



## 7. SUSTAINABILITY & NATURAL RESOURCES

**Direction for protecting, preserving, and enhancing the natural environment.**

### INTRODUCTION

Natural features in Hopkins exist in an urban context. Wetlands were filled, the paths of streams were redirected, and acres of forest and field were converted to development sites and pavement. While distinctive elements and patterns remain, the overall view is of a developed community in an urban context.

This does not mean Hopkins doesn't play an important part in the larger environmental context. In fact, it plays a critical role in the region in protecting and preserving resources. Generally speaking, as a fully built out city, opportunities to improve the natural environment in Hopkins will be targeted and strategic. There are few undeveloped natural areas left to preserve. Instead, much of the focus will be on improving the quality and connectivity of existing areas, and making targeted investments and improvements as appropriate. This element outlines policy direction for a range of topics related to the natural environment. See **Appendices D1 and W1-3** for technical studies and data to support this policy framework.

### MAJOR FACTORS

Major factors to consider while planning for natural features in Hopkins include:

- **Redevelopment is greener development.** Redevelopment frequently provides an opportunity to improve site-specific and district environmental functions – for example, with greener site plans, sustainable materials, more energy efficient design, and cleanup of contaminated properties.
- **Smaller environmental footprint.** Locating development in compact, walkable, mixed use, transit oriented areas provides an opportunity for living with less environmental impact than if located in other less accessible parts of the region – for example, fewer automobile miles driven, less water used for watering the grass on large yards, and reduction of need for expansion of services in rural areas.
- **Connecting natural systems.** Planning at the system level for parks, trails, and open space improvements can provide important connectivity, which can assist in connecting natural habitat for existing plants and wildlife into more functional and useable spaces, as well as sustainably managing water resources.

# TRENDS AND CHALLENGES

## LIMITED LAND FOR OPEN SPACE AND OTHER FUNCTIONS



Limits in land availability mean looking for multiple stacked functions in green spaces, including recreation, habitat, stormwater, etc. Uses need to be efficient and relatively compact in terms of how they use space, and be mindful of impacts on other uses in close proximity.

## CHANGING AND DIVERSE NEEDS FOR OPEN SPACE



While this section is focused on natural resources, human users are always a consideration. The changing population of Hopkins may mean different needs for these spaces.

## AGING INFRASTRUCTURE



Updating the city's existing systems provides both a challenge and opportunity. The costs associated with updating and replacing infrastructure are substantial and growing over time. On the other hand, infrastructure projects can provide a rare opportunity to make improvements to systems and the surrounding area with broader community and environmental benefits.

## ENVIRONMENTAL CONTAMINATION



As Hopkins has been fully developed, many natural resources have been impacted significantly by development. Cleanup and restoration of natural resources are therefore important – not necessarily to return land to a pre-development state, but to restore some ecological function and reduce pollution.

## COMPLEX JURISDICTIONAL ISSUES



Many elements of the natural environment do not follow jurisdictional boundaries. As a result, addressing issues often means coordination with other impacted entities – including other cities, watersheds, state regulatory agencies, large private property owners, and others.

# GOALS AND POLICIES

Hopkins is focused on becoming an environmentally healthy and sustainable city, whose policies and investments focus on building and site efficiency, protecting and restoring natural resources, and improving the resiliency of the community.

The abundance of natural resources and health of our environment are critical to the well-being of our communities, the prosperity of our economy, and the health of our regional ecological systems. As these systems are all interconnected, this section offers goals that often relate to and build upon one another, addressing building and site efficiency, environmental quality, resiliency, and overall quality of life.

The objective of this section is to outline goals and policies that will help preserve, protect, restore, and enhance Hopkins' natural resources and environment.

## Building and Site Efficiency

Building and site efficiency relates to the relationship between buildings or site improvements and the environment. Decisions around building and site location, design, construction, maintenance, and use can help restore and enhance the natural environment.

