources.

The majority of transportation revenues flowing to northeastern Illinois are generated by user fees, reflecting expenditures made directly by users for using the transportation system. User fees, such as federal highway and transit revenues (financed through the federal gas tax), state and local gas taxes and vehicle registration fees, tollway revenues, and transit passenger fares, comprise roughly three-fifths of the region's transportation revenues. "Non-user fees" reflect other tax revenues that, while generated for the purposes of funding transportation, do not accrue based on any direct transaction for the privilege of using the system. Non-user fees include the RTA sales tax, and other state and local revenues used for transit or local road maintenance.

The GO TO 2040 Financial Plan for Transportation estimates that the region will receive just over $385 billion in revenues between 2011 and 2040. Over 90 percent of these revenues are considered "core revenues," based on historical trends and no major changes to tax rates or funding formulas. This figure is a "year of expenditure" figure, factoring in inflationary and other revenue increases due to population growth. While $385 billion is certainly a large amount, CMAP's analysis of needed expenditures shows that relying solely on these revenues would not result in much progress toward addressing the substantial transportation needs of individuals and businesses across the region.[8]

Figure 49.
Current transportation revenues by source for northeastern Illinois

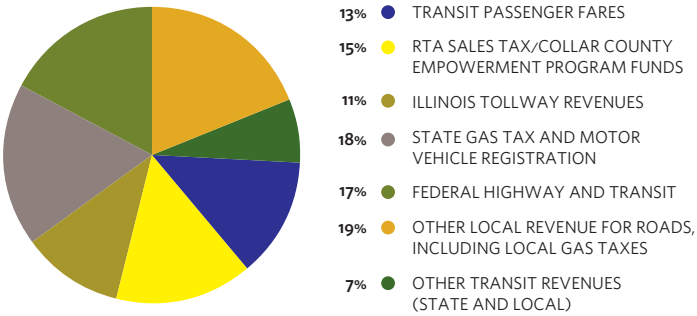


Chart includes operating and capital revenues. Figures are based upon 2011-2015 revenue forecasts, produced for the CMAP Financial Plan for Transportation. Numbers do not include any revenues from State of Illinois Capital Programs.

Source: GO TO 2040 Financial Plan for Transportation, 2010

8 More details on assumptions and historical trends are included in the GO TO 2040 Financial Plan for Transportation. See **http://cmap.illinois.gov/financial_plan_transportation/**.

Costs of Operating and Maintaining the System

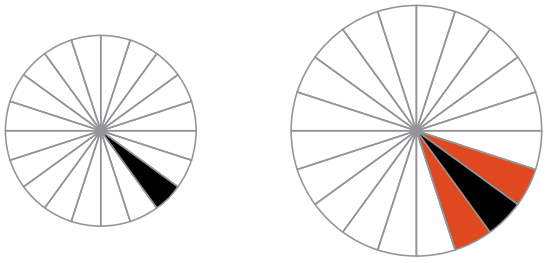
At present, existing revenues appear sufficient over the long term to operate and maintain our present system roughly at the level it is today, but not accomplish much more. The implication is a "bare bones" level of service which will not allow the region to make much additional progress in bringing the system toward a state of good repair, or modernizing or expanding the system to the level demanded by our residents and businesses. Furthermore, maintenance to this "safe and adequate" level requires conservative assumptions, particularly regarding the future growth in operating and capital costs. Large jumps in these costs will continue to result in an added maintenance backlog and an inability to keep the operating service at present levels. The reality is that our revenues are drastically insufficient for minimizing maintenance backlogs, enhancing, modernizing, or expanding the system beyond what we have today.

CMAP analysis estimates that of the $385 billion[9] estimated to be available between 2011-2040, $333 billion (86 percent of this total) will be needed to simply operate and maintain our system of highways (including local roads) and transit at a safe and adequate level out to the year 2040. This leaves only 14 percent of revenues to scale up existing maintenance cycles, enhance or modernize the system, or construct new major capital projects.[10]

Recent trends showing rapidly increasing transportation costs are worrisome, on both the capital and operating sides. Until 2002, construction costs (measured by the *Engineering News-Record* construction cost index) mostly followed general inflation trends, as measured by the consumer price index. Since then, construction costs have significantly outpaced inflation. Economists believe this dynamic has been caused largely by volatility in global prices of steel and oil (which drives asphalt prices to a large extent). Other analyses of construction costs that focus on primary transportation inputs, like asphalt, steel, concrete, and the cost of labor and equipment, actually find that these costs are even outpacing construction costs as a whole.[11]

Operating costs, which are driven largely by workforce but also by inputs like fuel and security costs, have also shown large increases, particularly in recent years. Over two-thirds of transportation "operating expenditures" comprise costs related to operating public transit, which includes the labor, fuel, and other related costs of operating and maintaining the region's large system of trains and buses. Over the last 15 years, the transit service boards have often experienced large annual operating cost increases, on the average of 4.5 percent but reaching as high as nine percent.[12] While some inputs like fuel prices will remain volatile and susceptible to wild fluctuations in the future, it is crucially important to note that few revenue sources promise to yield annual growth rates at these levels. As a result, this region will continue to experience transit funding crises and cuts in service unless a better solution for controlling operating costs is found. While it is vital to focus on revenues, particularly those sources that have been declining in their purchasing power, protecting against skyrocketing operating costs is absolutely crucial for maintaining the integrity of the transit system over the long term.[13]

Figure 50. Available transportation funding, today and 2040



Today: 95% of transportation funds are spent just to maintain and operate roads and transit. Only 5% remains to actually improve, modernize, or expand the system.

GO TO 2040: By exploring innovative financing options, we can free up significant dollars needed to help modernize the system and bring it toward a state of good repair.

9 The $385 billion includes $350 billion in core revenues (estimates of the revenues the region receives today) plus an additional $35 billion in "reasonably expected revenues" which include a gas tax increase, the institution of congestion pricing, and other financing strategies.

10 GO TO 2040 Financial Plan for Transportation.

11 Kumudu Gunasekera and Brad Ship, "Construction Economic Review and Highway Cost Escalation Forecast," Economic Forecasting Review 3 (2; December 2009.)

12 Based on Regional Transit Authority annual reports, 1992-2008.

13 For more discussion on this topic, see the GO TO 2040 section Increase Commitment to Public Transit.

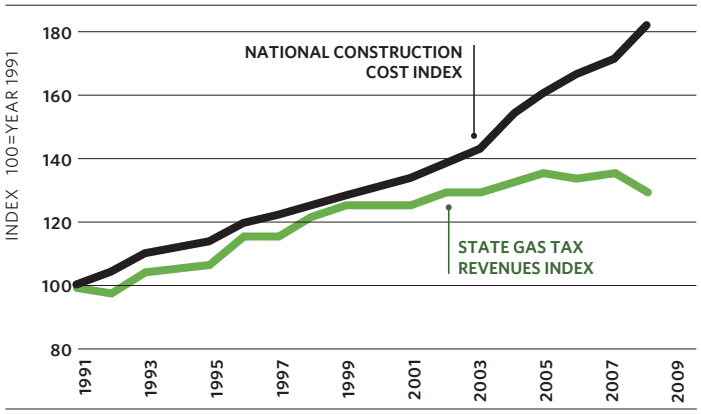
Federal and State Gas Taxes

The rising cost of construction and operations, coupled with inflation, has significantly undercut the purchasing power of federal and state MFT receipts. The federal Highway Trust Fund (HTF), which funds various programs for both highways and transit, is currently supported by an 18.4 cent per gallon gas tax which was last increased in 1993. The tax accumulates in the Highway Account (15.5 cents), the Mass Transit Account (2.8 cents), and the relatively small Leaking Underground Storage Tank Trust Fund. The National Surface Transportation Infrastructure and Finance Commission calculates that the actual purchasing power of the federal gasoline tax has declined by 33 percent since 1993.[14] In 2008, 2009 and 2010, Congress has supplemented the HTF with general funds to keep it solvent.

In Illinois the two major sources for state transportation revenues are the MFT and motor vehicle registration fees. These revenues are used primarily for road maintenance and construction. The State MFT has a current rate of 19 cents per gallon plus an additional 2.5 cents per gallon for diesel. The state MFT was last increased in 1991. After a variety of deductions, 45.6 percent of the MFT revenues allocate to the Illinois Department of Transportation's (IDOT) Road Fund and State Construction Fund, and the remaining 54.4 percent allocate to local governments. Similar to the federal gas tax, the state's gas tax revenues have greatly declined in their purchasing power. **Figure 51** shows how inflation and construction costs have outpaced state MFTs since 1991.

Motor vehicle registration fees vary according to vehicle type and weight. Unlike State MFT, these revenues are not shared with local governments by formula. They accrue directly to the state Road Fund and Construction Accounts. State of Illinois motor vehicle registrations have been raised several times in recent years. The most recent increase occurred in July 2009, which raised the annual auto license plate fees from $78 to $98. However, this recent increase in motor vehicle title, license plate, and driver's license fees is scheduled to be used for debt service on the 20-year bonds for the state's most recent capital bill, *Illinois Jobs Now*. The fee increases will accrue in a new capital project fund, which will provide revenues for both transportation and non-transportation projects, such as schools and state buildings.

Figure 51. State motor fuel tax revenues relative to inflation, 1991-2008



The 19-cent-per-gallon state Motor Fuel Tax has not been changed since 1990. MFT and CCI indices are set to 100 for the year 1991.

Source: Illinois Department of Transportation, Engineering News-Record, Bureau of Labor Statistics



Figure 52. Estimated 50-year lifetime costs of an expressway, in current dollars

$65,000,000/mile	**Construction**
$6,500,000/mile	**Resurfacing** over 50 Years
$16,000,000/mile	**Reconstruction** after 50 Years
$87,500,000/mile	**Total**

Source: Chicago Metropolitan Agency for Planning

14 National Surface Transportation Infrastructure Finance Commission, "Paying Our Way: A New Framework for Transportation Finance," February 26, 2009.

State Capital Program Funding

Roughly once every 10 years, the State of Illinois provides a state capital funding package for transportation and other infrastructure projects. The most recent packages, enacted in April and July 2009, provide over $9.5 billion in bonds for state and local roads, transit, high speed rail, the Chicago Region Environmental and Transportation Efficiency Program (CREATE) freight initiative, and airports. The bonds must be paid down through debt service from existing and new funds, including the General Revenue Fund, Road Fund, and new "Capital Projects Fund," which is to be financed through increased motor vehicle fees, video gaming, lottery, and other sources.

Highway and transit implementers depend upon the large outlays provided through the state capital program to supplement other revenues received through federal, state, and local sources. Besides the fact that the state capital program monies are insufficient for bringing the system to a state of good repair, the program's time horizon (typically once every 10 years, to last a period of five years), financing mechanisms, and project selection criteria deserve brief mention.

First, the time horizon for the program is a clear admission that we are not adequately funding our system at the necessary level on a regular basis. It would make more sense to raise adequate revenues on a continual basis, rather than rely on the state legislature for "boom and bust style" fixes, which also can create economic distortions within the construction industry.

Second, capital programs are typically financed almost entirely through bonds, which require long term debt servicing to fund a five year program. While bonding remains a perfectly practical way to finance certain capital improvements, overreliance on the practice can put an undue burden on future generations. While "pay-as-you-use" bond financing reflects the future benefits from today's capital expenditures, this practice should be balanced by "pay-as-you-go" financing, which reflects fiscal prudence and usually necessitates more careful planning and prioritization. Third, the program lacks a transparent project selection process — projects are generally earmarked rather than based upon a metric of actual need.

Allocation Mechanisms for Federal and State Funds

The most recent federal transportation act (SAFETEA-LU, Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users), like its predecessors, allocates federal dollars via a multitude of different programs. Most highway funding is allocated to state Departments of Transportation based on formula, which differs by program but typically includes criteria like total lane miles, vehicle miles traveled, and fuel use. IDOT is the primary recipient of the funds and generally holds the most responsibility of programming, financing, and implementation. Some programs or program set-asides are allocated at the discretion of the Secretary of Transportation or by Congressional earmark.[15]

While funds are apportioned out to the states using different metrics, Illinois, like other states, is then given fairly wide latitude in how the different funds are used. States have authority to transfer funds among different programs — for example, Interstate Maintenance (IM) funds or National Highway System (NHS) funds can be transferred to the Surface Transportation Program (STP), which can then be programmed for a variety of transportation purposes, including highway, transit, or bike/pedestrian projects. While this flexibility would allow for allocating this funding based on cost/benefit or other metrics of performance or impact, in practice the federal government requires little accountability from the states in terms of how projects are selected or what outcomes are being achieved.

In practice, the state chooses a rather arbitrary way of distributing this funding. In northeastern Illinois, this outcome is sometimes referred to as the "55-45" split, where northeastern Illinois ("District 1") receives 45 percent of the federal and state allocation (including state MFT[16] and vehicle registration revenues deposited in the Road Fund), while downstate Illinois ("Districts 2-9") receives 55 percent. The complex funding flow is shown in **Figure 53**.

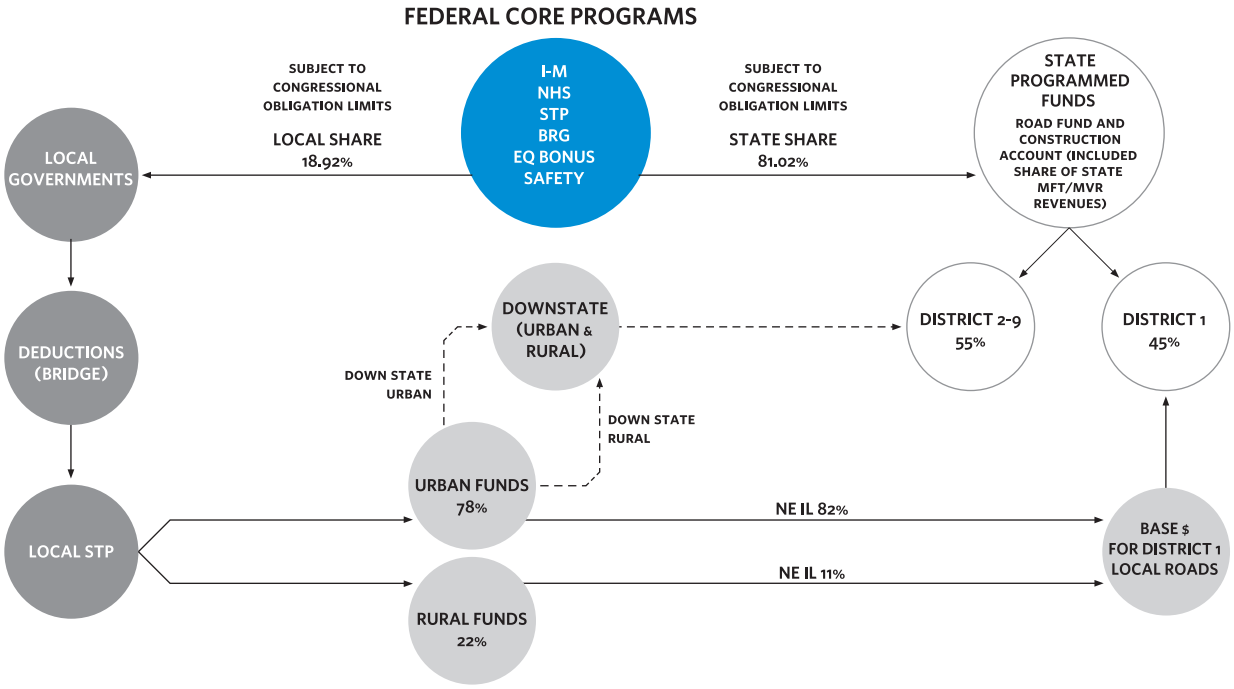
15 For a current list of Federal Highway Administration programs, see http://tinyurl.com/28tgbw2/.

16 State motor fuel tax dollars also have a local allocation. This is not displayed in Figure 53.

The Federal Transit Administration (FTA) also sponsors a number of grant programs, some allocated by formula and some allocated on a discretionary basis. While upwards of nineteen different programs currently exist,[17] a smaller number of these programs typically provide funds to the RTA and service boards of northeastern Illinois. The major funding programs include Urban Formula (Sec 5307), Fixed Guideways Modernization, Bus and Bus Facilities, and New Starts (Fixed Guideways) (all are Sec 5309 funds).

The discretionary New Starts program provides funds for construction of new fixed guideway systems or extensions to existing fixed guideway systems. The funds are not intended for maintenance or modernization projects. Projects become candidates for funding under this program by successfully completing the appropriate steps in the major capital investment planning and project development process. Funding allocation recommendations are made in an annual report to Congress: *Annual Report on New Starts*. While the statutory match for New Starts funding is 80-percent Federal and 20-percent local, it should be noted that the Congressional Conference Report that accompanied the FY 2002 U.S. DOT Appropriations Act instructs "FTA not to sign any new full funding grant agreements after September 30, 2002, that have a maximum Federal share of higher than 60 percent."[18] This New Starts criterion differs from highway funding projects, which are funded with a federal share of 90 percent for interstate maintenance and improvements, and 80 percent for most other projects.

Figure 53. How IDOT allocates federal and state highway dollars



Source: Chicago Metropolitan Agency for Planning, 2010

17 For a current list of Federal Transit Administration projects, see **http://tinyurl.com/2hgqsf**.

18 For an overview of the Federal Transit Administration's New Starts program, see **http://tinyurl.com/23blsgj**.

The Regional Role in Allocating Transportation Funding

While most federal highway revenues, state motor vehicle registration revenues, and state MFT revenues flow to the State Road and Construction Accounts, some funds devolve project selection authority to CMAP (the region's metropolitan planning organization [MPO]) or to the Subregional Councils of Mayors. The Local STP is administered through CMAP and IDOT.[19] Each of the 11 subregional councils and the City of Chicago receive individual funding and each council has a self determined methodology for selecting the most beneficial projects.[20] CMAP also manages and monitors the federal Congestion Mitigation and Air Quality Improvement (CMAQ) program through the CMAQ Project Selection Committee, which recommends CMAQ projects in northeastern Illinois.

The CMAP Board and the region's MPO Policy Committee track the use of local, state, and federal transportation funds through the Transportation Improvement Program (TIP). The purpose of the TIP is to help transportation professionals, service implementers, and planning organizations establish a short-term transportation program to reflect the long-range transportation goals identified in the long range plan.

The CMAP Board and MPO Policy Committee[21] retain the ability to judge whether or not the allocation of federal and state monies align with regional priorities. It does this through approval of the TIP, including ongoing changes and amendments to projects within it. Projects supporting the long range plan are included in the TIP. The MPO also can, in theory, disallow the inclusion of projects that fail to support the plan.

Other Innovative Financing

To date, very little of what might be called "innovative financing," sources beyond traditional gas taxes, vehicle registration fees, passenger fares, or other taxes, is utilized in northeastern Illinois. One can easily imagine a laundry list of potential possibilities for raising more revenues for transportation. However, only a small number of these options really promise to tackle the problems inherent in the economics of today's transportation system, namely, the large gap between what users of the system pay versus the full cost of what that use entails. While the current average user fee is only a few cents per vehicle mile traveled, one recent study pegs the full cost of using highways (during congested times) as somewhere between 13 and 29 cents per mile.[22] Transportation strategies which better address this "externality" problem — a chief example of this is the large societal cost due to congestion — can also raise revenues for additional operating and capital needs on roads and transit. These strategies that truly "kill two birds with one stone" should be prioritized.

Other innovative financing strategies include:

Congestion Pricing

Parking Pricing

Value Capture Strategies and Transit Impact Fees

Public-Private Partnerships

A Long Term Replacement for Gas Taxes, including VMT Fees

19 "Local Surface Transportation Program" (STP) differs from "State STP." State STP funds are deposited into the Illinois Department of Transportation Road Fund and Construction Account and used primarily for state highway projects.

20 For more information on work done by CMAP on STP, as well as links to subregional criteria for project selection under this grant program, see **http://www.cmap.illinois.gov/stpresources.aspx**.

21 The CMAP Board and the MPO Policy Committee are currently operating under a Memorandum of Understanding (last reaffirmed in March 2010). By federal law, the MPO Policy Committee takes final action on all transportation related plans, programs and documents. See **http://tinyurl.com/27bmhfq**.

22 HDR|HLB Decision Economics, Inc., "Road Pricing on a National Scale," prepared for the U.S. Department of Transportation, 2005.

10.3 Indicators and Targets

The outcomes we want to achieve through increased and smarter investment in the region's transportation infrastructure include a more modern system, one that is moving toward a state of good repair and also maximizing performance to satisfy the demand of residents and businesses.

Making smarter, more targeted investments can help move the region toward these goals. Measuring the region's success in changing the current surface transportation system's funding mechanisms can focus on the condition of the existing system and whether or not it is in a state of good repair. Another important measure of success is the degree of congestion on the system.

Transportation System Condition

Three separate indicators can be employed to measure the condition of the transportation system. The Regional Indicators Project will track road conditions through the acceptable ride quality index measure and the deficiency rating of bridges. FHWA has defined "acceptable" ride quality as pavement with International Roughness Index (IRI) values of less than or equal to 170. For the purpose of comparison IRI data was collected from FHWA's Highway Performance Monitoring System (HPMS) for the year 2003 and from the Illinois Roadway Information System (IRIS) for the year 2006 for both freeway and principal arterials. The CMAP region's freeway route miles have a very high acceptable ride quality rating, while only 62 percent of the principal arterials' route miles are acceptable.

PRINCIPAL ARTERIALS ARE ACCEPTABLE RIDE QUALITY

65 % by 2015

90% by 2040

The region's bridges can be assessed for deficiency based upon FHWA's National Bridge Inventory database. In 2007, 66.5 percent of the region's bridges were rated as "not deficient."

BRIDGES FOUND TO BE IN "NOT DEFICIENT" CONDITION

70% by 2015

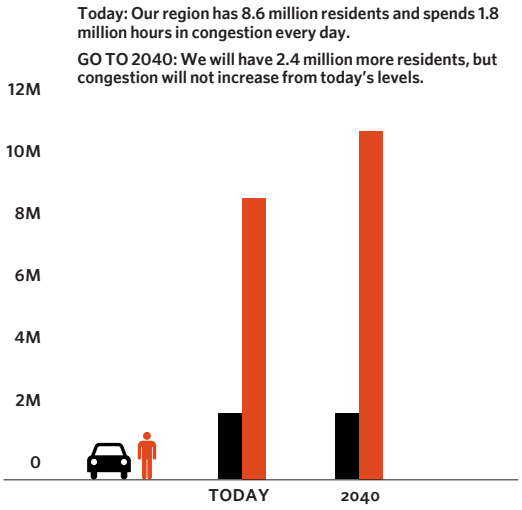
80% by 2040

The final indicator will measure the **percentage of transit assets** in good condition. Actions are underway by CMAP, the RTA, and the transit agencies to collect and analyze this data.

Congestion

The performance of the transportation system can be measured by the congestion of the highway network. Currently, the region experiences approximately 1.8 million congested hours of travel per day. The more efficient land use pattern laid out in GO TO 2040 and the implementation of targeted improvements, expansions, congestion pricing, and other managed lanes strategies are expected to reduce congestion. GO TO 2040's goal is to increase efficiencies in our highway network to the point where we maintain our level of congestion today. This may not seem like an aggressive goal, but with the anticipated population and economic growth, this would be an achievement.

Figure 54. Time spent in congestion, today and 2040



10.4 Recommendations

Achieving the goal of a modern, world class transportation system requires serious action from all levels of government.

Estimates of available "core revenues," which consist of current revenue sources trended out over the 2011-2040 planning horizon, will not allow the region to make much progress in addressing our substantial transportation needs given expected population growth. The region should continue to make the case for increased revenues for transportation. Among the many options for raising revenues, the region should prioritize ones that require users to pay an amount closer to their actual cost of using the system, particularly on the highway system, where each additional user imposes congestion costs on others. These types of strategies would both help raise more revenue and also enable the system to operate more efficiently. Congestion pricing and parking pricing mechanisms, along with raising MFTs and indexing them to inflation, would help to address the twin issues of fiscal shortfalls and economic inefficiency of the system. The long-term sustainability of reliance on MFTs for funding transportation should also be addressed.

While finding new revenues is important, the region needs to get more serious about setting priorities for how existing funds are spent, on both the operating and capital side. The region's transportation decision makers should stress the use of performance-driven criteria, rather than arbitrary formulas, when making investment decisions. CMAP strongly recommends a focus on maintaining the existing system first, and using most of our remaining resources to modernize the system. While some expansions are necessary, and these will be recommended in the plan's list of major capital projects, very few of these projects require building brand new facilities from scratch. Instead, the emphasis is on making the existing system operate more efficiently given the amount of funding we can reasonably expect to receive.

These courses of action are broken into five categories:

1) creating cost and investment efficiencies,

2) implementation of congestion pricing,

3) implementation of parking pricing,

4) raising the federal and state gas tax, and

5) other innovative financing options.

Creating Cost and Investment Efficiencies

Making our system "world class" does not simply require raising taxes or fees for more revenue, nor does it require expanding the system much beyond what is here today. Instead, the primary goal should be to prioritize spending on maintenance and modernization efforts. "Modernization" comprises a range of enhancements, including more comfortable and attractive trains, buses and stations, traveler information systems, accommodations for bicyclists and pedestrians, state of the art pavement materials with longer life spans, signal timing improvements, bus stop improvements, corridor upgrades, and a variety of other strategies that can improve mobility, access, and the reliability of our transportation network. Investments of all types should take a multimodal approach, with consideration for the needs of transit users, bicyclists, and pedestrians.

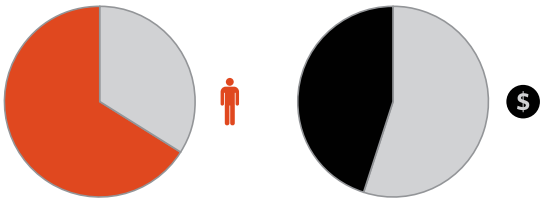
The process of targeting which elements to improve or expand is not always straightforward. Evaluation criteria and quantitative models for predicting the impact of varying investment scenarios exist today. But the results of these evaluations should be taken more seriously and the decision-making tools should be improved. When making decisions on major projects, the region should make a shift away from stand-alone transportation models and toward integrated models with transportation, land use, and economic components; these can make more robust predictions of regional productivity gains as well as economic externalities like congestion, air pollution, and impact on sensitive natural areas. CMAP and other implementers should continue to refine decision-making criteria, as well as the quantitative models, so that different investment scenarios can be tested against the outcomes we want to achieve. These evaluation criteria should be developed and vetted using a transparent, regional process. As the region's MPO, CMAP must have the ability to ensure that investment decisions are based upon good criteria and align with the regional priorities of the long range plan.

Performance criteria should not only guide the programming of funds, but should also be used to optimize the way transportation funds are allocated, particularly by the federal and state governments. The federal government distributes a multitude of different programs to states using a variety of different criteria, particularly road miles, fuel usage, and VMT. While this may not directly incentivize states to prioritize system expansion rather than maintenance, it does not create a disincentive either. Furthermore, the discretionary federal "New Starts" program for transit funds only expansion projects, not needed maintenance, and local match requirements remain much higher here than for highway projects. Also, FTA rules concerning use of federal funds for engineering of transit projects are stricter than those used by FHWA for roadway projects, and should be changed to allow regions to more easily pursue transit improvements.

While the State of Illinois has a great deal of flexibility in how federal and state funds are used, northeastern Illinois continues to be plagued by a non-statutory funding split which allocates 55 percent of road funding to downstate districts and 45 percent to northeastern Illinois. This split is arbitrary and not based on any metrics of need. Highway and transit funds also continue to be compartmentalized. The main reason for this is the breakdown of different federal funding programs, but it should be remembered that certain programs like the STP enjoy a considerable degree of built-in flexibility in terms of project selection — both highways and transit can be funded through STP. The STP program, particularly state STP funds, represents one opportunity for making better programming decisions, more in line with the vision of the long range plan.

Lastly, transportation implementers must find ways to control costs on both the capital and operating sides. On the transit side, the recent growth in operations is unsustainable — there is no available revenue source which can reliably cover the magnitude of recent operating cost increases. No doubt, much of this reality is driven by global economic conditions as well as current labor laws, post 9/11 security requirements, and pensions. However, RTA and the service boards should seek better solutions to this problem. The continuing escalation in the capital cost of construction for both highway and transit also remains of great concern. While the region may be largely powerless over these cost increases, it should be stressed that some innovative arrangements, such as "design-build" PPPs, life cycle costing, and the construction of longer lasting facilities, can consolidate and ease the engineering and construction processes, and keep costs for some major projects more under control.

Figure 55. "55/45 split" for transportation funding in Illinois



Despite having 66% of the state's population, our region receives only 45% of the state's road funding. This so-called "55/45 Split" needs to be addressed.

Implement Congestion Pricing

Users of the highway system are currently not paying the full cost of their use. Gas taxes, vehicle registration fees, and tolls are used almost exclusively for activities like resurfacing and reconstruction, yet other costs remain unaccounted for. The most serious and visible cost is congestion, which continues to slow the movement of goods and people. Decades of road building and adding lanes to existing facilities have not kept pace with population growth and land use patterns which continue to prioritize the automobile over other modes. Congestion pricing seeks to apply economic principles of supply and demand to force drivers to internalize the cost of extra congestion they impose on others. The outcome is to reduce congestion to a level where drivers can engage in other activities that, unlike sitting in traffic, prove productive to the regional economy.[23]

No new tax or fee is politically popular, but if metropolitan Chicago is to keep pace with other industrialized and emerging economies around the world, it should implement congestion pricing, in the near term, on various parts of the network.

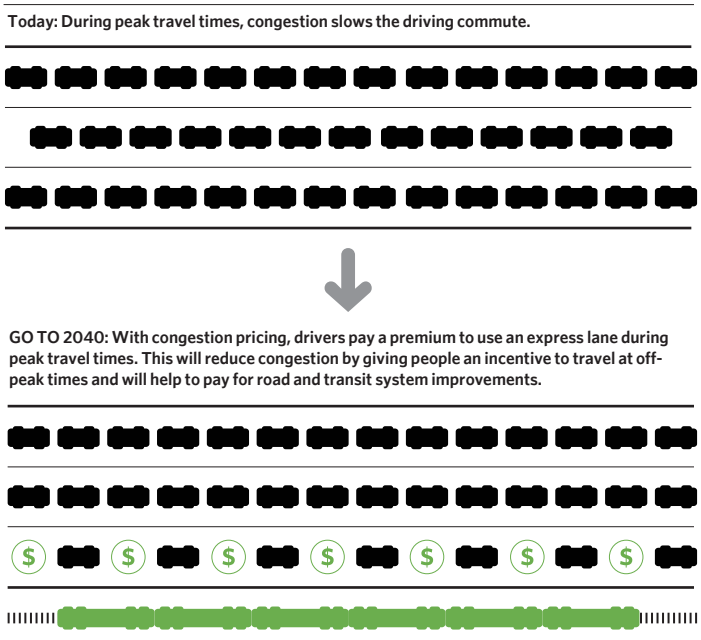
It must be stressed that congestion pricing is based on free market principles — the outcome of this strategy, when implemented prudently, is more efficient throughput of travel. Transportation experts and economists from across the political spectrum support the institution of congestion pricing. Because congestion pricing has already been implemented in different places around the U.S., our region can and should learn from these experiences.

Two potential, yet related pitfalls to congestion pricing are often raised. The first relates to its potential regressivity (the fees would likely impact low income people more than high income people). The second relates to a lack of clarity over how revenues should be distributed. There can be no doubt that the successful implementation of congestion pricing requires significant buy-in from adjacent local governments, public transportation providers, and low income users. As the policy can make some people better off and some people worse off, highway and transit improvements along the affected corridors can work to ameliorate these potential social equity pitfalls. A portion of the revenues should be used to make transportation improvements, which might be necessary to address the spillover of some traffic onto adjacent arterials. Public transit providers should also receive a portion of the revenues specifically to offer service along the affected corridor or to improve connections to service in the corridor.

While the implementation of congestion pricing in northeastern Illinois is not unanimously supported, there has been a considerable level of coordination among local transportation agencies in studying its impacts and proposing specific projects to the federal government for implementation dollars. In December 2007, CMAP, in coordination with the Illinois Tollway, IDOT, RTA, and Pace submitted a Congestion Reduction Demonstration proposal to the U.S. DOT. The submittal proposes congestion pricing along the I-90/Jane Addams Memorial Tollway.[24] While the proposal was not selected by U.S. DOT for funding, it demonstrates a regional commitment among both planners and implementing agencies to a careful implementation of congestion pricing.

Furthermore, the Tollway, in partnership with the Metropolitan Planning Council (MPC) and Wilbur Smith Associates (WSA), is in the final stages of a two-year study to develop strategies that will reduce congestion in the region. The study models the impacts of congestion pricing on the Tollway, as well as IDOT expressways, and considers the diversion to local roads. It considers a range of scenarios, routes, and configurations to help reach desired goals.[25] Currently, the Tollway uses congestion pricing, to a certain degree, by charging trucks a variable fee depending on the time of day.

Figure 56. Congestion pricing



23 GO TO 2040 Managed Lanes Strategy Report, 2009. See http://www.goto2040.org/managed_lanes/.

24 The Congestion Reduction Demonstration proposal is available online; see http://tinyurl.com/23l2sju.

25 For more information on the two-year congestion pricing study being conducted by the Illinois Tollway, Metropolitan Planning Council, and Wilbur Smith Associates, see http://tinyurl.com/2vehj9t.

Implement Pricing for Parking

The provision of free parking only serves to perpetuate automobile dependency, increase congestion, and lead to economic inefficiencies. Research indicates that an estimated 99 percent of parking in the U.S. is free,[26] although the true costs of parking (i.e., construction, maintenance, etc.) are passed along to consumers and taxpayers via increased taxes and higher prices for goods and services. Parking management strategies, particularly those using variable pricing, can allow the price of parking to reflect its true market value. Using such market mechanisms has been demonstrated to be quite effective in managing parking demand; in one study, it was found that a one percent increase in parking fees resulted in a 0.3 percent decrease in demand.[27]

Local governments can utilize parking pricing along with other parking management strategies to promote efficient use of existing parking. Examples of parking management strategies include shared parking plans, improved information on availability of parking, and reforming city ordinances to reduce parking requirements for new developments, which are typically designed to accommodate rare peak demand. Revenues generated can assist local governments in the maintenance and management of their existing transportation infrastructure or help improve transit service.

Similar to congestion pricing, the mechanism of "variable pricing" for parking can be used as a demand management tool for congested road facilities, and also raise considerable revenues. Variable parking pricing seeks to apply a free market-inspired pricing system to more efficiently allocate parking supply, with higher prices charged at times and locations of peak demand. Variable pricing has the promise of both effective congestion mitigation and the ability to raise considerable sums for local government.

Northeastern Illinois currently has over 3.2 million off-street commercial and industrial parking spaces in more than 32,000 facilities, close to 95,000 spaces at transit parking lots and millions more in on-street parking spaces. On-street parking, as close to a business as possible, is the most convenient type of parking for potential customers, and keeping these spots available for short-term use should be a high priority. If on-street commercial parking is not managed or priced, commuters, employees, and spillover parkers avoiding fees will use the parking spaces and desired patrons will not have a place to park. Some economists have suggested that municipalities charge a price that will ensure that approximately 15 percent of the spaces are always vacant.[28] This could be in the form of variable pricing that maintains a high enough price so that there will always be some vacancy, but not so high as to send business to other locations.

Parking pricing should be customized by location, and GO TO 2040 recommends that CMAP work with interested local governments to explore its implementation.

26 Donald Shoup, "The High Cost of Free Parking," American Planning Association, 2005.

27 Richard H. Pratt, "Parking Management and Supply," Traveler Response to Transportation System Changes. Transit Cooperative Research Program Report (2003): 95.

28 Donald Shoup, "The High Cost of Free Parking," presentation to the International Symposium on Road Pricing, November 2003. See **http://www.trb.org/conferences/roadpricing/presentations/shoup.ppt**.

Increase Federal and State Gas Taxes and Index Rates to Inflation

As the primary revenue sources for transportation funding, federal and state motor fuel taxes have not been imposed at appropriate levels to fund the maintenance and operations of our current system and provide for necessary capital improvements. The revenues are not keeping pace with inflation, much less the pace of recent escalating construction costs. Federal and state gas taxes remain cents per gallon taxes, thus when fuel consumption slows, revenues drop, regardless of the price of gasoline.

While continued reliance on gas taxes may not be an attractive solution over the long run (largely based on its growing inefficiency as a "user fee" once more alternative sources of fuel are utilized), in the short and medium term, MFTs must be increased because they hold the most near-term revenue potential for transportation funding.

Unlike many of the potential alternatives that could replace or supplement the tax, gas taxes already have administrative systems in place for collection. The MFT also has the ability to directly charge for negative air quality impacts caused by the burning of fossil fuels, particularly carbon dioxide and other greenhouse gas emissions. The failure of the MFTs in keeping up with the rate of inflation can be solved by indexing the tax rates to institutionalize annual adjustments that would at least maintain the purchasing power of the generated revenues. GO TO 2040 recommends that the State of Illinois increase the existing 19 cents per gallon tax by eight cents and index the tax to inflation, either the consumer price index (CPI), construction cost index (CCI), or a transportation materials cost index. A portion of the revenues should be used to fund transit. The federal gas tax should also be raised and indexed to inflation.

Pursue Appropriate Public Private Partnerships

PPPs describe a range of contractual agreements between government and a private firm for the provision of public infrastructure or services. PPP contracting methods are designed to shift some amount of risk — often in terms of project costs or project schedule — away from the public sector, and provide opportunities and value to the private sector not previously available. The private sector is already heavily involved as contractors in the design and construction of transportation facilities. PPPs expand this role by leveraging private investment in a range of other project elements, including financing, management, or by transferring some project risk, such as construction costs and schedules, to a private firm.[29]

The decision to authorize the use of PPPs rests with individual states. Currently, approximately 24 states have significant PPP authority, which can include the ability to enter into "design-build" contracts; accept and respond to unsolicited proposals from the private sector; or take advantage of innovative Federal financing programs (like the SEP-15 program, or TIFIA). While Illinois currently does not have broad PPP authority, or, at a minimum, the ability to enter into design-build contracts, Governor Quinn recently signed legislation allowing IDOT to actively use PPP financing mechanisms for a proposed Illiana Expressway. This action may represent a first step toward a statewide policy. Neighboring states (Indiana, Missouri, and Minnesota) allow different types of PPP activity to be undertaken and have carried out projects with connections to Illinois.

Individual municipalities in Illinois may still pursue these types of financing arrangements with virtually no state involvement. The City of Chicago has been the legal party to the region's major PPP projects, including the long term lease agreement for the Chicago Skyway and the current CREATE program. Long term lease agreements involve the leasing of a publicly-financed transportation facility to a private-sector entity for a prescribed period of time during which the private entity has the right to collect revenue from the operation of the facility. In exchange, the private entity must operate and maintain the facility, and in some cases make improvements to it.

While long term lease agreements attract the most attention (and political controversy), other less risky PPP models should not be ignored, and they may have practical application in the Chicago region. "Design-build" arrangements consolidate typically disparate engineering and construction processes into one contract. In other places, this has shown the ability to reduce costs and drastically shorten the duration of projects, due to the elimination of a second

29 See the GO TO 2040 Public-Private Partnerships Strategy report, 2009, for more information and case studies at **http://www.cmap.illinois.gov/strategy-papers/public-private-partnerships**.

procurement process for the construction contract.[30] One example of design-build, the recent Transportation Expansion Project (T-Rex) in Denver (expansion of I-25 and I-225 along with the construction of a new light rail line connecting the Denver Tech Center and downtown), was completed 22 months ahead of schedule and 3.2 percent under budget. The project sponsors estimated that the entire project would have taken 20 years or more to construct under a standard design, bid, and build process.[31]

A+B contracting (or "cost + time bidding") is another PPP strategy that sets goals and incentives for the date of completion of the project, allowing the public entity to shift some construction risk to the private sector. This type of contracting can create incentives for the private sector to complete projects more quickly. Many state DOTs, including Florida, Arizona, Indiana, Washington, New York, and North Dakota have bid projects using this method, and it has been used extensively by the Office of Federal Lands Highway in FHWA.

Other PPP arrangements are more comprehensive in scope, and involve a private firm assuming not only design and build risks, but also the financing, operations and maintenance of the facility. Where private financing is involved, the public partner reduces the need for public monies to finance the project, conserving highway capital funds. A number of highway and transit projects in the U.S. have been constructed and operated in this manner. The SR 91 express lanes in southern California, which include variable congestion pricing, opened in 1995 as the first privately funded tollway built in the U.S. in nearly 50 years. Ownership and operation of SR 91 was reassumed by the public sector in 2003, though a private firm continues to manage and operate the express lanes under contract today.

GO TO 2040 recommends that the General Assembly pass legislation that gives broad authority for IDOT and Illinois Tollway to pursue PPPs in northeastern Illinois. These project-specific arrangements should be handled with a high degree of transparency and care. The costs and benefits of recent PPP deals are still under debate, and for many of these deals it remains premature to make any final judgment on the outcome. PPP contracts can be extremely complex, and performance standards on all aspects of operations and maintenance should be stated in detail. For long term lease agreements, the fiscal benefits of an up-front revenue infusion must always be carefully weighed against the public benefits over the lifespan of the project.

While it is true that many of these deals have led to imperfect outcomes, in many cases PPPs have demonstrated significant cost savings, and enabling them would add needed flexibility to the way transportation projects are designed, constructed, financed, operated, and maintained.

30 Federal Highway Administration, "Design-Build Effectiveness Study," prepared for U.S. Department of Transportation. See **http://tinyurl.com/28vqh6a**.

31 Metro Denver, Colorado Department of Transportation, and Regional Transportation District, Transportation Expansion Project (T-REX) Project Fact Book, 1999 to 2006, 2007.

Pursue "Value Capture" Strategies and Transit Impact Fees

"Value capture" refers to a range of financing strategies by which transportation implementers (particularly transit operators) can acquire capital or operating revenues from increases in property values caused by the transportation infrastructure investment. Access to transportation is a valued amenity in the real estate market. Numerous studies have found that property values increase in proximity to rail and highway access points (though not immediately adjacent to them due to noise pollution and congestion issues). These impacts dissipate as the distance from the transportation access grows.[32] The range of strategies include creating special assessment districts and tax increment financing (TIF) districts, and applying a proximate "land value tax" — a property tax assessed to a much greater degree on land rather than improvements.

One particularly intriguing "value capture" strategy is imposing development impact fees, a one-time tax assessed on property development for the additional strain the new development puts on infrastructure. Impact fees are assessed on developers (though ultimately passed through to land owners and house buyers), are instituted by taxing authorities, are assessed before the property is developed (but often after the transportation infrastructure is developed), and usually must be applied to on-site properties or those immediately adjacent. Transit impact fees have been used in other parts of the U.S., including San Diego County, counties in Washington State, and in the City of San Francisco. Imposing a transit impact fee in the metropolitan Chicago region could generate a large amount in capital funds for the RTA system. Appropriate methods to apply value capture should be examined and implemented on a project-by-project basis.

Pursue a Long Term Replacement for Gas Taxes

While raising gas taxes in the short term makes good policy sense given declines in purchasing power and the administrative mechanisms already in place, MFTs will likely need to be replaced within the next 20 years as vehicles switch to alternative energy sources. "Pay as you drive" strategies, including the imposition of a VMT fee, could raise large annual revenues, depending on the fee schedule.[33] A VMT fee would likely be more efficient in making users bear the full costs of their road use. The gas tax currently fails the test as an efficient "user fee" given the varying levels of fuel efficiency in cars and trucks. However, new administrative procedures for instituting a new fee structure would need to be enacted. The gas tax is currently easily administered and similar mechanisms would need to be developed to adopt a VMT fee. While not a short-term solution to the transportation financing problem, analysis on the benefits of these types of new financing strategies should continue.

32 For a review of studies that look at railroad access, and an explanation in the variation in findings, see Derezion Ghebreegziabiher, Erik Pels, and Piet Rietveld, "The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-Analysis," Journal of Real Estate Finance and Economics 35 (2007): 161-180.

33 GO TO 2040 Travel Demand Management Strategy Paper, 2009. See strategy paper on Travel Demand Management. See **http://www.goto2040.org/tdm/**.

10.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on five implementation areas for investing strategically in transportation:

Find Cost and Investment Efficiencies

Increase Motor Fuel Taxes in the Short Term, and Institute a Replacement in the Long Term

Implement Congestion Pricing on Select Road Segments

Implement Pricing for Parking

Find Other Innovative Finance Mechanisms

Implementation Action Area #1: Find Cost and Investment Efficiencies

Prioritize maintenance and modernization projects when making investment decisions LEAD IMPLEMENTERS: State (IDOT, Tollway), RTA, CTA, Metra, Pace, counties, municipalities	Investments that maintain and modernize the transportation system should be prioritized over major expansion projects. This modernization focus should serve as a policy backdrop for our transportation investment decisions on both the highway and transit side. Furthermore, research and planning staffs from implementing agencies should conduct more in-depth studies on the impacts of cost-effective modernization strategies, including the procurement of more state-of-the-art buses and trains. Other enhancement and modernization strategies include traveler information systems, bicycling and pedestrian improvements, better pavement materials, signal timing, and other intelligent transportation system (ITS) improvements. Projects of all types should take a multimodal approach, seeking to improve conditions for all travelers, including bicyclists and pedestrians.
Develop and utilize transparent evaluation criteria for the selection of projects, particularly ones adding capacity LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, RTA, Metra, Pace, CTA	Well defined criteria are needed for the selection of projects, particularly new roads, projects adding capacity to existing facilities, and new or increased transit service. This will help make the process of allocating state and federal funds more transparent for the general public and allow for the most crucial improvements and projects to be completed first with the finite resources available. CMAP has developed a set of criteria for evaluating major capital projects. IDOT, CMAP, and the transit agencies should coordinate on the use of these criteria and evaluate existing quantitative models for their degree of rigor and robustness. These evaluation criteria should be developed and vetted using a transparent regional process.
Ensure that the region's transportation projects are based on the above performance measures and align with the priorities of GO TO 2040 LEAD IMPLEMENTERS: CMAP	CMAP has an important role to play in terms of whether or not finances should be allocated to transportation projects based on the above performance criteria, and whether the projects satisfy the direction of the long range plan, GO TO 2040. Changes and amendments to the TIP is the process by which such decisions can be made. CMAP staff should use criteria to measure the performance of projects, particularly larger, capacity-adding projects, in the TIP and make recommendations on action to the CMAP Board and MPO Policy Committee, who hold final say on whether or not projects should be included.
Improve decision making models used for evaluating transportation projects LEAD IMPLEMENTERS: CMAP	CMAP should continue to lead in developing the analytical tools and techniques for project evaluation. As the agency coordinates planning for transportation, land use and housing, environment, and economic development, the quantitative models employed to make these evaluations should be upgraded toward integrated models with transportation, land use, and economic components.

Implementation Action Area #1: Find Cost and Investment Efficiencies (continued)

Identify methods and technologies to improve operational efficiency of the transit system LEAD IMPLEMENTERS: RTA	The RTA should focus its efforts on addressing the system's fiscal health, particularly pursuing strategies for improving operating efficiencies and ending the continual cost increases that have compromised the integrity of the system.
Revise the federal "New Starts" program for transit LEAD IMPLEMENTERS: Federal (U.S. DOT)	The Federal New Starts program is a competitive grant process that funds transit system expansions. While expansions are vital for many parts of the U.S., older and more well-developed systems should have the option to use these funds for badly needed maintenance and modernization efforts. The current New Starts program creates a strong incentive to pursue expansions, when maintenance and modernization should be the region's top priority. The criteria for federal New Starts grants should be expanded to support reinvestment in existing infrastructure rather than solely new expansions. Further, FTA regulations concerning use of funds for engineering of transit projects are stricter than those governing highway projects, and should be changed to create a "level playing field."
Develop regional infrastructure funding programs for plan implementation LEAD IMPLEMENTERS: State (IDOT), CMAP	Create a pilot program meant to focus infrastructure funds to implement local comprehensive plans, modeled on programs in Atlanta and San Francisco. Allocate a portion of funds currently programmed by the state (STP) and by CMAP (CMAQ) for this purpose. Retain the current programming of local STP funds, but encourage programmers to consider livability in their funding decisions.
End the "55-45" split for Illinois transportation dollars and make investment decisions based on metrics of need LEAD IMPLEMENTERS: IDOT	Northeastern Illinois continues to be plagued by a non-statutory funding split which allocates 55 percent of road funding to downstate districts and 45 percent to northeastern Illinois. Transparent performance driven criteria should be used to drive investments rather than an arbitrary split.
Revise the process of state capital program funding in Illinois LEAD IMPLEMENTERS: State (General Assembly)	Funding for transportation capital improvements should be included as part of the annual budgetary process, rather than in the form of "state capital program" bills, which typically occur only every 10 years. Furthermore, project selection should be based upon performance based criteria rather than on earmarks.

