City of Mankato

Climate Action Plan

Mankato, MN

MANKA183711 | June 3, 2025

SEH

Building a Better World for All of Us®

Engineers | Architects | Planners | Scientists

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Climate Action Plan

Prepared for the City of Mankato

1 Background

The City of Mankato secured funding through the Minnesota Pollution Control Agency (MPCA) for a Local Climate Action Grant to develop plans to increase climate adaptation and resilience for the City. This project is intended to create an evidence-based roadmap for strengthening Mankato's resilience to climate change.

The City of Mankato intends to set a course towards climate resilience and carbon neutrality by 2050. Climate risk assessment is a continuously evolving process, this plan is considered the first step of many and will continue to evolve overtime to adapt to the evolving challenges related to climate variability.

Located in the scenic Minnesota River Valley and an hour and a half from the Minneapolis-St. Paul metropolitan area, Mankato is the centerpiece of a prosperous, progressive, and culturally rich region. Mankato has earned several livability awards, making it an excellent place to work, play, live and raise a family.

Mankato's economic diversity and growth leads Minnesota and is among the top in the nation. The City of Mankato recent population estimate is 44,385, with a contiguous population area of 101,927. The population is a little less than 1% of the population of the State. There is a trade area population of more than 400,000; and there are 1.6 million people who live within 60 miles. The region's stability is supported by an ever-growing agricultural economy, Mankato is the region's commercial, industrial, educational, health care and technology center.

1.1 Current and Past City Efforts

The City of Mankato has taken significant steps towards improving climate resiliency and sustainability, prior to the initiation of this Climate Action Plan. These efforts are listed below.

City Wide Sustainability Efforts

- Ameresco study and implementation
- Solar farm subscriptions
- MS4 regional partnership for water quality
- Educational presentations for public and private schools
- Use of remote meeting platforms
- Reduction of internal paper processing
- Expansion of recycling in parks, ramps, and other public spaces
- Plastic bag recycling accepted at IGC
- 2 organics dumpsters for city resident use (Public Works Center and Sibley Park)

- Green Steps level # 2 City
- Riverbank stabilization projects
- Native planting ordinance and permit
- Recycle Smart educational program
- Pet waste program
- Recycling expansion for Spring Cleanup days
- Pollinator garden installations in our parks
- “No Mow May” Initiative (discontinued and replaced with “Bee a Good Pollen-Aider” education program)
- Use of reusable glassware at council meetings

Community Development

- The Transit Facility was designed to the “Buildings, Benchmarks, and Beyond” (B3) standard
    - 2018 Best of B3 Design Award
    - 2018 Best of SB 2030 Award
- Energov move to paperless plan review and permits
- Solar subscriptions for low-income housing project
- Transit Development Plan
- Housing rehabilitation program
- Parking lot requirements for shade trees
- Stormwater infiltration-to-sanitary sewer inspection

Administrative Services

- Transition to ACH electronic transactions
- Transition to paperless documentation
- All facility projects incorporate environmentally sustainable practices
- Reusable bottle fillers installed in majority of city facilities
- All computers, faxes, and copiers are on a replacement schedule to ensure energy efficiency
- All electronics, ink, toner cartridges, and batteries are recycled
- Implemented energy management software for high use facilities

Public Safety

- Mankato Public Safety Center is LEED Gold Certified
- Rooftop solar array
- 2 hybrid vehicles for detectives
- Drug takeback program
- Digital transmission of county case files and State of MN documents (citations and reports)
- Battery powered extraction and emergency tools

Public Works

- Recycled aggregate and pavement use whenever possible
- Street sweeping and leaf pick up program
- EV Fleet & Infrastructure study
- GPS Insights vehicle usage tracking
- LED streetlights and signals
- Recycle used absorbent spill cleanup materials
- Regular scheduled fleet upgrades to more efficient and environmentally friendly technologies
- Cartegraph asset management tracking
- 2 cycle gas to battery operated hand tools
- Recycled water used for street sweeping and washing
- Regular stormwater and sewer system camera inspections to detect leaks and illegal discharges
- Flood station upgrade study
- Environmental services water quality and environmentally sensitive area protection
- Watermain leak detection program
- Sanitary sewer main cleaning and inspection program
- Mankato Chip and Seal program