## Building and Development Design and Location

Decisions around development play a significant role in the City's ability to support and strengthen the natural environment. Best practices in how development is located and designed set the stage for how sustainable a development can be. The City's role in development review is critical to ensuring sustainable construction and development. Likewise, the City's decisions on how it manages its own facilities and sites can set a standard for expectations and encourage best practices. For details on what resources are consider environmentally sensitive, see Appendix D1.

### Policies:

- Minimize and mitigate construction impacts on environmentally sensitive areas, locations with high ecological value, and areas with severe development limitations.
- Support development in areas that are or will be served by transit, bicycle, and pedestrian infrastructure to reduce dependency on automobiles for travel.
- Support site design that efficiently and sustainably uses space.
- Encourage the use of sustainable construction techniques that promote the reuse and recycling of materials.
- Explore implementation of heightened development review through Green Building Codes and sustainable building regulations.
- Encourage energy efficient building standards and sustainable investments in new and existing facilities to reduce energy consumption, improve air quality, and reduce greenhouse gas emissions.
- Support greener development patterns through stormwater management and landscaping of sites.

## GOAL 1

Encourage sustainable practices in locating, designing, constructing, and maintaining development in the city.

## Renewable Energy

Benefits of using renewable energy to diversify the energy supply include reducing dependence on fossil fuels, improving air quality, and reducing greenhouse gas emissions. All of these have measurable environmental benefits. Hopkins is currently participating in [Sol Smart](#) solar energy technical assistance, reviewing ordinances related to solar barriers, partnering with the St. Paul Port Authority on [PACE](#) (Property Assessed Clean Energy) program to provide low interest loans to those interested in pursuing clean energy, and the City is participating in solar energy through utility.

### Policies

- Encourage energy efficiency measures to reduce the overall energy consumption and carbon dioxide emissions from development.
- Support the development and use of renewable energy sources in Hopkins, including solar, geothermal, biomass, and other alternatives.
- Encourage the use of renewable energy sources in relation to City facilities, infrastructure, and operations.
- Make residents and businesses aware of incentives to utilize renewable energy sources and energy efficient alternatives.
- Promote balance between the benefits of urban forests and the benefits of enabling solar development.
- If opportunity arises, participate in the creation of local community solar gardens for residents and businesses who have limited on-site solar resources or do not own land or buildings, on sites such as the landfill.
- Encourage development projects to evaluate on-site solar opportunities and incorporate solar system installation into designs.
- Use State of Minnesota guidelines as the basis for evaluating and forming local carbon emission reduction goals.

## GOAL 2

Increase the use of solar power and other renewable sources for city infrastructure, facilities, and operations and encourage residents and businesses to make renewable energy improvements.



## Water Conservation

In Hopkins, average water usage has been progressively decreasing. For residential use, the number of gallons per person per day of water usage has dropped from 80 gallons in 2005-2010, to 68 gallons in 2011-2016. Additionally, the average total water usage has decreased from 138 gallons per person per day in 2005-2010 to 120 gallons in 2011-2016.