Implementation Action Area #2: Increase Motor Fuel Taxes in the Short Term, and Institute a Replacement in the Long Term

Implement an eight cent increase of the state's motor fuel tax and index it to inflation LEAD IMPLEMENTERS: State (General Assembly)	This would require an act of the Illinois General Assembly and the Governor. An increase in the state's MFT presents the best option for short-term increase in revenues for transportation funding. The tax should be indexed to the rate of inflation to combat the decrease in purchasing power that occurs over time. A portion of these proceeds should be devoted to funding transit.
Implement an increase of the federal motor fuel tax and index it to inflation rate LEAD IMPLEMENTERS: Federal (Congress)	This would require an act of the U.S. Congress and the President. The federal MFT was last increased in 1993. Index the tax to the rate of inflation.
Conduct a detailed study of potential gas tax replacement revenue mechanisms, particularly "pay-as-you-drive" fees like a vehicle miles traveled fee LEAD IMPLEMENTERS: Federal (U.S. DOT), CMAP	As the fuel efficiency of automobiles increases along with the use of non-petroleum based fuels, there will be a long term need to replace the MFT. This could take the form of a VMT fee. Existing Global Positioning System (GPS) technology has the dynamic potential to charge fees based upon location/roadway and time of day.

Implementation Action Area #3: Implement Congestion Pricing on Select Road Segments

Complete operational study of the potential congestion pricing projects LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP	Complete the operational impact study on the three alternatives identified by the Regional Congestion Pricing Study undertaken by the Tollway, MPC and WSA. The three alternatives are I-90/94 Kennedy Reversibles between Edens I-94 and Ohio Street, I-90 Jane Addams between I-290 and I-294, and I-55 Stevenson between I-294 and I-90/94.
Implement congestion pricing pilot projects LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, RTA, Pace, CTA, CDOT	Utilizing information collected in the regional and project level studies conducted, implement regional congestion pricing pilot projects. I-90 and I-55 are managed lanes projects specifically recommended in GO TO 2040 — these should be prioritized.
Fund supportive transit projects with revenues generated LEAD IMPLEMENTERS: State (IDOT, Tollway), RTA, Metra, Pace, CTA	To alleviate potential equity issues created by the higher fees on road segments, there will be a need to increase transit service in the vicinity of the congestion pricing. Congestion user fees will be used to fund the increased service.
Fund arterial improvements with revenues generated LEAD IMPLEMENTERS: State (IDOT, Tollway), counties, municipalities	Congestion pricing can cause increased traffic diversion on to parallel arterials in local communities. The increased traffic may cause unintended congestion problems for local users of the arterials and infrastructure solutions may be required. Congestion fees will be used to fund the mitigation solutions.
Conduct further study of congestion pricing and managed lanes strategies with special attention paid to major capital projects LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, RTA, Metra, Pace, CTA, counties, municipalities	Many of the constrained and unconstrained road expansion projects would lend themselves to congestion pricing as a potential revenue source. Continued study of these projects is needed to identify the best candidates.

Implementation Action Area #4: Implement Pricing for Parking

Conduct detailed studies on potential parking pricing projects LEAD IMPLEMENTERS: CMAP, municipalities	Identify potential locations/areas where pricing for parking could be implemented and study the potential effects.
Implement parking pricing, including variable pricing parking projects LEAD IMPLEMENTERS: Municipalities	In almost all cases, local governments have authority over parking and would be the implementer and collect the generated fees. On-street parking, as close to a business as possible, is the most convenient type of parking for potential customers, and using pricing to keep these spots available for short-term use should be a high priority.
Encourage subregional planning studies to include a parking pricing component LEAD IMPLEMENTERS: CMAP, RTA	The use of both on and off-street parking should be analyzed as part of any subregional planning study that considers transportation. This may include studies at the corridor or downtown business district or even the industrial/office park planning levels.

Implementation Action Area #5: Find Other Innovative Finance Mechanisms

Pass general state enabling legislation for public private partnerships LEAD IMPLEMENTERS: State (General Assembly, IDOT, Tollway)	For the state agencies like IDOT and the Tollway to even consider the different types of PPPs would require special enabling laws from the State of Illinois. State agencies are restricted by specific contracting, procurement, and purchasing rules and regulations that act as barriers to PPPs.
Provide objective analysis of potential projects and strategies LEAD IMPLEMENTERS: CMAP	CMAP as the regional planning agency can provide objective analysis on potential projects and the different finance models available to state, local, and private agencies. A strong focus should be placed on finding innovative finance mechanisms for major capital projects.
Consider public private partnerships in project development LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, RTA	Based upon the analysis of potential projects and financing strategies, agencies should consider the use of PPPs on a project-by-project basis.
Conduct detailed value capture studies LEAD IMPLEMENTERS: RTA, CMAP	To generate new funding for transit, the region needs to consider different value capture techniques on potential new or expanded transit infrastructure projects. The increased revenues can be used to offset operations deficits.

10.6 Costs and Financing

The recommendations for transportation finance include strategies for raising revenue, as well as strategies for increased cost efficiencies and better investment decisions through regional priorities, evaluation criteria, and more sophisticated quantitative modeling.

CMAP is required by federal law to prepare a detailed financial plan for transportation, which compares the estimated revenue from existing and proposed funding sources with the estimated costs of constructing, maintaining, and operating the total transportation system. This process is known as the plan's "fiscal constraint." Constraint for plans is important because it forces regional decision makers to set priorities and make trade-offs, rather than including a laundry list of projects and activities.

CMAP estimates that **$350.4 billion** in core federal, state and local revenues will be available between 2011-2040. These "core revenues" are ones the region receives today, forecasted out based on historical trends. Federal guidance also permits MPOs to calculate revenues that can "reasonably be expected." What is "reasonable" usually constitutes a judgment call, based upon the current political and policy climate at various levels of government. The inclusion of "reasonably expected revenues" is vital for the region to make additional needed investments, though it still will not be enough to move the system to a state of good repair, make all of the strategic improvements, or construct all of the major capital projects that are desired.

"Reasonably expected" sources primarily include an eight cent increase (and subsequent annual inflation indexing) of the State of Illinois MFT and revenues from the institution of congestion pricing on some segments of the region's expressway system. A small amount of revenue is also expected from more aggressive pricing of parking in the region, as well as from transportation revenues expected through federal climate change legislation. The sum of these "reasonably expected revenues" totals an additional **$34.6 billion**. Together, CMAP expects a total of **$385 billion** in revenues over the plan horizon.

The total of transportation expenditures must be constrained by the predicted amount of future funding. CMAP estimates that while the total of core and reasonably expected revenues will be sufficient to operate and maintain the system safely and adequately, they will prove insufficient in bringing the system to a state of good repair or approach the desired level of enhancements and expansions — the amount of funding needed to get to this level can be called "unconstrained." CMAP estimates that the first category (maintenance and operations of the transportation system at a "safe and adequate" level) will cost **$332.7 billion** over the 30 year planning horizon. This number does not include assumptions of shorter lifecycles on maintenance schedules, upgrades to capital materials, equipment, rolling stock or facilities, or any enhancements or expansions to the system.

The remaining **$52.3 billion (13.7 percent of total funding)** will be used to bring the system toward a state of good repair, enhance the system, and expand the system via the construction of major capital projects. This remaining envelope of funding constitutes the "regional budget," over the next 30 years, for maintaining or operating the system at a higher level, modernizing, enhancing, or expanding the system. While it is important to acknowledge the overall scale of the estimated investment, CMAP stresses that regardless of any estimated funding totals, the paramount challenge for the region is to set priorities.

The priorities of GO TO 2040's preferred Regional Scenario are to maintain the existing system and make systematic improvements. The bulk of the region's transportation investments should be to maintain, improve, and modernize our infrastructure. Pursuing new major capital projects, while important, should remain a lower priority than these other activities. Achieving a world-class transportation system necessitates improving, modernizing, and increasing service on existing assets, rather than building expensive new projects that would be difficult to finance, operate, and maintain over the long term.

Given the policy direction of GO TO 2040 and CMAP's charge to establish regional priorities, the recommendation is for **$41.8 billion (10.9 percent of total funding)** of the remaining funding be allocated toward "state of good repair" capital maintenance, modernization, and strategic enhancement projects and **$10.5 billion (2.7 percent of total funding)** toward major capital projects, which are described later in this section.

The remaining funding which is needed (but not covered under the plan's fiscal constraint), is called "unconstrained" funding. CMAP estimates that these needs amount to **$100-$220 billion** in additional revenue. This fact requires the region to find more cost efficiencies and to implement more aggressive strategies like congestion pricing and parking pricing. Value capture approaches, PPPs, and other strategies should also be pursued. **Table 7** summarizes GO TO 2040's fiscal constraint for transportation, including the amount of funds which remain "unconstrained." Please note that all estimates of revenues and costs are stated in *year of expenditure* dollars (YOE$) — in other words, inflation as well as other forecasted revenue/cost increases have already been assumed in these figures.

Table 7. Transportation revenues and expenditures (constrained and unconstrained) for GO TO 2040
All numbers in year of expenditure for period 2011-2040. Numbers are in billions of dollars.

REVENUES	
Core Revenues	
Federal Highway and Transit	$66.4
State Motor Fuel Tax and Vehicle Registration Fees	$50.9
RTA Sales Tax & Collar County Empowerment Fund	$50.3
Transit Farebox Revenue	$43.7
Toll Revenues	$28.0
State Capital Program	$16.1
Other Transit Revenues	$24.4
Other Local Revenues for Roads	$70.6
Subtotal—Core Revenues	**$350.4**
Reasonably Expected Revenues	
Motor Fuel Tax Increase & Index to Inflation	$19.4
Revenues from Congestion Pricing	$12.0
Variable Parking Pricing	$2.0
Transportation Allowances—Federal Climate Change Legislation	$1.2
Subtotal—Reasonably Expected Revenues	**$34.6**
TOTAL REVENUES	**$385.0**

EXPENDITURES	
Operating Expenditures	
Transit	$116.7
Highway	$56.9
Safe and Adequate (Capital Maintenance)	
Transit	$31.6
Highway	$127.5
Subtotal—Operating and Safe and Adequate Expenditure	**$332.7**
Moving the System Toward a State of Good Repair/ Systematic Enhancements	$41.8
Major Capital Projects	$10.5
TOTAL EXPENDITURES	**$385.0**
UNCONSTRAINED EXPENDITURES	**$100.0—220.0**

Source: GO TO 2040 Financial Plan for Transportation

10.7 Strategic Enhancements and Modernization

GO TO 2040 recommends that the region prioritize investments toward strategic enhancements and modernization of the transportation system. If carefully targeted, these types of projects will improve access, mobility, and the overall experience for all users.

GO TO 2040 allocates $41.8 billion (in year of expenditure dollars/YOE$) over the next thirty years for projects that bring the system toward a state of good repair as well as those that enhance and modernize. The following subsection provides examples of the types of projects that can be pursued with this portion of the regional transportation budget. Projects of this type are not identified individually in the plan, but are identified and implemented through the region's Transportation Improvement Program.[34]

Significant improvements can be made to the *public transit* system through enhancements and modernizations. These can include enhancements to stations or commuter parking facilities, purchases of more modern vehicles, strategic improvements to the rail system that are not large enough to be considered major capital projects, new or expanded bus routes (including Arterial Rapid Transit), and others. More specific recommendations concerning public transit can be found in Section 11 of GO TO 2040, Increase Commitment to Public Transit, which supports increasing investment to improve the region's transit system.

Most improvements to the *bicycle and pedestrian* system are also in this category. These can include sidewalks and other pedestrian facilities, off-street bicycle or multiuse paths, on-street facilities, or other efforts to provide accommodation for non-motorized transportation. Both bicycling and pedestrian travel are important components of an integrated, intermodal transportation system. GO TO 2040 supports improving the bicycle and pedestrian environment through projects such as these. The plan also supports policy-based efforts to improve the bicycle and pedestrian systems, such as the use of Complete Streets principles to accommodate non-motorized travel in roadway design.[35]

Roadway improvements of many types are also included in this category. This essentially includes any type of roadway improvement beyond preservation and maintenance that is not considered a major capital project. For example, projects that add lanes to arterials or other streets, addition of turn lanes, access management programs, intersection improvements, new or improved interchanges, and new or improved bridges are included within this funding category. GO TO 2040 recommends implementing these projects strategically, following principles of Context Sensitive Solutions (CSS), using innovative design features, and seeking to include multimodal alternatives — including provisions for transit, bicycling, and pedestrians — within them.

Improvements related to *Intelligent Transportation Systems* (*ITS*) are also considered strategic enhancements and modernization. These include the use of real-time traveler information for both highway and transit, signal improvements such as interconnects or Transit Signal Priority (TSP) systems, traffic management centers, and many others. In recent years, real-time data about traffic conditions, travel time, and transit arrival times has dramatically increased with the explosion of information technology, and this trend will likely continue. GO TO 2040 supports continuing to advance ITS projects of all types, and recommends a continued role for CMAP in coordinating these efforts regionally.

34 The Transportation Improvement Program (TIP) is described online, see **http://www.cmap.illinois.gov/tip**.

35 For more information on CMAP's ongoing work to improve the bicycle and pedestrian system, see the Soles and Spokes program, online at **http://www.cmap.illinois.gov/solesandspokes**.

10.8 Major Capital Projects

To support the region's expected growth and improve the quality of transportation service to people and businesses, GO TO 2040 identifies capital investments expanding the capacity of regionally significant transportation facilities.

This capital element of GO TO 2040 is required for projects in the region to be eligible to receive federal transportation funds or obtain federal approvals. It identifies the major transportation capital projects that will be pursued between now and 2040. These projects must meet the federal requirement of fiscal constraint and conform to certain air quality requirements.[36]

Although these major capital projects account for only a small fraction of the total investment in transportation, they have been thoroughly investigated and evaluated in terms of how they support the GO TO 2040 Regional Vision. Due to the length of time required to develop major capital transportation projects, accurately identifying a system of improvements within the long-range plan promotes efficient, cost-effective implementation of these projects.

This subsection includes descriptions of high-priority major capital projects that our region should pursue between now and 2040; these include a balance of transit, highway, and multimodal projects, distributed throughout the region.

Program Development

Definition of Major Capital Projects

Only a small number of transportation projects are considered "major capital projects." They are large projects with a significant effect on the capacity of the region's transportation system, including extensions or additional lanes on the interstate system, entirely new expressways, or similar changes to the passenger rail system. Arterial expansions and intersection improvements are not defined as major capital projects; neither are bus facilities, unless they involve a dedicated lane on an expressway.

Fiscal Constraint

Essential to the development of the program of capital projects and meeting federal requirements is a detailed transportation financial plan that has been prepared as part of GO TO 2040. The conclusion of this work is that approximately $10.5 billion (in YOE$) in funding from existing or reasonably expected sources is likely to be available for major capital projects between now and 2040. This is in comparison to an anticipated $385 billion in funding from existing or reasonably expected sources for all transportation investments between now and 2040.

While the nature of a long range plan draws attention to the proposed major capital projects, the vast majority of the transportation investment between now and 2040 will go to maintain, operate and modernize both the highway and transit systems. The RTA's report, *Moving Beyond Congestion*, estimates that, just for transit, $8.4 billion is needed over the next five years to maintain and enhance the existing system. In its Statewide Transportation Plan, IDOT estimates that over 13 percent of its roadways and 10 percent of its bridges need improvement. Pursuing new major capital projects, while important, is a lower priority than other strategic improvements such as the following: transit system operations improvements; other systematic capital improvements to transit facilities (e.g., designated bus only lanes, transit signal priority); pedestrian and bicycle improvements; expansion of paratransit service; arterial widenings and operational improvements in congested areas; traveler information services; variable pricing on expressways; interchange reconstructions with operational improvements; intersection treatments; or signal interconnects.

36 For more detailed information and analysis, see the GO TO 2040 capital project page at **http://www.goto2040.org/scenarios/capital/main/**.

Project Prioritization

Projects were prioritized based on their support for GO TO 2040, the results of the individual evaluations, and information from other project analyses. The priorities of GO TO 2040 are to maintain, improve, and modernize our infrastructure; pursuing new major capital projects, while important, is a lower priority than these other activities.

Using the list of capital projects contained in the previous regional transportation plan as a starting point, implementers, stakeholders, and the general public were asked to submit projects for analysis and consideration. The result was a list of projects that would have taken over $80 billion to implement and operate. Therefore, a prioritization process was needed, which included evaluation measures, to select the best combination of projects within the fiscal capacity of the region.

There were three phases to the project prioritization process. First, projects were evaluated based on their support for the Preferred Regional Scenario, which among other things calls for more compact, mixed-use development and transportation investments targeted to achieve outcomes such as economic growth, environmental protection, and congestion reduction. Second, an extensive array of performance measures or indicators was developed with the assistance of the Volpe Center, part of the U.S. DOT's Research and Innovative Technology Administration. Each project was evaluated in terms of how it performed against these measures.[37] Finally, since a number of projects have undergone extensive study, information from these other project analyses was considered. The final selection process was not a simple mathematical exercise but rather the result of professional judgment which considered projects within each of the three phases described above. The result is a cohesive mix of projects exhibiting a number of distinct themes.

Several themes can be seen in the prioritization of fiscally constrained projects. First, there are few "new" projects or extensions. The majority of the constrained projects involve improvements to existing facilities. Second, there are a number of "managed lanes" projects. These are envisioned to incorporate advanced tolling strategies such as congestion pricing, transit alternatives like Bus Rapid Transit (BRT), or special accommodations for truck travel. Third, there is considerable public investment in transit. Of the 18 projects recommended, there are seven highway projects, eight transit projects, and three managed lane or multimodal corridor projects that will accommodate both highway and transit modes. Of the estimated $21 billion (in year of expenditure $)[38] available for major capital projects, over $12 billion is allocated to transit projects and an additional $4.5 billion for managed lane and multimodal corridor projects. These priorities are consistent with the direction of GO TO 2040, which calls for investment in the existing system, use of innovative transportation finance methods, support for freight, and a focus on improving the public transit system.

37 For more detailed information and analysis, see the GO TO 2040 capital project page at **http://www.goto2040.org/scenarios/capital/main/**.

38 An explanation of the $21 billion figure — rather than the $10.5 billion cited earlier — is contained in a March 2010 memo to the MPO Policy Committee: **http://tinyurl.com/3xlzakh**.

Priority Projects

Evaluation results for individual projects are included in the Appendices. Note that these are high-level informational results, and ranking projects based solely on these results was not attempted. As projects proceed, they will require extensive additional detailed study and engineering. Project-level studies produce different results, appropriate to the level of detail needed for implementation. The results in the individual evaluations are intended to provide only a general idea of comparative benefits.

The selected high-priority capital projects were also evaluated together using the same measures that were calculated for the individual project evaluations.[39] The combined impact of the projects on the region's transportation system is generally positive. In combination, they result in economic growth, reduced congestion, shorter commutes, and improved job accessibility. Both auto and transit trips increase, and transit's mode share grows slightly. The high-priority projects support GO TO 2040's focus on reinvestment in existing communities, and they have limited impact on sensitive natural areas. As required by federal regulations, the major capital projects were combined with the proposed FY 2010 – 2015 Transportation Improvement Program and tested for conformity to the State's Implementation Plan to achieve the National Ambient Air Quality Standards. The analysis demonstrates that the region meets all required tests for air quality.[40]

Also, the "environmental justice" impacts of the constrained project list were calculated. This was done by calculating the jobs-housing access measure for only those areas that were defined as "environmental justice" areas — those with a concentration of low-income or minority residents. The purpose of this calculation is to ensure that the benefits of the region's transportation investments are shared fairly among socioeconomic groups. The results demonstrate that job accessibility is improved, particularly in terms of transit.

The following capital projects are recommended to be included for the fiscally-constrained list for GO TO 2040:

New Projects or Extensions

Central Lake County Corridor: IL 53 North and IL 120 Limited Access

CTA Red Line Extension (South)

Elgin O'Hare Expressway Improvements (includes Western O'Hare Bypass, EOE East Extension, and EOE Add Lanes)

I-294/I-57 Interchange

West Loop Transportation Center

Expressway Additions and Improvements

I-190 Access Improvements

I-80 Add Lanes (US 30 to US 45)

I-88 Add Lanes

I-94 Add Lanes North

Managed Lanes and Multimodal Corridors

I-55 Managed Lanes

I-90 Managed Lanes

I-290 Multimodal Corridor

Transit Improvements

CTA North Red/Purple Line Improvements

Metra Rock Island Improvements

Metra SouthWest Service Improvements

Metra UP North Improvements

Metra UP Northwest Improvements/Extension

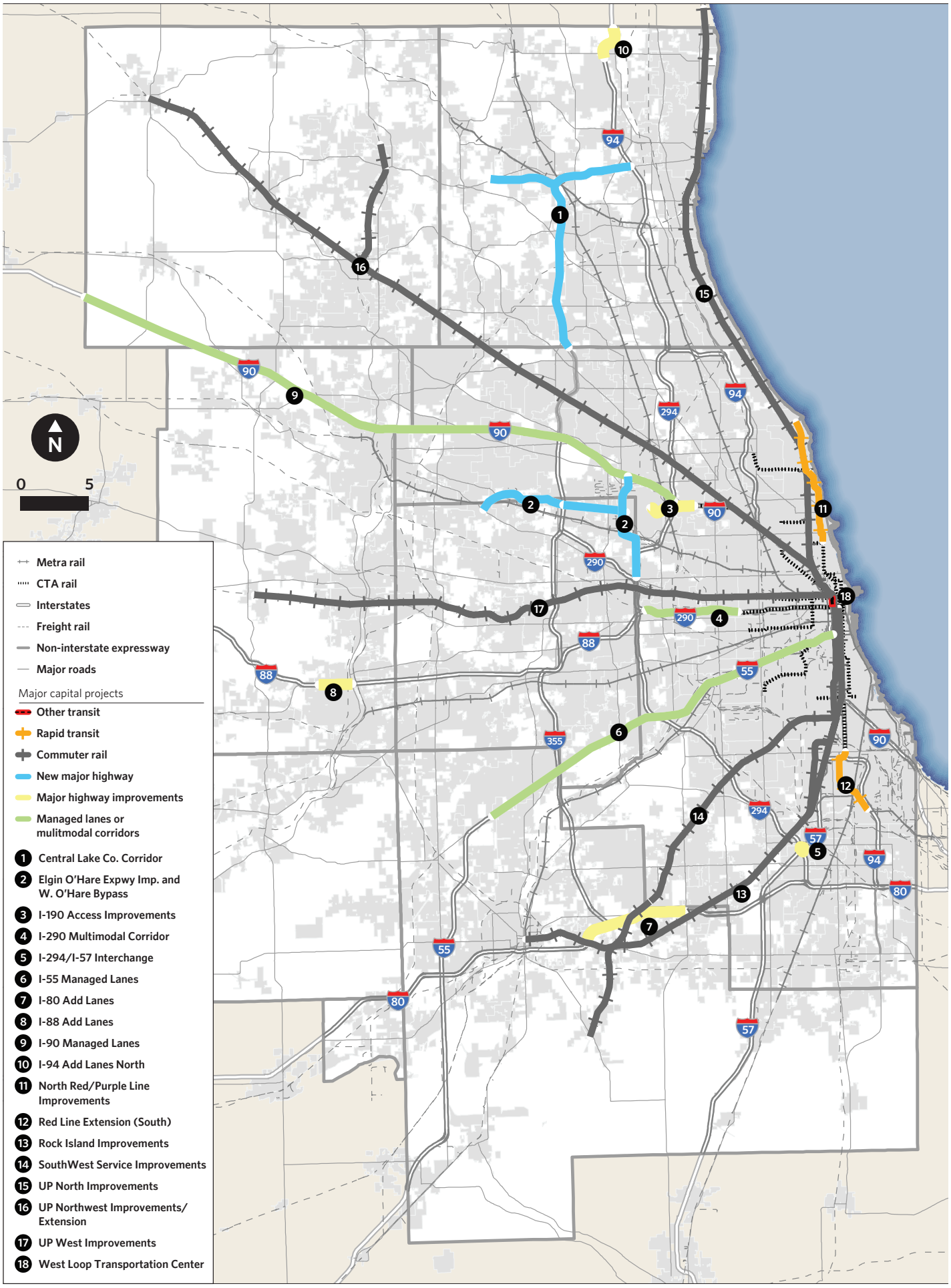
Metra UP West Improvements

Figure 57 is a map of these projects. A further description of the improvements involved, financing issues, project performance, and project status follows.

39 For evaluation measures see the April 2010 staff memo to CMAP Transportation Committee at **http://tinyurl.com/2dvm3l8**.

40 Details on the air quality conformity analysis can be found at **http://www.goto2040.org/conformity_analysis**.

Figure 57. GO TO 2040 fiscally constrained major capital projects



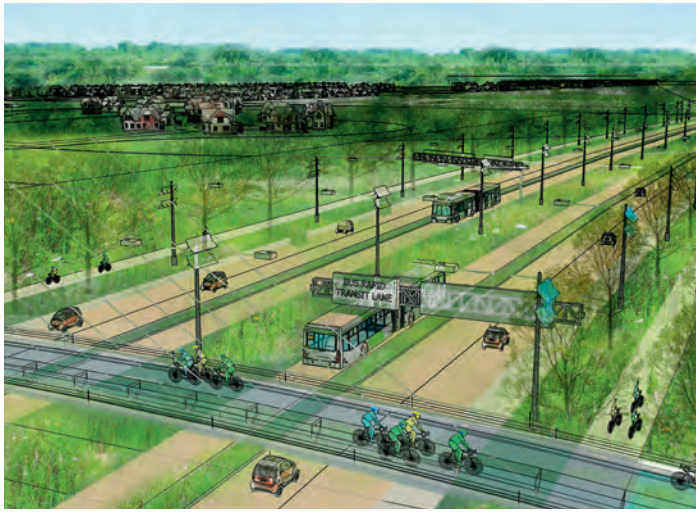
Source: Chicago Metropolitan Agency for Planning, 2010

New Projects or Extensions

Central Lake County Corridor: IL 53 North and IL 120 Limited Access

This project will extend IL 53 from its current terminus at Lake-Cook Road to central Lake County. It includes a dual terminus with I-94 to the east and IL 120 at Wilson Road to the west. Toll revenues are expected to cover a large portion of the project cost. The project is intended to provide improved accessibility for Central Lake County and improved mobility within the county; the current terminus of IL 53 at Lake Cook Road diverts travelers onto several local roadways. The project performs extremely well using the adopted performance measures, including ranking highest among all projects in its effect on regionwide congestion. Sixty-nine percent of elected officials attending the Lake County Transportation Summit in September of 2005 supported the extension of IL 53. Lake County voters approved of the county's commitment to pursue the completion of the project via referendum approval in April 2009. The County Board has passed a resolution urging IDOT "to initiate a planning process that engages all affected communities in an effort to build consensus around development of an environmentally sound and context sensitive integrated system of roads and transit improvements from the terminus of Rt. 53 to Rt. 120."

Central Lake County Corridor



In response to the Lake County Transportation Summit held in September of 2005, the Lake County Division of Transportation established a Route 120 Corridor Planning Council to build consensus on a recommended alternative. The feasibility study concluded in October of 2009 that the facility should be constructed as a four-lane, limited access arterial highway with a by-pass along seven miles of the present state highway.[41] The value of the Corridor Planning Council should be recognized, and the results of this work should become the basis for future work on both sections of this corridor. The IL 120 improvement can proceed more quickly through planning and engineering than the IL 53 extension, though they should be planned to be complementary.

However, the project does have potential negative impacts on the natural environment and on immediately adjacent communities. CMAP recommends that IDOT and Tollway work closely with Lake County and affected communities to use an aggressive Context Sensitive Solutions (CSS) approach for the planning and design of this facility, and that environmental protection and preservation of nearby community character should be high priorities. More specifically, there are significant environmental mitigation and enhancement opportunities in the vicinity of the project that have been noted in the Green Infrastructure Vision (GIV). Funds for wetland mitigation should be directed to high-priority biological areas, so that mitigation projects are focused in the GIV and in the same subwatersheds. Mitigation should help protect and restore key areas, such as the Kemper Property and Liberty Prairie Reserve, identified in the GIV.

Various design alternatives, including non-expressway alternatives, designing for lower speeds and using innovative interchange/intersection ideas, should be strongly considered during project planning. In addition, since high-capacity, high-speed transit options are limited in these corridors, especially the IL 120 corridor, transit accommodations need to be considered during project development. This corridor may be a good candidate for a congestion pricing mechanism to manage demand.

41 More details are available on the project website, **http://www.120now.com/**.

CTA Red Line Extension (South)
The South Extension project extends the Red Line, which is currently 22 miles long and is the Chicago Transit Authority's (CTA) most heavily-used rail line, for an additional 5.5 miles. It would travel from its current terminus along I-57, following the Union Pacific (UP) corridor to 130th Street, operating on an elevated structure for its entire length. A key component of the plan is an intermodal terminal and a major park-and-ride lot at 130th Street. Intermediate stations are planned at 103rd, 111th, and 115th.

The project will streamline bus-to-rail connections for several bus routes south of 95th Street. Currently, 95th Street is the station with the highest ridership outside of downtown Chicago; additionally, 13 CTA and six Pace routes serve the 95th Street station, and nearly 9,000 riders transfer from bus to rail at this station on an average weekday. Bus access to the 95th Street terminal is a key problem that would be addressed by the Red Line extension, which would reduce the number of bus to rail transfers that would need to occur at this location.

The South Extension strongly supports GO TO 2040's recommendations for infill development. A number of vacant and underutilitized lots, some under city ownership, have been identified as having redevelopment potential near several of the proposed new stations. Much of the surrounding area is within TIF districts and economic development in these areas is sought. The new stations and 95th Street station may have the potential to support innovative financing, such as value capture strategies, lease of facilities for commercial uses, and advertising and station naming rights.

The Locally Preferred Alternative for this project was selected in August 2009, completing the Alternatives Analysis process. This led to the UP railroad corridor being selected over several other potential alternatives. The next step in the process is to prepare a draft Environmental Impact Statement and begin preliminary engineering through the federal New Starts process. More documentation on the Alternatives Analysis process, including detailed reports and maps, is available at **http://w.transitchicago.com/Redeis/documents.aspx.**

CTA Red Line South Extension



Elgin O'Hare Expressway and West O'Hare Bypass Improvements
This multi-component project will improve access to areas west of O'Hare Airport and also to a proposed West O'Hare Terminal. This project consists of several elements: (1) a western expressway bypass of O'Hare Airport; (2) an extension of the Elgin O'Hare Expressway from I-290/IL 53 to the Western O'Hare bypass and West O'Hare Terminal; and (3) adding one lane in each direction — from four to six lanes total — on the existing Elgin O'Hare expressway. Toll revenues are expected to cover a large portion of the project cost.

For planning and implementation, the three projects are being analyzed by IDOT as a joint project. Since this project centers around O'Hare Airport, which is a major economic driver in this region, it is important to relieve congestion and improve accessibility throughout this corridor. By implementing this project, the benefits will extend throughout the region in terms of accessibility and the economy. Tier One Alternatives Analysis has been completed, with a Draft Environmental Impact Statement published in September 2009. Public involvement activities remain underway in advance of project engineering. See **www.elginohare-westbypass.org** for more information on these ongoing activities.

The Elgin O'Hare East extension has been endorsed as a major project by the Cook-DuPage Policy Committee as part of the RTA Cook-DuPage corridor study. Land use and economic development planning have also accompanied IDOT's planning of the facility.

While the project would be in a mostly developed area, there are still potential natural resource impacts. Within northeast DuPage County, several properties of the county's Forest Preserve District (Salt Creek, Salt Creek Marsh, and Silver Creek Forest Preserve) may be affected by the project. Wetlands in the western portion of the project area may also be affected. It is important to target mitigation funds in ways that meet regional priorities.

I-294/I-57 Interchange

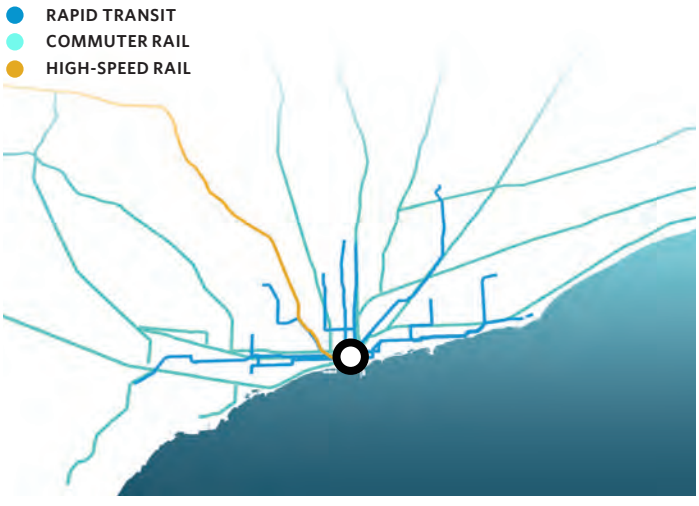
The I-294 at I-57 Interchange project calls for a full interchange at the juncture of these two interstates for improved accessibility to and from the south suburbs and also for improved north-south regional travel. Improvements will also be made to connecting arterials at the new interchange. The Tollway has this project listed as a component in their Congestion Relief Program.[42] The Tollway, with IDOT, completed an environmental assessment of the project in August 2008.

West Loop Transportation Center

The West Loop Transportation Center is a proposed transportation terminal located between the Eisenhower Expressway and Lake Street in Chicago. The terminal structure for the West Loop Transportation Center is envisioned to improve transfers between intercity rail, potential high-speed rail, commuter rail, rapid transit, and bus services. The proposal also includes increased capacity for Chicago Union Station, which serves several commuter and intercity passenger rail services.

This project will provide a focal point and a gateway into the Chicago region and facilitate movements and connections throughout the region. Incorporating and integrating seamless transit connections with elements of urban design focused on this transit center will be important to facilitating the Chicago region as the Midwest hub for high-speed rail, as well as increasing transit usage and promoting economic development opportunities. Travelers from outside the region can safely arrive at this station and have a number of connection options at their discretion to access the city or the suburbs. For those residents within the region, this project will offer easier access from Metra commuter trains and various points within the city whether by bus or El line.

West Loop Transportation Center



Expressway Additions and Improvements

These projects collectively provide additional capacity on smaller segments of the expressway system in northeastern Illinois. In several cases, they bring the segments in question to the same number of lanes as immediately adjacent segments, thus avoiding artificial bottlenecks. Project completions are envisioned to occur in the earlier years of the plan.

I-190 Access Improvements

The I-190 Access Improvements project consists primarily of redesigning and reconfiguring arterial access to I-190 and O'Hare International Airport to improve mobility and reduce congestion and collisions. Project planning is advancing; several elements have already been funded through IDOT, Chicago Department of Transportation (CDOT), and the Chicago Department of Aviation, using Passenger Facility Charge funds.

I-80 Add Lanes

On I-80, two (one each direction) lanes are proposed from US 30 east to US 45 to serve traffic utilizing I-355 north and east-west cross-county traffic. This will complete the widening of I-80 from the Grundy County Line (River Road) to I-294, providing capacity in the corridor to serve demand from the recently-completed I-355 extension.

I-88 Add Lanes

Two (one each direction) lanes are proposed from IL 56 east to Orchard Road along the Ronald Reagan Memorial Tollway (I-88). The 4.1 miles of additional capacity on I-88 comes after completion by the Tollway of a larger reconstruction and add lanes project on the facility from I-294 west to Orchard Road. The Kane County's 2030 Long Range Transportation Plan and 2030 Land Resource Management Plan concur in the construction of this project.

I-94 Add Lanes North

Two additional lanes (one each direction) are proposed for I-94 in far northern Lake County from IL 173 to the Wisconsin border. The project will provide capacity continuity between the recently-completed add-lanes project on the Tri-State Tollway from Balmoral Avenue north to IL 173 and a project underway to add lanes on I-94 from the Illinois border to I-894/Mitchell Airport in Wisconsin.

42 Illinois Tollway, Congestion-Relief Program. See **http://tinyurl.com/23t59mu**.

Managed Lanes and Multimodal Corridors

These projects will address capacity issues on major corridors of the existing highway network in the region. However, rather than simply adding further general-purpose highway capacity, two of these corridors are recommended for a "managed lane" treatment. "Managed lanes" are distinct from general purpose travel lanes in that they are designed to address the specific congestion issues in the corridor. For example, if peak-hour demand is the dominant issue, the facility can be tolled to regulate demand, or lanes can be reserved for high-capacity vehicles — carpools, vanpools, or buses, for example. Other facilities with heavy demand focused on particular origins and destinations can have transit components. If freight movements are high, some of the capacity can be restricted to certain types of vehicles. The third corridor is recommended for a multimodal improvement, with a mode still to be chosen.

I-55 Managed Lanes

The I-55 managed lanes project consists of two (one each direction) additional managed lanes from Weber Road east to I-90/94. A similar project was previously studied by the RTA and IDOT in 1993. Currently, studies are ongoing with the RTA, in cooperation with IDOT and the FHWA, to implement a shoulder-riding bus service between I-355 and I-90/94 as an initial option. Development of a Bolingbrook South Park and Ride Center along I-55 within the proposed corridor is identified as a key transit element in the Will County 2030 Transportation Framework Plan component of the Will County Land Use Plan.

I-90 Managed Lanes

Two managed lanes (one each direction) are included on I-90 from I-294 to the Elgin Toll Plaza west to I-39 near Rockford. Access to the facility will be improved by: reconstructing the interchange at I-290/IL 53; expanding the interchanges at IL 47, Barrington Road, Elmhurst Road, and IL 72/Lee Street; and providing new interchanges at Irene Road, IL 23, and Meacham Road. Depending on the timing, reconstruction of the existing facility along this corridor should be undertaken as a concurrent activity.

This project shows broad regional support. It is concurred upon within the Kane County 2030 Long Range Transportation Plan and 2030 Land Resource Management Plan. The Village of Hoffman Estates' 2007 Comprehensive Plan recommends continuing work with the Tollway toward implementing additional lanes. Interchange access improvements are recommended in the Infrastructure section of the McHenry County 2030 Comprehensive Plan.

I-290 Multimodal Corridor

IDOT is currently conducting an I-290 Preliminary Engineering and Environmental Study. The study is employing the CSS principles adopted by IDOT and will examine a number of feasible alternatives to address the needs in the corridor. Among the transit alternatives under review are an extension of the CTA Blue Line, and BRT. Also under consideration is an expansion of the expressway by adding two (one each direction) managed lanes from Mannheim Road east to Austin Avenue. The managed lanes would also be capable of serving a BRT option.

The expansion of I-290 is a significant concern for a number of communities in the project corridor. Of particular concern is that if an I-290 expansion were implemented first, it might preclude future transit extensions in the corridor. The need to preserve this option will be maintained throughout IDOT's Phase I engineering work. The results of this work and the Cook-DuPage corridor study will determine the specific mode to be chosen.

Regardless of mode, the project should require careful attention to minimizing any negative project impacts on the adjacent communities. Transportation improvements in this corridor are clearly needed, and a multimodal approach is favored over simply adding lanes to the highway.

Transit Improvements

Several commuter rail lines are recommended for infrastructure upgrades, accompanied by service improvements for some of the lines. Depending on the line, the upgrades can include additional tracks, improved train controls, grade separations and yard improvements. Some of these improvements expand capacity to accommodate increased passenger service; others improve reliability and reduce conflicts with on-road vehicles. Many of the improvements also benefit freight traffic, which may share tracks with passenger transportation, or cross passenger lines. The CREATE program identifies a number of specific improvements included in these projects.

CTA North Red and Purple Line Improvements

The Red Line and Purple Line Improvements project includes mainly reconstruction improvements to the shared right of way segment between the Addison and Howard stations, as well as the Purple Line segment between the Linden and Howard Station. Also being considered are varied limited stop and express service improvements and bus transfer facility improvements.

A vision study for the Red/Purple Lines is currently underway.[43] This study is expected to be completed in 2010.

Metra Rock Island Improvements

For the Rock Island District line, proposed improvements include adding a third track to the nine-mile double-track portion (between Gresham Junction and a point north of 16th Street Junction) of the Rock Island District (RID) Line, north from Gresham, where the Beverly Branch trains connect with the RID Main Line. The additional track will accommodate future expansion of RID service, the proposed SouthEast Service, and the eventual connection of the SouthWest Service with LaSalle Street Station. Other elements of the proposed upgrade include a new flyover bridge over the Norfolk Southern railroad at 63rd Street (part of the CREATE program), new bi-directional signals, and centralized traffic control to integrate with existing RID operations, plus several new or rehabbed bridges over city streets and an expanded and modernized 47th Street Yard.

Metra SouthWest Service Improvements

SouthWest Service Improvements will upgrade infrastructure and service levels between Manhattan (southern Will County) and downtown Chicago. Service will also be rerouted to terminate at LaSalle Street station. The improvements include constructing a 2-mile segment beginning west of Belt Junction (Belt Railway of Chicago, BRC) to carry trains over the parallel Norfolk Southern service along 74th Street over to the RID tracks to provide improved reliability with fewer operating conflicts. Rerouting the SouthWest service into Chicago's LaSalle Street Station will relieve congested operations at Union Station. The project is consistent with subregional plans; the project is recommended in the Will County 2030 Transportation Framework Plan portion of the Will County Land Use Plan.

Metra UP North Improvements

The UP North Improvements will improve the operating capacity of the line between Ogilvie Transportation Center and Kenosha through a number of coordinated projects. Line capacity and reliability will be improved by installing additional crossovers and other track improvements. A new upgraded replacement outlying coach yard will be provided to allow for more efficient servicing of equipment and to accommodate expansion of service. Additional upgrades to existing stations will accommodate the increase in passengers in both the traditional commute and reverse commute direction. The renewal of bridges between Balmoral Avenue and Ogilvie Transportation Center within the City of Chicago will improve safety. A new station at Peterson and Ridge Avenues is proposed, and improvements to the existing Hubbard Woods Station are proposed to expand transportation options to these communities.

Metra UP Northwest Improvements/Extension

Two improvements are proposed on the UP Northwest: infrastructure upgrades and a 1.6 mile extension to Johnsburg from McHenry. Infrastructure upgrades include improvements to the existing signal system and additional crossovers and other track improvements to increase the operating capacity and reliability. The extension to Johnsburg will allow improved operations on the entire line. New yards are planned for the Woodstock and Johnsburg areas. Two additional stations will be added to the line: Prairie Grove (McHenry branch) and Ridgefield (Woodstock branch).

Metra UP West Improvements

The UP West Improvements include improving signal systems and upgrading existing track, including new crossovers. A third track will be added to an existing double-track portion of the line east of Elmhurst. Also proposed is moving the current A-2 crossing with the Milwaukee District and North Central lines at Western Avenue to a new location one mile east. These improvements will enable the UP West to better serve as an alternative to the BNSF line and also to operate more effectively in coordination with freight rail movements.

43 Chicago Transit Authority, North Red & Purple Line Vision Study. See **http://tinyurl.com/2bz4ejw**.

Other Recommended Projects

Among the systematic improvements necessary to bring the transportation system up to a state of good repair are a number of significant initiatives that will serve to improve transportation in northeastern Illinois. Note that these are not major capital projects but are specifically recommended within GO TO 2040 and deserve specific mention here.

CREATE

Addressing the region's rail infrastructure, CREATE will invest in capital improvements reducing freight bottlenecks and raising train operating speeds. In doing so, the program improves the economic competitiveness of the region's manufacturing and transportation industries. In addition, CREATE will reduce the freight industry's impact on metropolitan communities by reducing grade-crossing delay and by reducing freight engine vehicle emissions. CREATE is a project of regional and national significance and although the project has made substantial progress, it still needs additional funds leading to completion. Specific work will include:

25 new roadway overpasses or underpasses at locations where auto and pedestrian traffic currently cross railroad tracks at grade level.

Six new rail overpasses or underpasses to separate passenger and freight train tracks.

Viaduct improvements.

Grade crossing safety enhancements.

Extensive upgrades of tracks, switches and signal systems.

High-Speed Rail

As part of ARRA, in January of 2010, U.S. DOT announced the award of $8 billion nationally to develop a program of high-speed intercity passenger rail service. Recognizing that Chicago is the preferred hub for the Midwest portion of such a network, IDOT was awarded $1.1 billion to develop passenger rail service from Chicago to St. Louis, operating at speeds of up to 110 mph. Improvements include upgrades to track, signal systems, and existing stations; implementation of positive train control technology; and upgrades to rail cars. The improvements will allow Chicago to St. Louis customers to reach their destination 30 percent faster than is now possible by rail and 10 percent faster than driving. On-time performance will also be improved. GO TO 2040 recognizes the need for the region to aggressively pursue high-speed rail and has included in its list of capital projects the West Loop Transportation Center in the City of Chicago. This transportation hub would bring together Amtrak services, both high-speed and conventional, Metra commuter rail, CTA rapid transit, and bus service. A facility of this nature is necessary if Chicago is to be successful as a Midwest hub for high-speed rail.

Unconstrained Projects

A number of projects were evaluated but are not included in the fiscally-constrained priority list for GO TO 2040.[44] The placement of a project on the fiscally unconstrained list does not mean that it is undesirable or not recommended. Some projects on this list showed regional benefits, but are not far enough along in the study phase to have firm cost estimates, alignment, or limits. Other projects may have potential for innovative financing arrangements that would significantly change their public sector cost or implementation schedule. For both of these cases, more detailed information or changes in financing status would justify reconsidering whether the project should be placed on the fiscally constrained list. More detail on each unconstrained project is provided below.

The extent of this list of unconstrained projects highlights the magnitude of unfunded major capital needs. Preliminary work on many of these projects has already begun, indicating that these are identified needs with substantial support justifying an expenditure of scarce resources. Clearly the funding available to maintain, operate and improve the transportation system is severely inadequate. Project sponsors are encouraged to explore PPPs or other innovative financing methods for their projects, as these will become increasingly important ways to finance transportation improvements.

As conditions change, such as an increase in available funding or an opportunity for a project to utilize a PPP, there could be a need to modify the list of constrained projects. The region is required, by federal regulation, to review and update its long range plan at least every four years. This provides an opportunity to adjust the list of constrained projects as appropriate. Additionally, the MPO Policy Committee has established a process whereby in certain situations the plan could be modified in-between regular updates. This would require meeting all federal requirements including fiscal constraint, air quality conformity and public involvement.

Central Area Transitway

This project includes a number of elements meant to improve circulation in downtown Chicago, including exclusive busways or priority lanes on city streets. Several elements of this project, including any bus improvements on surface streets, can proceed at any time; the only elements of this project which are unconstrained are the construction of major capital facilities including exclusive and separated busways.

CTA Blue Line West Extension

This project would extend the CTA Blue Line to the west along the I-290 and I-88 corridors, with either Maywood, Oak Brook, or Lombard being used as a western endpoint. It should be evaluated further as part of the continuation of the Cook-DuPage corridor study. The initial evaluation of the project showed it to be beneficial, but a more detailed feasibility study is needed.

44 For more detailed information and analysis, see the GO TO 2040 capital project page at http://www.goto2040.org/scenarios/capital/main/.

