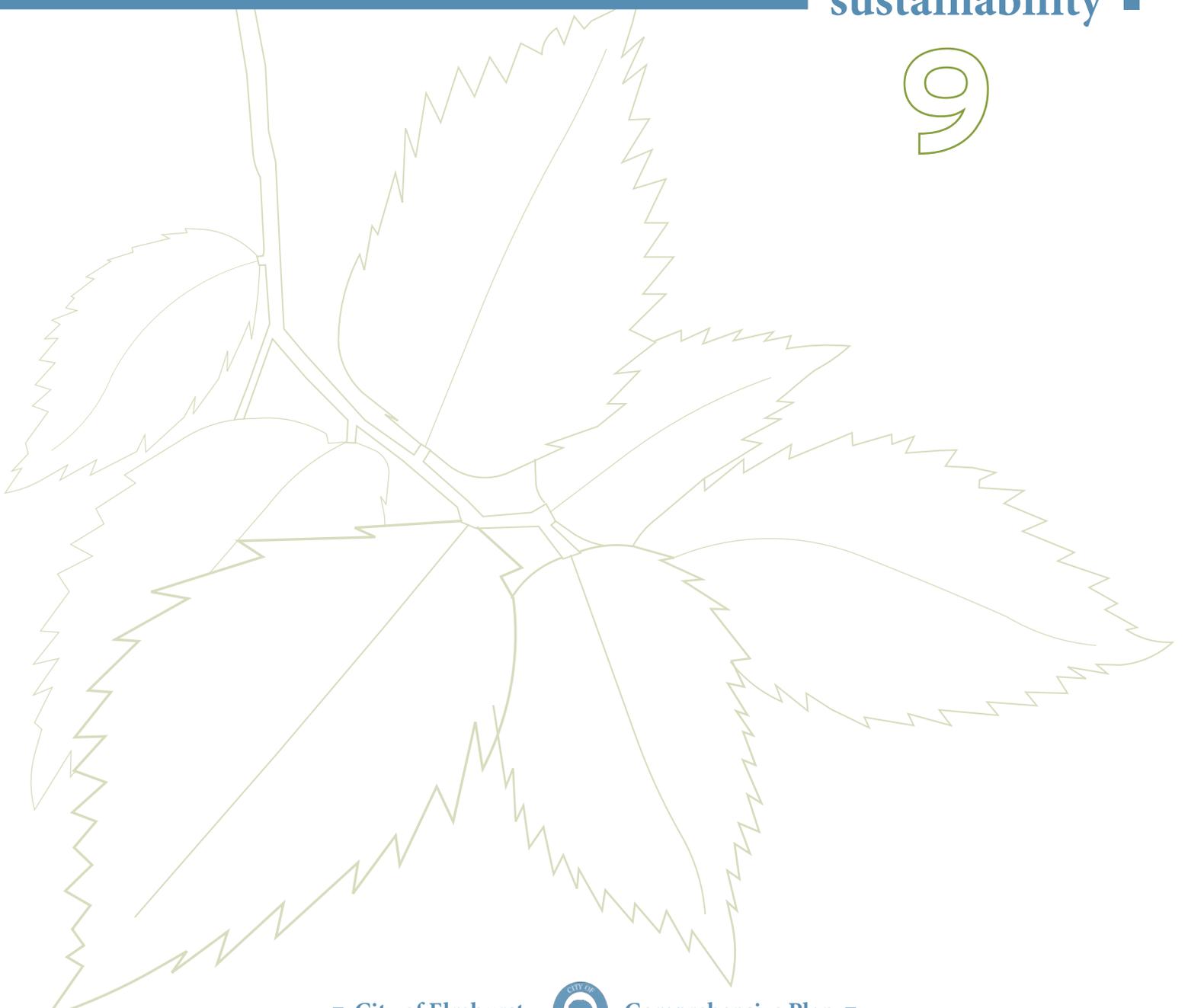


Sustainability
■ sustainability ■

9





SUSTAINABILITY

Sustainability is achieved by meeting the needs of the present while protecting resources for future generations. To date, the City of Elmhurst has participated in a number of sustainability efforts, including signing the “Climate Protection Agreement,” joining the Sierra Club “Cool Cities” coalition¹, becoming a member of the ICLEI – Local Governments for Sustainability², and staging a Green Fest in Wilder Park to raise awareness of environmental issues.