Mankato's Water Resource Recovery Facility (WRRF)

- High quality recycled water used for park watering, MEC cooling water, and local contractor use
- Reduced city water use by 50%
- Septage receiving station for proper disposal of contractor wash water, septage, and leachate
- Industrial user permit program
- Power reduction plan
- Inflow and infiltration study
- Riverbank stabilization project
- Reuse of retired firehoses
- Biosolids land application program
- Biogas used in boilers to reduce natural gas consumption
- Electric golf cart used for onsite transportation
- Flow optimization at facility reducing energy and chemical costs by maintaining flow through facility
- Biological treatment research to remove phosphorous and nitrogen without expensive plant upgrades
- Participating in the MPCA PFAS monitoring program

Water Treatment Plant (WTP)

- Reclamation of filter backwash water
- Water Conservation Plan
- Water Conservation Ordinance
- Managing and protecting the City of Mankato's drinking water supply
    - DWSMA (Drinking Water Supply Management Area)
    - SWIPP (Surface Water Intake Protection Plan)
    - Wellhead Protection Plan

2 Relevant Studies

2.1 City of Mankato Strategic Plan

As a government entity, the City of Mankato is tasked with allocating resources to accomplish its operational, capital and strategic priorities set for by its governing body and citizens. Over the years the City has engaged various forms of strategic planning to help better align constituents' needs with the allocation of resources. One of the most formal processes is the 5-year strategic plan which started in 1996.

In May 2023, the City began the process to update the organization's strategic plan to align the City's existing initiatives, department work, City Council goals, and budget, resulting in a plan to guide the organization in the delivery of services to the community over the next five years.

The most recent strategic plan published in October 2024 (City of Mankato Strategic Plan 2025-2029) includes updated philosophy, vision, values and goals with supporting actions under each goal designed to serve as the blueprint for enhancing the community and establishing goals from 2025 to 2029. The Climate Action Plan is a direct goal outcome of the strategic plan and follows its philosophy and foundational structure to ensure consistency and feasibility. The plan's recommendations aim to align with the City's existing initiatives, department work, City Council goals, budget and strategic plan.

2.2 Minnesota Climate Adaptation Framework

Developed by the Minnesota Pollution Control Agency (MPCA), the framework was developed from a series of population vulnerability assessments for 23 communities throughout the State of Minnesota to identify vulnerabilities, resilience indicators and strategies to mitigate risk associated with climate challenges.

The framework includes a series of climate adaptation goals and well as a menu of adaptation strategies that serve as a guide for communities to develop their own strategies based on State and City policies, needs and priorities.

Adaptation goals were defined for clean transportation, climate-smart natural and working lands, resilient communities, clean energy and efficient buildings, healthy lives and communities and clean economy. "*The framework goals are interconnected: Work in one area of our lives may create opportunities — or challenges — in another. We must collaborate across sectors to ensure that all outcomes are considered."*

The climate vision for the State of Minnesota embodied in the framework is:

- *Carbon neutral. By 2050 Minnesota substantially reduces greenhouse gas (GHG) emissions and balances any GHG emissions with carbon storage, especially in our landscapes.*
- *Resilient. Minnesota communities, businesses, and the natural environment can prepare, respond to, and recover from the impacts of climate change so all Minnesotans can thrive in the face of these challenges.*
- *Equitable. Minnesotans acknowledge and address inequitable and inaccessible systems that contribute to some communities experiencing disproportionate climate change impacts; ensure fair distribution of the costs and benefits of action now and to future generations; and ensure meaningful participation in planning.*

3 Community Outreach & Engagement

A series of public engagement meetings were held as part of the development of the plan. The City took several actions to reach out to residents, businesses, local organizations and stakeholders to encourage participation in the engagement meetings. The following is a screenshot of the content shown on the Every Voice Mankato website.

Attend a Community Engagement:

Tuesday, March 18, 5:00-7:00 p.m. (Open House)

Mankato Room (City Council Chambers), Intergovernmental Center, Mankato, 10 Civic Center Plaza

Monday, April 21, 5:00-6:30 p.m. (Virtual Presentation + Q&A)

Join us for the second community engagement event for the Mankato Climate Action Plan. This meeting will feature a presentation from SEH Engineers, followed by a Q&A session. We'll address as many questions as time permits and may conclude early depending on attendance and the number of questions.