CTA Brown Line Extension
This project would extend the CTA Brown Line along Lawrence Avenue to connect with the CTA Blue Line at the Jefferson Park station. The project shows benefits in a heavily-travelled corridor, and improves transit connectivity, but it is quite costly. The project is in early stages of development, and further investigation of the feasibility of this project, as well as alternative bus-based service such as ART or BRT, is needed.

CTA Circle Line (Phase II; south)
This project would travel south from the Ashland station of the CTA Green and Pink Lines, connecting to the CTA Blue Line and continuing to the CTA Orange Line. After this, the route will use the CTA Orange Line alignment to travel into the Loop. This segment of the Circle Line is progressing through the Alternatives Analysis phase of the federal New Starts process; the next step in the process will be the selection of a Locally Preferred Alternative.

CTA Circle Line (Phase III; north)
This project would connect the Ashland station of the CTA Green and Pink Lines (also the northern terminus of the southern portion of the Circle Line) to the CTA Red, Brown, and Purple Lines in the vicinity of North Avenue within Chicago. Planning for this segment of the Circle Line is in an early stage and its benefits and costs cannot yet be assessed.

CTA Orange Line Extension
This project would extend the CTA Orange Line to the Ford City shopping center, in southwest Cook County, from its current terminus at Midway Airport. It has completed the Alternatives Analysis process required to access federal New Starts funding, and a Locally Preferred Alternative has been identified. Per FTA regulations, the project may not initiate Phase I engineering unless it is on the fiscally constrained list, but other scoping and planning activities are permitted and may continue. In particular, performing supportive land use and economic development planning around the proposed terminus would improve the project's effectiveness and should be pursued.

CTA Yellow Line Enhancements and Extension
This project would extend the Yellow Line from its current terminus in Skokie to Old Orchard Mall in northern Cook County. It has completed the Alternatives Analysis process required to access federal New Starts funding, and a Locally Preferred Alternative has been identified. Per FTA regulations, the project may not initiate Phase I engineering unless it is on the fiscally constrained list, but other planning scoping activities are permitted and may continue.

DuPage "J" Line
This project involves the construction of a new bus-only lane on I-88 through DuPage County from Naperville Road to IL 83. It also includes service on nearby arterial streets and improvements to these streets, though these are not considered part of the major capital project. The DuPage "J" Line may initiate operations as an express bus or ART-type service at any time, and this is supported by GO TO 2040; the only portion of this project which is fiscally unconstrained is the construction of a new lane on I-88. As indicated in the Cook-DuPage corridor study, there is a significant need for north-south transit alternatives in western Cook and eastern DuPage Counties, and this project may be able to address this need.

Elgin O'Hare Expressway Far West Extension
This project would build on the Elgin O'Hare Expressway West Extension (described below) by upgrading US 20 through northwest Cook County. It is contingent on the completion of other projects and is in an early stage of planning.

Elgin O'Hare Expressway West Extension
This project would extend the Elgin O'Hare Expressway west from its current terminus in Hanover Park to a location along US 20 near Bartlett Road in Streamwood. A transit element may be included as part of this project, which is in an early stage of planning.

Express Airport Train Service
This project would provide express service along the CTA Blue and Orange lines, speeding connections to downtown Chicago. It also would include upgraded vehicles and a new downtown terminal that would allow airline and baggage check-in. Private financing may be necessary for this project to become financially feasible.

I-55 Add Lanes and Reconstruction
This project would reconstruct I-55, add a lane in each direction, and improve interchanges through western Will County, from the I-80 interchange south. This project follows similar projects that have been completed on segments of I-55 farther north. Project planning should include consideration of a managed lane, due to high freight volumes in this area. Planning for portions of the project is currently underway. Per FHWA regulations, the project must be included as a fiscally constrained project before Phase II engineering of the add-lanes portion of the project may begin. Other project elements that do not involve adding a lane on I-55, including interchange improvements or additions, may occur at any time.

I-57 Add Lanes
This project would add one lane in each direction to I-57 in eastern Will County, from I-80 south to the proposed South Suburban Airport. Project planning for this project is in its early stages.

I-80 Add/Managed Lanes
This project would add a lane to I-80 through southwestern Cook and Will Counties, from I-294 to the Grundy County line. This may be considered as a managed lane over some or all of its length. This project is in an early stage of planning. (Improvements to a shorter segment of I-80, from US 30 to US 45 in Will County, are in the fiscally constrained portion of GO TO 2040.)

I-80 to I-55 Connector
This project would connect the Illiana Expressway (which has a western terminus at I-55) and Prairie Parkway (which has a southern terminus at I-80). It is contingent on the completion of these other projects.

IL 394
This project would add lanes to IL 394 from I-80 south in southern Cook and Will Counties, and convert the roadway from an arterial to an expressway. Local officials in the area have expressed concern about the effect of the conversion of the roadway to an expressway on nearby economic development. This project should be examined to determine if operational alternatives to expressway conversion are available. Per FHWA regulations, conversion of the facility to an expressway may not advance to Phase II engineering unless the project is fiscally constrained. However, any operational or arterial-based improvements may occur at any time.

Illiana Expressway
This project would create a new expressway from I-65 in Indiana to I-55, passing east-west through Will County. Funding for Phase I engineering for the Illiana Expressway — the next step in development of the project — is included within the fiscally constrained project list. The inclusion of engineering costs for the Illiana on the fiscally constrained project list demonstrates the region's support for its continued development. The project's construction costs are on the fiscally unconstrained list. The rationale for including construction costs on the unconstrained list is two-fold:

First, while the project's assumptions include tolling of some sort, initial revenue projections show that tolls significantly higher than those charged on the rest of the Tollway system would be necessary to cover construction and maintenance costs. Additional analysis of financing options needs to take place. CMAP also supports state legislation that would allow the use of PPPs for this and other projects. On June 9, 2010, the Governor of Illinois signed legislation authorizing IDOT to "enter into one or more public private agreements with one or more contractors to develop, finance, construct, manage, or operate the Illiana Expressway on behalf of the state." This is a necessary first step; identification of potential private funding sources is now needed.

Second, the segment of the project between I-55 and I-57 has not been studied and a wide variety of alignments and interchange points with I-55 are possible. The cost of the project, as well as its benefits, is dependent on the option chosen. CMAP supports initiating Phase I engineering for the project in order to narrow the project scope to a few feasible alternatives, and recommends that these activities begin as a high priority.

Inner Circumferential Rail Service
This project would create a new north-south transit connection through western Cook County, also connecting to both O'Hare and Midway airports. Both this project and the Mid-City Transitway appear to have potential to serve the need for north-south transit travel in central and western Cook County. A feasibility study for this project has been completed, but further planning is needed to advance it. This project should be evaluated further as part of the continuation of the Cook-DuPage corridor study.

McHenry-Lake Corridor
This project would create a new expressway through McHenry and western Lake Counties, from the terminus of the U.S. 12 freeway at the Wisconsin border to the upgraded IL 120 roadway (see the Central Lake County corridor project for a further description). This project is in early stages of planning and relies on the completion of the Central Lake County corridor.

Metra BNSF Extension
This project would extend Metra BNSF service from its current terminus in Aurora to Oswego, in Kendall County. The project is nearly ready to begin Phase I engineering. It has been exempted from the New Starts evaluation process by federal action. However, Kendall County is currently outside of the RTA service area, and should pursue joining the RTA to expedite this project.

Metra Heritage Corridor
This project would improve operations on the Metra Heritage Corridor, which currently serves southwest Cook and Will Counties. The project includes reducing freight conflicts (including addressing some elements of CREATE), upgrading infrastructure, increasing service levels, and adding stations. Many elements of this project (including those associated with CREATE) are not considered stand-alone major capital improvements and therefore can be pursued at any time. It is currently in early stages of planning.

Metra Electric Extension
This project would extend Metra Electric service to the proposed South Suburban Airport in Will County from its current terminus in University Park, as well as create a new rail yard facility. Supportive land use planning should accompany this and other transit extension projects.

Metra Milwaukee District North Extension
This project would extend the Metra Milwaukee District North line to Wadsworth in Lake County from the Rondout junction. A feasibility study for this project has been completed, but further planning is needed to advance it. Supportive land use planning should accompany this and other transit extension projects.

Metra Milwaukee District North Improvement
This project would improve service along the Metra Milwaukee District North line between Fox Lake and the Rondout junction in Lake County by making track, signal, and other improvements. Many elements of this project are not considered stand-alone major capital improvements and therefore can be pursued at any time. This project is currently in early stages of planning.

Metra Milwaukee District West Extension
This project would extend the Metra Milwaukee District West line from its current terminus in Elgin to Marengo in McHenry County. An extension along a different route to Hampshire is also under consideration. A feasibility study of the Marengo extension is underway. Supportive land use planning should accompany this and other transit extension projects.

Metra North Central Service Improvements
This project would upgrade Metra North Central Service to allow for full service levels. This project is currently in early stages of planning.

Metra Rock Island Extension
This project would extend the Metra Rock Island District line from its current terminus in Joliet to Minooka in Will and Grundy Counties. This project is currently in early stages of planning. Supportive land use planning should accompany this and other transit extension projects. (Improvements to the Rock Island District line which do not include an extension are included among the fiscally constrained projects.)

Metra SouthEast Service Corridor
This project would create a new rail line that provides service to communities in southern Cook and northern Will Counties. It has been undergoing Alternatives Analysis by Metra, and the identification of a Locally Preferred Alternative is in process. The project should remain a fiscally unconstrained project until such time as a Locally Preferred Alternative is accepted by the FTA and the project demonstrates financial feasibility. The Alternatives Analysis work should include detailed cost estimates; a demonstration of the financial capacity to cover the capital and operating costs; and a financial commitment detailing the availability of state and local funds to match federal New Starts funds. Innovative financing options should also be explored.

Metra SouthWest Service Extension and Full Service
This project would extend Metra SouthWest Service to Midewin in Will County from its current terminus in Manhattan. This project is currently in early stages of planning. Supportive land use planning should accompany this and other transit extension projects. (Improvements to SouthWest Service which do not include an extension are included among the fiscally constrained projects.)

Metra STAR Line Corridor
This project would create a new rail service from Joliet to Hoffman Estates through western Will, DuPage, and Cook Counties, and also connect from Hoffman Estates to O'Hare airport along I-90. The project has been undergoing Alternatives Analysis by Metra, and the identification of a Locally Preferred Alternative is in process. Though the project does demonstrate benefits and has strong local support, significant funding issues concerning the STAR Line need to be resolved. As with other strong projects on the unconstrained list, innovative financing options should be considered in the STAR Line corridor. Also, other options — such as including a transit component with the I-90 Managed Lanes project, or the O'Hare Schaumburg Transit Service project (which travels along the Elgin O'Hare Expressway rather than I-90) — should be considered to improve transit service in the larger corridor. In particular, opportunities to initiate bus-based transit service as part of the I-90 Managed Lane project should be strongly considered, even if these serve primarily to test the market and build ridership for a larger capital investment later.

Mid-City Transitway
This project would create a new north-south transit corridor in the vicinity of Cicero Avenue in central Cook County, and also connecting east to the CTA Red Line. Both this project and the Inner Circumferential Rail Service appear to have potential to serve the need for north-south transit travel in central and western Cook County. The mode of this project is not yet certain, ranging from an on-street BRT service to rail service. This project is in the early stages of planning, and should be evaluated further as part of the continuation of the Cook-DuPage corridor study.

O'Hare to Schaumburg Transit Service
This project would include both a transit component of the Elgin O'Hare eastern extension (part of the Western Access project on the fiscally constrained list) and a new transit service on IL 53 from the Elgin O'Hare Expressway to Schaumburg. Project development should be accelerated to attempt to take advantage of the opportunity to plan for this project as part of the Elgin O'Hare eastern extension, even if the transit service only includes operations (rather than major capital construction) in its early stage.

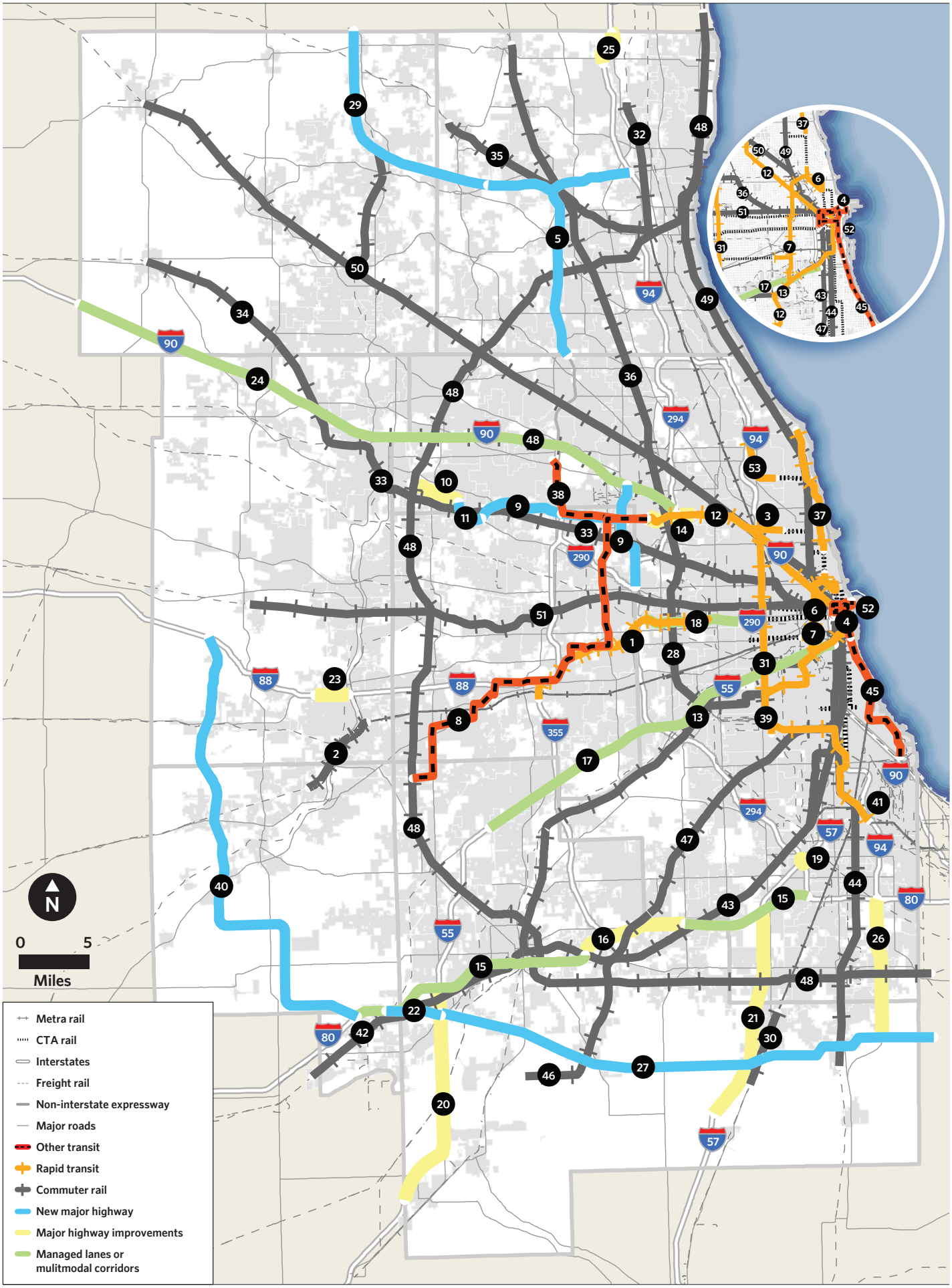
Prairie Parkway
This project would create a new expressway between I-88 and I-80 in Kane and Kendall Counties. Phase I engineering for this project has been completed, and federal earmarks to cover a portion of project costs have been received, but funding is insufficient to construct the entire project. However, one element of this project, involving a bridge over the Fox River in Yorkville to connect US 34 and IL 71, has independent utility and can be completed with the earmarks received. This project element may be pursued at any time. For the remainder of the project, corridor preservation activities should be continued in order to preserve a transportation corridor in this area for future use.

South Lakefront Corridor
This project would improve service along Chicago's lakefront from downtown Chicago to the south. It could include a new light-rail service or operational improvements to existing Metra services; variations of this concept have been referred to as the Gray Line or the Gold Line. It is recommended that service in this area be studied with participation by CDOT, CTA, and Metra, considering whether operational improvements can be made rather than a major capital project.

Figure 58 is a map of the projects that have been proposed and carried throughout the evaluation process. The project key is below.

1. Blue Line Extension
2. BNSF Extension
3. Brown Line Extension
4. Central Area Transitway
5. Central Lake County Corridor
6. Circle Line North
7. Circle Line South
8. DuPage J Line
9. Elgin O'Hare Expressway Improvements
10. E.O.H. Expressway Far West Ext.
11. E.O.H. Expressway West Ext.
12. Express Airport Train Service
13. Heritage Corridor Improvements
14. I-190 Access Improvements
15. I-80 Add/Managed Lanes
16. I-80 Add Lanes
17. I-55 Managed Lanes
18. I-290 Multimodal Corridor
19. I-294/I-57 Interchange Addition
20. I-55 Add Lanes and Reconstruction
21. I-57 Add Lanes
22. I-80 to I-55 Connector
23. I-88 Add Lanes
24. I-90 Managed Lanes
25. I-94 Add Lanes North
26. IL-394
27. Illiana Corridor
28. Inner Circumferential Rail
29. McHenry-Lake Corridor
30. Metra Electric Extension
31. Mid-City Transitway
32. MD North Extension
33. MD West Extension
34. MD West Improvements
35. MD North Improvements
36. North Central Line Service Imp.
37. North Red/Purple Line Imp.
38. O'Hare to Schaumburg Transit Service
39. Orange Line Extension
40. Prairie Parkway
41. Red Line Extension (South)
42. Rock Island District Extension
43. Rock Island Improvements
44. SouthEast Service
45. South Lakefront Rail Corridor
46. SouthWest Service Extension
47. SouthWest Service Improvements
48. STAR Line
49. UP North Improvements
50. UP Northwest Imp./Ext.
51. UP-West Improvements
52. West Loop Transportation Center
53. Yellow Line Ext./Imp.

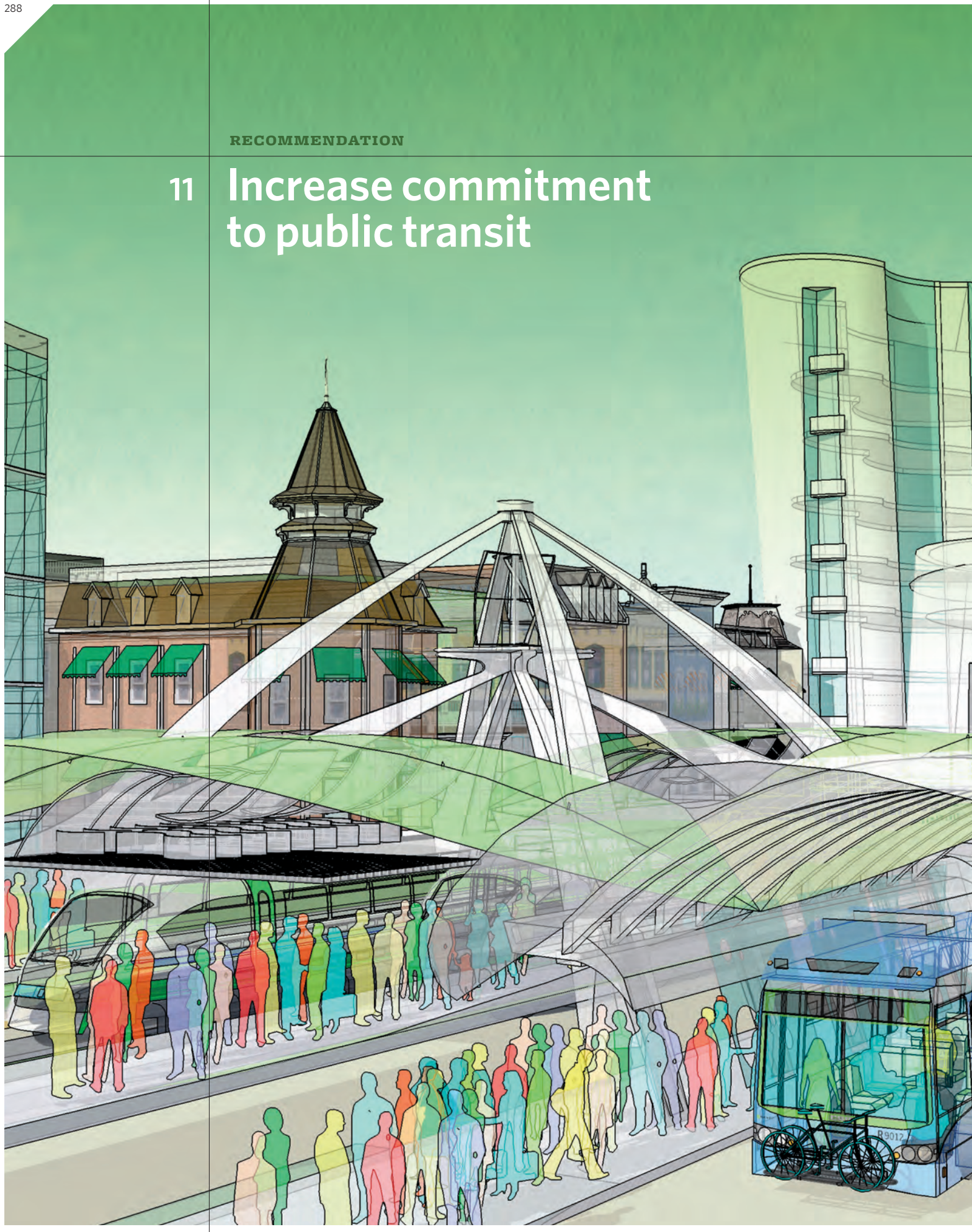
Figure 58. Proposed major capital projects



Source: Chicago Metropolitan Agency for Planning, 2010

RECOMMENDATION

11 Increase commitment to public transit



The northeastern Illinois region needs and deserves a world-class transit system. This requires attention to not only how transit operates, but how it is perceived. A system that functions well, with on-time and frequent service and seamless connections between modes, is a necessity. But so are features that make transit attractive, such as clean stations, modern transit vehicles, and clear information.

For many people today, transit is an option of last resort due to concerns (whether real or perceived) about personal safety, delays, or infrequent service. Many others would like to use transit but lack access to service that meets their needs. GO TO 2040 recommends making transit the preferred travel option for as many of the region's residents as possible. The region's transit system should be strengthened through the following recommended actions:

Improve the fiscal health of transit by increasing investment levels and addressing cost increases.

Improve the operations of the region's transit system, focusing investments on maintenance and modernization.

Pursue a limited number of high-priority major capital expansion projects.

Conduct supportive land use planning, make small-scale infrastructure investments, and provide other local support to make transit work better.

The continual financial challenges facing the transit system have been caused by both insufficient funding and rapid increases in costs. Both of these need to be addressed to restore the transit system to fiscal health. Additional funding is needed to support the transit system, and a portion of revenue from new transportation funding sources, including implementing congestion pricing on some expressways and increasing the state gas tax, should be devoted to transit. The transit operators, including the Chicago Transit Authority (CTA), Metra, and Pace, as well as the Regional Transportation Authority (RTA), should also make a concerted and unified effort to control costs and improve service efficiency.

Public transit should be improved through maintenance, modernization, and expansion. By steadily moving toward "a state of good repair" — in which all facilities are maintained in good condition, with no backlog of capital maintenance — the region can save more costly repairs and benefit from operational improvements, including increased reliability and comfort that contribute to riders' confidence in the system. Modernization of transit includes technological improvements that improve system performance but also those that improve user perceptions of transit. Expansion of bus service into underserved areas, using the state-of-the-art technologies and operational concepts, is supported by GO TO 2040; these expansions should be carefully prioritized to ensure their success. The plan also supports new high-speed rail and encourages the federal government to pursue this, but cautions that new federal spending on high-speed rail should not come at the expense of support for the regional transit system.

While maintenance, modernization, and strategic improvements are the main priorities of GO TO 2040, a limited number of major projects are recommended, including the West Loop Transportation Center, CTA Red Line South extension, CTA north Red and Purple Line improvements, and improvements to Metra's Union Pacific (UP) rail lines, SouthWest Service, and Rock Island line. For the most part, these projects improve existing infrastructure rather than add extensions or new services. The advent of high-speed rail prompts CMAP to recommend creation of the West Loop Transportation Center. A necessary project for our region to become the hub of a Midwest high-speed rail network, it also will have significant immediate benefits to Metra service and will improve connections between Metra and CTA. Recommended capital improvements also include managed lanes on the I-90 and I-55 expressways and a multimodal corridor on I-290 that may include Bus Rapid Transit (BRT) or other transit options.

Land use planning and small-scale infrastructure improvements to support transit are critical, and often make the difference in the success of transit service. CMAP supports transit oriented development (TOD), and seeks to broaden the definition of transit-supportive land use beyond areas around train stations; in considering transit-supportive land use, GO TO 2040 includes support for bus service, including Arterial Rapid Transit (ART) and BRT, as well as rail. The plan recommends the development of funding and incentive programs for transit-supportive local planning.

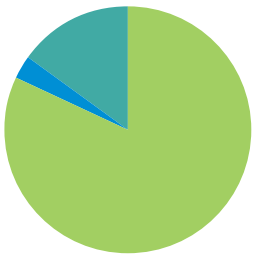
The following section describes benefits, defines current conditions, explains the importance of investing in transit, and provides details about the recommended actions, including costs and financing.

11.1 Benefits

Public transit is identified as an important part of the transportation system in the GO TO 2040 Regional Vision, which calls for a "broad range of integrated and seamless transportation choices that are safe, accessible, easy to navigate, affordable, and coordinated with nearby land use."

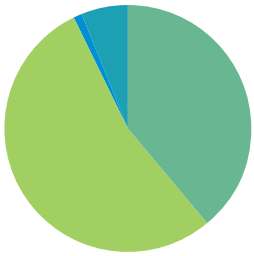
Strong public support for transit was expressed during the engagement activities that CMAP conducted during summer 2009. Over three-fourths of workshop and online participants favored maximizing our investment in transit, and many emphasized the importance of transit in their comments (see **Figure 59**). In communities that already had transit coverage, participants wanted to preserve their existing service and improve it; in communities with limited transit service, there was strong support for expanding transit to include new areas.

Figure 59. Preferences of transit investments and policy



Transit investments

82% MAXIMUM
15% EXPAND
3% MINIMUM



Support for alternative transportation

54% MAXIMUM
39% INCREASE
6% CURRENT
1% REDUCE

Source: CMAP GO TO 2040 "Invent the Future" participants, 2009

A strong transit system provides many benefits to the region, including:

Improvements to mobility, allowing travelers to avoid congested roadways, and improving travel times both for people who use transit and for those who drive.

A high return on public investment through simple maintenance of the current transit system, and an even higher return when increased investment is tied to land use policies that encourage transit use.

Lower household transportation costs compared to automobiles, providing important travel options for lower-income residents.

Reduced emissions of pollutants and greenhouse gases through decreased energy consumption.

Increased value of land, helping to support transit oriented development or reinvestment projects.

Economic

The primary economic benefits of transit come through the additional mobility that it permits. With a strong transit system, residents have more choices concerning where they can live and work and how they travel, and can avoid the harmful effects of congestion. In a 2007 report on public transit's impact on the economy, Chicago Metropolis 2020 found that simple maintenance of the current transit system would provide a 21-percent return on investment (i.e., a $1 investment would yield $1.21 in saved jobs, new jobs, and time saved for commuters), while greater levels of funding could return up to 61 percent if the funding was tied to land use policies that encourage transit use.[1] Essentially, the more money that is invested in the public transportation system, the greater the potential return on investment for the region. Much of this economic benefit is due to reduced congestion, because providing transit options improves travel even for people who continue to drive.[2]

Using transit is also less expensive for an individual than owning and maintaining an automobile, and transit systems provide important travel options for lower-income residents.

The annual cost of owning, maintaining, and commuting by car averages $12,500 per year in the region; in comparison, regular commuting on the CTA costs around $1,000 per year with monthly passes. One study estimates the average savings of commuting by transit instead of by car at over $11,000 per year in the metropolitan Chicago area.[3]

Lower-income households, particularly those without access to cars (either because they do not own a car, cannot afford fuel prices, or other reasons), depend heavily on public transit, and it often provides their only link to jobs, health care, education, or other important assets. The same is true of disabled or elderly residents without the ability to drive. This is both an equity and economic consideration; the inability to travel has negative impacts on individuals, but also prevents them from participating fully in the region's economy.

Environmental

Transit creates environmental benefits by reducing emissions of pollutants and greenhouse gases, reducing oil and gasoline consumption, and shifting some petroleum usage to electricity. Transportation is one of the largest single sources of greenhouse gas emissions, and shifting from automobile to transit is often the action that a household can take to most dramatically reduce their greenhouse gas emissions.[4] Public transportation uses about half as much fuel per passenger mile as private vehicles, and in addition to fuel savings accrued from shifting drivers to transit, there would be savings due to reduced congestion for those continuing to drive.[5]

Quality of Life

Public transit can also have many positive impacts on nearby communities. Transit increases the value of nearby land, helping to support TOD or reinvestment projects. Particularly around rail stations, a number of economic studies have shown that land values nearby are higher than in comparable areas that are not near transit.[6] It also supports non-motorized transportation systems, as most transit trips begin or end with walking or biking, and improved walking and biking systems are linked with positive health outcomes. Transit is a central component of livable communities, one of the main themes of GO TO 2040.

Figure 60. Costs of commuting, car vs. transit

$12,500

ANNUAL AVERAGE COST OF CAR COMMUTING

$1,000

ANNUAL AVERAGE COST OF TRANSIT COMMUTING

Source: American Public Transportation Association

1 Chicago Metropolis 2020, "Time is Money: The Economic Benefits of Transit Investment," 2007.

2 More discussion of the economic benefits of reducing congestion can be found in the GO TO 2040 section "Invest Strategically in Transportation."

3 American Public Transportation Association, "Riding Public Transit Saves Individuals $9,242 Annually," media advisory, January 12, 2010. See **http://tinyurl.com/yznlg5a**.

4 Todd Davis and Monica Hale, "Transportation's Contribution to U.S. Greenhouse Gas Reduction," 2007.

5 Robert J. Shapiro, Kevin A. Hassett, and Frank S. Arnold, "Conserving Energy and Preserving the Environment: The Role of Public Transportation," American Public Transportation Association, 2002.

6 Daniel P. McMillen and John McDonald, "Reaction of House Prices to a New Rapid Transit Line: Chicago's Midway Line, 1983-1999," Real Estate Economics, 32 (3; 2004): 463-486. John F. McDonald and Clifford I. Ousji, "The effect of anticipated transportation improvement on residential land values," Regional Science and Urban Economics, 25 (1995): 261-278. David R. Bowes and Keith R. Ihlanfeldt, "Identifying the Impacts of Rail Transit Stations on Residential Property Values," Journal of Urban Economics 50 (2001): 1-25. Robert Cervero and Michael Duncan, "Transit's Value-Added Effects: Light and Commuter Rail Services and Commercial Land Values," Transportation Research Record 1805 (2002): 8-15.

11.2 Current Conditions

The metropolitan Chicago region has one of the nation's oldest and most extensive public transportation systems. Service is provided by three operating agencies — CTA rapid transit and bus, Metra commuter rail, and Pace suburban bus and Americans with Disabilities Act (ADA) paratransit — under the umbrella of the RTA. Each has specific authorities and responsibilities:

The CTA offers bus and heavy rail service within Chicago and 40 nearby communities. The CTA system is the second largest public transportation system in the country and provides 1.6 million rides on an average weekday.

Metra provides commuter rail service throughout the region. Operating from four downtown Chicago transit stations, Metra serves 240 stations throughout the region and averages over 300,000 rides per weekday.

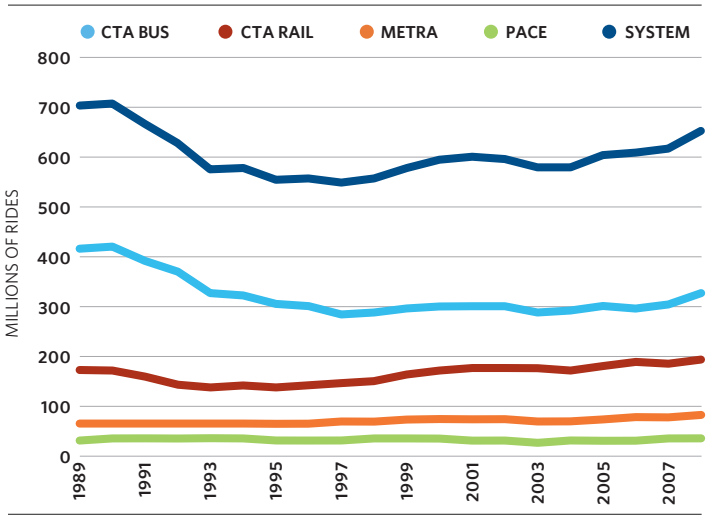
Pace offers bus service in the suburban parts of the region, as well as providing vanpool and ride matching (carpooling) information for the entire region. Pace also is responsible for demand-responsive paratransit service (vehicles dispatched on request) throughout the region including Chicago, including service required by the ADA. Pace's bus service averages around 100,000 rides per weekday, with an additional 10,000 riders per day using paratransit.

The three service providers are governed by the RTA whose primary mission is to manage the financial aspects of the transit system and to facilitate coordination among the service providers. While CTA, Pace, and Metra are each responsible for setting their levels of service, fares, and operational policies, the RTA provides oversight of these decisions, particularly budgeting issues. Additionally, the RTA is responsible for decisions requiring a regional perspective, including coordination of transportation services across the three agencies. In 2008 the State Legislature required the RTA to make permanent its strategic planning process and to use the strategic plan to guide and evaluate service board programs and projects.

Together, this system provides two million rides on an average weekday, accounting for nearly nine percent of all weekday trips and over 13 percent of commute trips.[7] (Please note that Kendall County is in the CMAP region but not in the RTA service area.) There are other transit providers beyond these agencies — including counties, municipalities, townships, and private providers — but the vast majority of service is provided by the CTA, Metra, and Pace.

Use of the transit system has not kept pace with the region's growth. Overall ridership is lower than it was 20 years ago, though it has rebounded substantially from a low point in the mid-1990s (see **Figure 61**). Meanwhile, the region's population and employment have grown and become more dispersed, often in development patterns that were designed solely for the automobile and are therefore difficult to serve with transit. As a result of these growth patterns, reverse commute trips (residents of urban areas commuting to jobs in suburban areas) or intersuburban commute trips (between different suburbs) make up an ever-increasing share of transit trips but are more difficult to serve than the traditional commute.

Figure 61. Transit ridership, 1989-2008



Source: Regional Transportation Asset Management System

7 These statistics are based on CMAP's transportation modeling and may differ slightly from observed data.

Funding

Transit expenditures are often divided into two types, though the lines can be blurry; operating funds are those used to run the system, including staffing, fuel costs, and other ongoing costs, and capital funds are those used to purchase vehicles as well as for major maintenance, improvement, or expansion projects.

Each year, more than $2 billion is spent to operate the transit system. Approximately half of this is made up from fares collected from riders and other system-generated revenues (from advertising, concessions, etc.), termed "farebox recovery." This is supplemented by a portion of the RTA sales tax collected in the region, applied at the rate of one and one quarter percent in Cook County and one-half percent in the collar counties, and a real estate transfer tax applied only within Chicago. The majority of this funding is then allocated based on geography, with funds collected in Chicago, suburban Cook County, and the collar counties being distributed to the service boards at varying rates. The state matches the sales tax collected in the RTA's six-county region and the real estate transfer tax applied in the City of Chicago. The state also makes other contributions.

Transit capital funds primarily come from state and federal sources. While federal capital funding has been fairly consistent, state transit capital funding can vary significantly from year to year. In addition to capital improvements, capital funds are also used for the purchase of buses and rail cars, which typically makes up a significant portion of the capital expense in any given year. A significant capital funding source is the federal New Starts program, but this is restricted only to capital expansions.

The RTA's 2007 *Moving Beyond Congestion* initiative highlighted the transit system's considerable capital and operating funding needs, caused by years of underinvestment. This initiative resulted in new operating funding from increases in the sales tax and Chicago's Real Estate Transfer Tax. This averted the immediate operating funding crisis but did not fully solve the problem of sustainable funding, especially for the backlog of capital maintenance needs. It also did not halt the cost increases that have bedeviled the transit system. Over the past decade, transit operating costs have risen at an average rate of 4.5 percent per year, considerably above the rate of inflation. Cost increases have generally been due to elements outside the direct control of the operators of the transit system, including material and fuel price inflation, liability claims, rising demand for federally-mandated ADA paratransit services, and costs of health insurance and pension obligations. These problems are not unique to this region, as transit agencies in many other U.S. metropolitan areas face similarly increasing costs. Addressing these issues while still maintaining good service levels and affordable fares is a difficult challenge, but one which the region's transit agencies will need to face; GO TO 2040 supports the RTA and the service boards as they address these difficult issues.

Currently, tax revenues across the nation have fallen significantly due to the ongoing recession, while costs continue to rise. Severe service cuts were put in place in 2010 by the CTA and Pace to address this new reality. In this environment, even maintaining the current transit system — let alone expanding it to meet demands for service in underserved areas — is a critical challenge.



11.3 Indicators and Targets

CMAP proposes to measure the region's success in improving the transit system using two indicators: transit ridership and transit access.

Transit ridership is defined as the number of trips served by transit on an average weekday. Transit access is defined as the number of people who live and work within walking distance of transit. Together, these two indicators measure both the effectiveness and the coverage of the region's transit system.

Transit Ridership

Ridership is a standard measure of the use of a transit system. Currently, weekday ridership on the region's transit system is approximately two million (ridership on weekends is considerably lower). This is approximately nine percent of trips made each weekday. By 2040, the region should increase transit ridership's share to 13.5 percent of trips made each weekday — or approximately four million trips (see **Figure 62**).

TRANSIT RIDERSHIP PER WEEKDAY

2.3 million by 2015

4.0 million by 2040

Transit Access

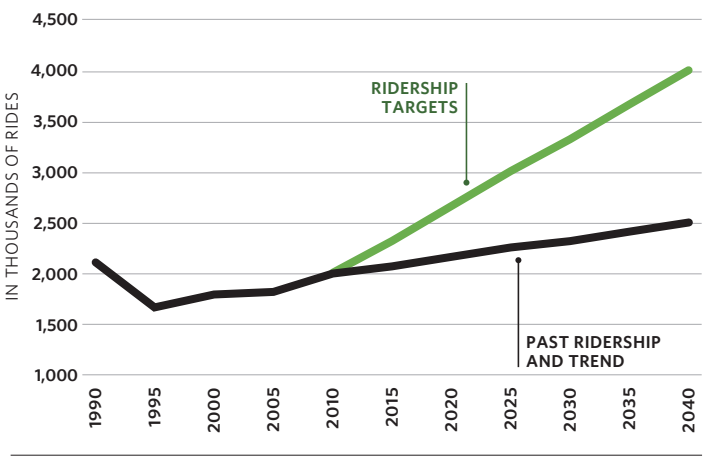
Another measure of the region's transit system is the number of people who live and work within walking distance of fixed-route transit, defined as a quarter mile from a fixed-route transit stop or station. While this does not account for the quality of the transit service or the presence of vanpools or other non-fixed-route services, and also does not measure those who drive to transit stations, it does provide a simple measure of transit accessibility. Currently, 5.9 million people (68 percent of the region's population) live within walking distance of transit, and 3.2 million people work in these areas (or 76 percent of total jobs). By 2040, the region should increase the number who live within walking distance of transit to 8.25 million people (or 75 percent of the region's 11 million people in 2040) and the number who work there to 4.3 million people (or 80 percent of jobs in 2040). This can be accomplished by encouraging development in areas with transit service, and also by expanding the transit network through new bus service to cover additional parts of the region (see **Figure 63**).

POPULATION AND JOBS WITH ACCESS TO TRANSIT

69 % of residents and 77 % of jobs by 2015

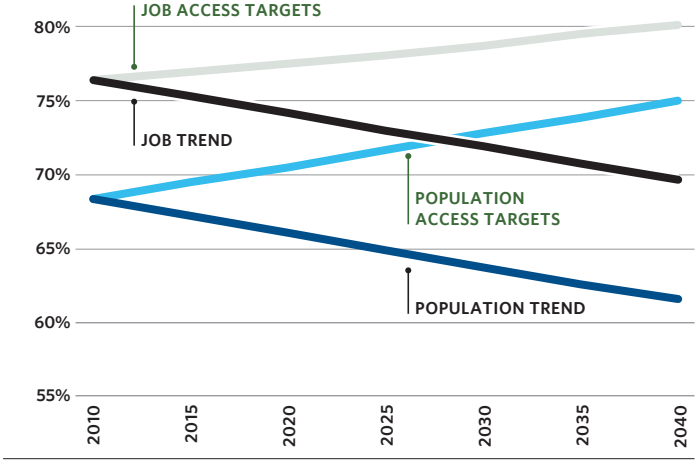
75 % of residents and 80 % of jobs by 2040

Figure 62. Transit ridership targets, 1990-2040



Sources: Regional Transportation Asset Management System, Chicago Metropolitan Agency for Planning analysis, 2010

Figure 63. Transit access targets, 2010-2040



Source: Chicago Metropolitan Agency for Planning analysis, 2010

11.4 Recommendations

Dramatic improvements to the region's transit infrastructure and operations are needed to create a truly world-class system. These improvements are broken into two categories: maintaining and modernizing the system; and pursuing major expansion projects, including high-speed rail.

This section also makes recommendations for financing, identifying new sources of revenue to support transit and also calling for the region's transit agencies to directly address rising costs; this will be needed for any of the recommended improvements to the transit system to occur. Finally, recommendations for supportive land use, infrastructure improvements, and other local support, all of which are essential to the success of transit but usually beyond the direct control of the transit agencies, are discussed.

Maintaining and Modernizing

A top priority of GO TO 2040 is to maintain and operate the existing transportation system, and transit is no exception. The region's transit infrastructure represents a $36 billion investment,[8] and protecting this investment is a high priority. The goal is to move the system toward a "state of good repair," the point at which all transit facilities are in good condition and there is no backlog of capital maintenance. For many years, the region has been moving in the wrong direction in relation to this goal; due to underinvestment in maintenance and implacably rising operation costs, funds that should have been used for capital investment have instead been diverted to keep the system operating. A state of good repair for all facilities may not be reached within the plan's horizon, but it is an ongoing goal that should be strived for.

Improving the condition of transit infrastructure is important, not only because it saves more costly repairs in future years, but because it improves transit operations. A better maintained system would reduce equipment breakdowns and remove "slow zones" (areas where conditions necessitate slower operating speeds than desired), allowing services to more closely adhere to their schedules and making more frequent service possible. Even beyond its practical benefits, a well-maintained system also projects a more positive image of the quality of service, making transit more appealing to potential users.

Maintenance can also serve as an opportunity to modernize, improve, and enhance the transit system at the same time. For example, rather than simply replacing buses or rail cars at the end of their useful lives with identical vehicles, transit agencies should continue to upgrade them. As another example, routine rehabilitation of stations can provide an opportunity to install real-time vehicle arrival signs or other real-time passenger information technology. If paired with maintenance activities, these improvements can be accomplished at lower cost than if they were stand-alone projects. This also applies to projects undertaken by agencies that maintain roadways, namely the Illinois Department of Transportation (IDOT), counties, and municipalities; road improvement projects can be an opportunity to improve sidewalks, bicycle facilities, and bus stop conditions as well.

8 Regional Transportation Authority, "Moving Beyond Congestion," 2007.

Taken together, small-scale improvements can be very effective at improving the transit system. A variety of technological improvements, including real-time traveler information, transit signal priority, use of ART and BRT, and flexible scheduling of demand-responsive service, can make transit easier to use and more efficient to operate. Many of these innovations have already been applied in the region and should continue to be expanded. While it is difficult to predict future advances in communications technology, GO TO 2040 recommends that transit agencies stay on the cutting edge of applying technological solutions to make transit work better. As discussed earlier in this section, user perception of transit is critically important, and well-designed stations with attractive and vibrant surroundings, modern vehicles, safe and convenient pedestrian access, and even the inclusion of public art in transit facilities helps to improve the image of transit. Coordination between service providers to allow seamless transfers between services is necessary. A specific improvement that would help with both user perception and experience is the integrated coordination of fares between the service boards, and the RTA should work with service providers to implement this improvement. Ultimately, fare coordination should result in a universal "smart card" that could be used for tolls, parking fees, and other transportation expenses. These improvements would make transit operate more smoothly and attract riders, but do not replace the basic need to have an adequate supply of service. Increases in frequency on existing bus services, or reduction of "bus bunching" on bus routes that experience this problem, would provide a higher quality of service and also help increase ridership.

Bus service should be expanded into underserved areas with high transit potential and where it is complemented by land use planning and local infrastructure investment that supports transit. Several factors make expansion of transit in suburban areas important, including demographic changes, the rise in demand for reverse commute and intersuburban trips, and growing support for transit in the suburbs.[9] Many suburban areas have densities that are high enough to support transit, either for all-day bus service or for shuttle services that focus specifically on connecting residents or workers to train stations or other destinations. When conventional, fixed-route bus service is not feasible in low-density areas, other transit options such as vanpools, employer-sponsored shuttles, or demand-responsive services may be. GO TO 2040 supports implementing improvements that address the need for better suburban transit, such as more frequent reverse commute rail service, improved or new fixed-route bus services, and innovative transit service options.

Of particular importance to making transit work in suburban areas is solving the "last mile" problem, or the challenge of connecting transit passengers to their ultimate destination, which is often not directly adjacent to the transit facility; this can be accomplished through local shuttle or circulator services, improved walkability, car-sharing programs, or land use planning that allows higher densities near transit facilities. To make any new service as attractive to potential riders as possible, the technological improvements described above should be incorporated and high-quality stations, appropriate vehicles, and supportive local infrastructure should all be included. In many cases, bus service can test the market for transit, helping to determine whether a major capital investment in infrastructure is justified.

Another important element of public transit is the region's paratransit system. The cost of providing paratransit is steep, and will only get more so as the senior population continues to grow. GO TO 2040 recommends attracting as many paratransit users as possible to the fixed-route system, by way of the service increases and improvements to user perception described above. Many paratransit riders avoid fixed-route service because of concerns about their personal safety while traveling, the difficulty of making transfers, or a lack of safe and accessible sidewalks and bus stops. The general transit improvements described elsewhere in this section will help to alleviate these concerns. Beyond this, it is clear that improving service beyond the basic requirements of the ADA will require contributions from local governments, nonprofits, or private groups (such as senior housing developments) in the areas covered. The costs of paratransit service have been increasing rapidly due to high demand, and this is expected to increase with the aging of the population; even continuing to provide ADA-mandated service at a high level will require innovative approaches to this issue.

9 A *Chicago Tribune* poll from June 24, 2010 found more support for investing in transit than in roadways in suburban areas. See **http://tinyurl.com/35oobh2**.

Expansion

Maintenance and modernization is a high priority, but some expansion of the system is also needed to match changing patterns of where people live and work. In general, CMAP supports expansions of the region's bus system, provided that these new projects are carefully prioritized and supported by local land use and infrastructure. In contrast, only a limited number of major capital expansions (such as new or extended rail lines) are recommended.

GO TO 2040, as the formal long-range transportation plan for the region, takes a special approach to major capital expansion, in compliance with federal guidelines in its treatment of major transportation capital projects. Essentially, the plan must include a list of major capital projects that can be pursued with available or reasonably expected funding, termed "fiscal constraint."[10]

While major transit expansion projects generate a great deal of attention and interest, they are generally not the most effective or efficient ways to make improvements to the region's transit system. Maintenance, modernization, and strategic improvements are more effective, as they capitalize on existing infrastructure. But GO TO 2040 does recommend a limited number of major projects for implementation: the West Loop Transportation Center, CTA Red Line South extension, CTA north Red and Purple Line improvements, and improvements to the Metra UP-W, UP-NW (including a short extension), UP-N, SouthWest Service, and Rock Island rail lines. It also recommends pursuit of managed lanes or multimodal corridors on I-90 and I-55. These may ultimately feature full BRT service, with high-quality stations, extensive park-and-rides and transfer options, and features that give buses priority, but express bus service should be initiated in the interim as these full BRT systems are being planned. A multimodal corridor is also recommended for consideration on I-290, but the mode has not yet been determined.