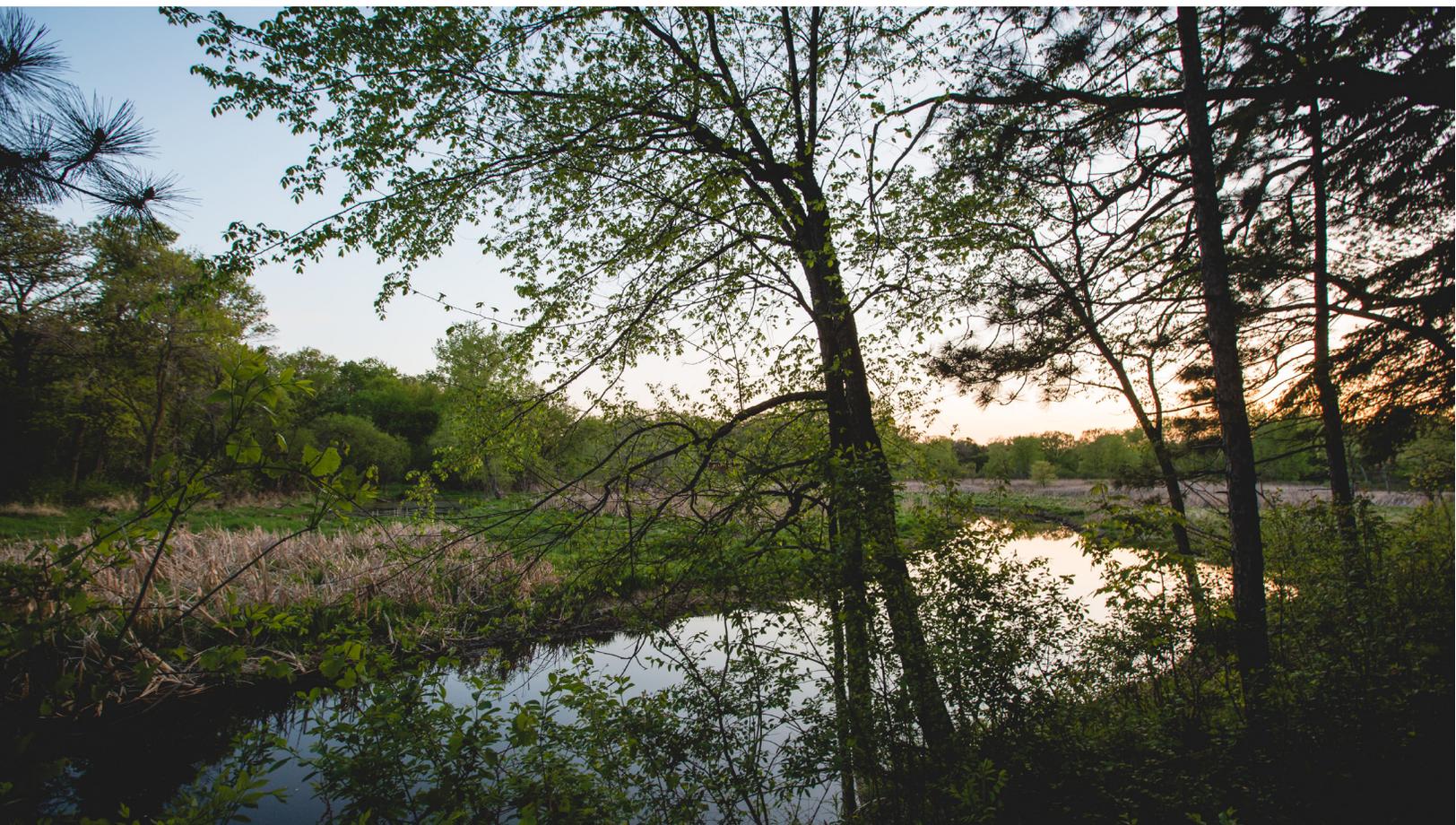
Pressure is now being put on the Minnesota Department of Natural Resources to reduce the burden that is currently being placed on the aquifers. It is anticipated the DNR will implement more restrictive water use policies throughout the metro in the future, forcing communities to decrease water usage. Fortunately but not by coincidence, Hopkins is already trending in a positive direction suggesting existing policies and practices have been effective.

### Policies

- Identify and promote water conservation strategies through coordination and outreach with private landowners, developers, citizens, and other local governments.
- Raise water conservation awareness through strategically placing educational signage at decision-making points, such as faucets, showers, and water fountains.
- Encourage the use of drought-tolerant plantings, promote irrigation systems that utilize reclaimed water, and incentivize systems that collect rain water for reuse.
- Meter or otherwise estimate water usage for system maintenance/management and work to identify leaks or wasted water in the system.