A city-wide sustainability plan takes careful account of the diverse components that affect the quality of the city’s environmental condition, ranging from implementing a recycling and composting program to encouraging compact land use patterns. As a result, developing a sustainability plan requires taking a long view that goes beyond the timeframe that many comprehensive plans traditionally address. Efforts to achieve City-wide sustainability can be organized into the following broad categories: sustainable design, sustainable management practices, and municipal and private programs for achieving sustainability.

This chapter on sustainability produces a set of goals and objectives for maintaining and improving environmentally-friendly practices in Elmhurst. It should be emphasized that this plan presents general goals and policies for sustainability; it is not intended to substitute more detailed planning and programming which should be undertaken by individual municipal departments. Additionally, because sustainability strategies and available technologies are constantly evolving, the recommendations in this chapter should be continually revisited and revised to capture specific policies, topics, and action plans relating to municipal sustainability as they are identified, agreed to, and developed with appropriate public input.



GOALS AND OBJECTIVES

Goal 1: Develop land use policies, programs and regulations designed to support and promote sustainability in Elmhurst.

¹ “Cool Cities” are cities that have made a commitment to stopping global warming by signing the US Mayor’s Climate Protection Agreement. See the Cool Cities website for information: <http://coolcities.us/>

² ICLEI - Local Governments for Sustainability is an international association of local governments and national and regional local government organizations that have made a commitment to sustainable development. See their website for more information: <http://www.iclei.org>



Solar Panels provide energy.



Greenroofs help reduce runoff and keep buildings cooler.

Objectives:

1. Encourage a mix of location, land uses, and densities designed to increase accessibility for Elmhurst residents to services, recreation, jobs, housing, and mass transportation.
2. Assess the risks and potential impacts of climate change on City government operations and the greater Elmhurst community; reduce the urban heat island by reducing paved surfaces.
3. Establish targets for reducing greenhouse gas emissions (GHGs) and promoting sustainability for Elmhurst. Regularly assess progress and program needs, identifying opportunities and obstacles for meeting set GHG emission targets.



Goal 2: Develop transportation policies, programs, and regulations designed to support and promote sustainability.

Objectives:

1. Take actions to reduce the use of fuel and energy consumed in transportation, and encourage alternate forms of transportation—supported by accessible transportation facilities throughout the community.
2. Promote seamless transportation linkages between Elmhurst and the greater Chicagoland region.
3. Promote a healthy community by planning for and implementing a connected system of walkways and bikeways which will provide alternative forms of transportation while also encouraging recreation, exercise, and exposure to the natural environment.

Goal 3: Where possible, employ the seamless integration of the most effective energy conserving and carbon emission-reducing technologies into all municipal functions.

Objectives:

1. Encourage utility companies to consider solar power and other renewable resources when planning for future infrastructure services in Elmhurst.
2. Maintain existing utility systems while seeking to expand the use of alternative energy and sustainable maintenance and building practices in City facilities.
3. Seek new sources of revenue and expertise to be utilized in the provision of sustainable or “green” municipal services. This could include supporting the use of waste-to-energy technologies such as the direct potable reuse of water or groundwater replenishment.³
4. Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover waste water treatment methane for energy production.

Goal 4: Develop economic development policies and programs designed to support and promote sustainability.

Objectives:

1. Encourage the co-location of jobs with housing in the City; seek to expand residents’ ability to work in close proximity to their homes.
2. Encourage and support home-based work and business activities that supplement traditional business and employment considerations.

Goal 5: Develop housing policies, programs and regulations designed to support and promote sustainability. En-

³ Philip S. Wenz, *Spigot to Spigot*, Planning Magazine, August/September 2008, page 6.



Biking is a sustainable transportation choice.

courage all City residents to adopt sustainable and “green” practices in their own homes or place of business.

Objectives:

1. Encourage availability of small scale energy production systems for commercial and residential structures (i.e. windmills and solar panels) to a variety of income levels.
2. Support and encourage a mix of housing types and styles which provide residents with affordable housing choices geared to changes in lifestyle that are more economical to both heat and cool.
3. Provide incentives in the development review phase that encourage renovations and new developments to incorporate energy saving features (utilizing the Leadership in Energy and Environmental Design [LEED] standards) and employ compact neighborhood development (utilizing the LEED-ND standards).
4. Increase the rate of curbside recycling in the City.
5. Invest in public access to information, specifically for education on sustainable or “green” practices. This could include personal computers with Internet access at libraries, neighborhood community centers, and kiosks in key locations scattered throughout the City.
6. Develop cultural and recreational programs designed to support, promote, and raise awareness of sustainability. This includes events such as Green Fest, which took place in Wilder Park in August of 2008.