The major capital projects contain few extensions or new service; instead, they typically improve and expand the capacity of existing infrastructure. The CTA north Red and Purple Line and Metra UP-W, UP-N, SouthWest Service, and Rock Island projects all improve existing rail lines, building on our existing capital investment; the Metra UP-NW project includes a short extension but is primarily an improvement project as well. The CTA Red Line South extension is the only significant extension project on the fiscally constrained project list. It extends service by providing an important new transit link for residents of a primarily low-income area, and studies have shown that the project will generate considerable ridership.

Finally, the West Loop Transportation Center is necessary for Chicago to become, as intended, the hub of a Midwest high-speed rail network, as it improves connections between proposed high-speed rail (and current interregional rail), Metra, and CTA. This project creates a multimodal transportation center in the West Loop, with direct pedestrian connections between Union and Ogilvie Stations and a new CTA rail branch. Beyond supporting high-speed rail, it is expected to provide significant immediate benefits to the many Metra lines terminating at Union Station, improves connections between Union and Ogilvie Stations, and eases transfers between Metra and CTA.

There are 24 major capital projects which were proposed but which are not on the constrained project list. Several of these exhibited significant benefits but are early in the project development process and require further study, or will need innovative financing to be feasible.[11]

The plan also supports interregional high-speed rail, which is planned to provide connections to other Midwestern metropolitan areas. It is important for high-speed rail investments not to be viewed as a replacement for investments in the region's transit system. Continued pursuit of new high-speed rail service is recommended, but new revenue should be found for this investment, rather than diverting the region's scarce transportation resources for this purpose. Local transit connections and supportive land use planning around proposed stations — including the West Loop Transportation Center, as well as any additional stations located at airports or in suburban areas — would strengthen high-speed rail and should be pursued. GO TO 2040 also supports the continuation of traditional inter-city rail service such as that currently provided by Amtrak.

10 For more information, see the GO TO 2040 section "Invest Strategically in Transportation."

11 For more detailed information and analysis, see the GO TO 2040 capital project page at **http://www.goto2040.org/scenarios/capital/main/**.

Finance

Few or none of the improvements described above are possible within the current financial environment. Financial analysis of expected transportation revenues and costs through 2040 has shown that existing revenue sources are barely sufficient to maintain our transportation system, even assuming that future increases in cost are quite modest.[12] To solve the financial problems of the transit system, cost increases must be kept in check, and additional revenue sources must be found.

Both of these efforts should be the primary focus of the RTA, which is responsible for the financial oversight of the system. GO TO 2040 recommends a strong, central role for the RTA in understanding and solving the financial challenges facing the system. This will necessitate working closely with the transit service boards to address cost increases — many of which occur for reasons outside the control of the region's transit agencies — while exploring a variety of sources to provide increased funding for transit. As a starting point, these should include the state meeting its transit funding obligations.

GO TO 2040 recommends an increase in the state gas tax, with a portion of these proceeds devoted to transit. It also recommends the implementation of congestion pricing on selected expressways in the region and the use of a portion of these new revenues to fund nearby transit options once the operating and maintenance needs of the priced facility have been met. Further options include the pricing of parking, using public-private partnership (PPPs), or other innovative sources, and these should continue to be investigated. In the past, the transit system has relied on occasional state capital bills to meet its needs, but these have been infrequent and unpredictable and have sometimes been earmarked, instead of funding the most beneficial projects. Instead, transit (and transportation overall) should be adequately funded on a regular basis, which would remove the need to have periodic capital infusions. Finally, CMAP recommends reforms in federal funding programs that currently favor new service startups instead of maintenance (specifically, the New Starts program). Federal Transit Administration (FTA) rules concerning use of federal funds for engineering of transit projects are stricter than those used by the Federal Highway Administration (FHWA) for roadway projects and should be changed to allow regions to more easily pursue transit improvements.

Rough estimates of costs for the improvements described above are contained in the subsection 11.6, "Costs and Financing."

Supportive Land Use, Infrastructure Investments, and Other Local Support

For transit to be successful, it requires supportive land use planning and infrastructure investments. A new transit service in an area that is low density and not walkable is unlikely to succeed. Therefore, transit expansion efforts should be accompanied by land use planning, local infrastructure investments, and other local actions that seek to create a transit-friendly environment, and transit investments should be prioritized in places where such planning is occurring. As previously noted, a significant challenge in providing transit service in much of the region involves the "last mile" problem; local support for transit is necessary to overcome this.

The principles that make up livable communities[13] cover many of the elements that make up transit-supportive land use. Some elements are particularly important, such as development density. Rules of thumb among transit researchers are that six to eight housing units per acre (or 25 employees per acre)[14] are needed to support basic bus service, and more than twice this density is needed for more frequent bus or rail service, though this can vary. Provision of affordable housing in areas served by transit is also particularly important, because transit is often the only travel option for lower-income residents.[15] Beyond land use and housing, local governments can help transit to be effective by educating residents through municipal newsletters, websites, or other means; organizing transit travel trainings (particularly for elderly and disabled residents); supporting the expansion of car-sharing programs into their communities and participating in car-sharing programs; and overall working in partnership with transit agencies to find creative ways to attract their residents to transit.

One important precondition for successful transit service is an extensive pedestrian and bicycle infrastructure that makes direct connections from transit stops to nearby destinations. This goes beyond sidewalks and bicycle facilities to include roadway design, pedestrian treatments at signalized road crossings, safety islands, or other improvements that provide safe ways to cross busy streets. Other infrastructure improvements can be made locally to support transit, such as bicycle racks at train stations and bus stops, attractive bus shelters, and improvements that allow accessibility by disabled people. Typically, these improvements fall under the jurisdiction of municipalities or counties, and an active local role is needed to create a supportive pedestrian and bicycle environment.

12 See the GO TO 2040 section "Invest Strategically in Transportation."

13 Described in the GO TO 2040 chapter "Challenges and Opportunities."

14 Victoria Transportation Policy Institute. Transportation Demand Management Encyclopedia. **http://www.vtpi.org/tdm/tdm45.htm**.

15 Additional discussion and recommendations are in the GO TO 2040 section "Achieve Greater Livability through Land Use and Housing."

Parking deserves particular attention in this discussion because of its complex relationship with transit. Free and easily available parking is the norm in most parts of the region, even though the construction and maintenance of a parking space is far from free. In other words, free parking is actually subsidized by the local governments or businesses that provide it. It also creates a disincentive to use transit; ridership is typically highest when traveling to destinations where parking is expensive or scarce. One important transit-supportive action that local governments can take is to review parking regulations and pricing levels to examine what kinds of travel behavior they incentivize. On the other hand, parking can also help provide access to transit. While the GO TO 2040 plan supports dense development around train stations (conventional TOD), many of the region's Metra stations that attract the most riders have significant commuter parking. CMAP recommends a mixture of stations that focus on TOD and stations that provide commuter parking options, though the overall intent should be to transition stations to TOD where possible.

Despite the importance of local planning to support transit, most municipal comprehensive plans do not include detailed recommendations on the topic. Nearly every community in the region — even those without train stations — includes areas that could support some type of transit service. Most of these communities also support the improvement or expansion of transit within their community, recognizing its value to their residents. Current land use decisions affect the future viability of transit for years to come, so planning proactively is needed. GO TO 2040 recommends that local governments interested in attracting transit should plan for supportive land use, housing, and infrastructure improvements to support it, and that the region's transit agencies should consider the degree of supportive local planning when making investment decisions.

These planning activities should be supported by funding and financial incentives for local governments who plan for land use that supports transit. GO TO 2040 recommends creating a streamlined and coordinated technical assistance and funding program to support local planning and ordinance updates, with funding from CMAP (from Unified Work Program [UWP] funds), RTA, and IDOT. The program should fund planning efforts that link transportation, land use, housing, and economic development. This program should cover both planning and ordinance changes, with a focus on implementation. For example, many plans recommend changes to zoning ordinances or parking regulations; this program should provide funding or technical assistance to accomplish these regulatory changes.

Federal programs may also provide new funding sources for planning and implementation. One new federal program, the Sustainable Communities Initiative, appears to provide initial steps in this direction, and the federal government should commit sufficient funds to this or similar programs to support plan development and implementation. Opportunities for tying implementation funds to planning can even be pursued without new funding sources. Recognizing the interplay between infrastructure investments and land use, the region should use transportation funding strategically to support projects that help to implement GO TO 2040. Two examples from other regions, the Atlanta Regional Commission's Livable Communities Initiative (LCI) and the San Francisco Bay Area Metropolitan Transportation Commission's Transportation for Livable Communities (TLC) program, use a combination of state and federal funds for this purpose, and a similar program should be created in this region.[16]

16 For further detail on the local funding recommendations, see the GO TO 2040 subsection 1.4, "Achieve Greater Livability through Land Use and Housing."

11.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on four implementation areas for increasing commitment to public transit:

Improve the Fiscal Health of Transit

Modernize the Region's Transit System

Pursue High-Priority Projects

Conduct Supportive Land Use Planning

Implementation Action Area #1: Improve the Fiscal Health of Transit

Strengthen RTA efforts on financial oversight LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	The RTA is charged with the financial oversight of the transit system. The recent funding crisis has highlighted the importance of this responsibility. In collaboration with the service boards, the RTA should focus its efforts on addressing the system's fiscal health, including increasing efficiencies and limiting cost increases moving forward.
Direct a portion of congestion/parking pricing revenues to transit LEAD IMPLEMENTERS: State (IDOT, Tollway), RTA, counties, municipalities	Congestion pricing and parking pricing are recommended within GO TO 2040. The revenues from these sources should be used in part for supportive transit service. For example, revenues from congestion pricing should be used to support increased transit service in the same corridor as the priced facility, or to improve connections to service in the corridor.
Use other innovative funding sources LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, RTA, CTA, Metra, Pace, counties, municipalities	The reliance of the transit system on sales tax has contributed to its current funding crisis. CMAP, in conjunction with potential funding partners, should investigate innovative financing such as value capture, or increasing the state gas tax and allocating a portion of the receipts to transit, in addition to the pricing strategies described above.
Revise the federal "New Starts" program for transit LEAD IMPLEMENTERS: Federal (U.S. DOT)	The Federal New Starts program is a competitive grant process that funds transit system expansions. While expansions are vital for many parts of the U.S., older and more well-developed systems should have the option to use these funds for badly needed maintenance and modernization efforts. The current New Starts program creates a strong incentive to pursue expansions, when maintenance and modernization should be the region's top priority. The criteria for federal New Starts grants should be expanded to support reinvestment in existing infrastructure rather than solely new expansions. Further, FTA regulations concerning use of funds for engineering of transit projects are stricter than those governing highway projects, and should be changed to create a "level playing field."

Implementation Action Area #2: Modernize the Region's Transit System

Focus investments on maintenance and modernization LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Continue to make the maintenance of the system at a safe and adequate level the top priority when making investment decisions. The transit service boards should also pursue opportunities to modernize and upgrade the system as part of routine maintenance to bring the system to a world-class level.
Adopt best practices in new technologies LEAD IMPLEMENTERS: State (IDOT), RTA, CTA, Metra, Pace, counties, municipalities	Use technological improvements to make the system more efficient. The use of transit signal priority systems, ART concepts, and traffic signal coordination in general are supported, particularly when integrated multimodally to form "smart corridors." Advanced scheduling and operations practices should also be used to improve the efficiency of demand-responsive services. Coordination with agencies that maintain roadways — namely, IDOT, counties, and municipalities — will be necessary to achieve some of these improvements.
Widely implement traveler information systems LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Pursue the widespread implementation of traveler information systems, which can give real-time arrival information, assist in trip planning, inform commuters about parking availability, and serve other purposes. These can include signs at stations, websites and social media, station announcements, and other technologies.
Consider user perception in vehicle purchases, and station design LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Invest in improvements that make transit more attractive to potential users. State-of-the-art vehicles, clean and attractive stations, safe and convenient pedestrian access, inclusion of public art or other aesthetic features, and the overall appearance of transit has an impact on its use.
Establish seamless coordination between modes LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace, counties, municipalities	Coordinate services and fares between the service boards, including pursuit of a universal fare payment system. Also, coordination with bicycle and pedestrian facilities and car-sharing services, which are often used by transit riders, can link transit seamlessly with other modes.

Implementation Action Area #3: Pursue High-Priority Projects

Prioritize among potential bus service increases, extensions, and new service using regionally consistent criteria LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Pursue bus expansion projects in areas where they are most likely to succeed. Expansions should be prioritized in part based on supportive local land use planning and infrastructure investment. The recommendations made above concerning technology and user perception apply here as well. Potential transit markets should be tested with bus-based concepts such as ART or BRT before investing in rail infrastructure.
Include transit components as part of major highway capital projects LEAD IMPLEMENTERS: State (IDOT, Tollway), RTA, CDOT, CTA, Metra, Pace	Include planning for transit (in most cases BRT, but also rail in some cases) within highway projects recommended in the plan, including the Elgin-O'Hare projects, I-55 managed lane, I-90 managed lane, Central Lake County corridor, and the I-290 multimodal corridor.
Implement high-priority transit projects LEAD IMPLEMENTERS: RTA, CDOT, CTA, Metra, Pace	Advance recommended projects through the federal New Starts program or other discretionary funding programs. Highest priority projects for immediate action include the Red Line South extension, West Loop Transportation Center, and improvements to the north Red/Purple Lines, Union Pacific (N, NW, and W), Rock Island line, SouthWest Service, and possibly the I-290 multimodal corridor.
Conduct detailed studies of prioritized corridors, and continually develop and evaluate major projects LEAD IMPLEMENTERS: RTA, CDOT, CTA, Metra, Pace	Conduct feasibility studies for projects that showed high potential but are not fully understood, and pursue innovative financing for beneficial unconstrained projects. Identify potential major capital projects through corridor studies, county or COG transportation plans, or other regional efforts. Evaluate and consider these projects during regular updates to the plan.
Improve evaluation measures and decision-making processes LEAD IMPLEMENTERS: CMAP, RTA, CTA, Metra, Pace	In light of limited funding, it is critically important to be able to evaluate projects against a variety of evaluation measures to make the best long-term decisions. CMAP should work with the RTA to develop improved transportation models that effectively measure the benefits of a variety of types of transit projects.
Increase federal investment in high-speed rail LEAD IMPLEMENTERS: Federal (U.S. DOT, Congress)	The initial round of funding for high-speed rail assisted with necessary improvements, but considerably more is needed to actually implement a functioning system. A continued federal commitment is necessary for this. The region's Congressional representatives should make this a high priority, as should U.S. Department of Transportation (U.S. DOT) staff. However, federal funding for high-speed rail should not come at the expense of funding for regional public transit improvements.
Link high-speed rail with regional transit and land use planning LEAD IMPLEMENTERS: RTA, CDOT, CTA, Metra, Pace, counties, municipalities	Advance the West Loop Transportation Center, which improves the connections between Metra and the CTA, as well as proposed high-speed rail service, and plan for supportive nearby land use. Plan for direct and convenient links between high-speed rail, Metra, and CTA in this location. Also, identify additional station locations within the region and plan for supporting transit services and land use.

Implementation Action Area #4: Conduct Supportive Land Use Planning

Align funding for planning and ordinance updates LEAD IMPLEMENTERS: State (IDOT, DCEO, IHDA), RTA, CMAP, counties, municipalities, philanthropic	CMAP, IDOT, and RTA should coordinate funding programs to fund local plans and ordinance updates. Use funds to create a new streamlined grant program for transportation, land use, and housing which assists local governments to create plans or ordinance updates that are consistent with GO TO 2040. This program should be able to fund ordinance changes, updates to local government programs or policies, or similar activities, as well as plan preparation. Supplement these funding sources with philanthropic or other public and private sources as appropriate. In particular, funding from housing and economic development sources should also be included within this streamlined program.
Identify and exploit additional opportunities for transit oriented development LEAD IMPLEMENTERS: CMAP, RTA, CTA, Metra, Pace, counties, municipalities, nonprofits	Many communities have embraced TOD as a strategy to revitalize their downtowns, and plans for many of the most obvious locations for TOD have already been prepared. CMAP and regional civic organizations should identify other potential opportunities for application of TOD strategies and initiate pilot projects in areas where TOD is more difficult (i.e., locations with difficult land assembly, bus-based TOD, etc). Opportunities for the application of TOD principles around planned ART services can be an immediate focus.
Use livability principles to plan for land use in development near transit LEAD IMPLEMENTERS: Counties, municipalities	Counties and municipalities should pursue opportunities for more dense development which mixes uses and housing types within "location efficient" areas near transit services. Counties and municipalities can increase density by providing density bonuses (in exchange for affordable units), creating transit overlay districts, or using form-based codes to address community fit. This can occur both for existing transit services and areas where transit expansion is planned, and applies to both rail and bus service.
Plan for land use specifically around major transit capital projects LEAD IMPLEMENTERS: CMAP, RTA, CTA, Metra, counties, municipalities	Prepare land use plans around stations of the CTA Red Line South extension, West Loop Transportation Center, and improvements to the CTA north Red and Purple Lines and Metra improvements to Union Pacific (N, NW, and W), Rock Island line, SouthWest Service, and possibly the I-290 multimodal corridor.
Plan for land use specifically around BRT projects LEAD IMPLEMENTERS: CMAP, RTA, CTA, Pace, counties, municipalities	Study the best way to conduct land use planning to support BRT services which may be part of the Elgin-O'Hare projects, I-290 multimodal corridor, I-55 managed lane, I-90 managed lane, and the Central Lake County corridor. There are not good regional examples of how land use planning around expressway-based BRTs could occur, and a framework for this is needed.
Promote housing affordability near transit LEAD IMPLEMENTERS: Counties and municipalities	Proximity to transit services often increases land value, making it more difficult to provide a range of housing. Counties and municipalities should analyze housing needs near transit services, and can provide a variety of incentives to developers to bring down development costs in exchange for affordable units. These tools include land donations, density bonuses, permit fee waivers, land trusts and expedited permitting processes. These should be explored, considered, and adapted to specific local situations.
Require supportive land use planning before new transit investment is made LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Consider supportive land use when making investment and programming decisions. The service boards should prioritize investments (new service in particular) in areas that have or are planning for land use and local infrastructure that supports transit.
Update guidelines for transit-supportive land use LEAD IMPLEMENTERS: RTA, CTA, Metra, Pace	Update materials produced by the transit service boards concerning land use planning and small-scale infrastructure investments that support transit. These materials should include additional topics such as housing affordability that go beyond the density and design issues which are currently included.

11.6 Costs and Financing

A detailed transportation financial plan has been prepared as part of GO TO 2040 and is available in the Appendices. The following summarizes elements of the transportation financial plan that relate to public transit.

Within this section, the terms "fiscally constrained" and "fiscally unconstrained" are used. All figures in this section are in year of expenditure dollars (YOE$), meaning that inflation has already been added.

The transportation financial plan concluded that $385 billion was expected to be available in transportation revenues within the GO TO 2040 plan's time horizon. Projects or recommendations that are "fiscally constrained" are those that can be funded within this $385 billion figure. Projects or recommendations that are "fiscally unconstrained" may be desirable and beneficial but would require additional revenue. The recommendations for public transit improvements include both types. In other words, some but not all of the transit recommendations can be funded within expected revenues; others will require new sources of revenue to be identified.

This recommendation area calls for the region to invest in maintaining and modernizing the transit system; making strategic improvements and enhancements; and pursuing a limited number of major expansion projects. High-level cost estimates for these activities follow.

Cost Categories

Maintaining and modernizing the existing system is a top priority of GO TO 2040. The maintenance of the system at a level that is safe and adequate — a fundamental precondition — must be funded in full before any other improvements are made, and GO TO 2040 dedicates significant funding for this purpose. The cost of basic system maintenance and operations is estimated at approximately $150 billion, and this is fully funded within the plan.

Beyond basic maintenance, the modernization, enhancement, and improvement of the system are high priorities. Of the recommended project types described above in this category — including signal coordination or interconnects, passenger information systems, other technological improvements, service frequency increases, new bus service, and others — some but not all can be funded within expected revenues. Approximately $55 billion in needs have been identified for projects in this category, but only $15 billion to $25 billion in funding is currently expected to be available for them. Additional revenue or savings through cost reductions will be necessary to fund the remainder of these improvements.

Finally, a limited number of major transit expansion projects are necessary to improve the transit system. Approximately $30 billion in new capital proposals were identified through GO TO 2040, and these were individually reviewed and prioritized. Eight projects totaling $6 billion in new capital costs are fiscally constrained, including the Red Line South extension, West Loop Transportation Center, and improvements to the north Red/Purple Lines, Union Pacific (N, NW, and W), Rock Island line, and SouthWest Service. The remaining proposals require additional revenue to be able to pursue.

Additional Financing

As the previous descriptions indicate, significant new funding is necessary to make all of the proposed transit improvements. Similar shortfalls exist in other areas of the transportation system as well.[17]

Of particular note for transit, GO TO 2040 recommends pursuing congestion pricing in appropriate corridors and dedicating a portion of the revenues to operate transit service in the same corridors. A modest approach to congestion pricing was included within the fiscally constrained revenues; a more aggressive approach would generate more revenue, which could be used for transit purposes. The plan also recommends an increase in the state gas tax and devoting a portion of those revenues to transit as well. Another relatively unexplored option which has tremendous revenue generation potential is parking pricing, and the application of this, especially in areas where new transit service is being planned, is a recommendation of GO TO 2040. Finally, GO TO 2040 recommends further investigation of innovative financing options such as PPPs, or "value capture," which allows the transit agency to share in the property value increases that new or improved transit services create in nearby areas.

17 For more thorough discussion of the overall financial condition of the transportation system, see the GO TO 2040 section titled "Invest Strategically in Transportation" and the GO TO 2040 Financial Plan for Transportation (**http://cmap.illinois.gov/financial_plan_transportation**).

RECOMMENDATION

12 Create a more efficient freight network



Metropolitan Chicago's freight system links the region's industries and consumers to global markets. Highways, railroads, waterways, and airports all provide important connections to the world. Yet each of these modes of transport is intertwined with the livability of the region. Therefore, planning for an efficient, regional, multimodal freight system is a key priority of GO TO 2040.

GO TO 2040 continues a regional freight planning tradition — and builds on a legacy — stretching back to Daniel Burnham's and Edward Bennett's 1909 *Plan of Chicago*. In preparing the Plan of Chicago, Burnham studied the freight system congestion that was choking Chicago and understood that addressing the congestion was critical. Burnham suggested cooperative operations for the railroads, a series of belt rail and freight clearing systems stretching west from the city center, an improved street system, and a new port on Chicago's south side to address the city's commercial needs. These suggestions laid the foundation for improvements through the 20th Century, even leading up to today's Chicago Region Environmental and Transportation Efficiency Program (CREATE).

It is important to understand the freight system through the modern prism of livability. So addressing the freight system not only means enhancing our communities' economic competitiveness and prosperity, but assuring that the communities are healthy and safe. Efficient freight movement is significant to our regional economy. GO TO 2040 will set forth infrastructure and operations strategies to address these needs. The following are recommendations to improve the efficiency and interconnectedness of the region's freight systems:

Develop a national vision and federal program for freight.

Support CREATE rail system improvements.

Support regional trucking improvements, including truckways, truck routes, truck parking, and delivery time management.

Organize and improve public policy relating to freight.

Integrate freight needs and financing into infrastructure prioritization.

12.1 Benefits

The GO TO 2040 Regional Vision states that "the freight system will be improved to increase efficiency and interconnectedness, strengthening our position as a national and international center of goods movement and intermodal logistics.

Through investments and policies that support freight, our transportation system will be planned in a way that improves the movement of goods, minimizes conflict between freight and passenger transportation, and mitigates impacts on local communities."

To support this vision, CMAP initiated a planning project aimed specifically at the regional freight system in 2009.[1] This project set forth the case for freight system improvements, and included both a technical evaluation and involvement of both public sector and private sector stakeholders. The stakeholder involvement was focused on group and individual interviews, and electronic surveys.[2] The interviewees were targeted to gather input from all four modes of freight transportation: truck, air, water, and rail. The study secured input from those that ship materials or products throughout the region as well as a number of locally elected officials. Stakeholders' input validated and prioritized the results of the technical evaluation, and demonstrated public support for freight improvements planned in GO TO 2040.

As the mover of people and goods, metropolitan Chicago's multimodal transportation system serves as our link to the global economy. As consumers, nearly everything we buy to sustain and improve our quality of life — including the food we eat and the clothes we wear — travels by freight. The numerous materials that are needed to make our region's businesses thrive, including raw materials for manufacturing or office supplies, come from somewhere outside of this region via our freight system. This system and convenience is often taken for granted, but without it, we would be shut off from the rest of the world. There is a clear tension between the economic benefits (the consumption of goods that freight allows) and the negative externalities (such as increased congestion, decreased air quality, and grade crossing conflicts) associated with freight movement. Therefore, public opinions about freight are mixed and complex. Overall, the region must consider how to improve a freight system that is vital for maintaining and improving the regional economy, while also minimizing impacts to local communities.

Economic

As of 2008, according to the U.S. Department of Commerce,[3] an estimated 236,000 of the region's jobs (four percent of total private sector employment) were in the transportation and warehousing sector. These jobs provide more than $13 billion in personal income for our region's residents.

The prosperity of other industry sectors — including but not limited to manufacturing and both wholesale and retail trade — is also closely tied to our position as a transportation and logistics center. These industries account for more than 30 percent of the region's private sector employment, resulting in nearly $80 billion in personal income for residents of northeastern Illinois.

Metropolitan Chicago's position as the nation's freight hub also has impacts beyond direct jobs and income for our residents. The railroads move $350 billion and trucks move $572 billion in goods to, from, or through the region each year.[4] An efficient freight system enables a global supply chain to provide goods at lower costs and gives Chicago-area businesses an advantage in today's globally competitive economy.

Since nearly all of our region's freight travels by trucks and trains, improvements to the efficiency of our freight system will help to alleviate congestion from our roadway network. Slow trains, blocked grade crossings, and other "costs of congestion" are real and serious; they include lost time and fuel, decreased productivity, inefficient freight movements, and pollution. Goods moving more efficiently through the region can also lead to more efficient inventories and thus lower prices for consumer goods.

1 Chicago Metropolitan Agency for Planning, Freight System Planning Recommendations Project. See **http://www.cmap.illinois.gov/cmp/freightsystem.aspx**.

2 Chicago Metropolitan Agency for Planning, Freight System Planning Recommendations Project. See **http://www.cmap.illinois.gov/cmp/freightsystem.aspx**.

3 Bureau of Economic Analysis, Regional Economic Accounts. See **http://www.bea.gov/regional/index.htm**.

4 Chicago Metropolis 2020, "The Metropolis Freight Plan: Delivering the Goods," 2004, 5. See **http://tinyurl.com/2e5knme**.

12.2 Current Conditions

Our region is the rail freight hub of North America, and trucks make up nearly one of every six vehicles on Illinois' urban interstates. At the same time, congestion in the Chicago area is among the worst in the U.S.

Furthermore, rail tonnages moving to, from, and through our region are expected to increase by more than 60 percent by 2040, with intermodal volumes growing even faster. Tonnages carried by truck in the region may grow by more than 70 percent. Our rail and road networks are not equipped to handle these forecast volumes. Without a well conceived and implemented plan, the region's position in the global economy could be compromised.

Rail System

Six of the nation's seven Class I railroads have major terminals in Chicago. Nearly 500 freight trains per day operate in the Chicago region. In 2007, regional rail tonnage was estimated at more than 631 million tons (approximately 30 percent of the 2007 annual regional freight tonnage), with about 24,000 trailers and containers and about 16,800 carload units moving into, out of, or through the region daily. Rail terminal operations in Chicago are beset by congestion, with numerous heavily-used freight lines crossing each other at grade and being used for passenger services. However, railroads have recently worked together to mitigate congestion and improve efficiencies through improved operations coordination. In addition, the railroads have worked together to improve train travel and reduce community impacts in the Chicago terminal district through CREATE. CREATE was announced as a partnership among U.S. Department of Transportation (U.S. DOT), the State of Illinois, City of Chicago, Metra, Amtrak, and the nation's freight railroads in 2003 to upgrade four critical corridors. These upgrades include the construction of flyovers, grade separations, improved signalization, and modernization of equipment. A key element of these improvements, particularly the flyovers and grade separations, is the alleviation of conflicts between passenger and freight services on the rail system. Progress has been made to secure initial funding for this program and a small number of the projects have been completed. However, despite its strong partnership and commitment to its implementation, additional funding is necessary.

While freight services provide an economic benefit for the region, there are also community impacts that must be addressed. Railroad delay at at-grade highway-rail and at rail-rail grade crossings is a major issue affecting highway users, passenger transport, and the freight rail industry itself. In addition to the economic impacts of delay and travel time reliability, grade crossing delay can be an issue for community emergency responders. Grade crossing delay will likely be an increasingly frustrating issue for travelers as rail shipments increase and, more importantly, train lengths increase.

In addition to delay, at-grade crossings are associated with a number of highway-rail crashes, costing a number of lives each year. However, the number of annual deaths has been declining rapidly. One safety option, train whistles, often presents a serious nuisance to adjacent communities, and effective alternative safety enhancements are being undertaken by many suburban communities.

Assuming future economic growth, rail companies foresee the length of trains increasing from 125 cars to 175 cars. While railroads will need to address infrastructure issues related to longer trains (e.g., increasing siding lengths to beyond 10,000 feet), longer trains will also affect public highway at-grade crossings, likely increasing motorist delay at these crossings. Thus, at-grade crossing improvements will take on increased importance.

Finally, freight traffic impacts our existing commuter rail service and can also potentially limit our ability to expand passenger service or future high-speed rail. An increase in rail traffic could also impact the development of transit-supportive land uses that are critical to the success of our transit system.



Trucking

While the rail industry is a critical component of the region's freight system, most of the region's freight moves by truck. Trucks make up nearly one of every six vehicles on Illinois' urban interstates.

Compared to the 631 million tons moving by rail in the region, CMAP estimates that approximately 1.472 billion tons of freight was moved by truck in 2007 — more than 2.3 times the rail volume, and approximately 67 percent of the annual regional freight tonnage. Of this total, approximately 36 percent of all freight movements were through-traffic.

The biggest challenge to trucking is highway congestion. Where trucking volumes are high, congestion is often very serious. Congestion data prepared by CMAP shows that on several corridors where truck volumes are over 10,000 per day, congestion during morning peak periods increases travel times by an average of 60 percent. Further, for many of our highways, on-time arrival during the peak period requires doubling the travel time required during free-flow conditions. A number of our regional arterials are also severely congested. Thus, achieving economic efficiencies in trucking is challenged by severe congestion on interstate highways, arterial roads, and many collector streets. Congestion and unreliable travel times require buffering the time required to traverse the region to assure on-time arrivals, adding to costs.

Figure 64. Regional freight movements by mode

67%	30%	3%
TRUCK	RAIL	OTHER

Efficient truck deliveries are impacted not only by congestion, but by other challenges as well. Because of deferred maintenance and outdated infrastructure, trucks must detour around both bridges with load restrictions and viaducts with low clearances. Many of our regional arterial roads are not designated truck routes and so cannot be used for truck travel except directly to a delivery. Locally-designated truck routes are sometimes not coordinated between municipalities. Further, many municipalities restrict off-peak deliveries to local merchants, forcing truckers to either add to peak-period highway congestion or to find a nearby place to park, waiting for the allowable delivery time. However, there is a critical shortage of truck parking near destinations. These restrictions may make sense when considered alone, but when combined, all of these constraints often place severe pressures on truck operators and add substantially to transportation costs for area manufacturers, distributors, and retailers.

Because of their heavy weight, heavy truck volumes put substantial stress on area pavements, impacting the roadway condition. Improving roadway design standards and increasing scheduled maintenance will be a necessity, particularly on heavy traveled roads. Longer-term, truck sizes and weights can be modified to reduce pavement wear and long-standing proposals have suggested allowing heavier trucks (and thus fewer trucks), but with weight spread over more axles, reducing pavement wear. However, we must keep in mind some of the secondary impacts, for instance implementing such proposals would likely require substantially increased bridge strengthening expenditures.

Traffic safety is also a concern for the trucking industry. The number of highway traffic crashes involving trucks in 2008 totaled 20,621, an 11 percent reduction from 2006.[5] Truck safety improvements are a result of highway infrastructure improvements, improved driver training, improved motorist awareness of truck issues, more effective licensing and regulation (e.g., rest regulation), and safer vehicles.

5 Chicago Metropolitan Agency for Planning analysis of 2006 and 2008 Illinois Department of Transportation Crash Information System Data. Data from Division of Traffic Safety Bureau of Safety Data and Data Services.

Water and Air Freight

Water and air freight are also important for the region, but currently carry only three percent and less than one-half percent of freight movements respectively. Nonetheless, such freight services fill important roles for the region and present important opportunities for future regional development that can be further explored.

The Chicago Area Waterway System is used for the low-cost shipment of bulk goods to, from, and within metropolitan Chicago. The shipping industry faces several challenges, including lock delay, channel conditions, lock and dam maintenance, and deferred maintenance evident by crumbling jetties and wharves.

There is little or no movement of through goods over the waterway system, since the vessels used in the Mississippi River and Great Lakes waterway freight systems are mutually exclusive. However, the Great Lakes and Mississippi waterways are connected, and this connection has raised concerns about invasive species like Asian Carp moving into the Great Lakes, with negative economic and ecological effects. These concerns should be addressed in such a way as to preserve and expand our opportunities in waterway shipping. Furthermore, the region should work with neighboring regions to take advantage of water transportation on the Great Lakes.

Air freight services, centered at the Chicago O'Hare International Airport, carry a relatively small amount of freight on a tonnage basis (compared to rail and truck) and are used to haul lightweight, high-value, and time sensitive goods such as medical devices, pharmaceuticals, and electronics. O'Hare is in the midst of the O'Hare Modernization Program and is constructing two additional runways and a new western terminal that will significantly increase its air cargo capacity. Additionally, the Chicago Midway Airport and the nearby Gary/Chicago International Airport also provide air cargo service. The proposed South Suburban Airport, which also has the potential to handle cargo activity, is currently in the early stages of development, including environmental analysis and land acquisition.

Freight and Land Use

Since the 1909 release of the Burnham Plan, the relationship between goods movement, accessibility, and land use has been a key theme of planning in our region. One element of this theme has been the entanglement of freight, industry, and commerce in central, congested parts of the region. This entanglement presents tremendous conflict to the operational efficiency of the region's freight transportation, as well as the passenger system where services share infrastructure.

Freight volumes have grown significantly in recent years and existing central city freight facilities have been jury-rigged to serve the increased flows, primarily through operational changes that have been made to accommodate flows within existing site footprints. However, as these older, smaller sites have reached their capacity, new sites have been developed in remote greenfield sites, allowing design of the most appropriate facilities for given operations. While construction of these new suburban facilities is an obvious solution to freight industry infrastructure needs, they bring change to communities where facilities are sited, including economic development but also increased truck traffic, increased rail traffic, wear and tear on infrastructure, noise and air quality concerns, as well as overall safety concerns and other issues. Thus, it is crucial to consider the most appropriate locations to designate freight-related land use for both industry and community benefits.

Since there is an economic incentive for industry and warehousing to follow freight facilities to reduce shipping costs, there are studies underway to foster such efforts as land banking and developments complementary to the freight system in infill areas of Chicago and the south suburbs where redevelopment and complementary development opportunities are clear. For example, the Chicago Rail Economic Opportunities Plan (CREOP) program is an intensive, multiparty effort to preserve and establish rail-related land use in designated areas. Many freight-heavy rail lines have fallen into disuse or are currently underutilized. Preserving these corridors for freight rail could be important in the future in the event that industrial rail service should experience a resurgence. For example, if fuel prices increase dramatically, it is possible that fuel-efficient modes such as rail and water may face heavily increased volumes.

As noted above, many local communities experience significant impacts from freight, particularly rail delays at highway-grade crossings, heavy truck volumes on state and local routes, and impacts on passenger rail due to freight rail conflicts. The stakeholder outreach revealed that municipalities would like freight rail not terminating in the region to bypass the region as much as possible. In areas where conflict will remain, communities desire improvements to smooth flow of through-traffic to minimize the community impacts and place a high priority for grade separations where necessary.

Addressing Market Dynamics

Freight volumes, origins, destinations, and commodity types reflect the interactions between and among populations and industries. As a result, the region will need to address changing rail travel patterns and be proactive in terms of planning for changes in terms of freight travel patterns and global market dynamics. In addition, planning recommendations and investments are expected to address the resiliency of the freight system. GO TO 2040 acknowledges that future private-sector freight system investments and technological change are unknown. Further, the volumes of freight that the region will need to handle are not known. Thus, to keep metropolitan commerce moving and to ensure regional prosperity, the freight system might need to work under any number of future scenarios and a proactive approach to reducing congestion. This resiliency will be enhanced by sufficient right of way and corridor protection for freight systems; preserving and enhancing multimodal transportation options; and providing operational flexibility. By proactively planning for resiliency in the freight system, the region can substantially benefit by making the region "ready-to-go" for economic development opportunities that require global access or a central location for Midwest and national markets.

12.3 Indicators and Targets

The recommendations described in this section seek to improve the economic competitiveness of industry in metropolitan Chicago and to reduce the impacts of freight operations on local communities, addressing travel delay, pollution, and safety.

GO TO 2040 proposes tracking progress toward these goals through two indicators: the implementation progress of the CREATE program; and the amount of time spent delayed at grade rail crossings.

Implementation of CREATE

Funding and completing the CREATE program is a goal of GO TO 2040 by the year 2030. There are a total of 71 projects included in CREATE. As of March 2010, 10 projects have been completed and another 30 are underway, leaving a total of 31 remaining projects.

CREATE PROJECT COMPLETION

An additional 10 projects by 2015

All 71 CREATE projects by 2030

At-Grade Highway-Rail Crossing Delay

Railroad grade crossing delay is an important source of traffic congestion along many regional highway corridors. GO TO 2040 proposes to address grade crossing delay through rail operational improvements, in coordination with rail companies, and through grade separations where appropriate. Both operational improvements to raise train speeds (and reduce crossing gate-down time) and railroad grade separations are important components of CREATE. The Illinois Commerce Commission estimated in 2002 that of a total of 1,732 public at-grade crossings in northeastern Illinois, there were approximately 140 crossings where motorists were delayed more than 20 hours per weekday.

Forecast increases in train volumes and increased train lengths will increase motorist grade crossing delays. CREATE and other regional freight planning initiatives will abate some of this increased delay through increased train speeds, and will eliminate the delay at several high-impact crossings. GO TO 2040 seeks to cut motorist grade crossing delay in half, overall, from the 10,982 hours of motorist delay estimated by the Illinois Commerce Commission in the region in 2002.

REDUCTION IN RAILROAD GRADE CROSSING DELAYS

10,000 hours/weekday by 2015

5,500 hours/weekday by 2040

12.4 Recommendations

GO TO 2040 strongly supports increased investment in the region's freight system. Investment will be required primarily by the private sector in the normal course of private business enterprise, but public investments will also be necessary to promote the economy, public health, safety, and welfare.

The two goals of this increased investment should be (1) to improve the economic competitiveness of industry in metropolitan Chicago and (2) to reduce the impacts of freight operations on local communities, addressing travel delay, pollution, and safety. As part of the stakeholder outreach, improvements to at-grade rail crossings and improvements to reduce freight-rail and passenger-rail conflicts were judged by stakeholders to be the most important improvements. Other important ideas include rail safety improvements, public-private partnerships (PPPs) for rail improvements, greater intermodal investments, policies and investments to limit local community impacts and changes to address shifts in international freight flows. Among trucking improvements discussed, ideas judged most important by public and private stakeholders included expanded congestion management efforts (e.g., more centralized traffic information resources, changes in delivery time regulation, dedicated freight corridors, investment in additional truck parking, and better system maintenance). Additionally, within the trucking industry, the focus has moved from traditional highway infrastructure improvements to operational and focused infrastructure improvements designed to make the existing freight system work better. Therefore, GO TO 2040 seeks to address this new reality by proposing a shift in the public-sector focus to better address moving our region's goods by truck more efficiently, mirroring recent PPPs in the rail industry.

CMAP's freight approach to date has included a freight system study[6] aimed at determining recommendations for inclusion in the GO TO 2040 plan. The study's report contains a broader list of recommendations and more details on some of the recommendations listed below. The following are the key recommendations for GO TO 2040 for freight:

National Vision and Federal Program for Freight

According to the Freight Analysis Framework (FAF), the U.S. transportation system moved an average of 53 million tons of freight worth $36 billion per day in 2002 to serve 109 million households, 24.8 million business establishments, and almost 88,000 units of government.[7] More than one-half of the tonnage moved within local areas, and less than 10 percent was an import from or export to another country. Trucks hauled close to 60 percent of the weight and two-thirds of the value of shipments.[8]

These statistics demonstrate that moving freight is a national, interstate commerce issue and the U.S. economy depends on the efficient movement of freight. The benefits of the freight system rarely are confined to a single jurisdictional boundary and often the negative impacts are felt locally. Freight movement requires an interconnected system throughout our nation. We need to address and resolve our freight pinch points in the region, but this is very much a problem that transcends geographical boundaries. It is inefficient to solve only part of the problem, in one part of the country, only to encounter a bottleneck here in the Chicago region. To address these problems the federal government needs to develop a vision, a plan, and funding to address freight movements across the nation. Once that has been developed, state, regional, and local actions will be needed to improve the efficiency of our freight system.

6 Chicago Metropolitan Agency for Planning, Freight System Planning Recommendations Project. See **http://www.cmap.illinois.gov/cmp/freightsystem.aspx**.

7 Federal Highway Administration, Freight Management and Operations, Freight Analysis Framework. See **http://tinyurl.com/29ox54o**.

8 U.S. Department of Transportation, Freight Story 2008. See **http://tinyurl.com/2d2dpol**.

CREATE Rail System Improvements

CREATE consists of strategic improvements to the rail system, reducing freight bottlenecks, and raising operating speeds. In doing so, it improves the economic competitiveness of the region's manufacturing and transportation industries. In addition, CREATE will reduce the freight industry's impact on metropolitan communities by reducing grade-crossing delay and by reducing freight engine vehicle emissions. CREATE has regional and national significance and although it has made substantial progress, it still needs significant additional funds leading to completion. Freight shipment is the backbone to our national economy and funding this program should be a high priority at the federal level to improve interstate commerce and eliminate bottlenecks throughout our region and the country.

There are a total of 71 projects included in CREATE. The work includes the following:

25 new roadway overpasses or underpasses at locations where auto and pedestrian traffic currently crosses railroad tracks at grade level

Six new rail overpasses or underpasses to separate passenger and freight train tracks

Viaduct improvements

Grade crossing safety enhancements

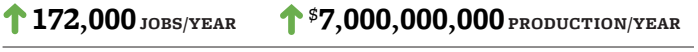
Extensive upgrades of tracks, switches and signal systems

To accomplish CREATE, the partnership[9] should prioritize the projects within the program and aggressively identify and secure funding to expedite the implementation of this program. Since the program was announced in 2003, over $500 million has been secured from a combination of sources including federal, state, the City of Chicago, and the railroads. Additionally, $400 million was included in the state's 2009 capital bill and over $200 million in federal stimulus funds, identified in the American Recovery and Reinvestment Act of 2009 (ARRA). However, there is still an unfunded CREATE cost estimated at over $2.5 billion dollars. The longer it takes to secure the funding for this program, the higher the costs will grow due to inflation and higher construction costs. Because the CREATE program is of national significance, GO TO 2040 recommends that the federal government take a central role in funding it.

In addition to the urgency in making these improvements to our rail system, the region will also suffer additional economic consequences if rail capacity and infrastructure issues are not addressed. An estimate of the impact on the region's economy showed that by as early as 2021 the region would experience a potential loss in excess of $1 billion in production and the equivalent of over 3,000 jobs per year. By 2040, these values would be close to $7 billion and the equivalent of 12,000 jobs per year. Cumulatively, from 2018 to 2040, a total of the equivalent of 172,000 jobs could fail to be created in the Chicago region if CREATE is not constructed.[10] The CREATE program was an initial step to accomplish the overall vision to enhance the main-line rail system so that it has the capacity to efficiently handle potential future traffic loads and meshes with an efficient system for local pick-up and delivery.

The implementation of this program should be a top priority for the region. As implementation occurs, planning for the next phase should commence. The CREATE Partnership, along with CMAP should begin to develop, finance, and implement projects and improvements beyond those identified in the CREATE. See **Figure 66** for a map of CREATE projects.

Figure 65. Fully implement CREATE by 2040



Source: Regional Economics Applications Laboratory

9 Chicago Region Environmental and Transportation Efficiency Program Partners include the State of Illinois, the City of Chicago, and the railroad industry.

10 Regional Economics Applications Laboratory, "Economic Impact of Improvements in Transportation Congestion in the Chicago Region on the Midwest and U.S. Economies," Institute of Government and Public Affairs, University of Illinois, April 2010.

Figure 66. CREATE projects



Source: Chicago Region Environmental and Transportation Efficiency Program

Regional Trucking Improvements: Truckways, Truck Routes, Truck Parking, Delivery Time Management, and Restrictions

Most freight moves by truck, so a serious effort to confront excessive Chicago-area shipping costs needs to address truck transportation issues. A combination of factors tends to drive up Chicago area truck costs. A program of truck transportation improvements, primarily operational rather than capital in nature, should be pursued to address the Chicago region's truck system issues. Such a program would bring reduced congestion on the area's roadways, safety benefits, emissions reductions, and more efficient deliveries to local suppliers. Like CREATE, this truck-oriented program is potentially a PPP and all of these efforts should work in cooperation with the locally impacted communities in order to address potential impacts to both local infrastructure and quality of life.

A full program of truck system improvements is necessary, including an enhanced and integrated geographic information system, to improve freight mobility:

Capital/Infrastructure

Dedicated and managed truckways (roads set aside for trucks) or truck lanes on existing facilities should be identified and established throughout the region that are funded through a congestion pricing revenue system. A number of potential dedicated facilities have been studied in the past, including dedicated truck-only lanes on I-55 and the proposed Illiana Expressway. Advantages of these separated facilities would include safety enhancements separating large trucks and passenger vehicles, efficiency in moving cargo by avoiding certain corridors that are congested due to peak hour passenger vehicle congestion, and maintenance considerations that would allow the specific infrastructure enhancements (such as pavement design, geometrics, sight distance, and lane widths) that are required for large trucks to be focused on these dedicated facilities. In addressing the dedicated freight facilities, it will be important to target the region's intermodal facilities and work to connect them appropriately.

Routes/Restrictions

While the Chicago region is a freight hub for transfer of goods, it is also the destination for a significant portion of goods travelling in the region. The region's truck routes need to be analyzed and updated. To address this, the regional truck route system needs to be expanded to reduce unnecessary truck travel and to improve system efficiency by providing more direct routes to destinations. As an initial step, a regional map of existing truck routes should be created to identify gaps and inconsistencies throughout the region. Since our roadway system crosses a number of jurisdictions (state to county to local, for example) the truck routes have not been designated in the most logical and efficient manner. By examining the current routes, the various jurisdictions should coordinate a more logical and efficient system for the region's truck routes.

Delivery times and parking restrictions also need to be addressed by local governments. Regional efficiencies can be gained by managing truck delivery times and reducing peak-period deliveries, while requiring quiet and clean trucks to assure compatibility with local communities. Where delivery times cannot be addressed, truck parking facilities should be established to reduce the need for peak-period truck travel. For instance, to alleviate congestion and idling, the City of Chicago should establish centralized freight distribution nodes to limit the number and size of trucks in the Chicago Central Area.