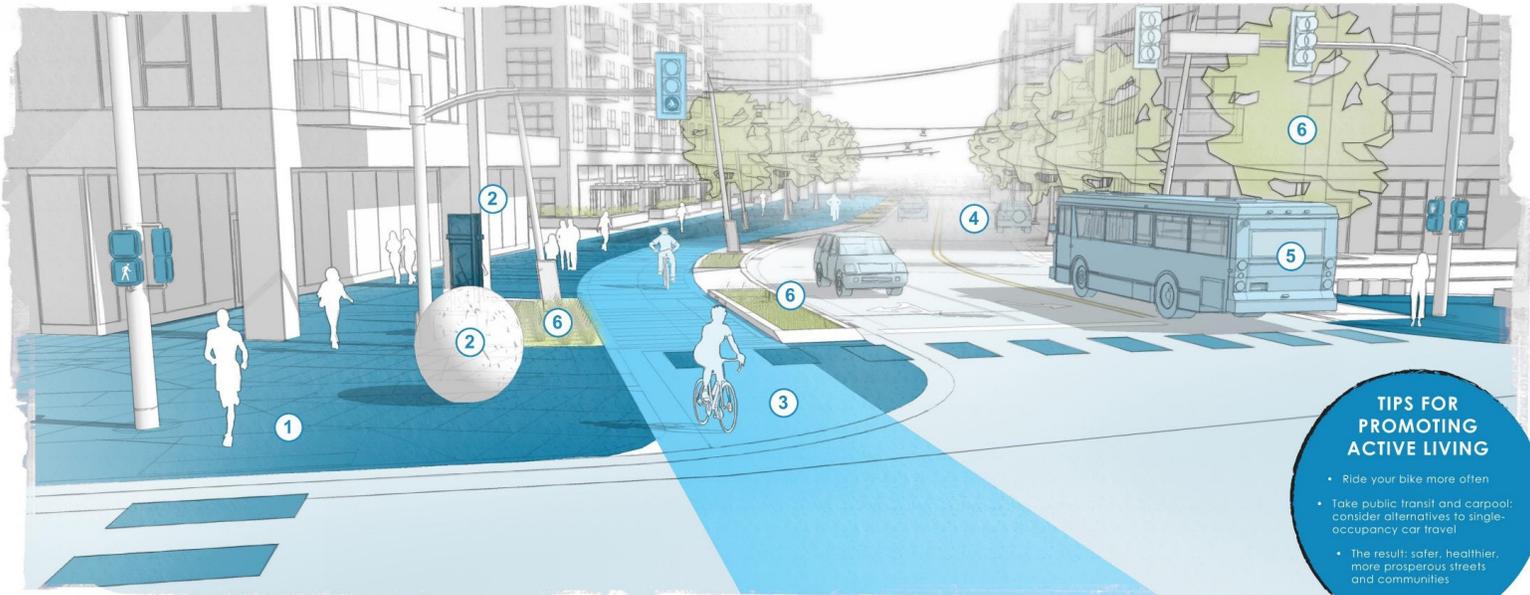
## GOAL 3

Conserve water resources by continuing education and incentive programs to ensure the city has adequate water supply to meet the long term needs of the citizens.



# HOW WE ARE RETHINKING THE PROBLEM

CREATING A NETWORK OF MULTIMODAL GREEN STREETS WITH CORRIDORS INCLUDING PLAZAS, SIGNAGE, ART, CYCLING, GREEN INFRASTRUCTURE, AND PUBLIC TRANSIT



- 1 PEDESTRIAN CORRIDOR**  
Sidewalks blend into plazas w/ art to view & interact with
- 2 PUBLIC ART + SIGNAGE**  
Art integrated into streetscape, kiosks w/ maps, info, & art
- 3 CYCLE TRACK**  
Two way travel, signalized & fully separated from roadway