Goal 6: Implement sustainable practices and make environmentally-conscious sustainable choices at the municipal level.

Objectives:

1. Support and continue to improve the energy efficiency of all City-owned buildings in order to meet or exceed LEED energy standards for building design.
2. Invest in internal municipal practices designed to reduce reliance on energy consumption as well as reduce waste and excessive carbon emissions.
3. Make energy efficiency a priority through building code improvements, the retrofitting of City facilities with energy efficient lighting, and a coordinated campaign urging employees to conserve energy, resources, and money.
4. Exclusively purchase Energy-Star rated equipment and appliances for City use.
5. Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-engine idling messages and, where possible, convert diesel vehicles to bio-diesel.

Policies

The following policies provide a framework for guiding the creation and implementation of sustainability strategies.

1. Work with public and private partners to develop strategies and programs to prepare for and mitigate the potential impacts of climate change. Develop mitigation strategies that address land use, which can be used by both public and private actors to help ease the potential impacts of development in the City.
2. Work to provide transportation alternatives to Elmhurst residents and commuters in order to reduce the amount of overall carbon emissions generated in Elmhurst. This includes the use of hybrid vehicles, alternative fuels mass transportation (van shuttles, bus, and train), bicycle and pedestrian pathways, and the facilitation of private carpools. Seek partnerships from transportation service providers (i.e. Pace, Metra) and other alternative transportation organizations.
3. Work to promote energy conservation and innovative energy sourcing in Elmhurst.
4. Use economic development techniques to reduce unnecessary commuting and excessive GHG emissions.
5. Provide incentives to encourage Elmhurst residents to adopt sustainable practices in their individual homes.
6. Initiate actions to adopt sustainable practices for internal municipal facilities and functions.

7. Reduce excessive runoff from non-permeable surfaces and protect groundwater from contamination by employing a variety of techniques to implement sustainable practices that conserve water and energy as much as possible.



Permeable pavers allow water to filter, thus reducing storm water runoff.



GREEN BUILDING DESIGN AND NEIGHBORHOOD DEVELOPMENT

Green building techniques are practices that conserve energy, water, materials, land area, and divert construction materials from land disposal areas through recycling and reuse. Sustainable, environmentally compatible design of this nature can be achieved by employing Leadership in Energy and Environmental Design (LEED) Green Building standards and rating systems. These green building techniques, which specify the use of energy efficient insulation, fixtures, lighting and state-of-the-art strategies for water savings and material selection serve to ensure that best practices in both building construction and maintenance are utilized. Additionally, promoting the use of green building practices includes the preservation of existing structures where feasible and the reuse and recycling of materials from deconstructed buildings.

The City of Elmhurst should require a green building or LEED review of proposed development projects in the permitting stage to make certain that the most sustainable or “green” construction choices are employed in new development wherever possible. A quantifiable “green permitting”



system should be developed to provide those applying for permits a clear and easy to understand guide to the requirements for meeting green building (or LEED) standards, as well as permit fee reductions. In developing a green building program, the City of Elmhurst should consider and identify minimum requirements that must be met and incentives for exceeding those requirements. A successful program will offer property owners flexibility and options in determining which materials and techniques best meet their needs and desires for complying with the green standards.

In addition to energy efficient buildings, reducing overall vehicle miles traveled (VMT) for residents will go a long way toward making Elmhurst more sustainable and significantly reducing the City's carbon footprint. Strategies for this include viable public transit options, overall compact neighborhood design, and responsible land use decisions (discussed further in the next subsection). Design principles and policies that affect this should be fostered and implemented. These include a variety of action items, which range from constructing dense transit-oriented housing developments to identifying appropriate areas within the City for local food production, processing and distribution powered by alternative energy.

ALTERNATIVE TRANSPORTATION OPTIONS

To reduce greenhouse gas emissions and make Elmhurst more sustainable, the City must become increasingly more walkable, bikeable, and transit-oriented. For example, a solo commuter switching his or her commute to existing public transportation in a single day can reduce their CO₂ emissions by 20 pounds (this is slightly more than two metric tons annually or a 10 percent reduction of an average two car household's carbon footprint).⁴ Other options include:

- New or reconfigured streets should be designed with bicycles and pedestrians in mind.
- Street congestion should be eased with Context Sensitive Designs.
- Public transportation options in Elmhurst, such as Pace and Metra, should continue to operate in a clean, safe and accessible manner and be expanded to pro-

⁴ For comparison, weatherizing a home and adjusting the thermostat yields carbon savings of 2,800 pounds of CO₂ per year and replacing five incandescent bulbs to compact fluorescent lamps saves 445 pounds of CO₂ annually. See American Public Transportation Association, Public Transportation's Contribution to Greenhouse Gas Reduction, September 2007, Online: http://www.apta.com/research/info/online/climate_change.cfm



Bike to Bus transfer.

vide additional connections within and outside of the community.