Organization and Public Policy: Regional Freight Authority and Regional Transportation Operations Coalition

Metropolitan Chicago has not traditionally had a champion to look out for the public interest regarding freight. National discussions and decisions about the movement of goods are dominated by port cities and states, partly because our region lacked a strong voice despite being the nation's hub of truck and rail freight. The Chicago region has a tremendous amount at stake and the movement of freight can have a wide range of potentially positive or negative effects, including economic ones. Freight bottlenecks make it harder for commuters in cars and trains to reach their destinations and harder for companies to get their goods into and out of our region. But if addressed effectively, freight traffic can serve as a major engine of economic prosperity.

Freight improvements are intended to produce a mix of public and private benefits, but the greatest obstacles to implementing improvements are institutional barriers (such as the challenges presented by coordinating a number of different private freight carriers within a competitive industry) and financial hurdles. CMAP should provide that leadership function on such regional matters. In particular, the issue of freight and goods movement is a regional one more than a state issue, and it is broader and more complex than a simple accumulation of the 284 municipal and seven county governments' individual interests. CMAP and its partners need to address economic needs and freight efficiency while assuring that metropolitan Chicago remains a place where a skilled workforce will want to live and where businesses want to grow.

To address the institutional and funding barriers of all freight modes, a self-financed Regional Freight Authority should be explored and designated to establish a balance of interests and a mandate to address these needs and lower operating costs by upgrading regional infrastructure. The Regional Freight Authority should have the ability to finance freight system capital improvements and to address public policy issues, such as community issues (grade crossing delay, safety, and noise). Current financing has not been adequate to provide freight mobility or address freight-related community issues, so new revenue sources (for example, instituting a freight transfer fee or increased tolling) should be established for dedicated freight improvements. Since there is a benefit to both the government and the private sector, a cooperative effort is a necessity to determine how the costs should be shared among the parties and how the required funds should be raised.

A process should be outlined to assist in moving this recommendation forward that includes convening freight stakeholders and transportation implementers to discuss the options and best course of action; examining case studies of similar authorities in other regions; and exploring potential agencies to host the Regional Freight Authority. Ideally, this authority should be integrated into an existing agency to avoid creating an entirely new organization.

Models for this type of entity exist elsewhere throughout the country. The Alameda Corridor Transportation Authority (ACTA) is the most prominent example of an entity created to initially implement and operate an innovative freight infrastructure project.[11] Located in southern Los Angeles County, California, it is a 20-mile-long rail line, primarily along and adjacent to Alameda Street, that was constructed from the ports of Long Beach and Los Angeles to downtown Los Angeles. The project extends through or borders eight other cities. The project originated in 1981 with the Southern California Association of Governments (SCAG), CMAP's counterpart. The PPP included local elected officials, as well as representatives of the ports, the federal government, affected railroads, trucking industry, and other city officials. ACTA was created as a public agency and the corridor began operation in 2002. The $2.4 billion project cost was raised approximately as follows: payments from the ports, $400 million; state and local government grants, $400 million; proceeds of bond issues backed by corridor revenue (from container fees paid by its users), $1.2 billion; and a federal loan, also to be repaid from corridor revenue, $400 million. They continue to operate the corridor and in 2008 also expanded their mission to include planning for additional capital and operational improvements. ACTA charges use fees and container charges, ranging from $4.96 to $19.60 per twenty-foot equivalent unit (TEU) depending on the mode and whether they are full or empty. In 2009, the estimated total fees that were collected was $82 million. Although there are some obvious differences between ACTA and the conditions in northeastern Illinois, the experience and success of the Alameda Corridor should be drawn upon as a model for future development within our region.

For lower-cost operational improvements, CMAP's Regional Transportation Operations Coalition will be an appropriate mechanism to work with regional stakeholders and/or the Regional Freight Authority to implement freight improvements. This committee should focus on cooperatively implementing the regional trucking improvements identified above.

11 For more information on the Alameda Corridor Transportation Authority, see **http://www.acta.org/index.asp** and the report "Funding Options for Freight Transportation Projects" from the Transportation Research Board of the National Academies at **http://www.trb.org/Main/Blurbs/Funding_Options_for_Freight_Transportation_Project_162174.aspx**.

Integrating Freight Needs and Financing into Infrastructure Prioritization

CMAP developed a number of evaluation criteria to analyze and prioritize capital projects, and other plan recommendations (transportation financing and coordinated investment) call attention to performance-based criteria to prioritize infrastructure investments. As these measures are developed, freight-related measures should be incorporated. To do this effectively, we must also improve our access and collection of freight-related data. The data can also be made publicly available through our Regional Indicators Project and used to market the region to industry, developers, and freight providers. There is extensive public sector data available, however the majority of freight systems are operated by the private sector and the ability to receive the associated data continues to be a challenge. Since this data can be instrumental in making more effective public sector investments, GO TO 2040 encourages private sources to share their data in a way that serves regional needs for informed decision-making but also respects the privacy of private firms.

Additionally, CMAP's freight modeling capacity has evolved from the recognition that traditional network modeling tools used for regional planning are not sufficiently robust for application in a freight-rich region like Chicago. Therefore, CMAP will work towards establishing a policy responsive demand forecasting tool that can be used to better predict local and regional impacts to our freight system based on changes in national and global freight-systems and facilitate a better understanding of regional freight movements and impacts. Freight can have a significant impact on nearby land use, and modeling and analysis should take this into account; for example, this could be used in a predictive way to help local governments identify opportunities for industrial development based on nearby freight.

12.5 Implementation Action Areas

The following tables are a guide to specific actions that need to be taken to implement GO TO 2040. The plan focuses on five implementation areas for creating a more efficient freight network:

Create a National Vision and Federal Program for Freight

CREATE Rail System Improvements

Regional Trucking Improvements: Truckways, Truck Routes, Delivery Time Management, and Restrictions

Organization and Public Policy

Integrating Freight Needs and Financing into Infrastructure Prioritization

Implementation Action Area #1: Create a National Vision and Federal Program for Freight

Create a vision for a federal role in transportation that includes a national freight policy with dedicated funding and corridors of national significance LEAD IMPLEMENTERS: Federal (Congress, U.S. DOT)	Establish a method to formulate a national freight plan that can guide regional and state efforts to improve the freight systems. Create a systematic funding program for freight improvements. This will help alleviate interstate highway, rail, and airport congestion and provide redundancy for the times when other parts of the national transportation system are overburdened.

Implementation Action Area #2: CREATE Rail System Improvements

Build a larger national coalition to support CREATE LEAD IMPLEMENTERS: Federal (Congress, U.S. DOT), state (General Assembly, IDOT), Amtrak, Metra, CMAP, municipalities, freight railroads	To heighten the status of this program at the federal level, the importance of it and its benefits need to be communicated to stakeholders (elected officials, other MPOs, business community, public) throughout the country in order to gain broader endorsement, support, and funding.
Secure funding to complete the CREATE Program LEAD IMPLEMENTERS: Federal (Congress, U.S. DOT), state (General Assembly, IDOT), Amtrak, Metra, CMAP, municipalities, freight railroads	Identify funding sources for continuing implementation of the CREATE Program infrastructure improvements. Funding sources that should be explored, but not limited to, include the following: local, state, federal grants, bond or loan opportunities, railroads, other private sources, and user fees.
Prioritize and implement the CREATE Program LEAD IMPLEMENTERS: Federal (U.S. DOT), state (IDOT), Amtrak, Metra, City of Chicago, freight railroads	Prioritize the remaining projects based on criteria that factor in project readiness, available funding resources, and public benefit, and aggressively work to implement all of the 71 projects.
Develop the next phase of rail improvements LEAD IMPLEMENTERS: State (IDOT), Metra, CMAP, municipalities, freight railroads	Develop a CREATE II program so that the regional rail system has the capacity to efficiently handle potential future traffic loads and meshes with an efficient system for local pick-up and delivery. CREATE II should seek to improve operating speeds and reduce congestion on all major mainline routes traversing the Chicago region and by also increasing terminal capacity.

Implementation Action Area #3: Regional Trucking Improvements: Truckways, Truck Routes, Delivery Time Management, and Restrictions

Identify opportunities for dedicated freight corridor systems LEAD IMPLEMENTERS: State (IDOT, Tollway), Freight Authority, CMAP, municipalities	Identify appropriate facilities and corridors, via truckways or truck-only lanes, in order to improve safety and increase efficiencies through separating large trucks and passenger vehicles. Provide an alternative for freight to avoid certain corridors due to peak hour passenger vehicle congestion. Engage freight-industry stakeholders and communities in early discussions. Suggested corridors to study: - Illiana Expressway - I-55/Stevenson Expressway - Connections between intermodal freight terminals
Implement dedicated and managed truckways LEAD IMPLEMENTERS: State (IDOT, Tollway), Freight Authority, CMAP, municipalities	Preserve right-of-way in potential corridors. Engage in feasibility studies and, if appropriate, preliminary engineering and construction. Provide freight-friendly designs, including pavement design, geometrics, sight distance, and land widths. Engage PPPs, as appropriate.
Manage transportation system to reduce peak-period congestion through congestion pricing LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP	Analyze, evaluate, and institute congestion pricing on selected road segments.
Catalog and update the region's truck routes LEAD IMPLEMENTERS: State (IDOT), CMAP, counties, municipalities	Analyze and map existing truck routes. Identify the gaps and inconsistencies in the current routes. Coordinate a logical and efficient system to update and implement a regional network of truck routes.
Address delivery times and parking restrictions LEAD IMPLEMENTERS: Counties, municipalities	Assess local delivery times and parking restrictions. Make changes where possible to reduce peak-period truck travel.

Implementation Action Area #4: Organization and Public Policy

Explore the establishment of a governance structure, such as a Freight Authority, to identify issues, guide investments and advocate on behalf of the region LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, counties, municipalities, freight carriers	Analyze and plan to establish a Freight Authority, preferably within an existing agency, to serve as an oversight agency for coordinating freight issues and investments in the Chicago region. The Authority should bring together the public and private sectors, working together toward accomplishing goals of mutual interest and benefit to the region. In its oversight capacity, the proposed body would have the authority to collect revenue (such as user fees or tolls) and issue bonds. The agency's oversight responsibilities would include all freight modes, as well as freight-related economic development opportunities within the region.
Conduct further study to implement use fees or container charges LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, counties, municipalities, freight carriers	The largest hurdle to implementing improvements for freight is identifying funding and securing a revenue stream. The region should actively study various methods to collect user fees on container shipments as potential revenue source.

Implementation Action Area #5: Integrating Freight Needs and Financing into Infrastructure Prioritization

Include freight-related performance measures in project evaluation process LEAD IMPLEMENTERS: State (IDOT, Tollway), CMAP, counties, municipalities	Develop measures that take into account freight needs and deficiencies in evaluating potential transportation improvements. This performance-based approach will provide a more transparent and quantitative means of project evaluation, and instill more accountability into the project selection process.
Enhance freight modeling capacity LEAD IMPLEMENTERS: CMAP	Develop more robust modeling tools that will better predict local and regional impacts of freight based on changes in national and global freight systems. Also, assist to facilitate a better understanding of regional freight movements and impacts on our transportation network, as well as nearby land use.

12.6 Costs and Financing

The freight improvements recommended in this chapter have significant costs.

For example, over $2.5 billion is needed to fund CREATE alone. A number of the strategies discussed in this recommendation are directly tied to the transportation network and some of the costs will be absorbed in the process of maintaining the existing transportation system and making systematic improvements. In addition, the recommendations of GO TO 2040 section Invest Strategically in Transportation — a gas tax increase, use of congestion pricing, and potentially other sources — can help to cover this cost, but are unlikely to meet all our needs.

As the recommendations pointed out, the region should initiate other financing mechanisms to accelerate the implementation of CREATE and improvements to the highway and arterial network to facilitate more efficient truck movements. A portion of this funding should be an increase in revenue for freight improvements from the federal government, reflecting the impact that our freight system has on the national economy and the need to assist in mitigating the impacts.

Finally, the Regional Freight Authority should identify and analyze other funding sources, assess the feasibility of implementation, and should pursue the ones that can be best operationalized to help finance the costs of freight improvements. These may be user fees, more aggressive congestion pricing, or others. Identifying funding to finance and maintain these improvements is pinnacle to the success of this recommendation. Without a serious increase in funding, none of these recommendations can be realized.

Context and Best Practices

The purpose of this Context and Best Practices chapter is to provide a fuller context for the types of actions that help implement the plan. It does not provide specific, targeted recommendations for "who should do what," but it does broadly describe supporting actions. Best practices and case studies are used extensively to provide examples, and also to demonstrate that many actions that support the plan are already underway in metropolitan Chicago. Some of these examples may go beyond the plan's 12 major recommendation areas, while providing evidence that many of the actions that support the plan are already in place.

The following contextual categories represent types of stakeholders who are responsible for implementing the comprehensive regional plan. Each category includes its own range of decisions and actions, but all stakeholders need to work together to achieve the sustainable prosperity that we seek.

Federal Government	326
State Government	336
Regional Authorities	348
Counties and Councils of Government	362
Municipalities	373
Nongovernmental Organizations	386
Development Community	392
Individuals	398

Throughout this chapter are links to CMAP strategy papers or other materials containing additional information on these topics.

Federal government

The federal government sets the overall tone for policy and planning to maximize our nation's economic prosperity, provide for our common defense, and protect the health and well-being of our citizens. The federal government also remains the chief steward of our major infrastructure systems and many valuable natural resources, all of which greatly impacts decision making at the state and local levels.

When it comes to implementing the types of strategies and policies in regional plans like GO TO 2040, the federal government should play a clear leadership role in steering the efficiency and effectiveness of how public money gets spent at all levels of government.

This section describes how federal decisions affect plan implementation, followed by examples of how GO TO 2040's implementation can be supported by federal actions. These are organized into the areas of livable communities, mobility, human capital, and governance. It also contains links to pages on CMAP's website where more information can be found.

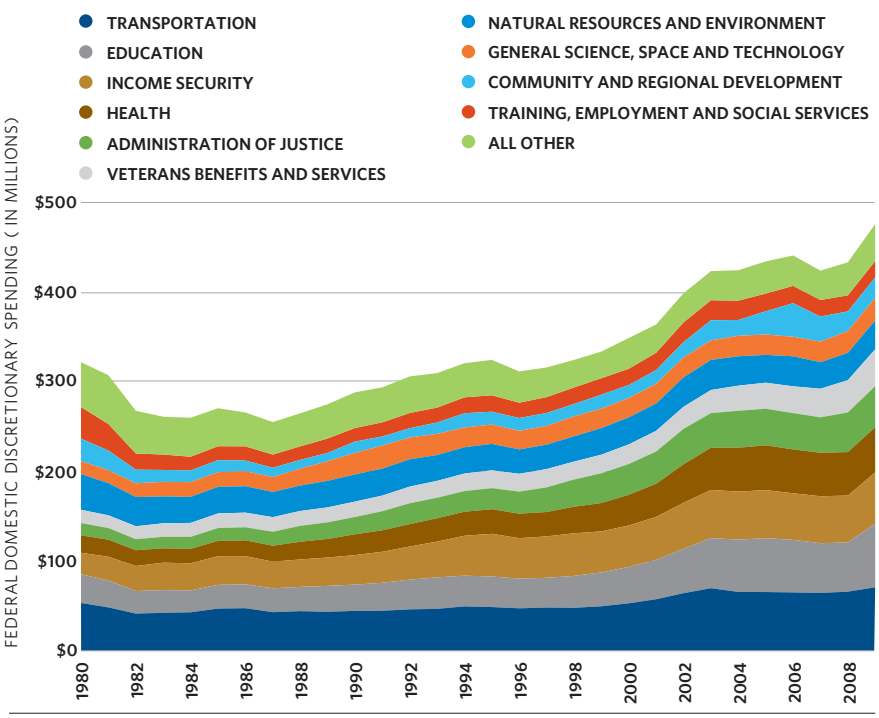
How Federal Decisions Affect Plan Implementation

The federal government is critical to the success of GO TO 2040. It must decide how to allocate billions in taxpayer dollars annually across a variety of different programs, services, and projects. It also must set priorities and develop criteria for how funding should flow through to the state, regional, and local levels.

Federal leadership is vital not only to the process of regional planning, but to its eventual success at implementing real change on the ground in our communities.

Over $500 billion annually is spent by the federal government on domestic discretionary programs — expenditures other than national defense and international affairs or mandatory programs like Social Security and Medicare. Large domestic discretionary items include transportation, education, income security (made up largely of housing assistance), community and regional development, and natural resources and environment spending. Historical federal spending is shown in **Figure 67** below.

Figure 67. Federal domestic discretionary spending, 1980-2009



Measured in 2005 constant dollars
Source: Budget of the United States Government, FY 2010, Table 8.8

While dollar amounts in this chart shed light on federal funding priorities, the mechanisms for how these dollars flow may be even more important. States and local governments usually comprise the "delivery systems" for many of these programs and services, and they often retain a high degree of discretion over where the funding should eventually flow. Transportation, the largest federal domestic discretionary spending item, exemplifies this arrangement — the federal government sets the policy framework through numerous programs, appropriates the funds from these programs through to states using varying criteria, and then allows states a fair degree of discretion in terms of project selection.

The federal government also provides the context, direction, and funding for most planning and decision making on the metropolitan scale. The regional transportation process, including the requirement of a Regional Transportation Plan (RTP), is a federal initiative. More recently, the federal government has stressed the importance of regional comprehensive plans as vehicles for driving investment decisions. The degree to which plans like GO TO 2040 can be implemented will be influenced by future federal investment, guidance and policy decisions. Overall, the federal government can help to implement GO TO 2040 by actions such as:

Placing a high priority on investing in metropolitan regions like northeastern Illinois, as central building blocks for increasing the nation's overall economic prosperity.

Emphasizing holistic solutions to multidimensional problems like congestion and climate change by supporting interagency coordination and the implementation of comprehensive plans.

Continuing to make smart investments in our nation's infrastructure systems, to protect our most vital natural resources like the Great Lakes, and to make the kinds of education and workforce investments that drive innovation, supporting regional and national economic prosperity.

The federal government has already emphasized comprehensive approaches to creating more sustainable and livable communities by coalescing what are typically compartmentalized grant programs from agencies like the U.S. Department of Transportation (U.S. DOT), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Environmental Protection Agency (U.S. EPA). While these agencies have historically pursued often different (and sometimes divergent) goals, more coordinated investment decisions harnessing the connections among transportation, land use, housing, and environment should further the goal of more livable, sustainable communities.

Livable Communities

The federal government can play a catalytic role in supporting investment decisions consistent with GO TO 2040's emphasis on livable communities. While efforts across the areas of land use, housing, resource conservation, and open space will be largely implemented by localities, the federal government can help through targeted funding and other support.

Land Use and Housing

An important federal role in the areas of land use and housing is to support community planning strategies primarily through funding support, like block grants, matching grants, and other assistance. The federal government can also play a major role in expanding economic opportunities and providing decent housing in disadvantaged communities, including stabilizing communities whose viability has been damaged by foreclosures. Targeted federal assistance can help state and local governments, nonprofits, and developers collaborate to acquire land and property, rehabilitate abandoned properties, and offer financial assistance to low- to middle-income homebuyers. GO TO 2040 specifically recommends that the federal government target its housing investments in ways that align with public transit.

While project implementation is done at the local level, federal dollars are often vital for moving complex projects along. They often require vast tracts of land containing many parcels, which can be cost prohibitive to developers. Federal funding can be particularly helpful for remediating **brownfields**, vacant and contaminated properties that can create serious barriers to community reinvestment opportunities. Nine different federal agencies administer brownfield remediation programs, including the U.S. EPA and HUD, which offer funds for activities including planning, environmental assessments, and technical assistance to direct funding for clean-up activities at certain properties.



The Village of Oak Park used federal Community Development Block Grant (CDBG) and Home Investment Partnership Program funds from HUD to fund a single-family rehabilitation program. The program serves low and very low-income homeowners by helping them maintain their homes at safe and desirable standards while preserving the Village's housing stock. Image courtesy of Eric Rogers



In 1997, Chicago was chosen as one of the first "Showcase Communities" for a brownfields initiative that coordinated resources of over 15 federal agencies to address local cleanup and reuse issues. U.S. EPA funds were leveraged with other grants, including one from the Illinois Environmental Protection Agency (IEPA), to clear a brownfield site of more than 600,000 tons of concrete which was then used in city infrastructure projects. Since 2002, the site has been home to the Chicago Center for Green Technology, the most comprehensive green design educational resource in the Midwest. The building itself is a prime example of green design. Image courtesy of Flickr user **Andrew Ciscel**

Resource Conservation

GO TO 2040 focuses its recommendations primarily on local and regional actions to reduce energy and water consumption. However, since environmental issues cross local, regional, and state borders, the federal government has a vital role to play. **Climate change** is perhaps the most significant global threat facing present and future generations. Climate change necessitates not only serious debate about matters of federal regulation (such as fuel economy standards), taxation (such as imposing a tax on carbon) and innovative market mechanisms for mitigating carbon emissions (such as "cap and trade" systems), but also the incentives built into existing federal transportation, housing, and energy policies. The federal government can set national targets, by sector or by jurisdiction, for reducing greenhouse gas reductions and supporting particular strategies for its achievement.

National targets would be an important first step for combating climate change, and should help raise the profile of comprehensive plans like GO TO 2040, which identify a range of strategies for reducing greenhouse gas emissions. Local challenges vary across the U.S., so the federal government should allow regions latitude to implement the most relevant local strategies to attain the targets.

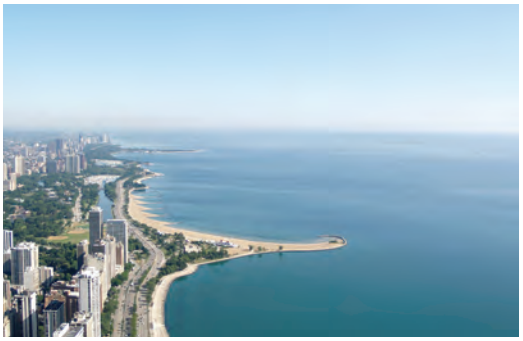
The federal government can provide local and regional funding assistance for communities to reduce energy consumption in buildings through **retrofits**. It can also redouble efforts to transition away from centralized electricity generation with inefficient long-distance transmission and toward smaller-scale, decentralized generation, and the "smart grid." This will enable better demand management, and more intelligent utilization of capacity. The federal government can also invest in and provide incentives for research, production, and transmission of clean energy technologies and **alternative fuels** to reduce greenhouse gas emissions.

The Great Lakes hold about 20 percent of the world's available fresh surface water, provide an important shipping route from the Midwest to the east coast and beyond, and support recreational boating and commercial fishing in addition to a rich ecosystem. Yet the Great Lakes are beset by numerous threats including invasive species, water level declines, and ongoing and legacy pollution. The federal government can support the restoration of the Great Lakes through clean-up of legacy contamination, reduction of non-point contamination sources, and promotion of green infrastructure. The federal government has a significant role in the control of invasive species, and should also facilitate full implementation of the Great Lakes Compact, which will ensure a cooperative, performance-based investment process that balances ecological and economic goals.

The federal government plays a large role in managing and protecting our region's **waterways**, particularly commercial corridors like the Calumet River and the Chicago Sanitary and Ship Canal, and our region's ports, which include the Calumet, Chicago, and Waukegan harbors. The U.S. Army Corps of Engineers is responsible for maintaining large parts of the infrastructure at these harbors. This includes responsibilities such as maintaining structural integrity of breakwaters and dredging approach and harbor channels.



In October, 2009, the U.S. Department of Energy (DOE) awarded an Illinois Institute of Technology (IIT) led consortium $8 million in funding to support wind-energy research facilities. The funds will be used to construct a test wind turbine in Marseilles, Illinois to discover techniques for making turbines more effective and efficient. Also, IIT will offer a number of educational opportunities to students interested in pursuing careers in the field of wind energy engineering. IIT was also awarded $5 million in April 2010 to develop and institute courses and certificate programs for smart grid technology. The grant will fund a Smart Grid Education and Workforce Training Center, which is expected to train 49,000 employees from the power industry, union workers, teachers, and students over three years. Photo courtesy of **iStockphoto.com**



In February 2010, the U.S. EPA earmarked $2.2 billion for the Great Lakes Restoration Initiative (GLRI) over the next 5 years — $475 million of which has been approved in President Obama's FY 2010 budget. GLRI was created to target the most significant problems that plague the Great Lakes, including invasive aquatic species, non-point source pollution, and contaminated sediment. In 2010, $250 million in grants will be available to fund a variety of projects aimed at achieving the GLRI's goals. Image courtesy of Flickr user **kendoman26**

Open Space

The federal government should support direct investment in open space, particularly to preserve large "macrosites." This can happen through formation of national wildlife refuges, or the transfer of surplus federal property to open space uses, as occurred at Midewin National Tallgrass Prairie and Fort Sheridan.

Local Food

GO TO 2040 identifies a variety of actions by the federal government that would support local food production and improved access to food. The federal government subsidizes various forms of agricultural production and also sponsors **agricultural preservation** programs, which fund the purchase of easements. The federal government can support local food production by providing the tools and resources necessary to ensure that its farmland preservation investments and general agricultural subsidies promote viable local food systems.

The federal government can support a variety of demonstration programs to evaluate different means of providing better food access in "food deserts," including funding these efforts and communicating best practices. Federal financing assistance to spur private investment in supermarkets in underserved areas is specifically recommended in the local food section. Also, support for linking hunger assistance programs and local food production would benefit both systems.

Human Capital

The federal government can also play a role in supporting education, workforce development and economic innovation. Our region's future economic prosperity requires attentiveness to a supportive business environment, particularly through attracting and retaining a skilled workforce that can fill the job demands of the 21st Century.

Education and Workforce Development

Education and workforce development are major federal expenditures, and GO TO 2040 supports the efforts of various education stakeholders. The plan calls for the federal government to increase the flexibility of federal funding for workforce development programs and allowing funding recipients to create more locally-specific, effective programs.



The Advanced Research Projects Agency - Energy (ARPA-E) was established within DOE to fund projects to develop technologies that reduce energy related emissions and improve energy efficiency. Nalco Company, based in Naperville, received $2.2 million to capture and desorb carbon from smokestacks of coal-fired plants. Image courtesy of Nalco Company

Economic Innovation

Economic innovation, the development and commercialization of new products and processes, is a key driver of economic performance. Recent federal programs and policies have recognized the fact that regions are the drivers of our nation's economy. Investing in regional economic **innovation** is gaining importance in federal policy as a way to support economic growth. Federal financing can harness the power of regional **industry clusters** and help transition start-up firms from incubator programs into the business world.

Some of the best opportunities for economic growth in the next decade are in emerging green industries that are building on existing capacity in the region, such as the manufacturing of components for wind turbines or solar panels by metal manufacturers who are already producing similar products. By growing "**green jobs**" in metropolitan regions and elsewhere, the U.S. can create a competitive advantage in this growing economic sector. The federal government can lead the way in financing major research and development projects involving green technology, supporting **workforce development** programs to train or retrain the workforce for specialized skills in a new green economy, and introducing programs or regulations to implement clean energy technologies and alternative fuels. These types of assistance can spur private-sector and university-driven innovation.

Efficient Governance

The GO TO 2040 plan also stresses the importance of governance, and the federal government has a particular role in addressing coordinated investment.

Coordinated Investment

GO TO 2040 recommends increased coordination across government agencies, with a particular focus on the federal level. The federal government can continue to emphasize coordination across different agencies and continue to support the implementation of regional comprehensive plans. Increased alignment in goals, priorities, and grant requirements across different agencies like U.S. DOT, HUD, and U.S. EPA will promote comprehensive solutions to our most pressing problems and minimize duplication of effort or competing regulations and objectives. When the federal government speaks with "one voice" on issues like transportation, housing, and environmental policy, it can improve the efficiency and effectiveness of our investment decisions, which bolsters our regional economy and strengthens our communities.



In June 2009, U.S. DOT, HUD, and U.S. EPA joined forces to promote affordable housing with more transit options while protecting the environment. The Partnership for Sustainable Communities will coordinate investment based on a set of livability principles, including the integration of housing, transportation, water infrastructure, and land use planning and investment. HUD is funding a $150 million Sustainable Communities Initiative for regional planning efforts that incorporate housing and transportation development together. Image courtesy of Flickr user **cjhumphrey1**

Regional Mobility

GO TO 2040 emphasizes the importance of federal funding and regulations in enhancing regional mobility.

Transportation Finance

The federal government allocates large amounts of funding for the purposes of maintaining, modernizing and expanding our highway and transit networks. The federal government can support GO TO 2040's vision for transportation by emphasizing sustainable revenue sources, directing investments toward regional priorities, and using performance-driven criteria for more transparent, outcome-based decisions. It can support the efforts of regions to evaluate and prioritize local infrastructure investments in a comprehensive way that looks beyond transportation benefits to include land use, economic, environmental, and other impacts. The federal government can also continue to emphasize strategies which enhance safety and security for all users on expressways, arterials, transit, and local roads.

Moving toward more sustainable revenue sources for transportation may require a stronger emphasis on user fees and other "pay as you drive" strategies not simply to raise revenue, but to strengthen the public's willingness to support infrastructure investment and to mitigate the continuing problems of congestion on our roads. The federal government can continue to support **pricing and managed facilities** including congestion pricing, dedicated lanes, high occupancy toll lanes (HOTs), as well as technologies and other **travel demand management** strategies that can achieve travel congestion reduction and other related benefits, such as reduced travel delay and hours of travel, greater use of transit and rideshare participation, improved safety, improved air quality, improved quality of life, and enhanced economic activity. The federal government should also explore potential long-term replacements for the federal gas tax, such as vehicle miles traveled (VMT) fees; these require exploration and action at the federal level to be feasible.



The federal government has cited the reduction of diesel emissions as a high national priority. In the Chicago region, Congestion Mitigation and Air Quality Improvement (CMAQ) funds have been used to do CSX locomotive repowers, retrofit Chicago Public School buses, and purchase hybrid electric buses for the Chicago Transit Authority (CTA). Other CMAQ funded projects include car sharing programs, clean air campaigns, bicycle facilities, and railroad grade separations. Image courtesy of Flickr user **Carl Farbman**

Public Transit

Federal funding for the maintenance, enhancement, and expansion of our region's **public transit** remains of vital importance. Public transit is highly valued by northeastern Illinois residents, and modernization of the system is a key recommendation of GO TO 2040. Capital needs continue to outpace available capital revenues, and the system faces a large backlog of deferred maintenance, which impacts service across the region. The use of federal funds for rehabilitation, reconstruction, and improvement projects — rather than just new capacity — is critically important to a region with major supplies of older transit infrastructure, as ours has. GO TO 2040 recommends specifically that the federal government should reform the New Starts funding source in line with these priorities.

The federal government can also provide funding to support **high-speed rail**, supporting the region's place as the center of the Midwest high speed rail network. This should be in addition to, not in place of, federal funds that already flow to metropolitan areas; investment in high-speed rail should not come at the expense of investment in the region's existing transit infrastructure.



The CTA $530 million Brown Line Capacity Expansion project received $423.1 million in federal funding ($245.5 million in New Starts funding and $177.6 million in formula funds) through the Illinois Department of Transportation (IDOT). The Federal Transit Administration's New Starts program funds capital construction projects for transit systems and provides full funding grant agreements (FFGAs) if the projects are locally planned, implemented, and operated. This project included lengthening CTA station platforms to accommodate eight-car trains, upgrading operating equipment, and rebuilding stations to make them compliant with the Americans with Disabilities Act (ADA). Image courtesy of **Craighton Berman**

Freight

As a key function of our transportation system, **freight** deserves special attention due to its tremendous impact in terms of jobs and economic growth. A federal intermodal freight policy can address the efficient movement of goods, and federal resources can be directed to the projects where freight has the greatest national benefit. National freight infrastructure and policies should continue to stress innovation, including the use of state-of-the-art **intelligent transportation system** (ITS) technologies. An overarching federal policy concerning freight would provide valuable guidance as regions attempt to confront freight challenges, many of which are national in their scope. GO TO 2040 specifically identifies the Chicago Region Environmental and Transportation Efficiency Program (CREATE) as an important regional priority, and one which should receive strong federal support due to its impact on freight movements, not just in the region but across the nation.



The Electric Freight Management (EFM) project, sponsored by U.S. DOT, uses advanced information technology and web services to coordinate freight shipping and enable better supply chain communications to public and private operators. U.S. DOT will create data dictionary and tracking device standards using International Standards Organizations (ISO). The information would be deployable across different modes, and would help reduce delays. Over 40 percent of time in the shipping supply chain is spent awaiting information exchanges. An intelligent transportation system like EFM could significantly reduce freight congestion. Image courtesy of **Laurence Pearlman**

State government

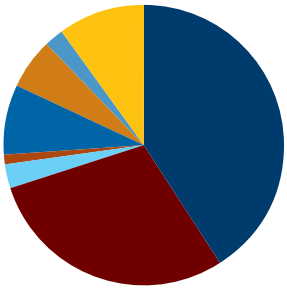
The State of Illinois' provision of services, infrastructure, and funding greatly impacts residents and businesses across the metropolitan Chicago region. This section describes how state decisions affect plan implementation, and then provides a description of actions that could support the implementation of GO TO 2040, organized into the areas of community planning, transportation, environment, and policy. It contains links to pages on CMAP's website where more information can be found.

How State Decisions Affect Plan Implementation

The State of Illinois allocates nearly $50 billion per year across a variety of program areas (see **Figure 68**). In FY 2009, roughly one tenth of this total consisted of federal funds.

The largest sources of state revenue remain the sales tax and income tax, which generated roughly $23 billion in 2009. The largest spending areas are health and human services and education, which together make up over 70 percent of all state expenditures. The state plays a significant role in operating and maintaining the transportation system, promoting economic development, and maintaining and preserving natural resources.

Figure 68. State of Illinois expenditures, 2008



41%	HEALTH AND SOCIAL SERVICES
29%	EDUCATION
3%	GENERAL GOVERNMENT
1%	EMPLOYMENT AND ECONOMIC DEVELOPMENT
8%	TRANSPORTATION
6%	PUBLIC PROTECTION AND JUSTICE
2%	ENVIRONMENT AND BUSINESS REGULATION
10%	INTERGOVERNMENTAL REVENUE SHARING

Source: Illinois Comptroller, 2008 Comprehensive Annual Financial Report

GO TO 2040 stresses the importance of investment decisions that will enhance economic vitality and livability across northeastern Illinois. State decisions will have a major impact on the implementation of GO TO 2040, not simply because of the sheer magnitude of the expenditures. More important is how decisions are prioritized and targeted. In practice the state must make important investment choices every day, such as which roads to resurface or reconstruct, which businesses to attract or retain, and which open space or other natural resource elements to preserve or restore.

Across these types of policy areas, GO TO 2040 stresses the importance of performance driven criteria when making investment decisions. Criteria that emphasize economic impact and job creation as well as economic and environmental sustainability and quality of life can propel the region and state toward the twin objectives of economic vitality and more livable communities. The extent to which the state emphasizes these factors, whether making an investment in a highway, wastewater treatment plant, or workforce development program, will affect the outcomes achieved.

Another important element stressed by GO TO 2040 is the coordination of investment across governmental agencies. Expenditures made by one department can often generate undesired consequences requiring attention from another department or different unit of government. For example, transportation expenditures can have a number of both positive and negative land use, environmental, and economic consequences. Coordination across state agencies in terms of goal-setting and evaluation criteria can help maximize the efficiency and effectiveness of these investments.

The State of Illinois allocates large dollars across diverse areas, including education, public health, transportation, economic development, and the environment. In many cases, the state has wide discretion in terms of how and where dollars, both federal and state, get spent. One of the chief messages of GO TO 2040 is that careful targeting of expenditures, via the use of better data and performance driven criteria, can achieve better results. In addition, investments should be comprehensive in scope and reflect linkages among different areas like transportation, housing, and the environment. By pursuing these types of objectives, the state can help foster a strong economy and other good quality-of-life outcomes for our residents and businesses.

Livable Communities

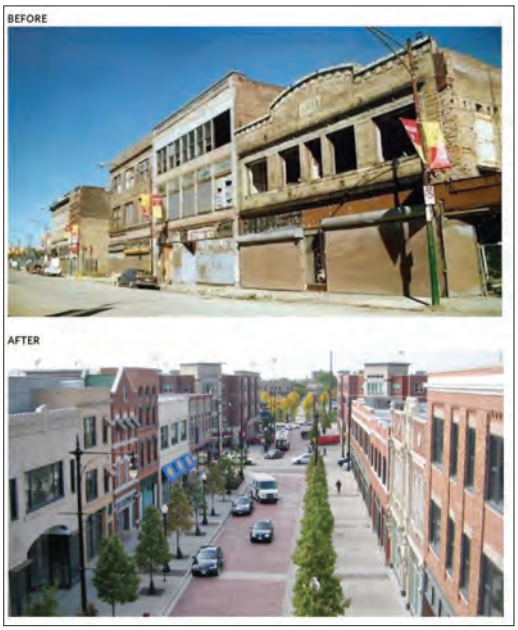
The state can play an important role in implementing GO TO 2040's recommendations for livable communities, which address land use and housing, resource conservation, open space, and local food, primarily through supportive policies and targeted funding support.

Land Use and Housing

GO TO 2040 identifies a role for the state in helping to catalyze well planned, **walkable communities** by supporting the connections between transportation and land use when making investment decisions. More coordinated investment among transportation, environmental, and housing expenditures can go a long way toward ameliorating some of the unintended consequences that can sometimes occur when policy areas are evaluated separately. For example, transportation funds can be programmed with land use and environmental considerations in mind. As the federal government begins to increase its support for livable communities through more comprehensive investment decisions, the state can also play a vital role by aligning investment choices in this manner.

The Illinois Environmental Protection Agency (IEPA) is highly engaged in issues of **brownfield** remediation and redevelopment. IEPA's Site Remediation Program (SRP) provides participants the opportunity to receive IEPA review, technical assistance, and the guarantee that the participant has successfully demonstrated the mitigation of significant risk. The state also offers other financial assistance programs, which can bolster efforts by local governments and the private sector. Many successful brownfields projects rely upon a mixture of funding and government services, and a high level of state involvement will continue to leverage other sources and spur important redevelopment efforts.

In recent years, northeastern Illinois has experienced increasing housing costs in tandem with decreasing real incomes. This has left the region a surplus of newly built, high-cost, ownership housing stock. **Housing preservation** strategies can reduce housing costs and maintain the uniqueness of our communities. Preservation of housing can also have greater returns for the region's economy than demolition and new construction in terms of units and jobs created. The state can play a major role encouraging and incentivizing housing preservation through policies and programs that encourage maintenance of existing housing stock, and can prioritize state housing funding in areas near transit, or to communities engaging in intergovernmental planning. For example, the Illinois Housing Development Agency (IHDA) commits various funding sources and low interest loans to assist developers and local governments in the acquisition and rehabilitation of existing housing. A specific focus for IHDA is achieving housing preservation for seniors as well as low income and working class families.



Near the heart of Chicago, next to the Dan Ryan Expressway and the University of Illinois — Chicago (UIC) campus, a livable community was created. The university and a private developer worked closely with the IEPA through SRP, together developing a dynamic collaboration that transformed 68 acres of deteriorating and mostly abandoned industrial, commercial, and residential facilities, into the new University Village, featuring student housing, academic buildings, family homes, and over 50 new shops and restaurants. Twenty-one percent of the community's new residences have been designated as affordable housing and 30 percent of the land devoted to green space. Generating new economic activity in this underutilized area near downtown, the project has created over 600 new permanent jobs and spurred further residential development in the surrounding area. Image courtesy of **UIC and CDM**

Resource Conservation

The state can actively address issues related to resource conservation, including the region's **water supply**, which requires careful planning and management. Integration of land use and resource conservation planning can play a central role in achieving better conservation of water. Planning grant programs can assist local governments in incorporating resource conservation measures. Conservation-oriented rate structures and rules and regulations encouraging graywater and wastewater reuse can be pursued. As the administrator of the state revolving funds for **wastewater** treatment plants, the IEPA can also prioritize the use of some of these funds for utilities demonstrating conservation targets.

The state can use a watershed management approach to improve water quality and protect against flooding by continuing to fund watershed planning. Many of these plans have been developed in the region using funding available from IEPA under the federal Clean Water Act, yet there are numerous watersheds where they have not. The Illinois Department of Natural Resources (IDNR) also sponsors flood studies. Watershed plans should identify water resource problems and evaluate projects and policies to address them, whether the problem is flooding or poor water quality or loss of habitat. Ideally a watershed plan will consider multi-objective projects that address several problems simultaneously. Of equal importance is putting funding toward the implementation of project recommendations in watershed plans, such as **stormwater best management practices** including the use of green infrastructure.

IEPA also regulates the region's **solid waste** facilities and requires all Illinois counties and the City of Chicago to develop, adopt and implement 20 year municipal waste management plans. Plans must set recycling targets, identify changes, and evaluate progress. The state can help by requiring improved reporting on quantity of waste disposed and remaining capacity of facilities. It can also implement waste reduction policies and conduct further research and policy development with the goal of setting specific targets by sector.



The North Branch of the Chicago River encompasses nearly 100 square miles in Cook and Lake counties, comprising a total watershed area of over 60,000 acres. Twenty-five municipalities fall within the watershed boundary, all contributing to an assortment of agricultural, commercial, and residential development that has taken place on open land throughout the watershed. As a result of this development, areas within the watershed have experienced flood damage, and overall water quality and wildlife habitats have been tarnished. The North Branch of the Chicago River Watershed-Based Plan was developed by the Lake County Stormwater Management Commission to "provide direction and target resources for better management and restoration of the watershed." The plan allows for the coordination of watershed planning efforts between multiple governmental jurisdictions. In addition, the plan makes individual communities and other water planning entities more responsible for their impact on the North Branch of the Chicago River Watershed. Image courtesy of **Jim Watkins**

Open Space

The state operates and maintains large quantities of **open space** throughout northeastern Illinois. IDNR has been the leader in open space acquisition and has greatly helped the region in achieving various parks and open lands objectives. The state also provides funding through various grant programs to county forest preserves and local governments for acquiring and managing parks and open lands. As recent budgetary cuts and diversions have restricted IDNR from carrying out these important tasks, the state can help by reinstating funding to ensure that the state would continue to meet the need for open space that arises from an increasing population.

Furthermore, the state can help support GO TO 2040 through prioritization of lands most important from a natural resources perspective. Beyond open space investment, the state can also use its regulatory authority over sewer service expansion and its investment in transportation infrastructure to further protect sensitive open space.



Chain O'Lakes State Park is the largest and most visited natural area maintained by the State of Illinois. Adjacent to the 15 lakes and 45 miles of river that make up the public waters of the Fox Chain O'Lakes, the park contains a 44-acre inland lake, as well as camping facilities, horseback riding, fishing, and hunting opportunities. It is well-known as the only free access for launching thousands of powerboats each season on the Chain O'Lakes. Image courtesy of **Jim Watkins**

Local Food

The state has an important role to play in both the production of local food and food access. Recent state legislation encourages state institutions (such as schools, prisons, hospitals, and others) to purchase local foods. This can bolster the **economy for local foods** by providing a consistent, large-scale market.

The issue of **hunger** and food security continues to be a major issue of concern in our region and across the state. The Illinois Department of Human Services (IDHS) and the Illinois State Board of Education (ISBE) administer and/or oversee many of the nutrition and hunger-relief programs that operate in Illinois. Better alignment of government agencies and services across the region and state can enhance program delivery around the needs of individuals and families. In addition, the use of technology and better data and information systems can streamline programs and services and make it easier for residents to apply and renew for certain services.



IDHS offers financial assistance for low income seniors and families to purchase fresh fruits and vegetables through the Farmers' Market Nutrition Program. Checks and nutrition education materials, including recipes, are distributed through Women, Infants, and Children (WIC) clinics and at local senior citizens' centers through the Illinois Department on Aging and other local organizations. Checks for fresh fruits and vegetables can be used at farmers' markets in 34 counties across the state and served over 85,000 participants during 2009. Image courtesy of Flickr user **Jim Watkins**

Human Capital

GO TO 2040 stresses the importance of a skilled workforce, and offers recommendations in the areas of economic innovation and education and workforce development. The state has a central role to play in supporting strategies for our continued economic vitality.

In addition, providing for the health of our residents, particularly those of lower incomes, will remain a high priority. Investments in people will help build and maintain strong communities, improve quality of life, and generate high economic returns. Whether as a funder, policy maker, or direct provider of services, the state has large responsibilities in many of these areas.



In December 2009, the Illinois' Economic Development for a Growing Economy (EDGE) tax credit program was expanded to include auto manufacturers. The program now allows companies in the auto industry, one of the state's largest employers, to retain employee income tax withholdings and reinvest them for operations that will create more jobs. The Ford Motor Company added 1,200 new jobs at its Chicago manufacturing facilities, where a next-generation SUV is being produced. The new vehicle will have at least 25 percent better fuel economy than its predecessor. Image courtesy of ChristyNelson.net

Economic Innovation

State agencies like the Illinois Department of Commerce and Economic Opportunity (DCEO) can enhance technology transfer and commercialization by linking research institutions with private sector industries. The state can increase funding opportunities like challenge grants and venture capital funds, and target **economic development incentives** toward the attraction and retention of innovative industries with good, high-paying jobs, including **green jobs**, which are becoming increasingly important for our region's sustained economic prosperity. The state can remove barriers to innovation through regulatory reform and create a culture of innovation through publicizing examples of innovation success stories and convening events that foster collaboration between the public and private sector.

Education and Workforce Development

Effective **education** is key to sustaining a productive workforce, an engaged citizenry, and a high quality of life. Like other states, Illinois makes large expenditures toward schools, from pre-kindergarten to community colleges to the university system. The state can help support the goals of GO TO 2040 particularly by ensuring that these expenditures are achieving the desired outcomes of higher educational attainment and preparing our residents for the jobs of tomorrow.

The state has many potential opportunities for improving the educational system. Developing a pre-kindergarten through grade 20 (P-20) agenda can further the common goals of improving academic achievement, increasing college access and success, improving use of existing data and measurements, developing improved accountability, promoting lifelong learning, easing the transition to college, and reducing remediation. Improved data systems will allow schools to quickly identify the needs of incoming students, including the important measure of kindergarten readiness, and monitor progress as they move to the next level. The state can also work to strengthen teacher leadership through more focus on graduate coursework and credentialing in the content areas so teachers can take on distributed leadership roles in schools around the issue of instruction.

Workforce development programs also can have a significant role in sustaining economic growth by providing an important intermediary function in the labor market. State agencies like DCEO, the Illinois Community College Board (ICCB), and IDHS provide funds and services for job training, job placement, trade adjustment assistance, adult education services, and assistance to local businesses. The sheer complexity of the workforce development system can be strengthened through more coordination and better information networks to track, measure, and analyze performance.

Other Actions That Support Human Capital

Health and social services typically comprise the largest expenditure of state dollars. The state has a vital role in ensuring that these dollars are well spent and achieving desired outcomes. State agencies like the Illinois Department of Public Health can help link planning for the design and implementation of prevention and health promotion strategies to planning in other sectors. It can also improve data for integrated planning and monitoring, and design programs for developing the workforce for the health care field, which continues to be a high growth industry in northeastern Illinois. The state can also create a coordinated, statewide **211 system** for human services provision, which can improve efficiency of service delivery.



The Illinois State Board of Education (ISBE) and its Education Partners are in the process of developing and rolling out a state-wide Illinois Longitudinal Data System (ILDS). Once fully deployed, the system will collect and provide data to track student outcomes from Pre-Kindergarten through postsecondary education, and as students enter the workforce. This is designed to guide policy decision on the investment of time and energy to improve student achievement. Once completed, ILDS will serve a large stakeholder group of local, regional, and state groups, including ISBE, postsecondary institutions, research organizations, and state workforce and higher education agencies, among others. Photo courtesy of **iStockphoto.com**



The ICCB launched Shifting Gears in 2006 with the Joyce Foundation to help low-skilled and low-wage workers gain additional education and skill development services, gain postsecondary credentials, and eventually move into better jobs. This program has focused specifically on improving, or in some cases creating, bridge programs that combine fundamental academic skills with occupational education. The bridge programs are targeted on the industry sectors of manufacturing, health care, and transportation/distribution/logistics. The Joyce Foundation funded similar initiatives in five other Midwest states. Image courtesy of Flickr user **Yooperann**

Efficient Governance

GO TO 2040 also emphasizes state action in the areas of tax policy, access to information, and coordinated investment.