Monday, May 19, 5:00-7:00 p.m. (Presentation + Open House)

Mayo Clinic Health System Event Center, Ellerbe Room
1 Civic Center Plaza, Mankato

Join us for the Mankato Climate Action Plan presentation and open house on Monday, May 19, from 5:00 to 7:00 p.m. in the Ellerbe Room at the Mayo Clinic Health System Event Center, located at 1 Civic Center Plaza in Mankato.

SEH will present draft plan recommendations from 5:00-5:30 p.m., followed by an open house from 5:30-7 p.m. for attendees to engage with staff and provide feedback on the recommendations.

This is the final opportunity to provide input before the plan goes to the City Council for review and adoption.

A summary of the community comments and feedback received are included in **Appendix A**.

4 Climate Action Plan Stages

- Awareness Stage - where outreach to the community took place for input, ideas, and concerns.
- Consideration Stage - where issues and possible actions require further details and investigation to determine their possible feasibility and alignment.
- Pilot Stage - these actions are viable and align with the City's priorities yet may not be ready for citywide implementation, but rather to be tested by the community first.
- Program State – those actions which have had successful pilots may then move to the final stage of implementation if they are in line with the strategic plan, community needs and the overall climate plan.

Figure 1 shows a graphic of the Climate Action Plan Stages.

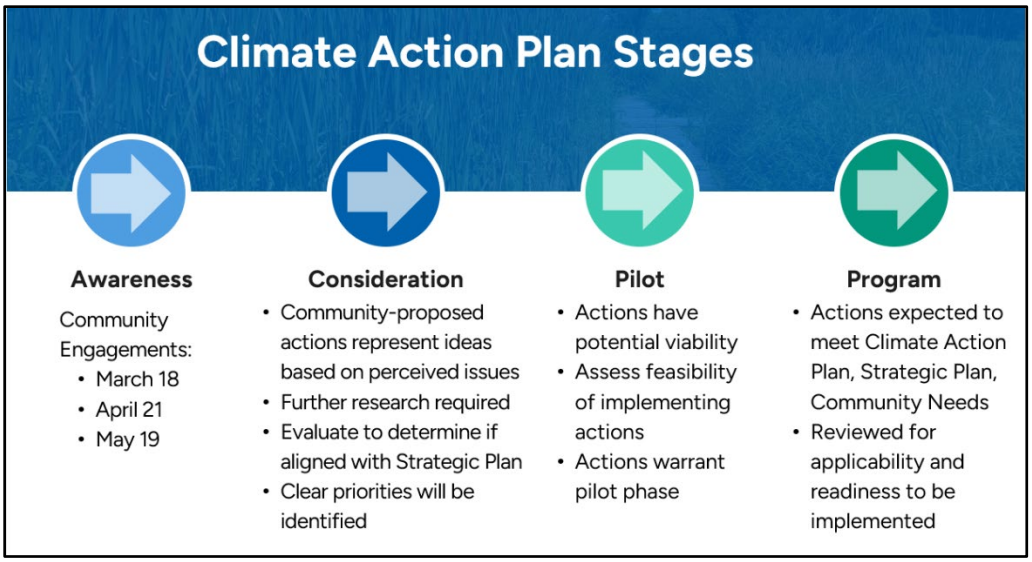

Figure 1 – Climate Action Plan Stages

5 Social Infrastructure

5.1 Essential Services

The United Nations has developed guidelines to help communities address demographic, environmental, economic and social challenges related to urban growth, urban planning and climate challenges. These guidelines identified 25 essential services (**Figure 2**) every city needs to function and thrive especially in the face of climate change and growing inequality.

Figure 2 – Periodic Table of Basic Urban Services

5.2 Social Vulnerability Index

The **Social Vulnerability Index** (SVI) developed by the U.S. Environmental Protection Agency (EPA), refers to the socioeconomic and demographic factors that affect the resilience of communities and it evaluates the potential negative effects on communities caused by external stresses. "*The SVI evaluates the degree to which socially vulnerable populations may be exposed to the impacts of climate change.*

The SVI uses 16 U.S. Census variables (**Figure 3**) from the 5-year American Community Survey (ACS) to identify communities that may need support before, during, or after disasters. These variables are grouped into four themes that cover four major areas of social vulnerability and then

combined into a single measure of overall social vulnerability. **Figure 4** is a map of the Social Vulnerability Index for Mankato.