- Secure bicycle parking should be made available near any major City destinations to encourage ridership.
- Priority parking should be made available in all commercial and municipal building lots for carpoolers and vehicles using alternative fuels.

ALTERNATIVE ENERGY PROVISION

Alternative, or renewable, energy sources show promise in helping to reduce the amount of carbon emissions that are by-products of energy use or generation. Employing alternative energy sources reduce the carbon emissions that contribute to climate change and helps to preserve many of the finite natural resources (such as fossil fuels) that are heavily relied upon as sources of energy today. Because greenhouse gas emissions from energy production (including transportation) amount to nearly 70 percent of world wide greenhouse gas emissions, providing incentives to switch to a low-carbon economy is paramount. These incentives can include large scale solutions such as the commodity-based green energy certificates (i.e. Carbon Financial Instrument contracts, traded at the Chicago Climate Exchange) or renewable energy portfolio standards



for states and cities which stipulate that a certain amount of energy provided must come from an alternative source.⁵

Options for renewable, sustainable, alternative sources for energy provision should be examined in Elmhurst; examples include: solar power, vegetable oil and bio diesel, land-fill gas generation, hydro and wind power. Often, it is less cost-effective for individual homeowners or small business operators to install alternative energy systems due to large up-front energy costs. To correct this, incentives for installation of small-scale renewable energy generators (such as solar panels on a home) should be offered. These may include a per-watt rebate for installed electrical capacity at the place of home or business, loans or grants for installation, and 'net metering' wherein the property owner is paid for any excess electricity generated and fed back into the grid.⁶

Building codes and design guidelines should allow for, encourage or require integration of passive solar design, green roofs, active solar elements (such as roof panels) and other renewable energy sources. Design standards might include southern orientation of structures for maximum solar exposure, extensive southern fenestration for winter heating, shielding of windows to prevent summer overheating, proper thermal mass to retain heat and coolness and the installation of solar hot water heaters.⁷ Current zoning and development standards in Elmhurst should be revised to eliminate any provisions that could potentially act as a barrier to the use or installation of residential renewable energy systems.



STORMWATER AND LANDSCAPE MANAGEMENT

Thoughtful choices in both landscape design and stormwater management can contribute significantly to the sustainability of an urban system. On-site stormwater practices can increase infiltration, retention or detention of stormwater, resulting in the reduction of the volume of water leaving the property. Controlling and reducing the amount of runoff from the site can, in turn, reduce the risk of flooding and the incidence of combined sewer overflow events, as well as reduce the size and extent of drainage infrastructure required. Retention and detention systems may also

⁵ American Planning Association, *Policy Guide on Planning and Climate Change*, April 2008, page 39.

⁶ American Planning Association, page 39.

⁷ American Planning Association, page 39.

decrease overall water consumption as collected rainwater can be reused on-site. Listed below are highlights of current best management practices, many of which could be successfully implemented in Elmhurst:

- **Run-off Reduction Practices**
 - Reduce quantity of impervious surface material
 - Utilize permeable pavements
 - Provide vegetated buffers for runoff; this improves filtration and infiltration of contaminated water, and slows runoff speed back into the ground.
 - Reduce sources of erosion in drainage ways, streams and disturbed ground.
 - Use creative landscaping (vegetation) to most effectively absorb stormwater runoff, such as a planted swale or rain garden.
 - Provide best management practices compatible with existing land uses, (especially with nearby industrial and commercial uses present) for areas that are in floodplains or waterways. This includes landscaped curb extensions or the construction of bioswales.