- 4 PARKING**  
Parallel parking for easy drop-off & access to businesses
- 5 TRANSIT**  
Bus stops & safe bike/pedestrian connection to the light rail
- 6 PLANT MATERIALS**  
Streetscape plantings with street trees, native shrubs, & flowers

**TIPS FOR PROMOTING ACTIVE LIVING**

- Ride your bike more often
- Take public transit and carpool: consider alternatives to single-occupancy car travel
- The result: safer, healthier, more prosperous streets and communities

THANK YOU TO OUR SPONSORS:



## Stormwater Management

Several rule/policy making agencies, including the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, Nine Mile Creek Watershed District, and Minnehaha Creek Watershed District have already initiated measures to reduce the amount and impact of stormwater runoff.

Hopkins does and should continue to ensure compliance with federal, state, and local regulations, enhance and protect biodiversity and ecosystems, and improve water quality by requiring design and use of erosion control and stormwater pollution prevention plans.

The graphic above illustrates how Hopkins is “rethinking the problem” by re-envisioning and re-designing the city to capture stormwater and protect our watersheds.

### Policies

- Implement and encourage the use of stormwater Best Management Practices to reduce the speed and impact of stormwater runoff.
- Incorporate permeable paving, bioretention cells, buffer strips, swales, and other strategies that address stormwater runoff, where applicable.
- Require the use of erosion control plans and stormwater pollution prevention plans to minimize the pollution of waterways and ensure compliance with federal, state, and local regulations.
- Consider expanding on regional facilities and banks where feasible and cost effective, such as the existing Artery/8th Avenue regional treatment facility.

## GOAL 4

Improve water quality by requiring design and use of erosion control plans and stormwater pollution prevention plans to ensure compliance with federal, state, and local regulations, minimize pollution and contamination of waterways, and enhance and protect biodiversity and ecosystems.

## Wastewater

Regional investments allow us to foster efficient and economic growth, and these investments include those in our wastewater system. To ensure orderly and economical development and redevelopment, each local government needs a wastewater and sewer plan to evaluate service needs and ensure compliance with the Metropolitan Council's [2040 Water Resources Policy Plan](#).

For long-term wastewater service areas, the staging of sewered development through 2040 as well as the protection of the remaining long-term service areas for efficient future sewered development should be planned. Furthermore, Hopkins will continue to support investments in the regional wastewater system that are needed to accommodate planned growth.

In Hopkins, the initial round of wastewater system planning was completed previously as the community developed. As redevelopment is planned and areas are guided for more intense site density, the City should evaluate downstream sanitary sewer mains for potential capacity increases. Further Wastewater information, maps, and calculations can be found in Appendix WR3.

### Policies

- Establish a wastewater management plan that ensures all water and wastewater is treated in a manner that protects the natural environment.
- Ensure facilities are able to meet the maximum day-to-day demand of Hopkins' current and future populations.
- Consider the increase of sanitary sewer and water main sizes during implementation of the street and utility reconstruction program adjacent to potential future redevelopment sites.

## GOAL 5

Ensure wastewater is managed and treated in a way that protects the natural environment.





## GOAL 1

Conserve and restore open spaces and natural resources to increase resilience, adaptability, and biological integrity

### Environmental Quality

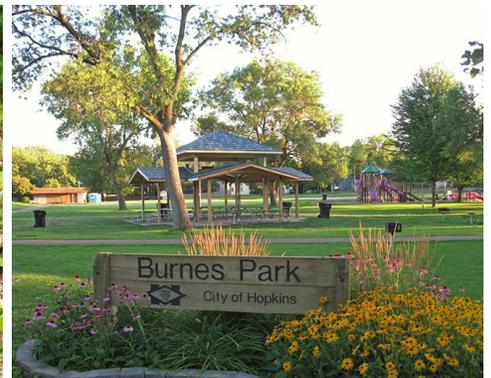
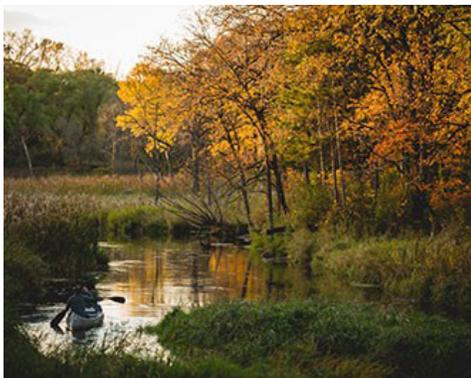
Efforts to protect, preserve, restore, and enhance our natural environment will ultimately improve the quality of life for those currently living in Hopkins and help ensure a legacy for future generations.