The place-based index, database and mapping application was designed to identify and quantify communities experiencing social vulnerability. The Geospatial Research, Analysis & Services Program (GRASP) maintains the SVI to help public health officials and local planners better prepare for and respond to emergency events with the goal of decreasing human suffering, economic loss and health inequities. [1]

This analysis of comparative risks to vulnerable populations is critical for developing effective and equitable strategies for climate change adaptation[2]. The SVI score ranges from lowest (0) to highest (3); the City of Mankato has areas in all four levels of vulnerability.

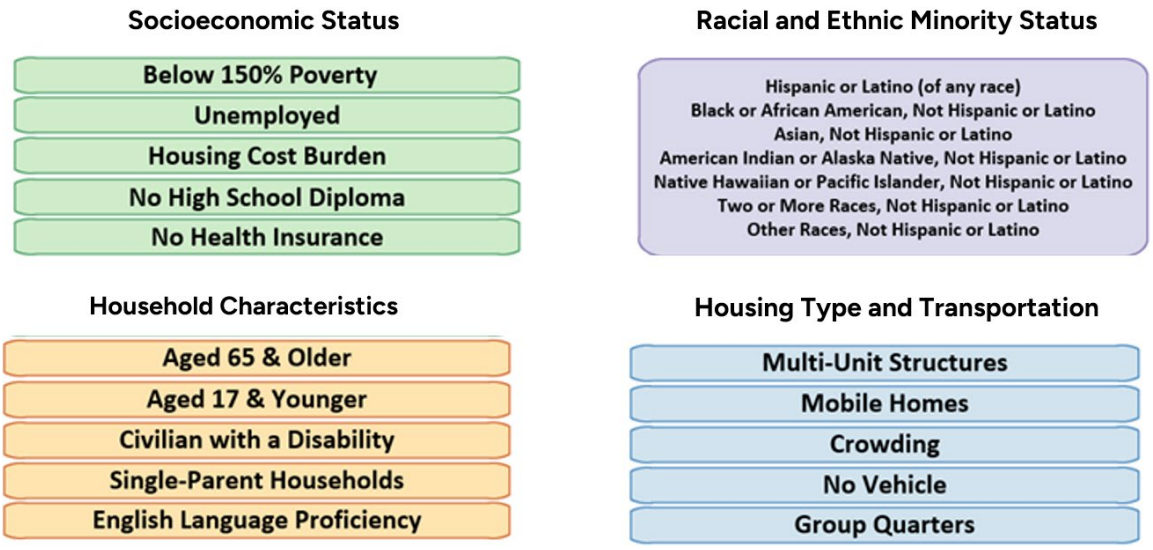

Figure 3 – Social Vulnerability Index Variables

The US Department of Agriculture (USDA) defines food deserts as areas where the residents have limited access to nutritious, fresh and affordable food, even with knowledge of good nutrition and the desire to consume healthy food, some people live in areas that don't have reliable transportation or easy access to healthy food especially in the winter months.

The USDA Economic Research Service has developed the *Food Desert Locator* [3]*, in which a food desert census tract is defined as a low-income tract where a substantial number or substantial share of residents does not have easy access to a supermarket or large grocery store.* This tool is available to local governments, community organizations and citizens that are interested in learning more about sustainable food systems and developing strategies in their communities as well as available assistance and resources specifically oriented to vulnerable communities and sustainability.

[1] *Vision & Program | Place and Health - Geospatial Research, Analysis, and Services Program (GRASP) | ATSDR*
[2] *Social Vulnerability Report | US EPA*
[3] *Interactive Web Tool Maps Food Deserts, Provides Key Data | Home*

5.2.1 Recommendations

- Further analysis of SVI under each parameter evaluated under the Climate Action Plan. i.e. Floodplains, public transportation, housing.
- Evaluate transportation networks within highest vulnerability areas.
- Evaluate access to critical services within highest vulnerability areas.
- Identify "food deserts" areas, characterized by lack of grocery stores and access to fresh foods.