- **Sustainable Landscaping and Planting Practices**
 - Choose plants thoughtfully for the appropriate conditions (i.e. urban, park, or median) and provide reasonable vegetation maintenance. If herbicides or pesticides are required, be sparing in the application of them.
 - Create landscapes with an analysis of cultural plant needs in mind; group similar plants together by need.
 - Plant landscapes that are suitable to the level of maintenance that will be provided.
 - Consider 'hydrozoning' or planting and restoring native prairie plants in areas where lawn is not necessary, these plants require no mowing and significantly less (if any) supplemental irrigation.
 - Irrigation should not be excessively relied upon to maintain plantings. Where possible, employ best practices of irrigation design and management such as the use of 'grey' or reclaimed water.
 - Provide good quality (or structural) soil for plants to enhance longevity.
 - To reduce costly mowing, reduce non-essential vegetated surface areas that require mowing.
 - Provide turf in appropriate areas. Irrigate, if required, in areas such as high-use sport fields. Mow turf high enough so that the grass can hold moisture rather than 'browning out.'
 - Codify the above practices and landscape values in the City ordinance.





Vegetated Swale reduces impervious surface..



A swale absorbs rainwater, thus reducing storm water runoff.



IMPLEMENTATION

There are a number of strategies and resources available to pursue sustainability City-wide. Any approach must include intergovernmental cooperation of neighboring communities and a partnership with county-wide efforts to 'go green.' In addition to this, the City should implement a comprehensive City-sponsored education program to provide information and technical assistance to the public for any associated sustainability efforts. Policy numbers at the end of each implementation action correspond with the policies stated at the outset of the chapter.



Landscaped curb bump-outs capture runoff.

Assessment and Progress

Elmhurst should develop a strategic plan that will help guide and focus City resources and program initiatives to (1) reduce carbon emissions and the carbon footprint of the City government and Elmhurst community, and, (2) reduce and minimize the potential risks of climate change. The strategic plan should be coordinated with and leverage state and regional goals for emissions reductions, but Elmhurst should look for a take the lead where unique opportunities to innovate present themselves. For example, the City must inventory and monitor Elmhurst's greenhouse gas emissions in order to establish a carbon footprint baseline. Establishing baselines and monitoring programs is essential to measure and track progress in emission reductions over time. These baseline measurements should be established both for the city government, as an exemplary actor, and for the community as a whole. Over time, the City should develop and annually report on of a set of "sustainability indicators" that can be used to track Elmhurst's progress in meeting its sustainability goals over the course of the next decade. Examples of this include: quantity and quality of potable water, degree of compact urban development and "walkable neighborhoods" within Elmhurst, number of transportation alternatives to private vehicles, and the supply and quantity of alternative energy sources. [Policy 1]



Alternative Transportation Options

In order to implement alternative transportation options, an appropriate infrastructure in Elmhurst must be provided to make “green transportation” a viable alternative. Consider the following incentives: preferential parking locations for alternate-fueled vehicles, installation of electrical charging stations at public and commercial parking garages for electric-powered vehicles, conversion of public transit vehicles to electric or battery powered vehicles that can be recharged by electric power, and a large network of pedestrian and bicycle paths throughout the community that link all neighborhoods. On the municipal side, the City of Elmhurst and Elmhurst School District #205 should work to convert public and privately-owned and operated buses from fossil-fuel powered to electric or hybrid powered vehicles. [Policy 2]

Alternative Energy and Energy Conservation

In order to integrate alternative energy use, Elmhurst should implement the institution of a City-wide ‘green pricing’ utility program. Such programs allow for individual consumers to elect to use renewable forms of energy (such as wind power) for a fixed cost over a defined time period, which provides the City with enough consumer demand to diversify its energy portfolio; thereby increasing the percentage of power supplied to the City from renewable sources. Under the Power Agency Act, ComEd (the chief utility provider for the majority of northern Illinois) is required to provide incentive programs to its customers. In the next year, the company is expected to introduce four incentive programs to encourage the development of energy efficient buildings. The first provides rebates to developers and owners that select energy efficient equipment when retrofitting building systems; the second is a smaller scale version of the first with the rebates designed for smaller HVAC systems wherein ComEd will furnish up to 50 percent of the cost of an energy audit in addition to providing a rebate after the equipment is installed. The third and fourth stages of the program build off of the first two, with progressively more assistance provided in the energy audit stage, or in pre-construction and design services phase for new structures.⁸ Large institutions, such as Elmhurst Memorial Hospital, would be wise to take advantage of this region-wide program for maximum energy efficiency and reduced utility rates. [Policy 3]

Compact Neighborhood Development

Economic development strategies for improving the jobs-

⁸ Warner and Bateman, *Expanded Incentive Programs for Green Development to go into Effect June 1st*, Freeborn & Peters LLP, page 2-4.