### Open Space & Natural Resources

As population, development, and land values increase, the need for strategic open space and natural resource planning and management becomes more important. Since Hopkins is a fully developed city, expansion of open space areas is limited, and changes will be strategic and focused.

#### Policies:

- Protect, preserve, restore, and enhance Hopkins’ natural resources and open space areas through establishing environmental development regulations, education programs, and local partnerships.
- Promote the return of native vegetation to enhance the ecosystem’s ability to handle human and natural impacts and initiate processes that sustain them (for example, prescribed prairie burns) and encourage its usage in public and private landscaping plans.
- Establish, connect, and maintain healthy habitats that meet the needs of native animal populations and their migratory patterns, and consider impacts on wildlife in transportation and development projects.



## Waste Minimization

Hopkins manages its own solid waste and recycling program. In addition to providing reliable services to residents and businesses, an overall goal of this program is to minimize the amount of waste generated and disposed of in landfills. Hopkins already supports recycling through a mandatory recycling ordinance, fees on disposal of certain items, city purchases of recycled products, and promoting recycling through education and outreach. A key component in further addressing solid waste and waste minimization is proactively managing waste systematically.

### Policies

- Provide residential refuse collection necessary to ensure public health and safety.
- Encourage residents to reduce solid waste generation.
- Provide recycling services to 1-3 unit residential and enforce mandatory ordinance.
- Maximize efficiency with regard to refuse and recycling collections.
- Support alternatives to disposal which emphasize the reuse of materials whenever possible.
- Keep the community clean.
- Provide adequate, reliable and effective waste disposal and recycling at reasonable cost to residents.
- Expand opportunities for recycling, including organics recycling, with additional education and more options to recycle items.
- Develop and promote additional waste reduction strategies relating to composting and methane-capture.
- Encourage a reduction of the volume and toxicity of materials used in production, while promoting low-impact lifestyles that use less resources.
- Reuse/recycle post-consumer products to their best possible use, driving new local economic opportunities and creating public benefits.

## GOAL 2

Reduce the overall disposal of solid waste and increase reuse and recycling to conserve environmental resources.



## Water Quality

Our water resources have the ability to provide valuable habitat, support natural ecosystems, and offer a wide variety of recreation opportunities. Abundant, high-quality water plays a major role in advancing the region's growth, economic prosperity, and livability. Infrastructure for water supply, stormwater, and wastewater play a critical role in managing this essential resource. Water quality in the area is regulated at the state level, and Hopkins is required to comply with various regulatory standards and practices. In addition, Hopkins can pursue additional optional best management practices to further improve water quality and integrate stormwater management sustainably within an urban context.

### Policies

- Further develop partnerships with local entities to identify and establish additional water quality measures, promote expanded infiltration through the use of best management practices, and ensure new developments meet applicable standards for water quality.
- Provide leadership, planning, information, and technical assistance to actively preserve, enhance, and where possible restore the essential functions of wetlands, streams, rivers, creeks, and lakes.
- Establish measures for limiting the loss or degradation of Hopkins' riparian zones, wetlands, and other water bodies.