5.3 Environmental Justice Areas of Concern

The MPCA developed a statewide Environmental Justice database to ensure that pollution does not have a disproportionate impact on any group of people, which is the principle of Environmental Justice. **Figure 5** includes a map of the Environmental Justice Areas of Concern in Mankato. *"This means that all people -regardless of their race, color, national origin or income- benefit from equal levels of environmental protection and have opportunities to participate in decisions that may affect their environment or health."*

The MPCA Climate Action Framework | Our Minnesota Climate specifically calls *to "incorporate climate change preparedness activities into existing local government plans and programs as a means to increase resilience and other goals to Improve the capacity of the community, especially populations most vulnerable to climate change risks, to understand, prepare for and respond to climate impact; and to utilize an equity framework or lens to ensure preparation actions are implemented in ways that deliver more equitable outcomes and prioritize populations most vulnerable to climate change impacts."* [4]

5.3.1 Recommendations

- Create and make available an Emergency Response Toolkit offering tips and suggestions for residents to increase their emergency preparedness.
- Develop a communication plan to reach vulnerable populations with limited access to the internet, language barriers or disabilities.
- Create an accessible/user friendly guide to vulnerable communities to basic and emergency services.
- Continue to develop and work with community networks to test strategies that support vulnerable populations.

[4] *Climate Action Framework | Our Minnesota Climate*

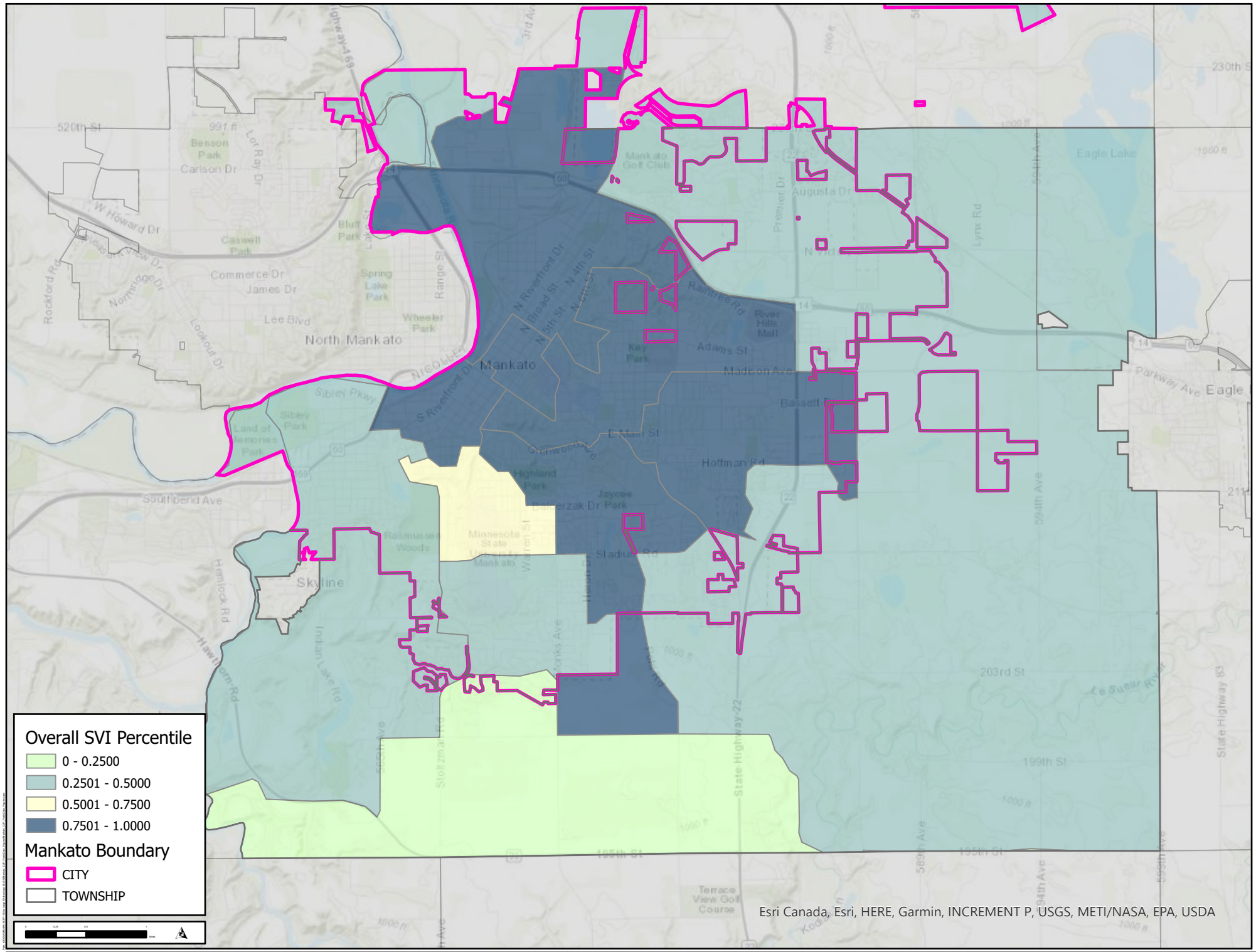

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FIGURE 4
EPA Social Vulnerability Index

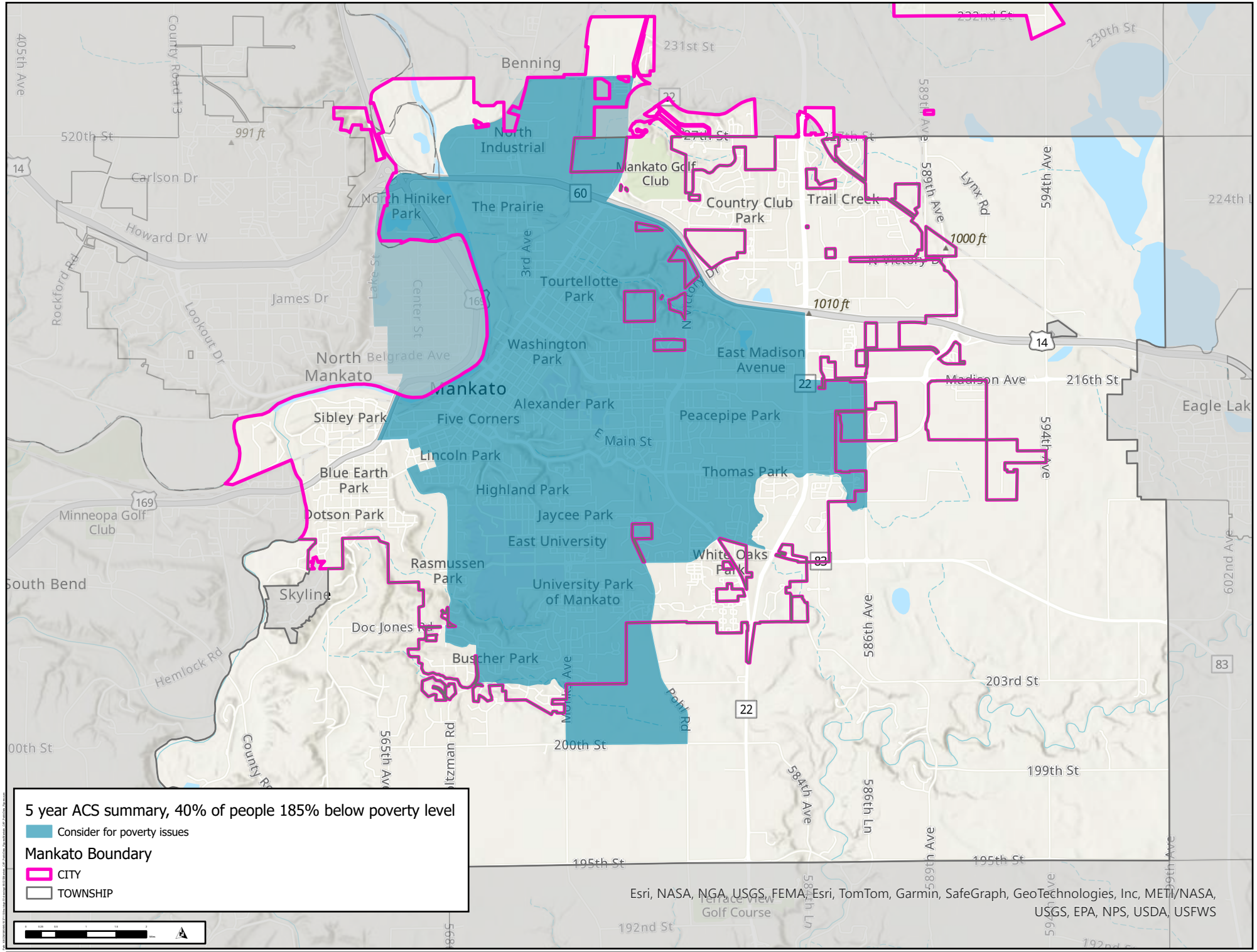

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FIGURE 5
MPCA Environmental Justice
Areas of Concern