Tax Policy

GO TO 2040 discusses the state's role in taxation, and its overall fiscal health, at some length. Nearly 85 percent of state own-source revenue comes from the state sales tax, individual income tax, and corporate income tax. In recent years, the state has increasingly faced large budget deficits, and growth in expenditures continues to outpace revenues. The state's retirement system is one major driver of this deficit. Pension reform and careful targeting of state expenditures should help strengthen the state's fiscal situation, which will have a ripple effect in strengthening the ability of the state to provide infrastructure and services across many sectors. The state's income and corporate income tax rates remain quite low, relative to other U.S. states. Lastly, the sales tax continues to be imposed on goods, but not on consumer services. Extending the sales tax to services can help broaden the tax base, and allow for additional revenues and/or the lowering of sales tax rates.

Beyond budget balancing matters, the state's tax system remains inextricably linked with land use and the overall economy. The state allocates over $4 billion annually in revenue sharing to local governments in northeastern Illinois — a large portion of this amount is composed of sales tax sharing, which creates incentives for particular local land use decisions. The state can help support GO TO 2040 by examining the outcomes of these systems. Increased transparency and predictability of state tax systems also will create a better environment for residents and to continue to make the state and region attractive for businesses. GO TO 2040 specifically recommends the formation of a task force on tax and fiscal issues to be housed at CMAP which will make recommendations for action to the state.

Access to Information

GO TO 2040 emphasizes improved sharing of data and transparency by all levels of government, including the state. Almost all state agencies control large amounts of data and information. Policy challenges cannot be solved — and efficient government operations cannot be achieved — without comprehensive, current, and accurate data resources.

Coordinated Investments

GO TO 2040 also addresses the importance of coordinating funding programs and regulations by both the federal and state government. Beyond the various actions already noted above, the state can also support efforts by local governments, counties, and COGs to increase service coordination, or in some cases consolidation, by units of local government.

Regional Mobility

The state's transportation agencies — defined for the purposes of this section as the Illinois Department of Transportation (IDOT) and Illinois Tollway — are targets of a number of GO TO 2040's recommendations regarding regional mobility, including those related to transportation finance, major capital projects, public transit, and freight.

Transportation Finance

GO TO 2040 emphasizes efficient and fair decision-making concerning transportation expenditures and also an increase in transportation funding, relying on several new or expanded sources. Many recommendations in this section are directed to IDOT and the Tollway, which operate and maintain over 3,100 miles of roadway in northeastern Illinois. Their regular activities include the resurfacing and reconstruction of roads, bridges, and interchanges, signal timing, and a variety of other engineering and planning work. This is a massive and complex undertaking, requiring large outlays of federal and state dollars. The federal and state gas tax, state motor vehicle registration fees, and toll revenues are the primary revenue sources for funding the operations and maintenance of the state highway system. Roughly every 10 years, the State of Illinois has provided a state capital funding package, financed largely through bonds and other fee increases, to supplement highway, transit, and other infrastructure projects. The state also provides some additional funding for the region's transit system — this makes up only a small component of total transit funding and the state does not play a direct role in transit operations or maintenance.

As a major transportation implementer, the state can help support GO TO 2040 in a variety of ways. Given the realities of constrained federal and state revenues and the sheer magnitude of maintenance and enhancement needs, the state can help develop and utilize transparent evaluation criteria for the selection of road projects, rather than arbitrary geographic funding splits — such as the current practice that only 45 percent of the state's highway money is spent within the region. Criteria can be expanded to include measures of transportation performance as well as land use, environmental, and economic measures. Furthermore, state elected officials can move towards more sustainable funding sources for transportation. This may require attention to increasing the capacity of the state motor fuel tax (MFT) in the short term, and moving toward other, more adequate, user fees over the long term as vehicles move toward **alternative fuels**. GO TO 2040 specifically recommends the use of congestion pricing on selected expressways, with some of the revenues devoted to improving parallel transit service as well as nearby arterials. In addition, **public private partnerships (PPP)** offer a range of different approaches for funding infrastructure improvements and operations. The state currently lacks the necessary enabling legislation to enter into these types of arrangements.



With the recent adoption of Complete Street's legislation, IDOT is now pursuing the construction of accessible bicycle and pedestrian facilities with the reconstruction of any state road. Complete Streets emphasizes designing roadways for use by all modes, including bicycle and pedestrian considerations. Complete streets balance safety and convenience for all users, and improve walkability and livability of an area. According to the new legislation, IDOT will assume more of the financial burden of these facilities — including utility and right-of-way costs. Previously, projects were funded with a 50 percent state contribution and a 50 percent local match, but the new breakdown will only require a 20 percent local contribution to the 80 percent state share for the construction of sidewalks and off-road facilities. Image courtesy of Dan Burden

Major Capital Projects

GO TO 2040 identifies a number of recommended major transportation capital projects, including a number sponsored by IDOT and the Tollway. These agencies should pursue these projects as priorities, noting the specific recommendations concerning support for transit, as well as community and environmental mitigation and enhancement activities, that are contained in that section.

Public Transit

The state currently contributes some funds to the region's transit system, and can explore additional innovative funding sources, such as **congestion pricing**, that can also support regional transit. Also, IDOT and the Tollway can continue their efforts to support multimodal travel options by incorporating Bus Rapid Transit (BRT) and Arterial Rapid Transit (ART) concepts into planning and design of roadway improvements.

Freight

The state is among the most important agencies involved in freight. In terms of infrastructure investments, the state can prioritize the implementation of the CREATE rail improvement project, both by focusing state investment in this project and helping to seek additional federal funds. Truck traffic in the region is also quite important, and the state can take a leadership role in identifying opportunities for dedicated freight corridors and implementing truckways or similar facilities where appropriate. A major element of GO TO 2040's approach to freight is the establishment of a regional freight authority to prioritize and finance freight improvements; the state should take an active role in the formation of this group.

Other Actions That Support Regional Mobility

IDOT and the Tollway operate and maintain the region's expressways. A large portion of this system is frequently congested. A range of **managed lanes** strategies can optimize travel flow and reduce congestion, by reducing excessive traffic volumes, reducing conflicts between vehicles, reducing the number of incidents, and better managing those incidents that occur. The most common managed lanes strategies are express lanes and reversible lanes, congestion pricing, high occupancy vehicle (HOV) lanes, high occupancy toll (HOT) lanes, and other supporting technologies and strategies. Many of these supporting strategies take the form of **intelligent transportation systems (ITS)** improvements, including variable message signage, overhead lane usage signal systems, variable speed limits, and video assisted enforcement.



Managed lanes such as express lanes and reversible lanes separate vehicles by trip destination and by vehicle type. Conflicts and weaving are minimized; capacity is optimized. Structural barriers are the primary means of assuring optimum system performance. In Chicago, IDOT maintains the reversible lanes on I-94, at the junction with I-90 to south of the loop. These lanes are switched during rush hour to mitigate peak demand periods. Express lane facilities typically serve passenger cars only and provide point-to-point service with a much lower frequency of access and egress points. Photo by Flickr user HelveticaFanatic

Transportation demand management (TDM) strategies can work in synergy with managed lanes. TDM comprises a group of strategies for reducing single occupancy vehicle use on the regional transportation network. One important subcomponent of TDM that can be implemented by state agencies is a range of traveler information strategies, including regional multimodal traveler information, itinerary route assistance, awareness campaigns, and construction congestion-mitigation. Coordinated systems of traveler information, such as 511 systems, can effectively transmit traveler information including construction advisories, up-to-the-minute congestion and travel time information, and incident information. Nationally, 511 is a number reserved for such traveler information.

The state also maintains a large portion of the region's arterials and collectors. Physical and operational improvements can improve capacity, improve travel time reliability and reduce crashes, while also reducing long-term costs. **Pavement design and pavement management systems** can facilitate better pavement conditions within constrained maintenance budgets. Careful planning of maintenance can preserve pavements, preventing them from falling into poor condition and requiring much more expensive rehabilitation or reconstruction later on. Other arterial operations strategies, such as **access management**, technologies, and other intersection operations can improve arterial and collector traffic flow, assuring mobility for all users, and providing unified access and circulation systems for businesses in commercial and mixed-use areas.

The state can also work toward ensuring mobility for all users in its maintenance and construction activities. Efforts to increase **bicycling** and walking as transportation and as recreation are important for reasons of mobility, health, safety, the environment, and the character of our communities. The state's recent passage of "complete streets" legislation requires: that bicycle and pedestrian travel ways be considered in the planning and development of facilities, that bicycles and pedestrians be accommodated when roads are built or rebuilt, and that IDOT establish design and construction standards for bicycle and pedestrian ways. Developing and maintaining bicycle facilities and programs can help improve the overall operation of the transportation system.



Pavement surfaces are a major component of our region's infrastructure and they can affect the safety, comfort, and cost of travel for users. IDOT currently collects data on both Interstate and non-Interstate pavements, and has historical data on Interstate pavement sections. The data, used as part of a pavement management system, helps state officials prioritize new projects, evaluate pavement design and construction, and answer hypothetical "what if" questions, all of which helps to manage our vast inventory of pavements. It has been estimated that Illinois' pavement management system has saved the state approximately $50 million, since its inception in 1999. Image courtesy of Flickr user **Ignotus the Mage**

Regional authorities

This section is targeted to governmental organizations that work at the regional or metropolitan level. Many transportation organizations, including the Regional Transportation Authority (RTA) and the transit service boards including the Chicago Transit Authority (CTA), Metra, and Pace fit within this category. CMAP, as the region's metropolitan planning organization (MPO), also plays a major role in transportation planning and programming. It should be noted that other major transportation agencies such as the Illinois Department of Transportation (IDOT) and Illinois Tollway are described in the state section of this chapter. Other nongovernmental groups that do work at the regional level, like civic organizations, philanthropic groups, or coalitions are described in the nongovernmental organizations section.

How Regional Decisions Affect Plan Implementation

A central purpose of GO TO 2040 is to explore the appropriate role of regional agencies in addressing our future economy and livability. While the region is the geographic level at which the economy functions, there is limited public sector decision-making at this level.

An exception involves transportation investment; the region's transit agencies are stand-alone units of government that operate across jurisdictions. The CMAP Board and the MPO Policy Committee, both of which are staffed by CMAP and operate under a memorandum of understanding, have responsibility for regional transportation planning and programming. The CMAP Board and MPO Policy Committee track the use of local, state, and federal transportation funds and retain the ability to judge whether or not the allocation of federal and state monies align with regional priorities.

CMAP is the only metropolitan-scaled public sector agency in the region which is involved in issues beyond transportation. Historically, CMAP's role has included regional coordination, technical assistance to other units of government, and data collection, dissemination, and analysis. Shared priorities can be developed among other units of government through these efforts. In many areas — creating a network of green infrastructure, or supporting the region's economic specializations — CMAP can play an important role in coordinating among other units of government, nonprofit organizations, and the private sector. In the case of these examples, CMAP can lead projects and advance their implementation even without specific implementation authority.

There are also opportunities for regional agencies such as CMAP to take a broader role. This includes coordinating and leading local applications for federal or state funding in the areas of housing, energy efficiency, or others.

This section of the plan describes actions that can be undertaken at the regional level that would help to implement the plan, both by CMAP and by the transit agencies. It includes several case studies and best practices, and discusses the relationship of regional organizations to those that operate at the other levels of geography.

Livable Communities

Regional agencies largely have a supportive role, in implementing the recommendations of GO TO 2040 related to livable communities, including land use and housing, resource conservation, open space, and local food. They can also play important roles in providing assistance and support to local governments, who are the primary implementers of these types of recommendations.

Land Use and Housing

GO TO 2040 identifies a regional role for both CMAP and RTA in providing technical assistance and funding to support planning for livability at the local level. The plan specifically recommends providing funding to local governments for plans and ordinance updates, and coordinating regional funding programs to make it easy for municipalities and counties to receive and use these funds. Designating infrastructure improvement funds to be used to support planning for livable communities can be pursued as a next step to implement local plans. Regional agencies also can provide direct, non-financial technical assistance to local governments, or help to facilitate collaboration among communities in partnership with counties and Councils of Government (COGs).



In 2008, the Village of Mokena approved a Downtown Station Area Plan with support from and in coordination with Metra, RTA, and private consultants. The plan provides an analysis of urban design concepts to revitalize the area around their Metra commuter station. The plan includes historic preservation considerations and accommodation for bicycle and pedestrian access, as well as an analysis of market conditions and suitability for transit oriented development. By supporting communities' efforts to improve the area around transit hubs, the RTA stands to gain new riders and improve access to facilities. Image courtesy of Village of Mokena, HNTB

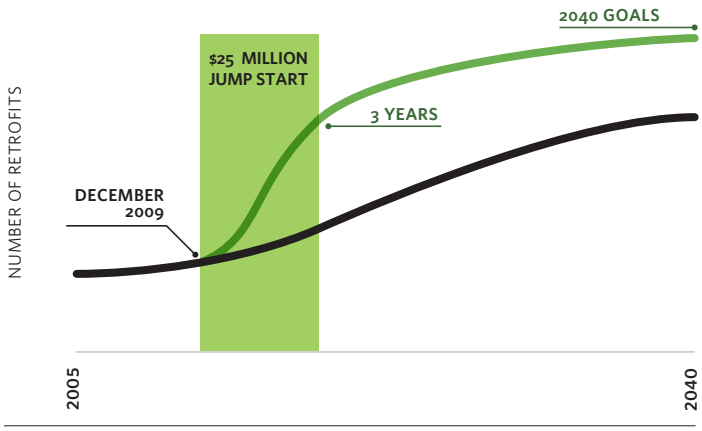
The link between transit, land use, and housing is a particularly important one for regional agencies to address. Local land use and infrastructure investments make a difference in the success of regional transit services. Regional agencies can identify opportunities for the application of transit oriented development (TOD), provide guidelines for how to plan to support transit, and consider supportive local actions when planning service changes. To support its transportation programming and project selection responsibilities, CMAP can continue to develop the analytical tools which evaluate these linkages, and the CMAP Board and MPO Policy Committee can use comprehensive evaluation criteria to measure the performance of potential projects to support better regional decision-making.

Resource Conservation

GO TO 2040 identifies a role for CMAP in providing technical assistance and research, as well as some direct implementation in the areas of energy and water conservation. CMAP can create model ordinances for energy or water efficiency, offer assistance to communities in the application of full-cost pricing or other complex water conservation strategies, or offer other technical assistance and research support. The **Water 2050** regional plan provides additional specific recommendations for action.

Expansions in the traditional role of regional agencies can also be appropriate in many circumstances, particularly in new or emerging fields, or in response to state or federal opportunities. CMAP's work on the Regional Retrofit Ramp-up program, which involved a partnership with a number of local governments to receive federal funds to create a network supporting energy-efficiency retrofits, involves a direct implementation role for the agency.

Chicago Region Retrofit Ramp-up (CR3)
accelerating the marketplace to value energy efficient buildings



Source: Chicago Metropolitan Agency for Planning

In April 2010, CMAP was awarded $25 million through the U.S. Department of Energy's (DOE) "Retrofit Ramp-up" Initiative for a collaboration with the City of Chicago, suburban counties and municipalities, the City of Rockford, and other stakeholders. This three-year grant will help create a sustainable market for building retrofits that will decrease participating property owners' energy bills by an average of 30 percent, while helping to reduce the region's energy footprint. CMAP anticipates that the grant will leverage an additional $500 million in local investments, creating over 2,000 jobs and retrofitting 9,500 buildings in the region.
From CMAP Library

Open Space

GO TO 2040 addresses open space at a variety of levels — conservation open space such as forest preserves, local open space such as parks, and connections between open space of all types. Regional agencies, namely CMAP, can play a role in setting regional priorities, helping to further protection of high-priority areas (though not by actually acquiring property itself), and specifically looking at environmental features that cross jurisdictional boundaries such as **waterways**.

The Green Infrastructure Vision (GIV) is an important initial step to set regional priorities for acquisition and **ecosystem restoration**. CMAP can work with land management organizations and other environmental groups to further refine the GIV, and then use the resulting product to guide investment decisions. Further refinement of the GIV would advance its implementation by making its recommendations more specific.

Beyond further refinement and prioritization, CMAP can take other actions to implement the GIV. It can use the refined GIV to inform its recommendations concerning sewer service expansions, and can ensure that transportation agencies are sensitive to high-priority protection and restoration areas as they pursue transportation projects. Also, collecting and publicizing regional data on open space preservation and the conditions of ecosystems would help to increase awareness and encourage good stewardship of valuable open space.

Regional agencies are also well-suited to address environmental features that cross jurisdictions, such as waterways. These can be addressed within the region by coordinating between counties, local governments, and other regulatory agencies on waterway use and protection, and also by coordinating beyond the boundaries of the region with other agencies in Wisconsin, Indiana, and elsewhere in Illinois. Much of the GIV is based around linear connections along waterways, so this approach would also help with its implementation.

Green Infrastructure Vision, Northeastern Illinois



The GIV was developed by Chicago Wilderness in partnership with a wide variety of other groups. It provides a regional-scale vision of important areas for protection or restoration across the region and beyond into neighboring states. Image courtesy of Chicago Wilderness

Local Food

GO TO 2040 recommends a supportive role for CMAP in promoting sustainable local food, primarily involving convening food groups at the regional level, conducting research and analysis, and improving data availability to measure local food issues. Technical assistance to local governments seeking to include local food as part of their comprehensive plans or ordinances is also a relevant regional role.

Human Capital

As a regional agency, CMAP can also play a role in addressing GO TO 2040's recommendations regarding human capital, including education and workforce development and economic innovation. CMAP's primary role includes research, data analysis and dissemination, and convening stakeholders who are active in this area.

Education and Workforce Development

GO TO 2040 directs most of its recommendations to organizations specializing in these fields, with a limited role for regional agencies like CMAP. An appropriate CMAP role involves collecting and providing improved data systems to better inform workforce, education, and economic development activities, and to help overcome the gaps in communication between these systems.

Economic Innovation

GO TO 2040 identifies actions that can be taken by the public sector to support innovation, which is an important contributor to our region's economy. CMAP can continue to research and study regional "**industry clusters**," or concentrations of interrelated firms. The region can organize economic development activities (such as workforce development) around these specializations. An emerging area of particular interest is the **green economy**, an economic sector of growing importance.

An important role for CMAP in supporting innovation is collecting and tracking related data. Innovation is notoriously difficult to measure; so is the green economy. An appropriate regional role involves collection, analysis, and dissemination of data, and this is underway through the Regional Indicators Project. Regional groups are also well-placed to organize coalitions among economic developers, universities and researchers, business organizations, and other groups to help obtain state and federal funding for initiatives related to innovation.

Efficient Governance

GO TO 2040 emphasizes the governance of our region, including tax policy, access to information, and coordinated investment. As one of the few governmental agencies operating at the regional level, CMAP is directly involved in supporting or implementing many of these recommendations.

Tax Policy

GO TO 2040 recommends the formation of a task force on taxation and fiscal issues, staffed by CMAP and reporting to the CMAP Board. This group will address issues of state disbursements of sales tax revenue, sales tax and the service sector, property tax classification and limitations, and local tax capacity equity issues, with the intention of making recommendations for action to the state.

Access to Information

The launch of the Regional Indicators Project, a joint initiative between CMAP and the Chicago Community Trust, will be used to track the region's progress in implementing GO TO 2040. This project includes the collection, standardization, and dissemination of data across a wide variety of subject areas, and an interactive website, MetroPulse, which is expected to be continually improved after its launch. GO TO 2040 emphasizes the importance of not just maintaining and improving the indicators website, but also to actively work with other organizations that could contribute data (local, county, and state governments, transportation agencies, and many others) to create standardized data sharing processes.

Coordinated Investments

GO TO 2040 includes a number of direct recommendations for a more regional approach in planning and investment decisions. These recommendations highlight the importance of a regional role in fostering intergovernmental collaboration, as well as organizing the region's response to available federal or state funding opportunities or through seeking a greater programming role for appropriate funds. GO TO 2040 recommends that CMAP serve as a regional leader for increasing the efficiency and effectiveness of federal, state and other public investments, including funding expected to be allocated through the federal interagency Partnership for Sustainable Communities. Regional agencies — not just CMAP, but the regional transit agencies as well— should also ensure that their current programmatic decisions support GO TO 2040.



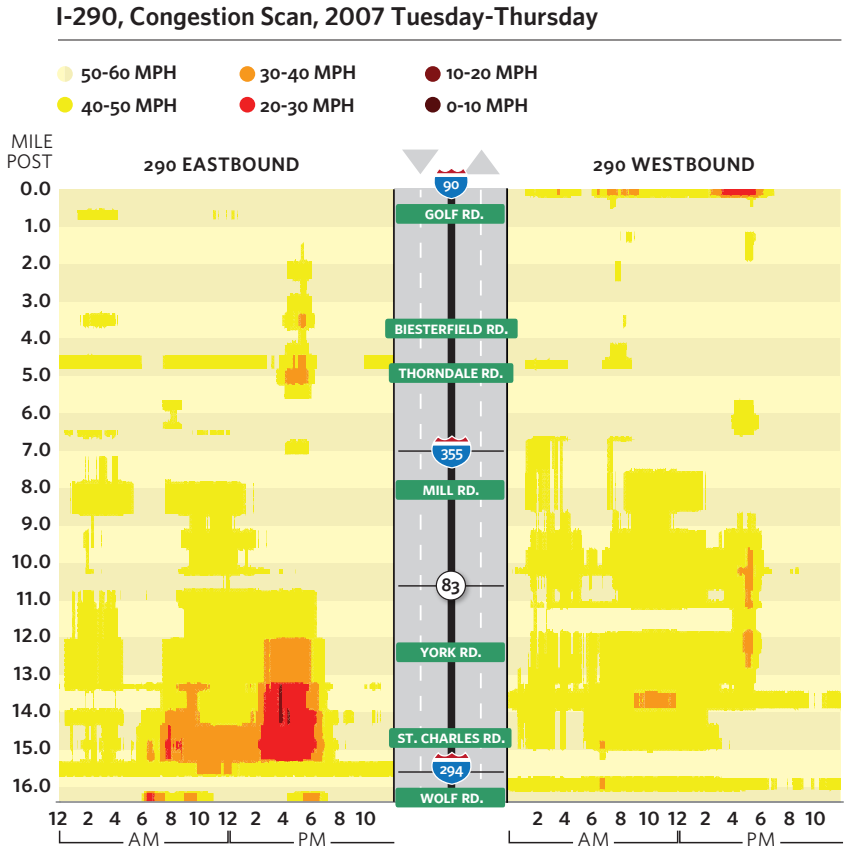
The Regional Transportation Asset Management System (RTAMS), administered by the RTA, provides a variety of data concerning the region's transportation systems, including utilization statistics, financial records, and information about ongoing planning or capital investment projects. Image courtesy of RTAMS

Regional Mobility

Regional agencies are the primary targets of the high-priority recommendations of GO TO 2040 concerning regional mobility. The following summarizes some important actions that these agencies can undertake.

Transportation Finance

GO TO 2040 addresses both the need for more transportation revenue and the importance of making investment decisions based on thorough evaluation and setting of priorities. Regional agencies have central roles to play in both of these areas.



Note: Average speed is shown as a function of time of day (the horizontal x-axis) and location (the vertical y-axis).

Source: Analysis by Chicago Metropolitan Agency for Planning, based on data from Traffic.com.

The task of managing and reducing congestion begins with quality data. Data collected across the region through CMAP's Congestion Management Process (CMP) has been used to evaluate where our system has significant delays or bottlenecks and at what times of day. This data can then be used to determine where new projects should be prioritized and to assess what type of solution might work best. After completion of a project, congestion data can be used to assess whether the solution improved traffic flow or not. From CMAP Library

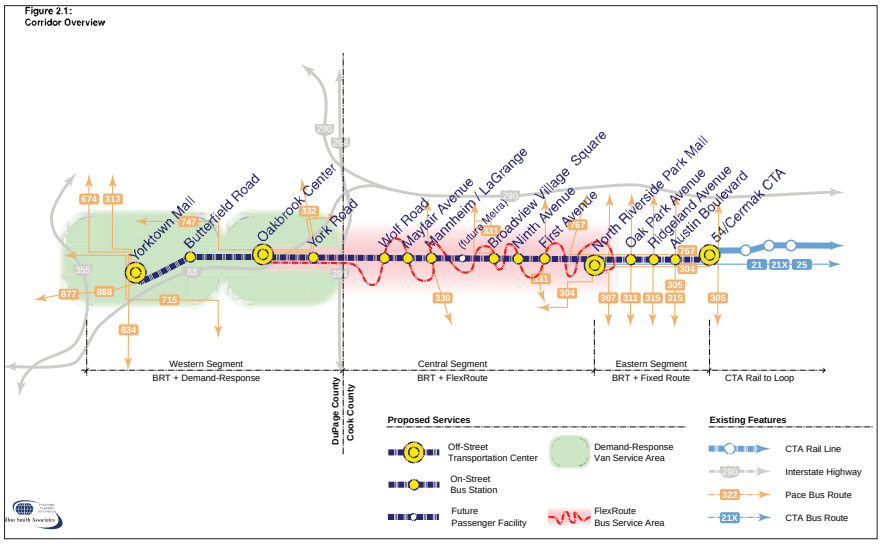
To help support GO TO 2040, regional agencies should focus their efforts on maintenance and modernization, and pursue only limited capital expansions. Reinvestment in existing infrastructure is shown to have higher economic returns than new construction, and also supports reinvestment in existing communities. A focus on maintenance would also help to reduce deferred maintenance, moving the region toward a "state of good repair."

Prioritizing infrastructure investments for the greatest long-term gain is also a significant emphasis of this plan. Investments in transportation infrastructure should improve mobility and reduce congestion, but regional agencies can also give high priority to projects that improve job access and strengthen the economy, improve air quality and water quality, reduce greenhouse gas emissions, and strengthen overall public **health**, among other factors. Thorough evaluation is necessary to understand project impacts on these various factors, and regional agencies can work together with state, federal, and other agencies to improve transportation modeling and make it more comprehensive, allowing the use of transparent evaluation criteria for project selection.

Finding new funding sources for our transportation needs also requires a central role by regional agencies. GO TO 2040 recommends advancing congestion pricing projects and other managed lanes strategies, either through incorporating these features as part of capacity addition projects on expressways or converting existing lanes. Other finance options such as parking pricing, public-private partnerships (PPPs), or the use of value capture strategies around transit stations can all be explored at the regional level, though their application will ultimately be local. Due to limited potential for new transportation funding from the federal and state level, regional agencies will need to lead efforts to raise funds at the regional level to address our transportation needs. Regional agencies can conduct research, provide data, convene stakeholders to create consensus, and develop recommendations for action; implementation is often the responsibility of other groups.

Major Capital Projects

GO TO 2040 recommends pursuing a limited number of major capital expansions on the expressway and transit system. Regional agencies have an important role to play in developing investment priorities, and also, in the case of the regional transit agencies, actually constructing and operating the identified projects. The construction of highway-based major capital projects are the responsibility of state implementers (IDOT and the Tollway), but the region can provide these agencies with recommendations to be considered in project design and implementation.



Arterial Bus Rapid Transit (BRT) is a cost-effective way of providing high quality transit service to under-served areas. Arterial BRT usually involves Transit Signal Priority (TSP) and queue jump by-pass lanes along arterial routes. TSP facilitates the movement of buses through traffic-signal controlled intersections. When a bus is behind schedule, a device on the bus sends a signal to upcoming intersections that automatically gives the bus priority by extending green lights, shortening reds, or providing queue jumps. This priority for transit helps to improve travel times along the route and ensure schedule reliability. Image courtesy of Pace

Public Transit

GO TO 2040 makes a number of recommendations directly to the owners and operators of our region's transit system, including RTA, CTA, Metra, and Pace. These agencies can take active roles in seeking innovative financing ideas and prioritizing their own investments to maximize efficiency.

The region's transit agencies have a clear and primary role in improving transit operations. Operational improvements can include adopting new technologies to improve service and provide traveler information, making transfers between modes seamless, improving and expanding service, and many other improvements. See the plan's section on public transit for a much more extensive treatment of this issue.



Riders of the CTA bus system have been very pleased with the CTA's recent Bus Tracker program. The web-based program uses GPS technology to give customers bus arrival times and service information for all stops along all bus routes. Users can access the information through the Internet, text messaging, or through popular cell phone applications that use the information provided by CTA. The popularity of the program is due to the simple concept of providing information to the customer. Image courtesy of CTAbustracker.com

Freight

GO TO 2040 emphasizes the importance of freight infrastructure investments, policy changes, and other institutional issues, such as exploring the creation of a regional freight authority to finance needed infrastructure improvements and address community impacts. In CMAP's role as a convener of regional transportation stakeholders, it can take the lead in exploring issues such as this, including researching similar examples from around the nation, discussing organization options with affected groups, and identifying an appropriate host agency.

CMAP can also conduct research and analysis of freight data and convene transportation agencies and freight industry representatives. GO TO 2040 specifically recommends supporting the work of the Chicago Region Environmental and Transportation Efficiency Program (CREATE) partnership to implement it and plan for next steps; cataloging regional truck routes and exploring opportunities for dedicated truckways; and improving the region's ability to analyze freight data and incorporate freight priorities into regional investment decisions.

Other actions that support regional mobility

GO TO 2040's recommendations are not a comprehensive list of the actions that can be taken by regional agencies to support regional mobility. A variety of other activities are regularly undertaken by CMAP to improve the region's transportation system. These include CMP, the use of intelligent transportation systems (ITS), proactive approaches to transportation safety and security, planning for non-motorized transportation, and ensuring system accessibility by all users. The following also discusses other practices that can be followed by all transportation implementers (state, regional, county, and local agencies) regarding managing the impacts of transportation investment.

Congestion Management Process

First, the regional **Congestion Management Process** (CMP) can provide an ongoing opportunity to address transportation operational issues. This is a systematic approach to congestion that provides information on transportation system performance and on alternatives for alleviating congestion and enhancing mobility. To develop and implement the congestion management process and its component management and operations strategies, CMAP partners with government agencies at all levels, civic and advocacy groups, academic institutions, the planning and engineering communities, and other groups.

GO TO 2040 supports addressing the following strategies on an ongoing basis as part of the Congestion Management Process:

Transportation Demand Management (TDM) reduces the demand for peak-period single-occupant vehicle travel by encouraging alternatives to traveling alone by auto, with emphasis on more efficient travel planning and private vehicle use. Specific TDM strategies include ridesharing programs, car-sharing, alternative work arrangements, parking management, guaranteed ride home programs, and transit and rideshare incentives.

Transportation System Management (TSM) is the application of construction, operational and institutional techniques to make the most productive and cost-effective use of existing transportation facilities and services. TSM can be applied through the retrofitting of existing facilities, and/or as part of new or reconstructed facilities. Strategies pursued through TSM include traffic operations center, traffic signal improvements, geometric improvements, time of day restrictions, ramp metering, commercial vehicle improvements, construction management, and roadside equipment and in-vehicle systems for cars. Upgrading transit vehicles and facilities is also a form of TSM.

Access management improves travel flow on arterials and collector roadways, and includes driveway management, median management, and frontage roads as specific strategies.

Incident management is also addressed through the CMP, and includes incident detection and verification, response, clearance, and providing information (including alternative routing).

The CMP can also involve roadway expansion for congestion relief, albeit in a targeted way.

Several of GO TO 2040's high-priority recommendations specifically cover items also considered to be part of the CMP. These include transit capital and operating improvements (covered in the public transit section) and congestion pricing and other managed lanes strategies (covered in the transportation finance section).

Two elements of the CMP — encouraging the use of non-motorized modes, and pursuing ITS — are described in following in further detail.

Non-motorized transportation

A good walking and bicycling environment is essential for our region. Barriers to pedestrians, bicyclists, and people with disabilities can discourage mobility, require expensive auto trips, or even prevent trips. GO TO 2040 supports improving conditions for non-motorized transportation. CMAP has played a central role in encouraging local, county, and state implementers to implement pedestrian and bicycle improvements, and these elements are addressed as critical elements of livable communities in GO TO 2040. **The Soles and Spokes** program is an important part of CMAP's ongoing operations and its continuation is also supported.

Seniors and the disabled face unique transportation challenges; GO TO 2040 supports the consideration of the needs of these groups in the course of providing regular transportation improvements and services. Transit agencies have established programs to comply with the Americans with Disabilities Act (ADA), which contributes greatly to improved transportation safety for all persons. Specific attention is given to accessibility and safety in the design of transit vehicles, stations, bus shelters, and other facilities; GO TO 2040 supports continued progress in this area. Continued operation of paratransit services to comply with and exceed the requirements of ADA is recommended, and improvements to fixed-route bus services are also recommended to encourage use of these assets by all riders.

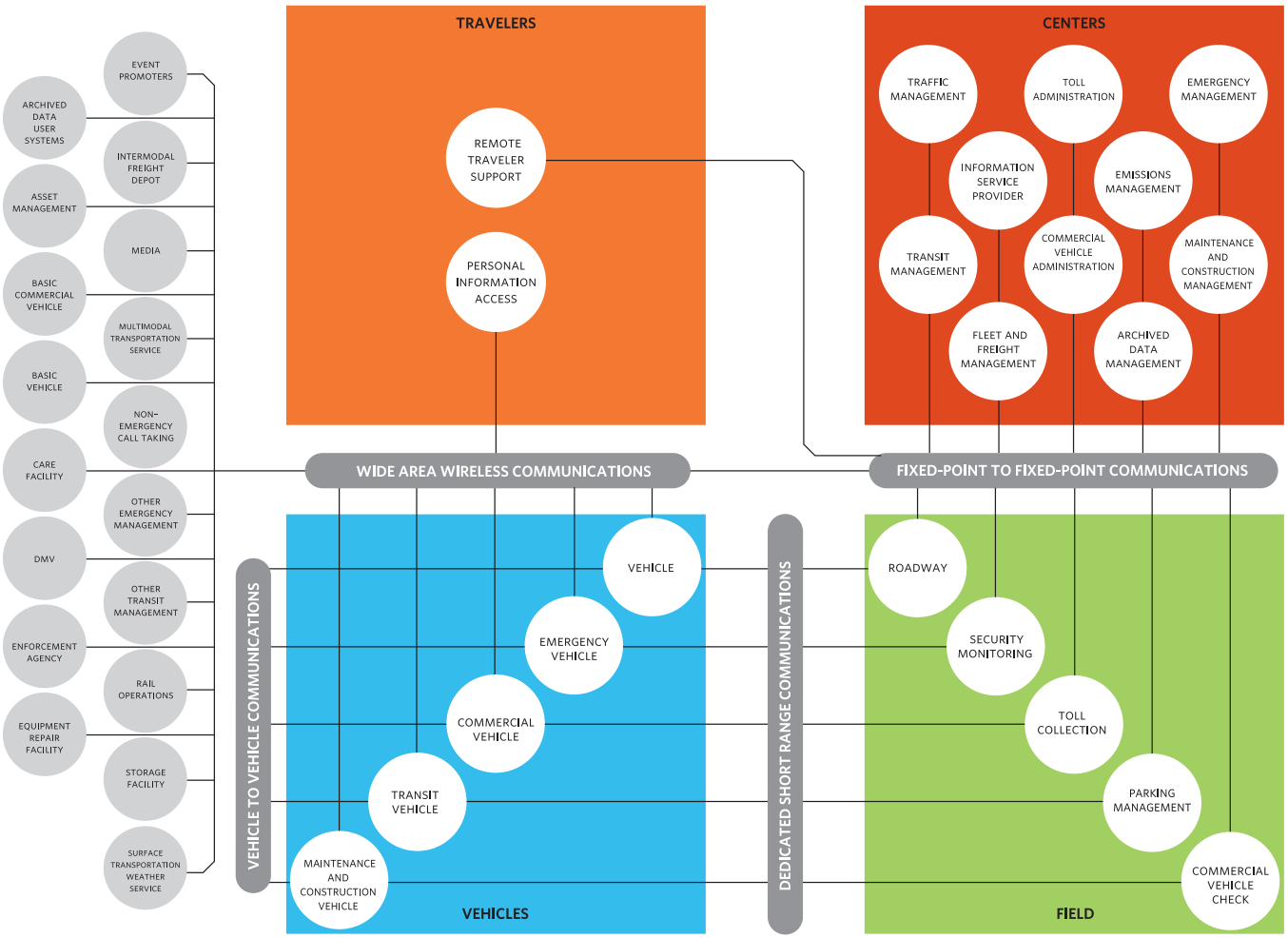
Intelligent Transportation Systems

Intelligent transportation systems (ITS) includes advanced approaches to traffic management systems, traveler information systems, public transportation systems, commercial vehicle operations, and vehicle control systems. Specifically supported projects include a system of regional traffic management centers that will coordinate communication and operations for the transportation system; and a regional and multi-state communications system that provides real-time travel condition and emergency management information.

GO TO 2040 supports the ongoing development and implementation of the region's principal ITS blueprint, the *Strategic Early Deployment Plan for Northeastern Illinois* (SEDP). The SEDP includes the "ITS Architecture," a 15-year guide for transportation technology integration in northeastern Illinois. Each transportation project can be viewed as an element of the overall ITS architecture, providing visibility into the relationship between individual ITS projects and ways to cost-effectively build an integrated transportation system over time.

The regional ITS architecture also contains guidance on enhancing safety and security efforts. Discussions have included how ITS can help emergency responders communicate with transportation implementers to jointly improve system operations, particularly during emergencies.

A cooperative effort by the region's transportation agencies, covering all modes and roads in the region led to the creation of the Northeastern Illinois Regional ITS Architecture. This ITS Architecture essentially serves as a roadmap for integrating ITS throughout the seven-county region. The architecture represents a shared vision of how each agency's systems will work together in the future, sharing information and resources to provide a safer, more efficient, and more effective transportation system for travelers in the region. The architecture provides an overarching framework that spans planning agencies, operating agencies, and other organizations. Using the architecture, each transportation project can be viewed as an element of the overall ITS, providing visibility into the relationship between individual ITS projects and ways to cost-effectively build an integrated transportation system over time.
From CMAP Library



Safety

GO TO 2040 identifies public safety as a crucial goal. This includes developing a transportation system that provides for safe travel by all modes. Promoting transportation safety is primarily focused on reducing injuries and loss of life associated with travel. Beyond this, implementing effective strategies to reduce crash risk and exposure will also reduce the economic losses and significant transportation system disruptions that result from crashes. Federal and state law significantly governs travel safety, including the design and operation of transportation facilities, vehicle design and operation, and behavior. In addition, safety is the subject of intense public education efforts.

The role of GO TO 2040 is to support ongoing efforts by all transportation system operators to improve safety; it does not make specific recommendations for changes in ongoing practices. Safety should be addressed by all transportation implementers — whether federal, state, regional, county, local, or others — as a regular part of transportation planning, programming, design, and implementation. All projects included or referenced in the plan should comply with current safety standards based on individual project studies.

GO TO 2040 acknowledges the Illinois Comprehensive Highway Safety Plan and transit agencies' System Safety Program Plans, and supports implementation of the strategies identified in these plans, as well as other strategies to improve safety. Significant strategies supported by GO TO 2040 include: developing safety information systems to facilitate better decisions; improving highway-rail crossing safety and the safety of large truck operations; increase intersection safety through a variety of enforcement and engineering strategies; and particular strategies targeted to vulnerable users of the transportation system. These include:

General pedestrian and bicyclist safety. Roadway improvement funds should be devoted to improving pedestrian and bicyclist safety where necessary, and should include safe and inviting sidewalks, safe bicycle facilities, and crosswalks or traffic calming techniques. There are strong links between local planning and support for alternative transportation modes.

Programs to improve safety near schools, through Safe Routes to School (SRTS) projects or programs. The objective of these programs is to increase walking and biking to school among children, which has positive impacts on health and community livability.

Strategies to support safe travel for seniors and people with disabilities. Seniors and the disabled experience unique transportation challenges, and are likely to make transportation decisions based on perceptions of safety. It is important to create a safe and secure system to allow their travel — particularly through improvements to pedestrian facilities and the transit system.

Security

The **security** of the region's transportation system is another important goal of GO TO 2040. The plan supports coordinated responses now under way to address identified security threats and to overall increase **emergency preparedness**, including the overarching goals in the "Illinois State Transportation Plan," the continued work of the Illinois Terrorism Task Force, and specific security planning by transit agencies. In addition, GO TO 2040 acknowledges that additional work has taken place and will take place to address security by transportation providers and public safety offices of governments at all levels, but that much of this work must not be documented publicly.

GO TO 2040 supports efforts to deploy ITS infrastructure to facilitate security by deterring, detecting, and responding to specific security threats, and by providing information to decision-makers and response personnel. It also supports the design and construction of transportation facilities to accommodate security needs, including the availability of multiple routes and modes. GO TO 2040 promotes strategies to coordinate incident response to minimize casualties and disruption, including evacuation procedures that assure the evacuation of vulnerable users, and communications plans that assure that coordinated actions are taken by the public and response personnel.

Managing the Impacts of Transportation Investment

The region also has a role in encouraging transportation implementers to consider the broad impacts that their decisions and investments have beyond transportation improvements. In general, GO TO 2040 supports the use of **Context Sensitive Solutions (CSS)** principles — which include involving stakeholders in the decision-making process, using the flexibility inherent in transportation design standards, and balancing the many competing interests — in the design and implementation of transportation projects. GO TO 2040 particularly supports efforts by transportation implementers to consider the community, economic development, public health, and environmental impacts of projects.

Community and economic development impacts can be addressed through using CSS principles to develop solutions that promote local community quality, individuality, and economic development. GO TO 2040 recommends coordinating transportation improvements with the land use, community development, or economic development plans developed by local governments. It is particularly important to resolve the interaction of transportation projects with official historical, cultural, and agricultural preservation plans, as part of the federal project development process.

GO TO 2040 further recommends that project implementers prioritize environmental stewardship as part of their transportation investments, and supports thorough investigations of environmental concerns during project development and design phases to avoid, minimize, and mitigate effects. Environmental issues that should be considered include, but are not limited to, water quality and supply, stormwater, open space preservation, biodiversity, wetlands, and agriculture; transportation implementers should also consult with state, regional, local, and other plans regarding the natural environment. Also, implementers should be aware of flood risks when planning and designing infrastructure; flooding in our region is expected to increase in the future due to the impacts of climate change, which may require different design approaches or avoidance of floodplains altogether.

Much of the environmental impact of transportation is governed by national, state, and local environmental protection regulations; one specific regional role includes demonstrating that GO TO 2040 meets air quality standards (described further in the Appendices). The environmental impacts of the major transportation capital projects recommended in GO TO 2040 are addressed in the transportation finance section.

Counties and Councils of Government

This section is targeted to units or coalitions of government that are between the municipality and the region in terms of size. These include very different types of organizations or alliances, but they operate on similar geographic scales. They include:

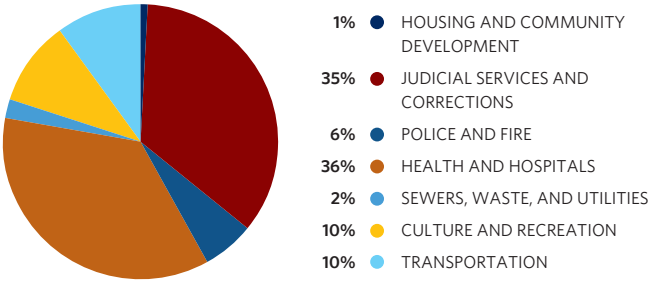
- **County governments and other governments organized at the county level.**
- **Councils of Government (COGs), or voluntary associations of municipalities and some special purpose local government units.**
- **"Collaborations," or coalitions of governments, nonprofits, and private sector entities organized to serve specific goals such as transportation planning, affordable housing, and others; these are often organized through counties or COGs.**

How County and COG Decisions Affect Plan Implementation

One of the region's great strengths is its commitment to highly local governance, where a resident's elected leaders may live just a few doors down and village proceedings are invested with a real sense of shared purpose. Yet there are many issues that go beyond individual communities, and local leaders often join or form voluntary associations to grapple with larger matters or seek mutual benefit.

Counties are a multi-faceted level of government. They have responsibilities for planning and regulating land use in unincorporated areas, and they also provide services in health, criminal justice, stormwater management, economic development, property records and tax assessment, and transportation. Criminal justice and health account for more than 70 percent of county expenditures, with transportation adding another 10 percent (see **Figure 69**), according to data from 2006. Note that Cook County operates a hospital system, while the collar counties do not, which affects the share of expenditures devoted to health and hospitals. As a county urbanizes and more land becomes incorporated, its responsibility for regulating land use decreases, while its responsibilities in other areas increase. Thus there are great variations across the region in terms of the effort put into county land use planning; regardless of this, all counties can play a role in helping to translate the regional principles of GO TO 2040 into strategies that can be successfully implemented locally. A number of other specific-purpose groups are organized at the county level, although they are separate institutions or units of government; most relevant for this section are the forest preserve and conservation districts.

Figure 69. County expenditures, 2006



Source: U.S. Census Bureau, 2006

COGs are membership organizations of local governments, and help to convene municipal leaders. COGs provide forums for municipalities to discuss common issues, organize responses to regional or state initiatives, share best practices and local experience, organize purchasing pools, and so forth. A best practice — in housing, urban design, energy efficiency programs, stormwater management — may be novel, but a municipality next door may have adopted it with great success. COGs can help to make this communication happen. COGs also help create the networking environment in which local governments can find opportunities to partner for mutual benefit, as is necessary to implement a number of strategies in GO TO 2040. Some COGs also have responsibility for transportation programming decisions, which are an important element of plan implementation (in other cases, these responsibilities rest with Councils of Mayors housed at the county level).

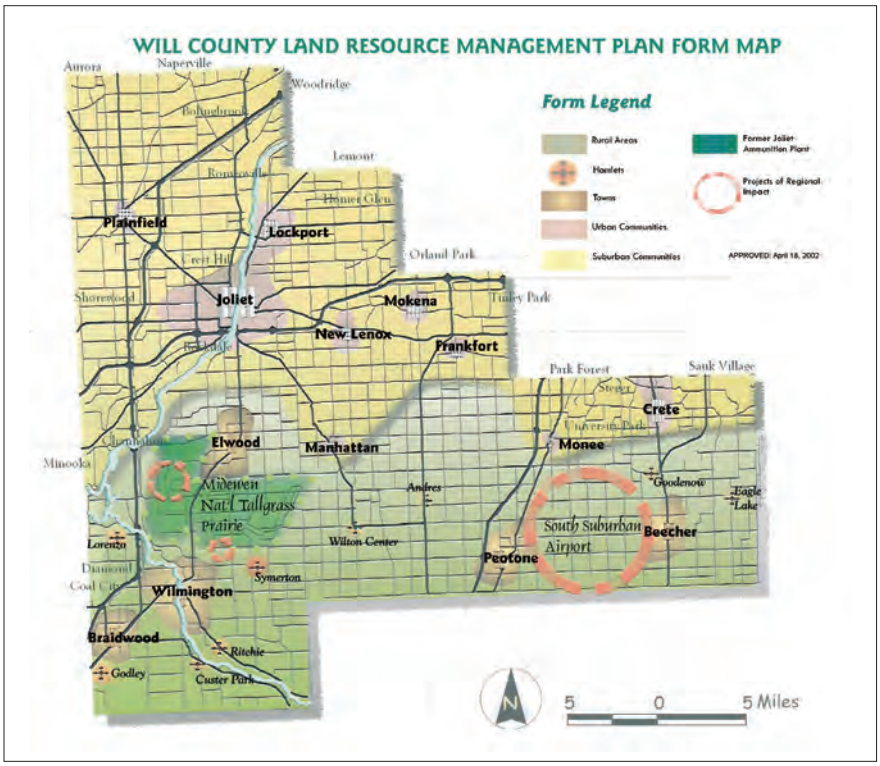
The term "collaborations" is used somewhat loosely to describe multi-jurisdictional cooperative efforts of various types along a spectrum of formality. These can be used to address common issues, such as transportation, housing, or economic development, which cross jurisdictional borders but are not fully "regional" in scale. Collaborations can address many of the priorities of GO TO 2040, such as improving transit service, planning for affordable housing needs, or attracting economic growth to disadvantaged communities. Collaborative groups are often sponsored in part by counties or by COGs, and also by other organizations. Many of the recommendations in GO TO 2040 involve improving coordination between different units of government, and collaborative planning and implementation is an important part of this.