## Air Quality

Clean, healthy air is an essential element of the environment. However, air quality can be difficult to influence at the city level, as ambient air quality is determined by many factors and jurisdictions. Many point source emissions are already regulated at the state level, so there is limited opportunity for improvement. One area of potential change is to promote the reduction of greenhouse gases from vehicle emissions by encouraging land use and mode choice patterns that reduce dependence on fossil fuels. Hopkins has electric car charging stations and is planning for major transit improvements.

### Policies

- Support a reduction in vehicle emissions by improving travel efficiency and promoting non-auto modes of transportation, including walking, biking, and public transportation alternatives.
- Support expanded use of vehicles that do not rely on fossil fuels.
- Foster air quality improvements to preserve the natural environment and sustain community health and enjoyment.
- Improve indoor air quality through sustainable building practices and proper maintenance.
- Comply with state and local air quality standards.
- Expand use of energy-efficient and alternative fuel vehicles, including through the city fleet.
- Partner with other agencies and organizations to monitor nonpoint source emissions (cars, trucks, etc.) and their impact on air quality, and increase community awareness of air quality in the city.

## GOAL 3

Improve water quality through reduction in runoff and management of stormwater.

## GOAL 4

Protect and improve indoor and outdoor air quality



Source: Opus

## GOAL 5

Promote the cleanup and reuse of brownfields sites, and use sustainable practices to prevent future soil contamination.

### Brownfields Remediation

A brownfield site refers to the expansion, redevelopment, or reuse of a property, which may be complicated by the potential or presence of a hazardous substance, pollutant, or contaminant. Based on that definition, brownfield remediation refers to the cleaning up and reinvesting in these properties. Reinvesting in these sites increases local tax bases, utilizes existing infrastructure, facilitates job growth, takes the pressure off of undeveloped, open land, and improves and protects the environment.

Excelsior Crossings campus shown above was built on a brownfield site. Many redevelopment sites in Hopkins have some contamination either in soil or in buildings, such as asbestos or lead. There are currently external funding sources for brownfield cleanup projects; Hopkins is a partner in other aspects of redevelopment.

#### Policies

- Support the development of planning, implementation, and maintenance controls for brownfield remediation and reuse.
- Encourage the cleanup and redevelopment of brownfield sites in the city.
- Promote sustainable practices to prevent future soil contamination.

## Noise Pollution

Noise pollution takes place where there is either an excessive amount of noise or an unpleasant sound that causes temporary disruption in the natural rhythm of life and can inhibit sleep. Due to its ambient nature, noise pollution is often challenging to address effectively at the city level.

Hopkins' [current code](#) states "Between 10pm and 7am, the City prohibits gatherings of people from which noise emanates of sufficient volume that disrupts the peace and quiet, and can easily be heard at a distance of 50 feet from a residential dwelling." Currently this code does not directly address noise from other factors, though many are managed through regulatory agencies, or indirectly controlled through buffering and setback requirements.

## Urban Tree Canopy

Data suggest that Hopkins currently lacks the level of urban tree canopy found in some surrounding communities. Increasing the urban tree canopy would offer benefits regarding stormwater, reducing the urban heat island effect, providing shade, improving air quality, reducing stress, and enhancing quality of life.

Hopkins is already a designated [Tree City USA](#), has a tree board/department, a tree care ordinance, a comprehensive community forestry program, and an Arbor Day observance.



## GOAL 7

Maintain and increase the urban tree canopy to provide benefits to the community.

### Policies

- Identify and consider best practices for the strategic placement of trees and plant cover.
- Determine high priority planting areas and foster tree planting initiatives through local partnerships.
- Support greater species diversity in Hopkins, based on recommended tree species suitable for Hopkins' urban microclimate.
- Pursue heightened landscape requirements for new parking and streetscape projects or updates, as appropriate.
- Manage the tree canopy on public lands in the City of Hopkins, in order to maintain the health of existing trees and plant cover, save mature trees, and identify opportunities for additional tree and plant cover.

## GOAL 6

Mitigate and/or reduce noise pollution where possible, particularly near residential areas.