5.4 Community Spaces - Parks & Recreational Opportunities

Communities benefit from parks, green spaces and outdoor recreation opportunities. However, climate variability has had an impact and will continue to have an impact on everyday activities and seasonal activities.

An inventory of community spaces including neighborhood trails and parks has been developed as a baseline to complement the analysis of land use, natural resources and community spaces with the goal to evaluate existing resources, identify needs and track improvements over time. **Table 1** shows the amount of trails and parks in each neighborhood.

Table 1 – Trails and Parks by Neighborhood

Neighborhood	Trails [ft]	Parks [acres]
North (Airport)	0	0.0
North (Industrial)	54,968	159.2
North (Hiniker Park)	6,503	197.1
The Prairie	6,293	2.7
Country Club Park	11,558	10.5
Tourtellotte Park	17,080	16.8
Eastwood Park	28,813	10.2
Franklin Rogers Park	3,274	11.7
East Madison Ave	38,491	0.0
Riverfront Park	13,340	18.4
Washington Park	3,308	5.3
Alexander Park	6,008	8.2
Erlandson Park	6,782	8.2
Peacepipe Park	6,299	2.1
Sibley Park	38,358	185.9
Downtown	2,963	1.1
Five Corners	7,313	0.8
Highland Park	6,260	10.5
Jaycee Park	18,252	33.8
Thomas Park	23,427	30.5
Blue Earth Park	7,916	1.7
Liberty Park	6,308	3.1
Rasmussen Park	31,842	93.5
MSU Campus	5,987	0.0
Buscher Park	12,875	9.8
University Park	23,249	23.3
White Oaks Park	0	4.5
Dotson Park	8,799	92.9
Lincoln Park	7,036	0.7
East University	4,800	0.0
City of Mankato	**408,102**	**942.5**

5.4.1 Recommendations

- Develop a conservation plan for existing green spaces and open land owned by the City.
- Evaluate the feasibility of a permanent location for Local Farmer's Markets including 4-seasons markets.
- Develop a native species/desired species vegetation plan for existing parks.
- Develop a plan for removal of non-native species or not desired species.
- Evaluate partnerships with community/volunteer groups to create and schedule events for vegetation planting and maintenance.
- Create guidelines for pet owners to ensure leash visits and waste pickup.
- Evaluate future opportunities for development of parks like Sibley Park, especially on the hilltop/east site.
- Evaluate the feasibility of a public nature center that includes education and volunteer opportunities.

5.5 Community Gardens and Food Programs

Strong communities are created with strong connections, healthy foods create healthy communities. The City of Mankato is home to several groups dedicated to building a resilient community such as the Living Earth Center.[5] *Through our **Community Food Connection Program**, LEC directly connects people to the land and to healthy, organic produce.*

As a result of a partnership between the EPA, USDA and the Appalachian Regional Commission, the Local Foods, Local Places (LFLP) was developed. *The LFLP planning assistance program helps cities and town across the country engage with stakeholders to develop local food systems, preserve open space and farmland, revitalize Main Streets and downtowns, boost economic opportunities for farmers and businesses, and improve access to local and healthy foods, especially among disadvantaged populations*. [6]

5.5.1 Recommendations

- Consider ways to support community farms, local food systems and food production programs.
- Consider ways to support the community food programs and similar programs.
- Establish guidelines for community gardens and identify City owned land opportunities to establish community gardens.
- Consider ways to support master gardener program.
- Re-evaluate the City's code of ordinances to allow urban chickens.
- Consider ways to support cooking, gardening, composting, preserving, pollinator friendly vegetation classes and workshops in libraries and neighborhood parks.