Livable Communities

As conveners of municipalities, COGs have a role in assisting with the implementation of livable communities, which include land use and housing, resource conservation, open space, and local food. Counties are also central to addressing livability because they have land use regulatory authority in unincorporated areas as well as the ability to convene and coordinate municipal planning.

Land Use and Housing

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 2002 Will County Land Resource Management Plan established a policy that the majority of new urban and suburban development should occur within municipalities, saying further that "the most desirable form of county development is a compact one that directs development into and around existing communities and service areas." For its own role, that plan indicated that the county should seek to balance the efficient use of land with compatibility with nearby neighborhoods. Image courtesy of Will County

GO TO 2040 recommends that most household and employment growth occur within existing municipal boundaries, and that it should be relatively denser than growth has been in recent years. For those counties with significant nonurban land, it will be important to continue to produce comprehensive plans (also called "land resource management plans") whose goals include strengthening both urban and rural areas. To support GO TO 2040's interest in reinvestment in existing communities, county plans can focus development onto land within existing municipal boundaries. County plans of this type also frequently address other issues related to livability, such as **historic preservation**.

Counties also have responsibility for zoning and plat review in unincorporated areas. In such cases, it is crucial for county boards to exercise the leadership needed to make zoning decisions consistent with their land resource management plans, which may include limiting the approval of developments in unincorporated areas. In areas where unincorporated development is preferred, however, it is important to use **low-impact or conservation design**. Conservation design entails preserving a significant portion of the natural features on a development site by using flexible lot sizes and shapes as well as using advanced stormwater best management practices.

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 many chambers of commerce and development corporations in the region are organized to serve areas ranging from commercial districts to cities, in many cases relying on a public-private model to maximize their effectiveness.

Resource Conservation

GO TO 2040 recommends actions that the region's local governments, including both counties and municipalities, can take to conserve water and energy and to manage stormwater.

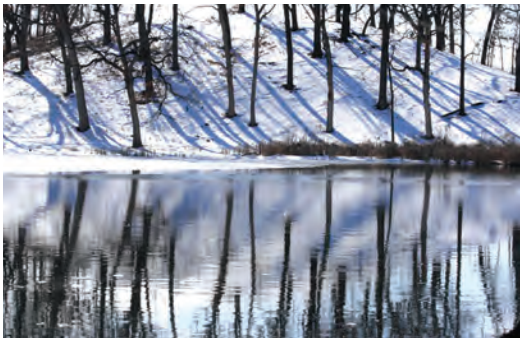
County comprehensive plans and programs can address water supply and demand management. This has become an increasingly important issue because groundwater levels in aquifers serving outlying counties have been declining and in some cases are showing higher concentrations of chemicals like barium and radium. CMAP's **Water 2050** report recommends that county governments protect groundwater by taking aquifer recharge areas into account in comprehensive planning, and developing ordinances to regulate land use in recharge areas, among other actions. Although they do not often operate water utilities, counties can administer or help implement many water conservation best management practices, such as appliance and water fixture rebates or providing a conservation coordinator.



McHenry County instituted conservation design requirements in its subdivision code that go into effect when there are important natural resources on a development site. Image courtesy of Flickr user Thomas Merton



The South Suburban Mayors and Managers Association (SSMMA) is an intergovernmental agency providing assistance to 42 municipalities in Cook and Will counties. SSMMA's services are diverse, ranging from assistance with open space planning to joint purchasing agreements to legislative advocacy to operating a bond bank for municipal infrastructure projects. From CMAP Library



McHenry County Water Resources, along with the Natural Resource Conservation Service, developed a map of Sensitive Aquifer Recharge Areas (SARAs) and has been working to integrate it into comprehensive plan recommendations. While its methodology is oriented toward the sand and gravel aquifers of the county, a similar method could be used elsewhere. Image courtesy of Flickr user Kelly Dobbins

COGs also have an important role in water supply planning and management. Through participation in **Water 2050**, both counties and COGs have had an integral role in shaping the goals and policies that will guide water supply and demand management within the region in the upcoming decades. They also play an important role in implementation, as they provide a forum in which members can learn more about water conservation measures within the ambit of municipal utilities. GO TO 2040 specifically recommends examining the consolidation of water supply and wastewater treatment services to increase efficiencies; counties and COGs can take an active role in beginning these discussions.

Counties have responsibility for stormwater permitting in unincorporated areas, and through the unique countywide committee system in northeastern Illinois, minimum performance standards for stormwater are also set at the county level. Standards for drainage, detention, and other concerns help protect against flooding and damage to water resources. Stormwater management programs have been successful, but could be strengthened by use of **stormwater best management practices**, especially green infrastructure, to promote infiltration. Another concern is the maintenance of stormwater infrastructure; counties can help address this by investigating the use of maintenance fees.

Counties also have an important role in solid **waste management**. All Illinois counties are required by the state to develop and implement twenty-year solid waste management plans. Counties can help to encourage recycling and composting waste, as well as continuing to explore alternatives to landfills.



Among other stormwater best management practices, the Lake County Central Permit Facility uses native plant bioswales. These shallow excavated swales with deep-rooted native plants are designed to collect, absorb, and filter stormwater runoff and pollutants that collect on the parking lot pavement from automobiles. County government can be a leader in using stormwater best management practices. Photo and description courtesy of Lake County.



On November 4, 2008, voters in Lake County approved a $185 million referendum with 66 percent of the vote for the Lake County Forest Preserves to acquire and improve land to protect wildlife habitats, conduct ecosystem restoration, and to provide flood control and recreation. Certain properties that the Forest Preserves had been targeting for years were in danger of being sold for other purposes. Of the funds, $148 million will be used for land acquisition purposes. It is estimated the referendum funds may establish 3,000 acres of preserves. Image courtesy of Flickr user **Bob Callebert**

Open Space

GO TO 2040 includes a number of direct recommendations to forest preserve districts and conservation districts, which are organized at the county level but are separate units of government. Forest preserve and conservation districts operate in each county in northeastern Illinois and play a major role in providing **regional open lands**. In many ways, they have been tremendously successful. Their model is to acquire undeveloped land using proceeds from the sale of bonds, the debt service ultimately being covered by property taxes on the more developed land in the county. It is important for forest preserves and conservation districts to consider the long-term management of the lands they protect, in particular to emphasize **ecosystem restoration** of their holdings wherever possible. GO TO 2040 recommends specifically that forest preserve and conservation districts participate in regional efforts to prioritize land protection and ecosystem restoration activities, and then to reflect these priorities in their actual work. Counties can also play a significant role in open space preservation by addressing open space needs in their comprehensive plans and land use regulations.

Furthermore, local governments fall within natural boundaries as well as political or administrative boundaries, such as when the land within several political divisions all drains to one body of water (i.e., is within one watershed). Watershed planning is a process often used to bring leaders from these jurisdictions together to help solve problems in a **waterway**, such as flooding or poor water quality, to which they contribute or which affect them in some way.

Local Food

GO TO 2040 recommends the preservation of agricultural land and an increase in production of local food. Across the region, counties have taken the lead in the implementation of **farmland preservation**. This can be encouraged by making it a focus of comprehensive planning, which most counties do, but farmland preservation is most successful when it has a stable funding program. Counties and nearby forest preserves or conservation districts should also work together to support agriculture as part of preserved open space.

Other Actions That Support Livability

Counties are largely responsible for **public health**, and can use this expertise to link the features of livable communities with positive health outcomes. Besides this role, counties can play a significant part in coordinating human service programs, which are often carried out by a variety of organizations and different levels of government. An important way to do so is by participating in a **211 system** (modeled on the 911 system) that provides callers with information and referrals about human services and related community information. Counties typically distribute Community Development Block Grant (CDBG) funding, coordinate energy assistance programs, and have a number of other responsibilities. The central role of the counties in providing human services gives them the ability to help convene service providers and funders to ensure that needs are being addressed appropriately.



A strong and successful farmland preservation program in the region is that of Kane County, which has a purchase of development rights program funded through taxes on casino receipts. The program is used to ensure that farmland will not be converted to another use by a future owner. Image courtesy of Flickr user **Cassandra Pozulp**



The DuPage Funders' Collaborative is a group of public and private organizations using their combined strength to achieve a wider understanding of health and human service needs of the population served and the providers; to promote efficiency and effectiveness; and to seek improved and sustainable funding for human services. Photo courtesy of **iStockphoto.com**

Human Capital

The GO TO 2040 plan seeks to improve the region's economic prosperity and includes high-priority recommendations in the areas of education and workforce development and economic innovation. It also generally supports efforts by entities within the region to improve its overall business environment.

All seven counties undertake economic development activities, although the approach and the level of resources vary considerably between them. Counties are uniquely positioned to do the kind of economic development recommended by GO TO 2040 that yields broad economic benefits — job creation, productivity increases, income growth — over narrower fiscal benefits that accrue to only one jurisdiction or that merely move economic activity from one location to another. Among the general economic development services the counties can provide are information that municipalities and the private sector can use to support business development. They can also encourage transportation projects that support businesses.



The Will County Center for Economic Development (CED) provides a comprehensive, forward-looking picture of business conditions in Will County. It serves members and potential investors with workshops and tours of economic assets in the county. Will County CED also works with communities and the County to provide business incentives. Image courtesy of **Will County Center for Economic Development**

Education and Workforce Development

GO TO 2040 emphasizes the importance of community colleges and Workforce Investment Boards (WIBs), which are typically organized at the county level. Counties can play a role by facilitating collaborations between community colleges and workforce investment boards as there is untapped potential within the community college system to support workforce development and to fill gaps between worker skills and employer needs, and by linking their economic development work to these institutions. Supporting the growth of **green jobs** is an area where such collaborations are particularly relevant.



The McHenry County College recently began offering several career training programs dedicated to "green collar" jobs. This would complement an initiative to promote energy efficiency retrofits in buildings and promote renewable energy production in the county, as it would also help support the market for community college graduates' skills. Image courtesy of Flickr user **David Hallberg**

Efficient Governance

The GO TO 2040 plan also includes recommendations that relate to governance in the areas of tax policy, access to information, and coordinated investment.

Tax Policy

GO TO 2040 emphasizes the importance of efficient, predictable, and transparent state and local tax policies that do not distort land use decisions or stifle economic activity. While tax policy issues largely focus on the state and local municipal governments, counties play an important role in terms of property assessment, which helps determine equalized assessed values and tax rates by local jurisdiction. Counties can help by making their assessment systems as predictable and transparent as possible for the taxpayer, and not placing undue tax burdens upon either residential or commercial property owners and renters, which can alter location decisions and thus distort economic activity.

Access to Information

GO TO 2040 recommends the increased sharing of data among government agencies, and between government and the public. Making federal, state, regional, county, and other data available will reduce the time needed to do time-consuming research by staff of other government agencies. There is also a significant role for counties in making administrative data, such as building permits, publicly available — which in turn reduces the need for research by other government agencies. Sharing data with the general public also improves transparency and fulfills the ever-increasing expectations of the public concerning the availability of information.

Coordinated Investments

GO TO 2040 recommends investigating the coordination of services, or in some cases consolidation, of units of local governments (including townships, park districts, library districts, and many other types). In many cases services are matched well to the level of service residents want, but in other cases they are duplicated in overlapping or neighboring districts and merely cause confusion for residents. The recession has stimulated greater belt-tightening among local governments, and consolidation can be a way to gain cost efficiencies. Counties and COGs can have a key role in bringing local governments together and facilitating discussions on service coordination and consolidation opportunities.

Regional Mobility

Counties and COGs also play a role in supporting the high-priority recommendations related to regional mobility, particularly those related to transportation finance and public transit.

Transportation Finance

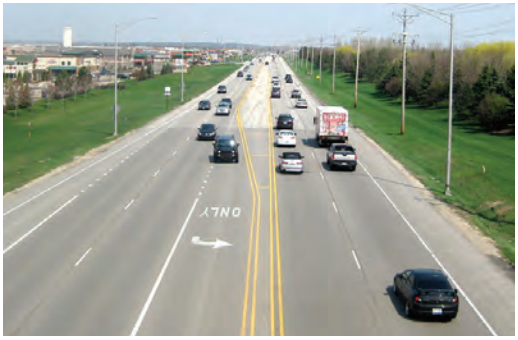
GO TO 2040 emphasizes the importance of making better and more efficient transportation decisions, as well as finding additional revenue to support transportation. As owners of roadways and other transportation infrastructure, counties can help to support GO TO 2040 by prioritizing maintenance and modernization in their investment decisions, and pursuing major infrastructure expansions only on a limited basis.

Councils of Mayors are groups of municipalities which select projects to be funded by the Surface Transportation Program (STP), a federal program. These groups are convened and staffed by either counties or COGs. STP funds can be used to improve arterial and collector streets or to implement transportation control measures, like bicycle facilities, commuter parking lots for suburban transit, or similar strategies. Each Council receives individual funding and determines its own methodology for selecting projects, subject to federal guidelines. Local councils have broad discretion in how they select projects, and can support GO TO 2040 by allocating funding to projects that help to implement the plan.

Public Transit

GO TO 2040 also highlights the importance of local support to make transit work. Counties can support transit through land use planning, small-scale infrastructure investment, and contributing funding, and both counties and COGs can also work with transit agencies to plan for transit improvement or expansion in their areas. In the case of investments in new or expanded transit service, collaboration is crucial to address density and design throughout a corridor even though these can vary depending on the jurisdiction with land use control.

Certain kinds of **urban design** improvements can be effective at a larger scale as a collaboration between local governments which could be facilitated by a county or COG. Streetscaping and access management along major arterials is one of these. As a major streetscape overhaul would address issues of appearance and functionality along the corridor, benefits gained by improvements in one jurisdiction could be lost by disregarding improvements needed across a jurisdictional boundary.



Kane County is working in partnership with a group of municipalities to improve transit accessibility along Randall Road for Pace Route 529. The existing corridor lacks sufficient access for pedestrians and disabled persons, while many of the buildings along the corridor have large setbacks with extensive parking, limited sidewalks, and no waiting areas. The study is intended to address these design issues across the five municipalities in the corridor (Aurora, North Aurora, Batavia, Geneva, and St. Charles). Image courtesy of Flickr user **geonerd**



The DuPage Mayors and Managers Conference (DMMC) stands out as an example of a COG whose project selection process for STP funding is criteria-based and clearly prioritized. Projects funded under this program are evaluated on the basis of cost-effectiveness, congestion reduction potential, readiness, innovativeness, funding leverage, and the size of the area to which benefits accrue. Image courtesy of **DMMC website**

In transportation, collaboration between units of government is often shaped by a major travel corridor. For example, transportation management associations (TMAs) are generally organized at the corridor level, frequently by employers who wish to encourage commute trip reduction. Commute trip reduction is a major part of **transportation demand management (TDM)**, which would be more difficult without the assistance of a TMA. They can have positive impacts on travel behavior; comparable areas without active TMAs generally have considerably lower alternative mode shares. As there are only three active TMAs in the region, there are ample opportunities to establish more, and counties and COGs can take an active role in this.



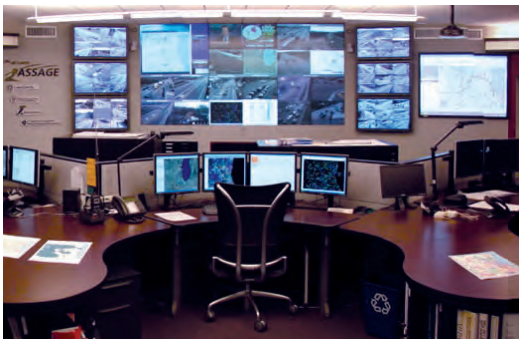
The TMA of Lake Cook has focused corporate leadership on providing alternative travel options for the TMA's member employers, including expanded city-to-suburb and suburb-to-suburb commuter rail and a national-model "Shuttle Bug" service from commuter rail stations to employment sites. The shuttle service grew from 110 daily trips when it began in 1996 to 1,300 daily trips today. From CMAP Library

Other Actions That Support Regional Mobility

Counties have jurisdiction over more than 2,000 miles of highway in the region, giving them an important role in congestion management as well as supporting alternative transportation modes. An important low-capital means of reducing congestion is to improve operations by employing **intelligent transportation systems (ITS)**. Another important area for counties to emphasize is **access management**. Counties can manage the spacing of driveways, number of curb cuts, median openings and so forth along arterials and collectors they manage to improve traffic flow.

Research in recent years has made it clear that low-density patterns of development and increased automobile dependence are associated with lack of physical activity and poor **public health** outcomes. As counties are front-line providers of **public health** services across the region, they have a special interest in the connection between health outcomes and the physical landscape as shaped by development decisions.

In fact, counties have begun to explore that relationship in order to promote fitness for residents as part of their planning efforts as well as project implementation. County planning can establish land use and transportation policies that help increase physical activity. Related to their role in protecting public health by promoting active lifestyles, counties may also encourage a "complete streets" approach to roadway design, making sure that needs of **pedestrians** and **bicyclists** are accommodated. Counties also can take a leadership role in providing both on-street and off-street bicycle facilities and encouraging connections between municipal bicycle systems.



Lake County's "Program for Arterial Signal Synchronization and Travel Guidance" (PASSAGE) gives motorists real-time information about traffic bottlenecks via electronic signs or an AM radio station. Based on the same information collected by cameras and traffic sensors, operators can also adjust traffic signal timing to reduce congestion buildup. This still-expanding ITS system is a model for other counties. Image courtesy of **Lake County**



Through the Communities Putting Prevention to Work program, Suburban Cook County is taking steps to reduce obesity — a mounting epidemic — by promoting policy changes to help residents lead healthy, active lifestyles. These include increasing nutritional options, decreasing opportunities for excess caloric intake from unhealthy foods and beverages, and increasing the availability of safe places to be physically active. Image courtesy of Jane Healy

Municipalities

The region contains 284 municipalities, and their elected officials, appointed officials (like plan commissioners), and staff are the intended audience for this section of the plan. To a lesser extent, actions that can be taken by park districts, townships, and other units of government of similar size are also discussed. In the following pages, this section describes how municipal actions can support the implementation of GO TO 2040, stressing the plan's recommendations but also covering other areas. It relies heavily on case studies and best practices from around the region, with links to CMAP web pages that have further information on these topics and more examples of case studies and best practices.

How Municipal Decisions Affect Plan Implementation

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.

Local governments are also owners and operators of significant elements of the region's transportation system and spend nearly $2 billion per year on transportation, which is more than the federal government and slightly less than the state. Investment in open space, either by municipalities or through stand-alone park districts, occurs at the local level. Municipalities are directly involved in creating "livability," one of the central themes of GO TO 2040. This is not just through regulation and investment, but also through programs that create a sense of community identity, such as fairs or fireworks displays, or support for local arts and culture.

Municipalities are also the primary providers of many government services, such as police, fire, and other emergency services, public works, garbage collection, and many others (although not all municipalities have all of these functions). These are important functions but are outside the scope of GO TO 20400. In other words, municipalities have responsibility for many important functions beyond the issues covered in GO TO 2040 such as land use regulation, transportation, and open space.

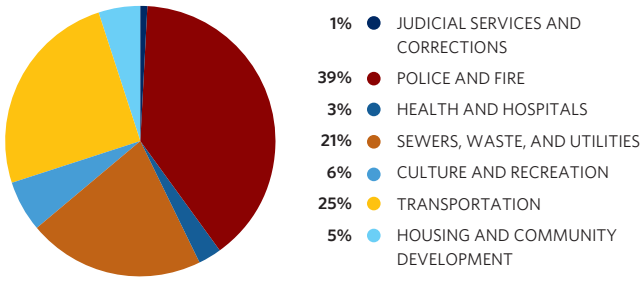
According to data from the U.S. Census, shown in **Figure 70**, municipalities spend the greatest share of their resources (39 percent of expenditures) on police and fire services. This is followed by transportation expenditures (25 percent), mostly focused on maintenance and operation of local streets; and by expenditures on other public works activities, namely sewers, waste disposal, and utilities (21 percent).

Special-purpose units of local government can also support the implementation of GO TO 2040. Park districts are sometimes a municipal department and sometimes a stand-alone unit of government, but in either case they play a central role in the provision of open space and recreational areas in a community. Townships have responsibility for road maintenance, particularly in unincorporated areas. Townships also provide

a variety of human services, operate (or contribute to) paratransit services, and maintain parks in some parts of the region. A variety of other special-purpose units of local government, such as library districts or fire protection districts, also exist across the region, but the services provided by these governments are outside the central focus of GO TO 2040.

Many municipalities already do things that support the priorities of GO TO 2040, and many have plans and ordinances that are good examples of how the plan can be implemented. These best practices should be shared and spread across the region. There is no "one size fits all" solution across communities in the implementation of GO TO 2040's recommendations. Municipalities are encouraged to develop their own locally specific ways of defining the concept of livability and to support development that meets their definitions. One consistent element across municipalities is the importance of proactive planning; regardless of how they apply livability principles, municipalities have the right and the responsibility to actively plan for their futures and implement their plans.

Figure 70. Municipal expenditures in northeastern Illinois, 2006



Source: U.S. Census Bureau and CMAP analysis

Livable Communities

Municipalities are among the most important implementers of the high-priority recommendations of GO TO 2040 that relate to livable communities, including land use and housing, resource conservation, open space, and local food. Other municipal actions beyond these also support the concept of livable communities, and are discussed after the high-priority recommendations.



In Palatine, a brownfield site near this residential development was redeveloped as structured parking as part of a larger downtown development effort. The cleanup had significant catalytic effect on nearby properties as well, with the value of nearby property doubling within five years after completion of the cleanup. Image courtesy of Patrick Barry



The "Uptown" development near the Park Ridge train station includes fairly dense residential development (over 200 units on 5 1/2 acres), retail and restaurants, and open space. Buildings are four to five stories in height, and designed to be friendly to pedestrians and consistent with Park Ridge's existing architecture. This project has won awards from Illinois American Planners Association and Congress for the New Urbanism (CNU) chapters in recent years. Image courtesy of Congress for the New Urbanism

Land Use and Housing

GO TO 2040 discusses the important role of local land use regulation in supporting livable communities. The plan recommends a number of actions directly to municipalities, and provides additional recommendations to CMAP and other regional agencies concerning technical and financial assistance to support local planning. The overall direction is to improve the "building blocks" of local planning — up-to-date comprehensive plans, consistent ordinances, and trained decision-makers — and use these tools to plan for livable communities; there are already many good examples of this occurring in the region, described further below.

A major way that municipalities can implement GO TO 2040 is by pursuing reinvestment within their existing developed areas. In the long run, development within existing communities is typically more efficient than development on the fringes of the region because these areas are already served by infrastructure. Particularly strong opportunities for redevelopment can be found on **brownfields**, or land on which contamination may be present (former industrial sites, gas stations, or dry cleaners are often brownfields). Communities can conduct inventories of brownfields, and then seek state and federal funding and private investment to redevelop them. This not only returns the brownfield to active, productive use, but it benefits the entire neighborhood, as studies of the impact on brownfield redevelopment on nearby property values have shown.

Pursuing denser, mixed use development can also support GO TO 2040. The definition of "denser" development differs between communities but generally means densities that are somewhat higher than prevailing patterns of development in that area. The definition of "mixed use" also varies and can refer to mixing land uses (such as residential, office, or retail) within a single structure or on the same block, or even simply providing connections between residential and commercial areas of a community.

Municipalities are encouraged to review their plans and ordinances to see where denser, mixed-use development could be supported, and to work collaboratively with developers to find locally-appropriate ways to accommodate them. Planning for dense, mixed-use development near transit, in the form of **transit oriented development (TOD)**, is a particular focus of GO TO 2040, which gives specific recommendations to local governments and transit agencies to accomplish this.

GO TO 2040 treats housing as a critical part of the region's infrastructure and seeks a balanced supply of housing distributed throughout the region; there are a variety of ways that municipalities can support this goal. Because every community is unique, a study of housing supply and future demand is recommended to understand the most important housing issues to address.

Municipalities are in the front lines of discussions about housing. They can do much to counter negative perceptions that residents may have about affordable housing — which are typically expressed most strongly at the local level in response to development proposals that include affordable housing. Municipalities can do this by mixing affordable housing within developments and paying close attention to the design and appearance of proposed affordable housing. Putting a face on the residents of affordable housing is important; a mix of housing units is needed to allow "aging in place" by residents and provide homes for teachers, nurses, and other valuable members of a community. The perception that affordable housing means concentrated areas of poverty and crime needs to be countered.

A key strategy for creating an adequate and regionally balanced supply of affordable housing is for municipalities to support and permit its construction. Affordability and balance are broad concepts, and there will be varying ways that local governments define these terms to meet local needs. Some areas face particular **regulatory barriers** in providing a range of housing, but can use techniques like density bonuses, allowance of accessory apartment, streamlining permitting processes, or other tools to encourage developers to propose affordable units.

In many communities, more active approaches than simply permitting affordable housing are needed. These work best to promote livability when targeted to specific situations, rather than broadly applied. For example, **housing preservation** programs work well in communities seeking to preserve the quality or the affordability of their housing stock, or to rehabilitate it. On the other hand, **inclusionary zoning** programs can be applied in communities that have limited affordable housing but are interested in creating more. A broad variety of other techniques, such as land trusts, foreclosure interventions, and others are also appropriate in different situations.

An overall sense of community is an essential component of livability — but is difficult to define or quantify. A municipal government cannot create a sense of community from scratch, but it can facilitate its development. While it may seem far removed from the regional scale of GO TO 2040, efforts by municipalities to create vibrant communities with active civic and social lives are actually very related to the region's future.

High-quality design is critical to create livable communities. Attractive streetscapes and buildings, public spaces for civic life, and overall appearance of an area are all important elements, but are challenging to quantify. Municipalities can create design review boards or similar groups to review the character of new development.

Local historic context is important in every community, and reinvestment projects can be balanced with historic preservation that respects context and character. More than just individual buildings, preservation should address context and landscapes. Preservation can complement urban design projects and encourage reinvestment in existing communities. Some communities also find **teardowns** to be threatening to their character, and can seek to limit them or reduce their negative impacts.



After working closely with the local chapter of the Coalition of Citizens with Disabilities in Illinois and developers working in the community, the Village of Bolingbrook passed an ordinance in 2003 that requires all new single-family homes to be built with features that allow a person in a wheel chair to visit without any special assistance. Nationally-recognized for its leadership in the area of "visitability," Bolingbrook has witnessed the addition of thousands of new homes accessible to persons with limited mobility, including older adults, featuring at least one step-free entrance, minimum widths for doorways and hallways, and a first floor bathroom which allows for wheelchair access. Image courtesy of Concrete Change



St. Charles is one of several local communities in our region to adopt inclusionary zoning. Yet unlike most communities, which require developers to set aside a flat percentage of homes as affordable, St. Charles created a "tiered" system, which requires new developments of different sizes to incorporate a different percentage of affordable homes. The ordinance also provides developers with fee waivers for affordable homes and density bonuses. Image courtesy of Tom Henneman



The Sears, Roebuck Power House in Chicago was converted from a defunct power generation building (built in 1905) to an education center. Portions of the original machinery were incorporated into the new buildings, which offer math and science courses that acknowledge the City's technological progress over time. This project won the Landmarks Illinois Project of the Year award in 2009. Image courtesy of David Schalliol

GO TO 2040 supports intergovernmental coordination between municipalities, as this can be an effective means to address issues like transportation, housing, or economic development that are broader in scope than a single community. Coordination can effectively occur between neighboring communities, or between communities facing similar issues that may be more remote from each other. GO TO 2040 identifies this as a high priority, and recommends that municipalities work with their local county or Councils of Governments (COGs) — organizations that are described at greater length later in this chapter — to accomplish this.



A group of 28 municipalities in Cook County formed the South Suburban Housing Collaborative to develop a comprehensive, coordinated redevelopment plan for their communities, which were some of the hardest hit by foreclosure in Illinois in recent years. The Collaborative leveraged funding from local, state, and federal agencies and programs to support the redevelopment plan. Image courtesy of **Joe Balynas**

Resource Conservation

GO TO 2040 focuses its recommendations on actions that communities in the region can take to conserve energy and water and manage stormwater, and supports an active approach for municipalities in this area. Some of these recommendations are directed to water utilities, which are often housed at municipalities; others are directed to local governments in general. A number of best practices in resource conservation practices by municipalities, described below, are already underway.

Incorporating water — drinking water, stormwater, and wastewater — into local planning would support GO TO 2040, which recognizes the interconnections of these systems. Municipalities have a great deal of responsibility in these areas. They can prescribe the performance standards (although minimum requirements are usually set at the county level) used to manage stormwater, and they often make permitting decisions for drainage and stormwater detention. They often have primary responsibility for floodplain management, as well. Municipalities can support GO TO 2040 by encouraging **stormwater** best management practices through the development process. It is also important for municipalities to collaborate in watershed plans that identify and propose solutions for water resource problems. The resource conservation section specifically recommends a variety of stormwater best management practices that should be considered by municipalities.



The Villa Park police station in DuPage County was built on the site of a parking lot downtown. It decreased runoff in its mostly built-out watershed by three stormwater best management practices: a green roof, bioretention swales, and permeable paving in the parking lot. The police station is also an example of infill development. The project was partly financed by a grant from the Illinois Environmental Protection Agency (IEPA). Image courtesy of **IBC Engineering Services, Inc.**

Drinking water utilities are generally operated by municipalities. While conditions vary across the region in terms of water sources, water rates, and so forth, the main thing municipalities can do to support GO TO 2040 is to encourage water efficiency through **conservation best management practices**. These can range from metering all customers to leak detection programs to using reclaimed water; the use of full cost pricing is a specific recommendation of the resource conservation chapter.

Most wastewater treatment systems in the region are operated by municipalities (although the largest volume of wastewater is treated by the regional sanitary districts). Through good **wastewater planning**, municipalities play an important role in protecting streams from pollution. The use of improved wastewater technologies is a good way for local communities to continue their role in preventing pollution from entering streams. There are many options available, such as nutrient removal, membrane bioreactor technology, and others. Wastewater is also connected to land use planning in that new wastewater infrastructure is generally needed in newly developing areas to support new growth.

Many municipalities are taking action to limit their emissions of greenhouse gases and overall impact on climate change. The primary contributor to climate change is **energy use** in homes and businesses (followed by the transportation system). Because of this, GO TO 2040 highlights the retrofit of existing buildings as a particularly important element of a climate change strategy, with roles for regional, local, and other agencies. As a first step to addressing energy use, communities can create climate action plans, which provide baseline assessments of current energy use and greenhouse gas emissions and also lay out reduction strategies.

Municipalities can address energy use by both examining and improving their own practices, and by affecting private energy use through education, regulations, or incentives. Designing energy-efficient public buildings, or retrofitting existing buildings, provides a good example to others in the community and can have positive fiscal benefits through lower energy costs. GO TO 2040 specifically recommends that local governments play the role of early adopters, acting as demonstration models of innovative energy and water conservation activities.

Local governments are also well-positioned to address **waste disposal** issues. Municipalities can ensure that their own facilities have recycling options, and through their role as the unit of government primarily responsible for garbage collection, can also create residential or commercial recycling programs, or promote other waste reduction programs like composting. Municipalities that experience high levels of construction or demolition activities can also look for solutions to reduce debris from these activities, including "deconstruction" practices for demolition.



To address sustainability, the City of Elgin established a "Green Initiative" — a series of projects and plans designed to create a "greener" Elgin. The first phase of the green initiative involves undertaking several "eco-friendly projects," including a program to create a comprehensive tree inventory and maintenance program, and a revolving loan program to assist homeowners to fund energy efficiency upgrades in their homes. In addition, the City of Elgin has teamed up with ComEd to offer its residents a variety of incentives for making decisions that result in reduced energy use. These projects are designed to help Elgin begin to become more "green" while a more formal and comprehensive environmental master plan is created. Pictured above is Sherman Hospital in Elgin, which is powered by renewable geothermal energy. Image courtesy of City of Elgin

Open Space

GO TO 2040 addresses conservation open space like forest preserves, local parks, and connections between open space. The recommendations identify the provision of local parks as the primary role for municipalities (or park districts, where these are stand-alone units of government), although municipalities can also have a role in connecting larger open space parcels using trails. Because municipalities have land use regulation responsibilities, recommendations concerning conservation design, which can help preserve and provide connections between open space, are also directed to them.

Municipalities and park districts can support GO TO 2040 by providing **parks and open space**, an important ingredient of livability, throughout their jurisdictions. Park creation activities can be targeted to places without adequate open space — usually, denser and older parts of the region — and GO TO 2040 recommends that municipalities and park districts seek a variety of ways to increase park space in these areas. Creating connections between larger open space parcels or along waterways through greenways is also a critical action for local governments. Maintaining and improving parks are very important functions — often even more so than expansion — and opportunities to enhance or **restore natural features** in parkland should be explored. Parks can also be used for **arts and culture** programming and can support local arts communities, if passive space is included and informal arts activities are encouraged.



In 1999, a citizen led group approached the Barrington Park District about purchasing a 55-acre, former industrial site in hopes of transforming it into a community park. Three years later, Barrington residents approved a referendum that eventually allowed for the construction of Citizen's Park, which houses several unique amenities including an amphitheater, a 3,000 sq. ft. pavilion, and a fully accessible, 2,000 sq. ft. tree house. The park has won awards from the Illinois Association of Park Districts, among others. Image courtesy of **Vermont Timber Works**

Municipalities can use **conservation design** to minimize the negative environmental effects of development or provide environmental enhancements. This can be applied on greenfield sites, but also as part of reinvestment projects as a form of urban greening. Conservation design can include open space as part of a site, natural landscaping, clustering of buildings, permeable pavements or other surfaces, green infrastructure approaches to stormwater management, and green building design. The open space chapter recommends more aggressive use of conservation design concepts in areas with valuable natural features, but they can be applied to some degree anywhere in the region. A major step that municipalities can take to promote conservation design is to permit it as a by-right use, instead of a conditional use; this makes the development process more predictable for developers and makes it more likely that proposals for conservation design projects will be received.



The Homer Glen Conservation Design Ordinance was passed in 2006 to create a mechanism that would allow for the addition of up to 1,000 acres of new open space. Unlike most existing conservation design ordinances, Homer Glen's is mandatory, requiring "developers of new residential subdivisions to set aside between 20 percent and 50 percent of the area as permanent, dedicated, publicly-owned open space." The ordinance is meant to result in open space that could "be connected from one neighborhood to the next, where feasible, creating an extensive, interlinked network of open spaces." Image courtesy of Flickr user **Roberto41144**

Local Food

GO TO 2040 highlights the fact that local food production and distribution is increasingly being recognized as an element of livable communities. Municipalities across the region can encourage small-scale food production by permitting certain agricultural activities as a conditional use, and by converting publicly-owned vacant lots to food production. Communities with large areas of farmland either within or adjacent to their boundaries can also zone for larger-scale **agricultural production** in these areas, preserving them as farmland. Food distribution issues can be supported by local governments by assessing whether there are "food deserts," areas where fresh food is not accessible, within the community and working with retailers to solve these problems, or by supporting local farmers' markets.

Other Actions That Support Livability

GO TO 2040's recommendations do not provide a full view of everything that municipalities can do to support livable communities; many that are not covered in detail in the high-priority recommendations are also important components of other activities of livability. Some of these — though by no means a comprehensive list — are discussed below.

Municipalities can provide opportunities for local **arts and culture** to flourish. They can increase programming in local public buildings and include art in public spaces. Also, municipalities can permit artist live-work spaces and allow a mix of land uses — both are important ingredients for a lively local arts scene.

Also, conflicting development standards between municipalities and school districts have been identified as a particular problem. Some **school siting** regulations effectively prohibit school construction on any sites but large, undeveloped areas on the fringe of a community. Municipalities should work with school districts, as well as neighboring municipalities who share the same school district, to eliminate conflicting regulations and update ordinances.

Local governments have an important role to play in safety and security. Municipalities can **prepare for emergencies** and encourage their citizens to do the same leading to a "culture of preparedness;" establishing good relationships with other local governments, transportation agencies, and federal and state agencies can help with coordination in the event of an emergency. Local governments also have a particular role in ensuring that vulnerable residents within their communities, including the elderly and disabled, those living in group quarters, or those without cars, are included within evacuation and recovery plans.

Many municipalities provide police service and can adopt community-oriented policing strategies that cross jurisdictional boundaries. Because of their broad responsibilities, some municipalities have developed programs that link community-oriented policing efforts with human services provision and economic development, with positive impacts on **crime and public safety**. Communities that have public spaces that encourage interaction between different groups can lead to improved **human relations** outcomes and cultural understanding.



The Village of Algonquin adopted a "Public Art Master Plan" in 2005 to promote local art, as well as that from the region, country, and world while improving property values. The plan was established to "enhance the community's' sense of place," provide educational opportunities for artists, and create a planning framework to distribute and fund art through the community in a way that made sense. The plan led to the formation of a Public Arts Commission to oversee this effort. Image courtesy of **Village of Algonquin**



In the event of an emergency, many people are unwilling to leave their pets if their animals cannot be evacuated. The Palatine Emergency Management Agency (EMA) has established a volunteer Animal Response Team that is responsible for the rescue of animals trapped or left-behind, along with their shelter, care, and reunification with owners. Image courtesy of **Anne Hornyak**

Efficient Governance

The GO TO 2040 plan also includes high-priority recommendations that relate to governance, including tax policy, access to information, and coordinated investment. Direct municipal roles are recommended to address access to information and coordinated investment.

The plan's tax policy recommendations are primarily oriented to the state, but will affect local governments. The main recommendation of the tax policy section is to form a task force at CMAP that will be responsible for conducting further research on this subject and recommending specific action; municipal representation on this task force will be sought.

Access to Information

GO TO 2040 recommends the increased sharing of data among government agencies, and between government and the public. Making federal, state, regional, county, and other data available will reduce the time needed to do time-consuming research by staff of other government agencies. There is also a significant role for municipalities in making administrative data, such as building permits, publicly available — which in turn reduces the need for research by other government agencies. Sharing data with the general public also improves transparency, and fulfills the ever-increasing expectations of the public concerning the availability of information.

Coordinated Investments

GO TO 2040 notes that the sheer number of local governments in the region — not just municipalities, but townships, park districts, library districts, and many other units — can make coordination difficult. Service coordination, or in some cases consolidation of some governmental units, can create greater efficiencies and reduce duplication of services. Municipalities can best approach this sensitive issue through direct conversations with other nearby local governments about the benefits and challenges of service coordination, facilitated through or in partnership with a county or COGs.



The City of Chicago posts its business license information online in searchable format. This allows the public to search for business licenses by geography, including street address, ward, or block, or by business name. Image courtesy of **CityofChicago.org**



In 2008, the Villages of Kildeer and Deer Park combined their police services into a single department. Each contributes funding for the shared services, which are recognized as being higher quality than could be provided independently. The compatibility of the communities and their proximity were major elements in the success of the service. Image courtesy of **Michael Brown**

Regional Mobility

Municipalities also have a role to play in supporting the high-priority recommendations related to regional mobility, including transportation finance, public transit, and freight. Other municipal actions beyond these also support regional mobility, and are discussed after the high-priority recommendations.

Transportation Finance

GO TO 2040 addresses the need to make better and more efficient transportation decisions as well as find additional revenue to support our transportation system. As owners and operators of thousands of miles of local roads and other transportation facilities, there are a variety of ways that local governments can support GO TO 2040. The bulk of local spending on transportation is devoted to maintaining the road system. Local governments are encouraged to continue to focus their investments on improving and modernizing their existing infrastructure, and pursue major infrastructure expansions only on a limited basis.

Municipalities can support GO TO 2040 by reviewing their **parking** regulations and pricing policies. Many zoning ordinances have excessively high minimum parking requirements, and there are opportunities to reduce these or allow shared parking between compatible nearby land uses.

Most parking across the region is free and easily available, even though the construction and maintenance of a parking space is far from free. Municipalities are generally responsible for pricing public parking (and can also influence parking pricing in private lots), and should recognize that pricing affects travel behavior. Parking pricing is a key transportation revenue source to be investigated. Raising or initiating parking prices can be controversial, should be pursued with caution, and is not universally appropriate; using parking revenues for visible projects such as streetscape enhancements can help to build public support. Parking can also provide access to transit, and many municipalities with train stations manage commuter parking. Appropriate parking rates vary based on parking availability and service levels, and need to be established individually. In some cases, municipalities can use parking revenues to support access to transit through alternative modes.



An evaluation of Oak Park's parking supply led to a comprehensive parking management program. The new program eliminated hourly limits, priced spaces by desirability, lowered garage prices, and made it easier to pay for parking with the use of pay boxes. Image courtesy of **Total Parking Solutions, Inc.**



The Village of Niles is improving the pedestrian experience along a 5-mile stretch of Milwaukee Avenue as part of their Milwaukee Avenue Beautification Plan. The first improvement is the intersection of Milwaukee at Touhy. Intersection improvements include new brick-paved crosswalks and pedestrian countdown signals, decorative street lights, benches, planters, and sidewalks. As an area with many senior citizens and high traffic volumes, the Village hopes that this will make crossing the street safer and more pleasant. Future plans include a proposed arterial rapid transit (ART) bus service, which these improvements will help to support. Image courtesy of the **Village of Niles**

Public Transit

GO TO 2040 identifies municipalities as important actors in supporting transit service, due to their responsibility for land use regulation and their ability to provide small-scale infrastructure improvements. In general, support for alternative transportation modes — including walking, bicycling, **car-sharing**, and others — supports transit service, and can be addressed by municipal action.

Transit works best in **walkable** communities; making a community walkable requires infrastructure investments such as sidewalks, pedestrian crossings at major roads, and curb cuts and ramps for wheelchairs to allow access by disabled residents. Direct pedestrian connections between transit stops and nearby destinations are important to make transit attractive to use. Other small-scale infrastructure improvements also help to support transit, including installing bus shelters, adding bicycle racks at train stations and bus stops, or removing on-street parking spaces to improve bus access.

Transit also requires supportive land use planning in the form of **transit oriented development (TOD)**, with sufficient densities and a range of housing options, to be most successful. Beyond physical infrastructure improvements, making a community walkable and transit-friendly also involves land use planning that creates a comfortable environment for pedestrians and uses **high-quality design** features. Communities can implement TOD planning principles around current stations, and also plan proactively for transit service expansion.

Freight

GO TO 2040's freight recommendations are oriented primarily toward federal, state and regional groups, and private industry, but addressing the impact of freight on communities is very relevant for municipalities. Municipalities can work with regional agencies and the freight industry to identify and address community concerns in terms of grade crossing delay, noise, pollution, or other issues. Local governments can also coordinate truck route designations with neighboring areas, review delivery time policies and truck parking restrictions, and may seek to actively attract freight-related businesses for economic development purposes.



Realizing the importance of freight to future development, the village of Blue Island incorporated "cargo-oriented development" into their "transit oriented development" plan along two Metra rail stops in the industrial corridor — to increase retail as well as industry and freight, strengthening their downtown. Image courtesy of Flickr user Christopher Esposito

Other Actions That Support Regional Mobility

The plan's high-priority recommendations include a specific focus on transit, but support all alternative transportation modes; local governments can support GO TO 2040 by planning multimodally for their transportation systems.

Best practices in local road management include complete streets techniques, which allow for pedestrian, bicycle, and transit accommodations, and may involve narrower lane widths for lower-volume and low-speed roadways. On collector or higher-volume roads, local governments can pursue practices such as **access management, signal timing adjustments, or signal interconnects**, in coordination with county transportation departments or the Illinois Department of Transportation (IDOT). These improvements can speed traffic flow while not requiring major construction or significant capacity additions.

Municipalities can also support **bicycling** as an important transportation mode. Most experts recommend a "three-E" process of education, enforcement, and engineering, recognizing that it is critical for both bicyclists and drivers to understand the rules of the road, and for traffic laws regarding driver behavior to be enforced. Engineering can include striping bicycle lanes or signing roadways for shared bicycle use, pursuing "complete streets" techniques on roads, constructing off-street trails, and providing bike parking near transit or high-volume locations. Planning for bicycle access and parking at train stations and bus stops can help to support transit. Also, bicycle routes that are components of greenways can also help to support connections between parks and other open space.

Promoting walking and bicycling as serious transportation options can have positive impacts on **health** and is especially helpful for certain residents. Pedestrian and bicycle access is particularly relevant around schools, giving students the opportunity to walk or bike. Having a range of alternative transportation options allows older residents to "age in place" and helps to create communities that are friendly to seniors and the disabled.



In Wilmette, an 18-month construction project has converted 4-lane Sheridan Road into a 2-lane road with bike lanes in either direction and a middle turn lane from Lake Avenue north to Westerfield Drive and the Plaza del Lago. Image courtesy of the **Village of Wilmette**



Schaumburg has 87 miles of bike paths, 1,000 bike parking and locker spaces, bike racks on village trolleys, bike parking at the Metra station and the Northwest Transportation Center, a local bicycle club, and bikeway connections to neighboring communities. The village was designated a Bicycle-Friendly community in 2003 by the League of American Bicyclists. Image courtesy of the **Andreas Siegel**

Nongovernmental organizations

While most of the recommendations of GO TO 2040 are directed to the public sector — as befits a plan focused on public policy — many other nongovernmental organizations in the region play major roles in the areas covered by GO TO 2040. These include philanthropic organizations, civic organizations, community-based nonprofits, advocacy groups, and some types of membership organizations. This section uses case studies to provide positive examples of how these groups can help to implement GO TO 2040, and contains many links to CMAP's website for more information.

How Nongovernmental Organizational Decisions Affect Plan Implementation

The metropolitan Chicago region has a rich variety of nongovernmental organizations that seek to improve the prosperity and livability of our region. Together, these groups exert significant influence on public policy and private decision-making, and are significant players in the future of our region. Their potential roles in plan implementation vary based on organization type; a few examples are below.

Philanthropic organizations provide funding for many different types of initiatives, including some that are central to GO TO 2040. These organizations can fund activities that are generally outside of the scope of the public sector, and have the ability to quickly redirect funding in response to new threats and opportunities. Partnerships between philanthropic organizations and the public sector can be quite effective, and a notable example includes the Regional Indicators Project, a joint effort of CMAP and the Chicago Community Trust. These partnerships can pair the flexibility of private funding with the institutional capacity of government, and GO TO 2040 recommends a number of areas where this type of arrangement would help to implement the plan.

While contributing funding is an obvious way to affect the priorities of GO TO 2040, there are many other ways that nongovernmental organizations can contribute to the plan's implementation. They can contribute research and make recommendations, advocate for legislative changes, and push the public sector toward better decision-making, among other actions. Some nongovernmental organizations serve an important role in convening government agencies and other advocates; examples of this include Chicago Wilderness (CW), which convenes environmentally-focused groups, or the Urban Land Institute (ULI), an organization of development and real estate professionals. Nongovernmental groups are active at a variety of levels, from those that cover the entire region (and often beyond) to those that focus their efforts in a single community or neighborhood.

Clearly, the organizations and roles above only scratch the surface of what nongovernmental organizations undertake. A full description of their current activities and possible future work is beyond the scope of this document, which focuses on how they can help to implement the specific recommendations of GO TO 2040. The plan supports further efforts by these groups to improve our region's prosperity and livability in ways not specifically discussed on the following pages.

Livable Communities

Livability is a complex topic, made up of a variety of elements. Nongovernmental organizations can play a direct role in some of GO TO 2040's high-priority recommendations concerning livable communities, in the areas of land use and housing, resource conservation, open space, and local food, and their role extends far beyond these topics.