### Policies

- Work with applicable regulatory agencies regarding the implementation and enforcement of noise pollution monitoring and regulation.
- Consider the potential increase in sound levels over ambient conditions when reviewing development applications for approval.
- Where possible, seek to restrict noise levels that can cause a nuisance, lead to injury to human health or property, and/or interfere with overall quality of life.
- Work with the railroad to implement railroad quiet zone improvements at crossings in the city.



Source: City of Hopkins

## GOAL 1

Support increased resilience in Hopkins by increasing the ability of a system to survive, adapt, and grow in the face of climate change and related incidents.

### Resilience

As cities adjust to increasingly threatening weather events, stress on infrastructure and public facilities, and greater costs of services, there is a growing need to not only plan for these events, but also lessen the impacts through conscious climate adaptation and resilience planning. Resiliency is having the capacity to adapt, respond, and thrive under changing conditions.

Not all consequences of climate change are environmental; societal and economic concerns will need to be addressed as well.

### Climate Change Impacts

Climate hazards are natural events related to our changing climate that can cause harm to people, infrastructure, and the environment. Hopkins is beginning the planning process to adapt to Minnesota's changing climate and the associated impacts that the community will experience. One of the ways Hopkins is preparing was through participating in a three-part climate resilience workshop series in 2017, which was led by two local watershed districts. The workshops helped the city identify opportunities to build resilience to Minnesota climate events and the impacts most likely to be felt in Hopkins given the city's geography, development patterns, and demographics.

Policies:

- Assess community and population vulnerability to the impacts of climate change, in order to prioritize assistance for most vulnerable populations.
- Identify mitigation and adaptation strategies that can be implemented in Hopkins, including goals for carbon reduction.
- Partner with other agencies and organizations to support the capacity to predict extreme events and natural disturbances through monitoring and modeling efforts at all scales and intensities of environmental change.

## Hazard Management and Mitigation

Hopkins' top climate hazards include extreme heat, extreme precipitation, strong storms/winds, and warmer winters. Extreme heat impacts the quality of the urban forest stressing the health of trees and causing them to be more susceptible to disease and death. Furthermore, heat impacts streams and lakes causing too much water to evaporate, as well as the warming of water can result in algal blooms.

Large storm events can cause extreme precipitation and strong winds, both of which can cause life-threatening conditions. Hopkins is also experiencing increased winter nighttime low temperatures. These winter temperatures often fluctuate around the freezing point causing increased freezing rain and ice.

Policies:

- Support development and maintenance of hazard response, recovery, and mitigation plans.
- Further develop initiatives and funding resources to help the City of Hopkins enhance disaster resilience.
- Develop a framework to safely house and protect personnel and patients to prevent a lapse in the availability of medical services and ensure the overall health of the community can be effectively managed during and immediately after an event.
- Evaluate potential resilience strategies for emergency management, including microgrid development and backup power to critical infrastructure.

## Holistic Approach

As a result of an increasingly complex natural and built environment, we must modify our current methods of thinking and planning. Holistic thinking and planning seek to approach challenges from a comprehensive perspective, taking into account the full context and listening to multiple perspectives. This means going outside of typical information sources and information-gathering practices to include new insights from nontraditional sources and stakeholders.

This approach can allow multiple people, groups, disciplines, and systems to work together. Ultimately, this creates a stronger, more resilient, and comprehensive approach to planning.

Policies:

- Promote a holistic approach to resiliency that incorporates community involvement and intergovernmental agreement.
- Ensure a proactive approach to resiliency challenges that is open and inclusive, as opposed to a reactive approach.
- Develop a framework to ensure that policy decisions are reached and implemented through a strong integration of input from stakeholders.

## GOAL 2

Develop response strategies for major incidents, both natural and human-made.

## GOAL 3

Pursue holistic approach to developing a resilient city, including natural environment, public health, economic impacts, and other aspects.