Sidewalk recycling center

to-housing balance in Elmhurst can also have an effect on sustainability of the City. Potential homeowners can take advantage of Location Efficient Mortgages that can allow them to purchase a home closer to public transit. Location efficient communities are defined as convenient neighborhoods in which residents can walk from their homes to stores, schools, recreation, and public transportation. People who live in location efficient communities have less need to drive, which allows them to save money and improve the environment by reducing their overall vehicle miles traveled (VMT).⁹ Furthermore, the addition of strategically sited urban street trees in a location efficient neighborhood not only improve property values of nearby homes but serve to help cool the streets, acting as excellent ‘carbon sinks’ that work to offset the deleterious effects of carbon emissions. Elmhurst should continue to cluster transit, residential and employment locations in an efficient manner to encourage compact development and a walkable community. [Policy 4]

Funding

Monetary resources available to implement sustainability practices include federal, state and regional grants such as the federally administered Energy Efficiency and Conservation Block Grant Program and the Environmental Protection Agency’s bid to provide technical assistance to communities that have enforced the U.S. Conference of Mayor’s Climate Protection Agreement.¹⁰ A recent expansion of the Illinois Green Power Agency Act is designed to provide for

⁹ See more about LEM Online: <http://www.locationefficiency.com/>

¹⁰ See League of Women Voters Summary, Natural Resources, Online: http://www.lwvil.org/WWS_NR1_Background.pdf



a new range of expanded, grants, rebates and discounts for owners and developers of residential, commercial and industrial properties.¹¹ Grants are also available from a wide variety of private sources such as the Conservation 2000 Ecosystems Program which rewards land owners for innovative land management and stormwater techniques, and the Compton Foundation that provides assistance to citizens addressing climate change. [Policies 1, 3, 5, 6]

Elmhurst can help citizens to become more sustainable by encouraging citizens to change their everyday habits. Providing financial incentives or programs make it easier to decrease an individual's adverse environmental impact. These strategies include: improving personal use of solar power, using energy efficiently by properly weatherizing residential homes, encouraging sustainable power utility choices for customers, taking advantage of waste reduction or recycling improvements (such as limiting trash pickup with a charge by volume scheme) offering curbside recycling or yard waste composting pickup programs, and raising awareness and educating the public on the great impact that individual actions (such as home composting or switching to compact florescent light bulbs) can have on the sustainability of the City. [Policy 5]

On-site and broader scale implementation programs for municipal and private actors include: using incentives and energy tax rebates to encourage solar power installations on residential rooftops, providing technical and financial assistance for home weatherization, and providing resources to citizens for reflective roof painting to decrease the effect of the urban heat island. Since 1988, the State of Illinois has promoted energy efficient housing as means of maintaining the affordability of the housing stock. Under the Illinois Energy Efficient Affordable Housing Construction Program, grants have been provided to non-profit housing developers that agreed to include energy efficient building equipment and materials in the rehab or construction of affordable housing. In 2008, this program has been expanded to for-profit affordable housing developers as well.¹² Any new affordable housing construction in Elmhurst should work to take advantage of this incentive. [Policy 5]

Sustainable Management Practices

Productive and environmentally conscious management efforts can take on many forms but are perhaps best illustrated at the municipal level, by the "greening" of internal department operations. Efforts include: the construction and retrofitting of municipal buildings to conform to LEED standards, increased attention to mitigating the urban heat



Electric vehicle charging station

island effect with green roofs and sufficient urban forestry, and using alternative fuels in City vehicle fleets. Implementation initiatives for such practices include: introducing hybrid police cars, garbage trucks and municipal service vehicles to the City's fleet, and installing reflective paving and "cool" roofs" (both reflective and garden) on top of City-owned buildings that will serve to insulate the indoor ambient air temperature of the buildings, thus reducing heating and cooling costs for the City. [Policy 6]

Developing and enforcing City programs that foster sustainable environmental choices for both City employees and residents that reduce runoff is beneficial. For example, the installation of rain gardens, water collection barrels, and other landscape-based drainage features such as permeable pavement and landscaped curb extensions help to absorb and filter pollutants from stormwater. [Policy 7]

Continuing Education

Education is of the lowest cost, easiest to implement and highest impact strategy that Elmhurst can pursue. Greenhouse gas emissions have been reduced and prevented by nearly 10 percent in some communities just through slight behavior modification, such as turning out the lights when not in use. The City of Elmhurst's unique role in providing energy to businesses and residents and in establishing long range land use and public policy, make it especially well poised to take significant strides in establishing a sustainable Elmhurst, that will be well preserved and resource rich for many generations to come.

¹¹ Warner and Bateman, page 1.

¹² Warner and Bateman, page 4.