In collaboration with Chicago Metropolis 2020, the Metropolitan Mayors Caucus has produced a series of reports entitled Homes for a Changing Region. The first report forecast a serious mismatch between the type of housing being planned in the region and the housing likely to be needed by its expected 2 million new residents. Subsequent reports took the next step and developed detailed, community-specific plans aimed at providing a balanced housing supply for Aurora, Libertyville, Oak Forest, Gurnee, Montgomery, Northlake, Blue Island, Plainfield, and Woodstock. Image courtesy of Chicago Metropolis 2020

Land Use and Housing

GO TO 2040 emphasizes the importance of local land use regulation in creating livable communities. While regulation of land use is a public sector activity, there are ways for nongovernmental organizations to contribute to this goal. Technical assistance to municipalities is a central part of GO TO 2040's approach to livability, and nongovernmental organizations can play a major role here. For example, the American Planning Association (APA) can assist in providing training to local planning commissioners concerning their responsibilities. As another example, groups like the Metropolitan Planning Council (MPC), Chicago Metropolis 2020, or the Metropolitan Mayors Caucus (MMC) can provide assistance to communities in addressing their affordable housing needs through locally-appropriate strategies. GO TO 2040 recommends that nongovernmental organizations like these work closely with CMAP to coordinate technical assistance activities and partner in their implementation where appropriate.

There is also a potential role for philanthropic groups in this area. They often fund civic or nonprofit organizations to do the types of technical assistance described above, and can even have a role in funding certain elements of local comprehensive planning.



Throughout the City of Chicago, neighbors have come together to turn vacant lots and other unused open spaces into vibrant community gardens and parks. To ensure that the urban "Edens" they worked so hard to create will no longer be vulnerable to redevelopment, local residents and community groups can turn to NeighborSpace, who will acquire the land on their behalf, set up a long-term management agreement with the community, and provide liability insurance for those who use the site. Image courtesy of Quinn Dombrowski

Resource Conservation

GO TO 2040 prioritizes actions that the region and its communities can take to limit energy and water consumption and to manage stormwater. Among the plan's key recommendations is the implementation of the Chicago Region Retrofit Ramp-Up Program (CR3), which seeks to facilitate the retrofit of existing buildings in the region for increased efficiency. This program was initiated by a joint effort of governmental and nongovernmental organizations; the latter included the Chicago Community Trust and the Center for Neighborhood Technology (CNT), among other groups. Further collaborations of this sort can be helpful in addressing the complex challenges that the region faces.

Open Space

GO TO 2040 recommends the expansion and improvement of parks and open space in the region. A significant role can be played by both funders and environmentally-focused nongovernmental organizations. Philanthropic groups, including land trusts, are major funders of open space acquisition, improvement, and restoration. The actions of these organizations can be most effective when they complement the public sector's role, and GO TO 2040 recommends development of shared regional priorities that both the public, nonprofit, and private sectors can use to guide investment decisions. Beyond funding, other nongovernmental groups can also contribute to improving our region's open space through convening environmental stakeholders, research and policy development, education and advocacy, direct implementation, or other methods.

Local Food

GO TO 2040 identifies a major role for nongovernmental organizations in supporting local food systems. Philanthropic organizations can continue to fund the work of nonprofit groups that actively work on and advocate for local food issues. They also can play a role in supporting public efforts meant to increase access to healthy food, such as matching public financing to spur private investment in grocery stores in "food deserts," or linking local food and anti-hunger programs. On the food production side, philanthropic groups can be active in supporting urban agriculture and the creation of community gardens. Often, the efforts that are funded by philanthropic groups are implemented by community-based nonprofit organizations, giving them a central role in GO TO 2040's approach to local food as well.



Fresh Taste is a nonprofit organization dedicated to creating a region that offers communities equal access to a healthy, sustainably produced, and affordable food supply. Fresh Taste aims to bring about this vision by stimulating system-wide change through collaborative work — internal collaboration, as well as supporting collaborative work among a wide range of community-based nonprofit organizations, private businesses and the public sector. Image courtesy of **Piush Dahal**

Other Actions That Support Livable Communities

Nongovernmental organizations can and do take on a variety of other issues that make our communities more livable. These include investments in **arts and culture**, **crime** reduction strategies, programs that improve **relations between ethnic or racial groups**, strategies that improve **health**, and many others. GO TO 2040 supports the continued work of nongovernmental organizations in these areas.

Human Capital

GO TO 2040 recognizes that the region's workforce is a major contributor to its future economic prosperity, and a strong role for nongovernmental organizations is recommended.

Education and Workforce Development

GO TO 2040 identifies a philanthropic role in funding efforts to improve workforce development coordination and alignment with the needs of employers, including analyses of career pathways and specific drill-downs into the needs of some specific industries. Beyond philanthropic organizations, nonprofits are identified as the primary organizations that could perform this research. GO TO 2040 also calls upon diverse stakeholders, including nongovernmental groups with expertise in education, to address education quality, equitable access, and improved collaboration.

Economic Innovation

GO TO 2040 identifies a vital role for nongovernmental organizations in supporting economic innovation. Specifically, philanthropic groups can often move more quickly than the public sector in response to market trends, and may be able to provide much-needed startup or commercialization assistance and create linkages between researchers and entrepreneurs.

Other nongovernmental groups are already taking significant roles in promoting innovation, including business development groups like the Chicagoland Chamber of Commerce, coalitions of economic development organizations like Metropolitan Economic Growth Alliance (MEGA), and universities and other research institutions. GO TO 2040 supports the continued work of these groups and encourages them to coordinate at the regional level.



Originally established through a church-based volunteer program in 1977, Instituto Del Progreso Latino has become a leading city and state educational center. Instituto provides many services and programs to raise education levels and provide job skills. One example is ManufacturingWorks, a training program that responds to employers' needs in the manufacturing industry. ManufacturingWorks works with businesses to identify skill-gaps in the existing workforce and aligns training programs to meet the needs of manufacturing companies. ManufacturingWorks is a collaborative program between Instituto and the City of Chicago. Image courtesy of Flickr user **elfon**



The Chicago Manufacturing Center (CMC) is a nonprofit sustainability strategy and operations consulting firm. The CMC works with manufacturers throughout the Chicago region to support their ability to be a competitive, thriving, and innovative business. The CMC also works with government agencies and the private sector to strengthen the manufacturing sector. In addition to one-on-one consulting, the CMC has several innovative initiatives to promote creativity, sustainability, and profit, including the Waste To Profit Network. The Waste To Profit Network brings companies together to build relationships and identify opportunities to transform waste streams into resources for others. Photo courtesy of **iStockphoto.com**

Efficient Governance

Nongovernmental organizations have historically supported good governance, and GO TO 2040 identifies a continued role for these activities. The Regional Indicators Project, a continuing partnership between CMAP and the Chicago Community Trust, will include MetroPulse, a user-friendly website that allows the user to download, graph, and map data from a variety of government sources. This product illustrates the benefits of collaborations between the public sector and philanthropic organizations, and further partnerships of this sort are encouraged by GO TO 2040.



The Red Line extension project would extend the Chicago Transit Authority's (CTA) most heavily-used rail line for an additional 5.5 miles south to 130th Street in the City of Chicago. Its current terminus, at 95th Street, is currently the station with the highest ridership outside of downtown Chicago. For years the Developing Communities Project (DCP), a faith-based organization serving the Greater Roseland neighborhood, has helped to facilitate communication between residents in this area, community leaders, and the CTA, mobilizing resident involvement in advocating for the extension, as well as actively participating in the determination of the Locally Preferred Alternative (LPA) route. DCP continues to engage residents and the local business community in planning for TOD around the four proposed new train stations. Image courtesy of Developing Communities Project

Regional Mobility

GO TO 2040 targets most of its recommendations related to regional mobility to public sector organizations, as they are the primary owners and operators of the region's transportation system. However, while they are rarely implementers of actions in this chapter, nongovernmental organizations can play an important role in research and analysis, and can also effectively advocate for certain policies or investments to be pursued. For all of the high-priority recommendations related to regional mobility — transportation finance, public transit, and freight — this kind of supporting role for nongovernmental organizations is identified.



The Metropolitan Planning Council (MPC) has partnered with the Tollway to study congestion pricing on a number of expressways across the region. This detailed research has helped to increase the understanding of stakeholders across the region of the potential benefits of congestion pricing. Image courtesy of **Quinn Dombrowski**

Development community

This section describes how actions at the site level, primarily by the development community, can support the implementation of GO TO 2040. This includes developers, and also architects, landscape architects, realtors, financial institutions, and others that are involved in development from the private sector. It uses case studies and best practices from around the region, with links to CMAP web pages that have further information on these topics and more examples of case studies and best practices. The contents of this section are not regulatory in nature, and are not meant to limit the actions of developers; instead, they are meant to provide positive examples of how developers can support GO TO 2040 through their actions.

How Decisions at the Site Level Affect Plan Implementation

Much of the built environment in the region is the product of incremental decisions made at individual sites over many years. Private enterprise drives this system, but it is shaped by local government land use controls, such as zoning, as well as a complex mix of policies at other levels of government.

Developers and architects have produced some breathtaking results at the site level, such as the skyscrapers in downtown Chicago. When repeated across larger areas, private undertakings at the site level can emerge into recognizable and lauded districts, such as the Bungalow Belt in parts of Chicago and some inner ring suburbs. On the other hand, development subdivision by subdivision has not always led to livable communities. Many suburbs that originated as residential subdivisions in the post-war years are now working to change their built environment by creating downtown areas as mixed use, walkable centers. This points to the great need for comprehensive planning by local governments, which addresses site-specific development.

Livable Communities

While GO TO 2040 directs many actions to support livable communities toward local governments, developers actually build the homes we live in and the commercial buildings where we work and shop.

They secure sites, draw up plans, obtain financing, shepherd projects through permit review, oversee construction, market the finished product, and shoulder much of the overall risk. To support GO TO 2040, developers can help by building the communities that reflect the principles of livability.

Land Use and Housing

GO TO 2040 emphasizes mixed use development at a density somewhat higher than recent trends. The marketability of denser development will differ between communities, and different communities will have varying definitions of "denser" development; in general, density increases site yield and in many cases reduces per-unit site development costs for developers. The commercial space in mixed-use development can also help create vibrancy at the street level and provide amenities attractive to potential buyers. In turn, increased residential densities are needed to support the new commercial uses in mixed-use developments. A number of barriers to mixed-use development also need to be recognized, such as the effect of location on the viability of commercial spaces, market potential, and the lingering difficulty in securing financing to construct mixed use buildings. Thus, it is important for local planning to take market realities into account.

One of the most important actions developers can take to implement GO TO 2040 is to seek projects in already developed areas. Most residential and commercial development in recent years has been on greenfield sites, yet there are extensive opportunities for profitable development in existing communities across the region. **Infill** can be a challenging form of development because of physical constraints and the presence of numerous landowners. It often works best in partnership with municipalities, which can help to assemble land, secure gap financing, or alter zoning.

Such development is sometimes complicated by the potential for contamination on site, either perceived or real. Remediation of these **brownfields** may be needed prior to redevelopment. While developers and lenders may be concerned about the possibility of being caught up in a liability action over harm from contamination, there are state and federal programs to reduce exposure to liability and provide financial incentives for remediation. Fortunately, there are many examples of successful redevelopment projects on brownfield sites in the region.



The $100 million Westin North Shore, with more than 400 rooms, was built in Wheeling by the consortium Harp Midco Wheeling LLC, a venture by the Village of Wheeling, Mid-America Development Partners, and the Oak Brook-based Harp Group. The site had some contamination from its previous uses, including a horse stable, vacant land, used car lot, and Wonder/Hostess outlet. Image courtesy of Alan Light



Numerous transit oriented developments have been built around CTA and Metra train stations in the City of Evanston. These projects have reinvested in existing developed areas, and support the use of transit. Image courtesy of Dorothy Perry

Transit oriented development (TOD) is a denser form of development that, as the name suggests, is anchored by some form of public transportation, typically a train line. The purpose of TOD is to focus housing and commercial development close to transit infrastructure, thereby providing an alternative to using the automobile, although denser development combined with good **urban design** also promotes walking and bicycle trips. TOD has become much more common in the region in recent years, although many untapped opportunities remain for developers to propose transit oriented projects.

GO TO 2040 aims for a balanced supply of housing throughout the region. While local regulations and incentive programs will help achieve this balance, for-profit developers can aid in meeting the goal by seeking projects at a variety of price points. One of the most important approaches is to mix affordable housing within developments, using good design to give proposed affordable housing an attractive appearance and guarding against the perception that affordable housing causes a concentration of poverty and crime. Local **regulatory barriers** can stand in the way of balanced housing objectives, but developers may take advantage of options to build affordable units, such as density bonuses.

Nonprofit developers play a very important role in providing balanced housing. They often are partners in **housing preservation** programs, which work to protect the quality or the affordability of existing housing stock. Nonprofit developers also construct new affordable housing as well. Many are community based organizations that work within a designated area to serve residents of that area, utilizing financing from many sources to provide good housing options for those who would not otherwise be able to afford them. Nonprofit developers also build in disinvested places where the value of a new building would be less than its construction cost. In so doing, they help to rebuild communities so that they can thrive again.

High-quality design is one of the main ingredients in a livable community. While the overall urban fabric at the block and neighborhood scales should be shaped by local planning, the individual site or lot is still the building block of good urban design. Design review and published design guidelines can be used at the local level to help ensure quality developments, but it is the developer and the architect who play the most significant role in site layout, building details, and other aspects.

The fit of a building with its context is perhaps one of the most important elements of urban design. Building style, massing, height and other factors determine whether a new building fits within its historic context. This is an important consideration in every community, and welcoming new buildings needs to be balanced with **historic preservation**. Because people value the preservation of historic building stock, developers can realize a marketable project, such as an adaptive reuse of a historic building, while also taking advantage of tax incentives available to rehabilitate historic properties.



News that the owner of the Walden Oaks apartment complex in Woodstock had plans to sell the property caused fear that the property would be turned completely into market-rate housing and lose its affordability due to market pressures. Hispanic Housing Development Corporation, a nonprofit housing developer, purchased the property and turned it into a mixed-income project, reserving 125 units for seniors and 25 units for low-income families, with the remaining 42 units market-rate. Image courtesy of Flickr user **Dave Hallberg**



HomeTown Aurora is a 1,288-unit development built by Bigelow Homes that includes single-family detached, single-family attached, and loft-style homes. About half of the units are affordable to families earning below 80 percent of the area median income. It includes diverse housing types that appeal to a range of market segments. This compact development also combines smaller private lots with protected open space. Image courtesy of **Bigelow Homes**

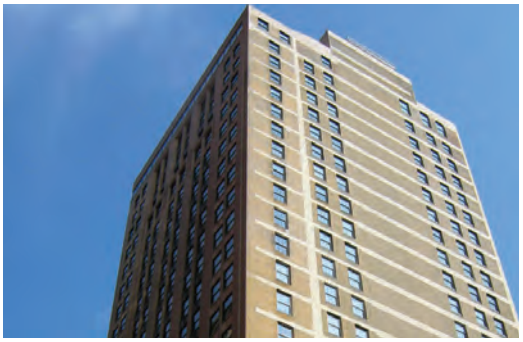
Resource Conservation

GO TO 2040 recommends a number of actions that can be taken to conserve energy and manage water resources sustainably. Most of the actions are targeted toward local governments, but developers and property owners play a crucial role, as innovative energy and water conservation measures in buildings that go beyond regulatory requirements are the decision of the developer.

A number of programs are available to help reduce **energy use** at the site level. For example, builders can participate in the Energy Star program for new construction, a program in which the builder forms a partnership with the U.S. Environmental Protection Agency (U.S. EPA) to develop homes which meet energy efficiency guidelines. The home then earns an Energy Star label, which the builder can market for its lower cost of ownership and environment-friendliness. Developers can also seek certification under the Leadership in Energy and Environmental Design (LEED) program of the U.S. Green Building Council (USGBC) or use guidelines of the National Association of Home Builders (NAHB) Green program.

Existing buildings also provide many opportunities to reduce energy use. Retrofitting lighting systems, HVAC (heating, ventilation, and air conditioning), windows, and other building components can present major savings for occupants, both in commercial and residential buildings. Many programs are available through electric and gas utilities, the state, and others to provide incentives to undertake such work. Many **best management practices to conserve water** are also instituted at the site level, such as high efficiency household appliances and fixtures. Buildings can even be designed so that they harvest rainwater or use graywater for non-potable uses.

Wastewater treatment systems are sometimes installed to serve individual sites and may be financed at least partly by developers, giving them a role in **wastewater** treatment to protect water resources. Developers can seek to have their developments served by the best wastewater treatment technology available, and development sites in some areas can be designed so that reclaimed wastewater can be used for beneficial purposes rather than being discharged into a waterway. Other ways developers can protect water resources are to include effective **stormwater best management practices** in their developments. Some measures will be required in local ordinances, but the effective use of best management practices to reduce runoff volume and improve water quality depends strongly on a developer's commitment to using them.



The Buckingham Building in the Chicago Loop was built in 1929. After its heyday it saw years of vacancy before being redeveloped, starting in 2007, to serve as student housing for Chicago's Columbia College. The building is on the National Register of Historic Places, and the redevelopment project won a Preservation Excellence Award from the City of Chicago in 2008. It is owned by private investors and managed by U.S. Equities. Image courtesy of Flickr user **Zol87**



The Ford Motor Company Stamping Plant in Chicago Heights retrofitted its lighting systems with the help of the ComEd Smart Ideas incentive program. Ford replaced more than 1,000 lighting fixtures with high performance, energy efficient models that use 50 percent less energy than the old fixtures and have a longer life. Ford also installed sensors to turn off lights when personnel were not using the room. Image courtesy of ComEd

Open Space

GO TO 2040 addresses the protection of both recreation-oriented parks and conservation-oriented preserves. While park districts and county forest preserves should continue to play the leading role in providing parks and preserves, the private sector has an important and growing role.

For instance, **conservation design** can be used at the level of individual development sites. Conservation design typically involves permanently preserving part of a development site, clustering homes and decreasing the size of private lots to maintain full density. The open space is worked into the site design, generally with a trail network, and developers frequently realize a premium on home sales because potential buyers value the proximity of open space. In some cases developers may work with land trusts to manage the protected open space associated with a conservation subdivision.

GO TO 2040 recommends commitment to conservation design in areas with valuable natural features, but it can be an important approach in other areas. It is also important to try to include recreational open space or parks in development and redevelopment sites. This can be a significant way of meeting standards for park accessibility.



The Sanctuary of Bull Valley is a 200-acre conservation subdivision in central McHenry County developed by Jack Porter and Associates. It includes a long-term restoration plan for the deed-restricted open space. Image courtesy of Jack Porter and Associates

Regional Mobility

While regional and state agencies play the greatest role in increasing regional mobility, developers can also play a part in supporting a strong regional transportation system. In general, support for alternative transportation modes, including transit, walking, and biking, furthers the implementation of GO TO 2040.

Alternative transportation can be supported on a site-by-site basis in a number of ways. Most basically, developers can include sidewalks within their developments; a walkable community is a basic precondition for transit. Larger developments can also benefit from internal bicycle facilities, whether on-street striped lanes or off-street trails.

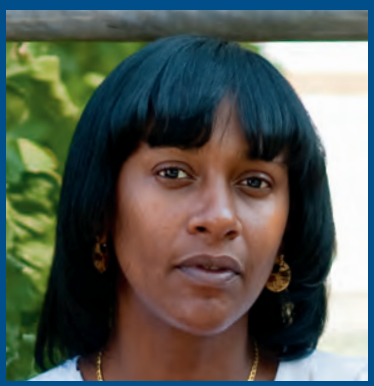
Further, developers can seek to connect their internal networks of pedestrian and bicycle facilities to larger, external networks. This will likely involve working with the local municipality, county, park district, or forest preserve district, depending on the development's location. Coordinating to create these external connections can make internal sidewalks and bike trails part of a larger, regional system and can ensure continuity.

Finally, developers can seek projects within already developed areas near existing transit services as a primary way of supporting GO TO 2040. This takes advantage of existing infrastructure and is far more efficient than extending transit infrastructure to serve new locations.

Individuals

By 2040 our population will grow to over 11 million. Every day residents and businesses in our region make a multitude of decisions that have large impacts, but sometimes go unnoticed relative to those made by government. However, many seemingly small actions can have an additive effect and become a real tipping point for changing outcomes on a much larger scale.

This section describes how individual decisions affect plan implementation, and then provides a description of individual actions through a series of local case studies that support the implementation of GO TO 2040. Throughout this section are links to pages on CMAP's website where more information can be found.



For most of us, farming is not an occupation we'd associate with Chicago's south side. But for 37-year-old **JASMINE EASTER**, a small urban farm in the Englewood neighborhood was her leg up toward a better career. To read more about Jasmine, visit **http://www.cmap.illinois.gov/jasmine**.



At 14, **ORLANDO GOMEZ** faced a life-changing decision. Should he spend three hours commuting daily to a top-rated magnet high school? Or avoid the arduous trip and attend his local school despite a hostile environment that had touched two older brothers who preceded him there? To read more about Orlando, visit **http://www.cmap.illinois.gov/orlando**.

How Individual Decisions Affect Plan Implementation

Individuals can help implement GO TO 2040 in many ways, including small localized actions, coordination with others to form stronger coalitions, or providing broad based support to elected officials implementing the kind of principles emphasized in these pages.

This section is primarily oriented to individuals as residents (whether renters or homeowners), with some other specific recommendations to business owners. Personal and household decisions affect level of involvement in one's own community, water and energy use, or personal transportation and food choices. Business decisions can have even larger repercussions on the environment and transportation systems.



Grocery shopping, getting to work, and taking kids to school can be a hassle for anyone. But when 56-year-old **CINDI SWANSON** lost her vision 15 years ago, she learned just how difficult these everyday tasks can be. To read more about Cindi, visit **http://www.cmap.illinois.gov/cindi**.



When 8-year-old **JOHN HATCHER JR.** imagines the future, his first wish is for a clean world: "Then the sky can be blue, the grass can be green. There'd be no pollution, and people would care about each other. I'd really like a perfect world."To read more about John, visit **http://www.cmap.illinois.gov/john**.



When **MIKE ABT** started recycling cardboard 20 years ago to help his family business become "more green," it wasn't just the eco-friendliness that appealed to him. To read more about Mike, visit **http://www.cmap.illinois.gov/mike**.

Livable Communities

GO TO 2040 seeks to support livable communities, and includes recommendations for land use and housing, resource conservation, open space, and local food. There are many things that individual residents or businesses can do to support the creation of livable communities in our region.

Individuals can help achieve GO TO 2040's vision by supporting planning efforts that strengthen community character and design. Some community gathering places have come about because of a resident with a vision and passion to accomplish something for the greater good of the community. Individuals can take on small projects that can bring community residents together, like turning a vacant lot into a garden or advocating for new bus shelters or participating in **local arts and culture** activities. To pick a common example, individuals can get involved in **historic preservation** efforts in their communities, either joining an existing organization or starting a new one. These projects can be catalysts for communities to come together or simply provide opportunities for people to get to know one another.

Urban design looks back to more **traditional neighborhood development** and typically includes a mix of uses, like putting stores next to offices and housing. This can help communities to be more walkable and can provide support transit service. Business owners have a large impact on creating mixed use areas by choosing to locate in existing community centers. Residents can support this type of development by choosing to shop locally and support businesses in their communities' downtowns. In particular, buying food from local farmers' markets supports **local food** production by investing in local farms.

Business owners can have a great impact on enhancing a community's **urban design**, and also be positively impacted by design efforts. Places that are considered to have good urban design generally reflect communities of the past with mixed-use downtowns, where one can walk to and from homes, businesses, and retail. Individual business owners can support and enhance local character by being sensitive to community context. Store signs, awnings, lighting, and other features should fit within the local community context. Besides physical appearance, businesses can also foster a greater sense of community by providing opportunities for individuals to gather and interact.

Individual households and businesses can have a significant impact on reducing carbon emissions by retrofitting existing buildings to be more energy efficient. In this region, the primary contributor to **climate change** is energy use in homes and businesses. Individuals can address **energy use** by both examining and improving their own practices, beginning with a household or business "energy audit" to take an inventory of everything from the age of appliances to the types of light bulbs used. Some municipalities offer financial incentives to replace inefficient appliances or to update inefficient windows with new, more energy efficient ones. Individuals can also calculate their "carbon footprint" through online tools like the U.S. Environmental Protection Agency's **Household Emissions Calculator**.



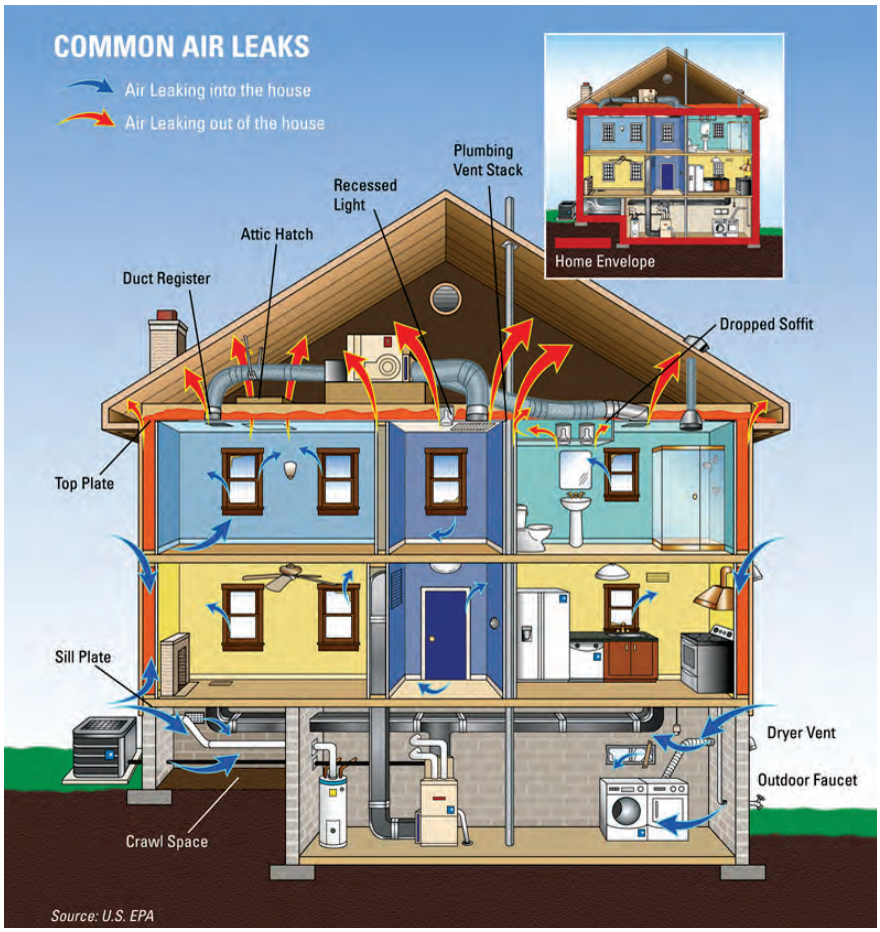
The Old Court House Arts Center in downtown Woodstock was originally constructed in 1857, designed by John MillsVan Osdel. In 1972, the building was slated to be demolished and converted into a parking lot. Woodstock residents Cliff and Bev Ganschow purchased the building, completed an extensive renovation project, opened an art gallery, and rented space to other local businesses. They maintained many historic features of the buildings, including original pressed tin ceilings and some old jail cells. The Old Court House and Jail are now on the National Register of Historic Places. Image courtesy of Flickr user **Steve McCoy**



Since 2004, the Village of Tinley Park has hosted its popular public art project "Benches on the Avenue," in which 20 handcrafted wooden benches are placed along Oak Park Avenue after being painted, sculpted, and adorned by local artists. Each year features a different theme, such as "When I Grow Up" (depicting occupations) and "Classic TV," which guides the transformation of these benches and must also retain their function as public seating. Image courtesy of the **Village of Tinley Park**



Part of the region's character is contained in its diverse businesses, and can be supported by purchasing local products. In 1996, brothers Jim and Jason Ebel founded Two Brothers Brewing Company. Brewing award-winning artisan beers such as Domaine DuPage (named after their home county of DuPage), the brothers have greatly expanded their production over the years, adding a successful brewpub and even operating their own beer distribution company. Image courtesy of **Two Brothers Brewing Company**



One of the quickest, easiest, and cheapest ways to see how you can make your home more energy efficient is to perform a home energy audit. Home energy audits allow you to assess how much energy your home uses and whether there are steps that you can take to cut down on current energy usage. These audits require about 5 minutes of your time, as well as access to the last 12 months of your utility bills. Both ComEd and Energy Star provide online tools for individuals to conduct home energy audits. Image courtesy of U.S. EPA

Another major step individuals and business owners can take to reduce **water use** inside homes and businesses is to install low flow toilets, Energy Star-rated appliances, faucet aerators and other water reducing appliances. The region could save 35.5 million gallons of water daily if 10 percent of the region took basic steps to reduce water waste, and if 50 percent of the population did so, the result would be a reduction of 177.2 million gallons per day.

Local parks are central to communities, and have always been an amenity that families, individuals, and businesses have looked to when considering where to live. Parks serve as great places for people to gather and relax, for kids to play and can be a great source of recreational activities if actively programmed. Research has shown that well maintained parks are associated with increased property values in neighboring communities.



Rain barrels are a great way to reduce stormwater runoff and can prevent water from seeping into your basement. Typically available in 55 gallon drums, rain barrels should be placed at the base of your home's downspout. The barrels help relieve the burden of storm sewers from heavy downpours. Many rain barrels have a spigot near the base that can be hooked up to a garden hose so that the water can be used to water plants. Often your County Soil and Water Conservation District is a good first place to ask about where to purchase a rain barrel. Image courtesy of Andrew Bayley

Parks provide many environmental benefits and have also been linked to increased public health. Individuals can volunteer with their local park districts or forest preserve districts to help during spring clean-up days. Businesses can also sponsor employee volunteer days which serve as great ways to support the local community they exist in. Charitable giving is another way individuals and business can support the creation and enhancement of local parks.

During heavy rains and periods of melting snow, parts of the region experience flooding. Effective stormwater management minimizes damages associated with flooding and prevents the degradation of aquatic resources. Residents and business owners can take steps to reduce stormwater runoff by employing stormwater management best practices, which can help to reduce the impact of heavy storms on storm sewer systems, thereby reducing flooding. **Rain barrels** are a simple way to collect rainwater and reuse it on site to water plants or landscaping. Another method of naturally slowing stormwater runoff is to plant **rain gardens** in places that are naturally wet. Other home improvements — including natural landscaping, or using permeable pavements — can also improve stormwater management.

Individuals can also have an impact on the amount of household waste that is produced. Many communities presently have recycling programs by way of curbside pick-up or drop-off stations, and also provide information on recycling items like motor oil or household paints. Perhaps the easiest way to reduce the amount of waste we as individuals create is to consider the packaging of the products we buy in the first place, like bringing your own reusable bags to the grocery store.

Business can also participate in recycling programs. Everything from batteries and computers to plastic to-go containers can be recycled and it doesn't take much for businesses to support greater recycling at work. Businesses can also replace Styrofoam coffee cups with reusable washable mugs as a simple way to be more environmentally conscious.

There are many civic or volunteer organizations that take on initiatives that affect all areas from community planning, to the environment, to transportation initiatives. As individuals, community issues affect us all in different ways. If you are interested in getting involved in proactive planning, there are a variety of not-for-profit agencies that are working to increase opportunities for public transit to rainwater harvesting. You, as an individual, can make a difference by getting involved, volunteering, voting, attending a public workshop, or writing a letter to your legislators or locally elected official.



Downers Grove Park District has a wide variety of volunteer opportunities available for anyone interested in contributing towards strengthening the park district's services. Volunteers are used to staff one of the park district's several information centers, to provide outdoor education classes, and to provide much needed preservation and restoration services. Volunteers are solicited from all age and social groups, providing special opportunities for youth volunteers and community groups. Image courtesy of **Downers Grove Park District**



For three hours every other Saturday, residents of the Village of Oswego bring telephones, radios, TVs, computers, and other recyclable electronics to the Village's public works facility. The goal is to keep electronic material from ending up in landfills, and since the first event in August 2007, the Village E-Recycle program has succeeded in preventing over 113 tons of electronics from doing just that. Image courtesy of Michael Surran



In October 2007, the Greater Auburn-Gresham Development Corp. started the Litter Free Zone Initiative. Through the initiative, approximately 100 students go door to door every other week in the Auburn-Gresham neighborhood, speaking with residents about the importance of recycling, passing out blue bags, and picking up trash. Since the initiative began, volunteers have collected more than 230,000 pounds of recyclable materials and "encouraged hundreds of residents to throw their paper, metal and plastic into blue bins rather than trash cans." Image courtesy of **Greater Auburn-Gresham Development Corporation**

Human Capital

GO TO 2040 recognizes that our region's greatest asset is its people. Residents who are educated are more likely to contribute to our economy, be active in their communities, vote in elections, and overall participate in society.

Pursuing further education or receiving training in new work skills can be done at any age, and in our rapidly changing economy, many people will need to learn new skills several times over their careers. Individuals can advance their own educations, or volunteer to help others improve their skills at reading, math, or English as a second language, for example.

Businesses are encouraged to get involved with local educational or workforce training institutions to help provide links between the skills that these institutions are teaching and the actual needs of employers. GO TO 2040 also recognizes and supports the importance of economic innovation, which results from businesses developing and commercializing new ideas. Individuals can benefit from increased government efficiency, including improved access to information and coordinated investments to improve the region's infrastructure.

Regional Mobility

Individuals can also take actions that affect our region's transportation system. This contributes to both livable communities and regional mobility. The following pages discuss the ways that individual residents or businesses can contribute to improving the region's transportation system.

An important element of livability involves having access to transportation modes beyond driving. Residents of the region spend millions of hours in traffic delays each year. The extensive public involvement process undertaken for GO TO 2040 has demonstrated that residents want transportation alternatives that are safe and efficient. People know that there are other ways besides driving to get places — walking and bicycling, carpooling, bus, train — but these options aren't always available. The biggest role that individuals can play in the development of multimodal transportation is to support its development and then use it.

Walkability is also a key component of good urban design. Places that feel comfortable are usually places where there is lots of street activity. When a community is walkable more people — families, couples, elderly, and youth — tend to go out and spend time in their neighborhood. Walkable neighborhoods provide opportunities for chance meetings. It's a way for people to interact with one another, meet their neighbors, and to foster a "sense of community." Individuals can support sidewalks and complete street initiatives by advocating for these changes at the neighborhood or municipal level.

Walkability is an integral aspect of livability, as it not only supports an active lifestyle and positively impacts personal **health**, but it can promote **safety** by increasing the number of people out and about in the community. Pedestrian and bicycle access is particularly relevant around schools, giving students the opportunity to walk or bike to school rather than being driven or bused.

Beyond recreational walking and **bicycling**, individual businesses can support bicycling as a form of transportation to and from work. Businesses of any size can support their employees biking to work by providing incentives like shower facilities, bike storage facilities or by providing annual bicycle safety workshops for employees. Businesses of any size can support bicycling by participating in "Bike to Work Week."



Jane Healy, a parent and school board member in Blue Island School District 130, wanted to give her kids the experience and health benefits that come with walking to school. So every day, she put on her walking shoes and took her kids to school. There were a lot of neighborhood kids who were being driven to school, just a few blocks away. They would see Jane and her kids walking up to the school while waiting in the long drop-off lines of traffic. Soon enough, many asked to join them.

District principals, concerned with traffic congestion around pick-up and drop-off times at the school, offered to support Jane's walking efforts. And she created a program that she called the "Walkable School Bus." After nearly two and a half years, there were so many people walking to school that the program seemed superfluous. Then she decided to ride bikes with her children to school, and that garnered attention and envy of other local school kids, so she created a "Bike Train." They had a set route, like the Walkable School Bus, and picked kids up along the route. This program has also been very popular and the group has now grown to include a Friday Night Bike Club, where dozens of kids congregate at Jane's house to go on a bike ride through the community.

The community of Blue Island has also done extensive Safe Routes to School (SRTS) program planning, prioritized installation of bike racks and bike education for students, successfully won Illinois Department of Transportation (IDOT) SRTS grants for both infrastructure and non-infrastructure activities, and hosted SRTS training for parents. They have definitely seen biking to school increase due to Jane's efforts.
Image courtesy of Jane Healy

If **public transit** options are available, business can also support the use of public transit by participating in pre-tax transit benefit programs. These programs save employees money by reducing their taxable income. Another workplace program that can affect regional transportation systems is offering flexible work schedules; this allows employees to travel at off-peak travel times and can reduce individual commute times.

Many residents would like to have public transit options to get to work or to the grocery store. There are limited resources to provide new transit opportunities across the region. Individuals can support existing transit by getting involved in local civic organizations like the Active Transportation Alliance (ATA), a membership organization that not only educates people on safe alternatives to driving but also supports statewide legislative changes that support transportation alternatives.



Christopher B. Burke Engineering Ltd. (CBBEL) goes the extra mile to encourage employees to ride bicycles to work. Converting a company-owned condo into a locker room gives cyclists a place to shower before heading into the office. They purchase shower passes from a local gym for employees who prefer that option, and allow employees to bring bikes inside the office. CBBEL rewards bicyclists with food and with money; they sponsor a monthly breakfast at a nearby restaurant and pay employees $0.75 per mile. In 2006, employees logged 3,000 miles biking to work. By 2009, after implementing many of these incentives, the number of miles logged jumped to 20,000 miles for the office of 220 employees. Image courtesy of Clifton Trimble



Abbott Labs, as a member of the Lake Cook TMA, is committed to helping employees take transit where it would otherwise be very difficult to do. They provide workers with a daily shuttle to and from the nearest Metra station. They also have a transit reimbursement incentive program that allows employees who commute by public transit or van pool to pay for transit expenses with money deducted from their paycheck before federal, state and local taxes are applied. From CMAP Library

Appendices and Conclusion

The following contain brief descriptions and links to other supporting documentation for GO TO 2040.

GO TO 2040 Public Engagement

Public participation has been a consistent emphasis of GO TO 2040, and at key intersections throughout the process, CMAP reached out to the public for input. Documentation includes CMAP's Public Participation Plan, the Regional Vision process, and the "Invent the Future" process related to GO TO 2040's preferred scenario.

See **http://www.cmap.illinois.gov/public-engagement**.

GO TO 2040 Strategy Papers

Forty-seven strategy papers on various topics were researched and produced during the development of the GO TO 2040 regional comprehensive plan. Documentation includes summaries, full interactive reports, PDF documents, and related information.

See **http://www.cmap.illinois.gov/go-to-2040-strategy-papers**.

CMAP Regional Snapshot Reports

As part of the GO TO 2040 planning process, CMAP produced a series of Regional Snapshot reports. These studies depict where the region stands in measurable terms, regarding fundamental issues that will shape our communities in years to come.

See **http://www.cmap.illinois.gov/cmap-regional-snapshots**.

Major Capital Projects

Major transportation capital projects to support the preferred scenario of GO TO 2040 were documented and evaluated. Documentation includes a summary of proposed projects, evaluation measures utilized, and other elements.

See **http://www.goto2040.org/scenarios/capital/main/**.

Financial Plan for Transportation

GO TO 2040 includes a constrained financial plan for its transportation elements. Federal planning regulations require such a plan in order to compare the estimated revenue from existing and proposed funding sources with the estimated costs of constructing, maintaining and operating the total transportation system.

See **http://cmap.illinois.gov/financial_plan_transportation**.

Socioeconomic Validation and Forecasting Primer

This document is a primer on the methods used to develop datasets representing population and employment for long range plan strategy analyses and preferred scenario modeling.

See **http://cmap.illinois.gov/socioeconomic_validation**.

Air Quality Conformity Determination

CMAP finds that GO TO 2040 conforms with federal regulations related to the eight-hour ozone standard and the annual fine particulate matter (PM2.5) standard based on the results of the conformity analysis. This report makes the determination that the region's transportation plan and program satisfy all applicable criteria and procedures in the conformity regulations.

See **http://www.cmap.illinois.gov/conformity_analysis**.

Travel Model Documentation

The travel demand models, and emission calculations that depend on the models' travel forecasts, are the technical core of the conformity evaluations of the region's Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP). The purpose of this report is to document the travel demand modeling process used in the conformity analysis.

See **http://www.cmap.illinois.gov/travel_model**.

Conclusion

On behalf of the many contributors to this GO TO 2040 comprehensive regional plan, CMAP thanks you for reading this document. On October 13, 2010, the final plan was adopted by the CMAP Board and MPO Policy Committee.

Your continued involvement in and advocacy for GO TO 2040 will be absolutely essential to implementing the plan's recommendations. CMAP's hope is that all who read it will recognize many principles that they are inspired to rally behind. Now is the time for all of us, as residents of the seven counties, to emphasize our common interests and look beyond our short-term concerns to strive toward the Regional Vision.

Whether you are a private citizen, local official, planner, business person, educator, or part of any other stakeholder group, we hope you see your issues addressed thoughtfully in the plan. Whether you have participated to date or are participating for the first time by reading the plan, we hope you continue to take advantage of opportunities presented by CMAP through GO TO 2040 to weigh in on issues that matter to you and your community. The region's future depends on your active engagement.

Table of acronyms and abbreviations

20 ILCS 662	Local Planning Technical Assistance Act
50 ILCS 805	1985 Local Land Resource Management Planning Act
ACTA	Alameda Corridor Transportation Authority
ADA	Americans with Disabilities Act
APA	American Planning Association
APRA-E	Advanced Projects Research Agency - Energy
ARRA	American Recovery and Reinvestment Act of 2009
ART	Arterial Rapid Transit
ATA	Active Transportation Alliance
BRT	Bus Rapid Transit
CBBEL	Christopher B. Burke Engineering Ltd.
CCAP	Chicago Climate Action Plan
CDBG	Community Development Block Grant
CDOT	Chicago Department of Transportation
CED	Center for Economic Development
CFPAC	Chicago Food Policy Advisory Council
CJC	Chicago Jobs Council
COMPETES	(America) Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (Act)
CMAP	Chicago Metropolitan Agency for Planning
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMC	Chicago Manufacturing Center
CMP	Congestion Management Process
CMRC	Chicago Manufacturing Renaissance Council
CNT	Center for Neighborhood Technology
CNU	Congress for the New Urbanism
COG	Council of Government
CPI	Consumer Price Index
CPS	Chicago Public Schools
CR3	Chicago Region Retrofit Ramp-up program
CREATE	Chicago Region Environmental and Transportation Efficiency Program
CREOP	Chicago Rail Economic Opportunities Plan
CRPF	Comprehensive Regional Planning Fund
CSA	Community Supported Agriculture
CSS	Context Sensitive Solutions
CTA	Chicago Transit Authority
CW	Chicago Wilderness
CWIC	Chicago Workforce Investment Council
CWSRF	Clean Water State Revolving Fund
DCEO	Illinois Department of Commerce and Economic Opportunity
DCP	Developing Communities Project
DOE	U.S. Department of Energy
DRI	Developments of Regional Importance
DVRPC	Delaware Valley Regional Planning Commission
EBT	Electronic Benefit Transfer
EDA	U.S. Economic Development Administration
EDGE	Economic Development for a Growing Economy
EECBG	Energy Efficiency and Conservation Block Grant
EEPS	Energy Efficiency Portfolio Standard
EFM	Electric Freight Management
EMA	Emergency Management Agency
ESCO	Energy Service Companies
FBC	Form-Based Coding
FFGA	Full Funding Grant Agreements
FHWA	Federal Highway Administration
FOIA	Freedom of Information Act
FPA	Facility Planning Area
FTA	Federal Transit Administration
GDP	Gross Domestic Product
GED	General Education Development
GIV	Green Infrastructure Vision
GLRI	Great Lakes Restoration Initiative
GPS	Global Positioning System
GTI	Gas Technology Institute
HOT	High Occupancy Toll Lanes
HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System

H+T Housing + Transportation

HTF Highway Trust Fund

HUD U.S. Department of Housing and Urban Development

HVAC Heating, Ventilating, and Air Conditioning

I2A Illinois Innovation Accelerator Fund

ICCB Illinois Community College Board

IDES Illinois Department of Employment Security

IDHS Illinois Department of Human Services

IDNR Illinois Department of Natural Resources

IDOT Illinois Department of Transportation

IDPH Illinois Department of Public Health

IECC International Energy Conservation Code

IEN Illinois Entrepreneurship Network

IEPA Illinois Environmental Protection Agency

IHDA Illinois Housing Development Authority

IFA Illinois Finance Authority

IIT Illinois Institute of Technology

I-LAST Illinois – Livable and Sustainable Transportation

ILDS Illinois Longitudinal Data System

IM Interstate Management

INHS Illinois Natural History Survey

INPC Illinois Nature Preserves Commission

IRI International Roughness Index

IRIS Illinois Roadway Information System

ISBE Illinois State Board of Education

ISGS Illinois State Geological Survey

ISO International Organization for Standardization

ISWS Illinois State Water Survey

ITEC Illinois Technology Enterprise Centers

ITS IntelligentTransportation System

LCI Livable Communities Initiative

LEADS Leading Economic Advancement, Development, and Stability

LED Light-Emitting Diodes

LEED Leadership in Energy and Environmental Design

LPA Locally Preferred Alternative

LRI Less Resource Intensive

MAP Monetary Award Program

MEGA Metropolitan Economic Growth Alliance

MFT Motor Fuel Tax

MGD Million Gallons per Day

MMC Metropolitan Mayors Caucus

MMTCO$_2$e Million Metric Tons of Carbon Dioxide Equivalent

MPC Metropolitan Planning Council

MPO Metropolitan Planning Organization

NAAF Natural Areas Acquisition Fund

NAHB National Association of Home Builders

NHS National Highway System

NIPC Northeastern Illinois Planning Commission

NIU Northern Illinois University

NRPA National Recreation and Park Association

OLT Open Land Trust

O&M Operations and Maintenance

OSLAD Open Space Lands Acquisition and Development

P-20 Pre-Kindergarten Through Grade 20

PACE Property Assessed Clean Energy

PASSAGE Program for Arterial Signal Synchronization and Travel Guidance

PPP Public-Private Partnership

PPRT Personal Property Replacement Tax

PTELL Property Tax Extension Limitation Law

PWSLP Public Water Supply Loan Program

RACC Regional ARRA Coordinating Council

R&D Research and Development

RETT Real Estate Transfer Tax

RID Rock Island District

ROI Return On Investment

RTA Regional Transportation Authority

RTAMS Regional Transportation Asset Management System

RTAP Regional Technical Assistance Program

RTP Regional Transportation Plan

SAFETEA-LU Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users

SARA Sensitive Aquifer Recharge Area

SBIR Small Business Innovation Research

SCAG Southern California Association of Governments

SEDP Strategic Early Deployment Plan for Northeastern Illinois

SNAP Supplemental Nutrition Assistance Program

SRP Site Remediation Program

SRTS Safe Routes to School

SSA Special Service Area

SSMMA South Suburban Mayors and Managers Association

STP Surface Transportation Program

STTR Small Business Technology Transfer

TDM Transportation Demand Management

TE Transportation Enhancement

TEU Twenty-Foot Equivalent Unit

TIF Tax Increment Financing

TIP Transportation Improvement Program

TLC Transportation for Livable Communities

TMA Transportation Management Association

TOD Transit Oriented Development

Tollway Illinois Tollway

T-Rex Transportation Expansion Project

TSM Transportation System Management

TSP Transit Signal Priority

UIC University of Illinois at Chicago

ULI Urban Land Institute

UP Union Pacific

UPARR Urban Park and Recreation Recovery

U.S. ACE U.S. Army Corps of Engineers

USDA U.S. Department of Agriculture

U.S. DOT U.S. Department of Transportation

U.S. EPA U.S. Environmental Protection Agency

USGBC U.S. Green Building Council

UWP Unified Work Program

VMT Vehicle Miles Traveled

W Watt

WBC World Business Chicago

WIA Workforce Investment Act

WIB Workforce Investment Board

WIC Women, Infants, and Children

WPCLP Water Pollution Control Loan Program

WSA Wilbur Smith Associates

YOE$ Year of Expenditure Dollars

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Photography by **William Valicenti** 2010

Additional photography courtesy of **The Morton Arboretum** page 34, **Gilman Shin** page 118, **Ky Olsen** page 293, and **Jordan Fischer** page 308.

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