5.6 Community Livability & Housing

As defined by the US Department of Housing and Urban Development, livability is a measure of integration of the housing, transportation, environmental, and employment amenities accessible

[5] *Living Earth Center| Sustainability| Education| Community*
[6] *Local Foods, Local Places | US EPA*

to residents. A livable community is one with multiple modes of transportation, different types of housing, and destinations located within an easy distance of homes: 20 minutes by transit, 15 minutes by bike or foot, 10 minutes by car.

The City of Mankato recent population estimate is 44,385, the City has a contiguous population area of 101,927. Recently the City was named as one of the nation's 100 Best Communities by Young People by America's Promise - The Youth Voice in Local Government Program, which considered reduced-fee bus rides and bike racks on buses. Livability investments including parks, housing, walkable retail and local entertainment all contribute to the Mankato economy and minimize traveling to the Twin Cities therefore reducing GHG.

Education is a key component to the community. The public school system ranks in the top 17% nationally, in addition several private and charter schools are well established within the City limits. Higher education institutions include Bethany Lutheran College, Minnesota State University, Rasmussen University and South-Central College.

Housing ranges from historic buildings to new construction. The median price of homes listed in Mankato is approximately $260,000. The fair market rent for a two-bedroom apartment is approximately $950 per month. The City offers housing options for a diverse population including senior communities with independent and assisted living, apartment buildings and single-family homes.

5.6.1 Recommendations

- Develop a walkability plan for downtown and commercial districts.
- Consider ways to support affordable family homes subdivisions.
- Centralize economic development along high-use corridors such as Madison Avenue, Riverfront Drive, and Stadium Road; and develop walkability/bikeability plans for each corridor.
- Educate developers on potential grant funding sources for sustainable development practices. For example, MINNPACE.com.

5.7 Critical Services and Critical Infrastructure

Critical services include Critical Facilities as defined by as defined by FEMA, "*typical critical facilities include hospitals, fire stations, police stations, storage of critical records, and similar facilities. These facilities should be given special consideration when formulating regulatory alternatives and floodplain management plans. A critical facility should not be located in a floodplain if at all possible. If a critical facility must be located in a floodplain it should be provided a higher level of protection so that it can continue to function and provide services after the flood*."[7] Critical facilities evaluated in this study include hospitals, fire stations and police stations and is shown in **Figure 6**.

Public school facilities are included under critical services as a representative of social harmony; public schools are meant to be available and equal for all members of the community, therefore public schools represent a valuable and critical asset to the City. School facilities also serve an important role in emergency situations, often serving as emergency shelters and distribution areas during or after natural disasters.

[7] *Critical Facility | FEMA.gov*

The MPCA has also identified goals specific to promoting "*equity in hazard mitigation, and emergency response and recovery activities, and consider populations most vulnerable to weather-related emergencies in all plans and exercises, including evacuation routes, transportation for vulnerable population groups, shelter in place locations, back-up power operations, extended access to fuel/power sources and drinking water, etc."*[8]

Critical infrastructure assessments are necessary to better understand and manage the risk associated with severe and extreme weather events and their impact on the most vital sectors of the community.

The Cybersecurity and Infrastructure Security Agency (CISA) conducts specialized security and resilience assessments on the nation's critical infrastructure. The assessments examine infrastructure vulnerabilities, interdependencies, capability gaps, and the consequences of their disruption. Security and resilience assessments, combined with infrastructure planning programs and capabilities, form a holistic approach to enhance critical infrastructure resilience to all hazards. Because most U.S. critical infrastructure is privately owned, the effectiveness of CISA assessments depends upon the voluntary collaboration of private sector owners and operators.

Multiple types of assessments are available including Infrastructure Survey Tool, Multi-Asset and System Assessment and Regional Resiliency Assessment Program, among others.[9]

5.7.1 Recommendations

- Develop facility specific flood risk analysis.
- Development of emergency plans to ensure critical facilities continue to provide critical services during and after extreme weather events.
- Identify key infrastructure, vulnerabilities and level of risk.
- Identify emergency shelters including cooling and heating shelters.
- Identify critical sectors and conduct assessments to determine vulnerabilities.
- Explore opportunities to work with privately owned facilities to develop collaboration programs and conduct assessments.

[8] *Climate Action Framework | Our Minnesota Climate*
[9] *Critical Infrastructure Assessments | CISA*

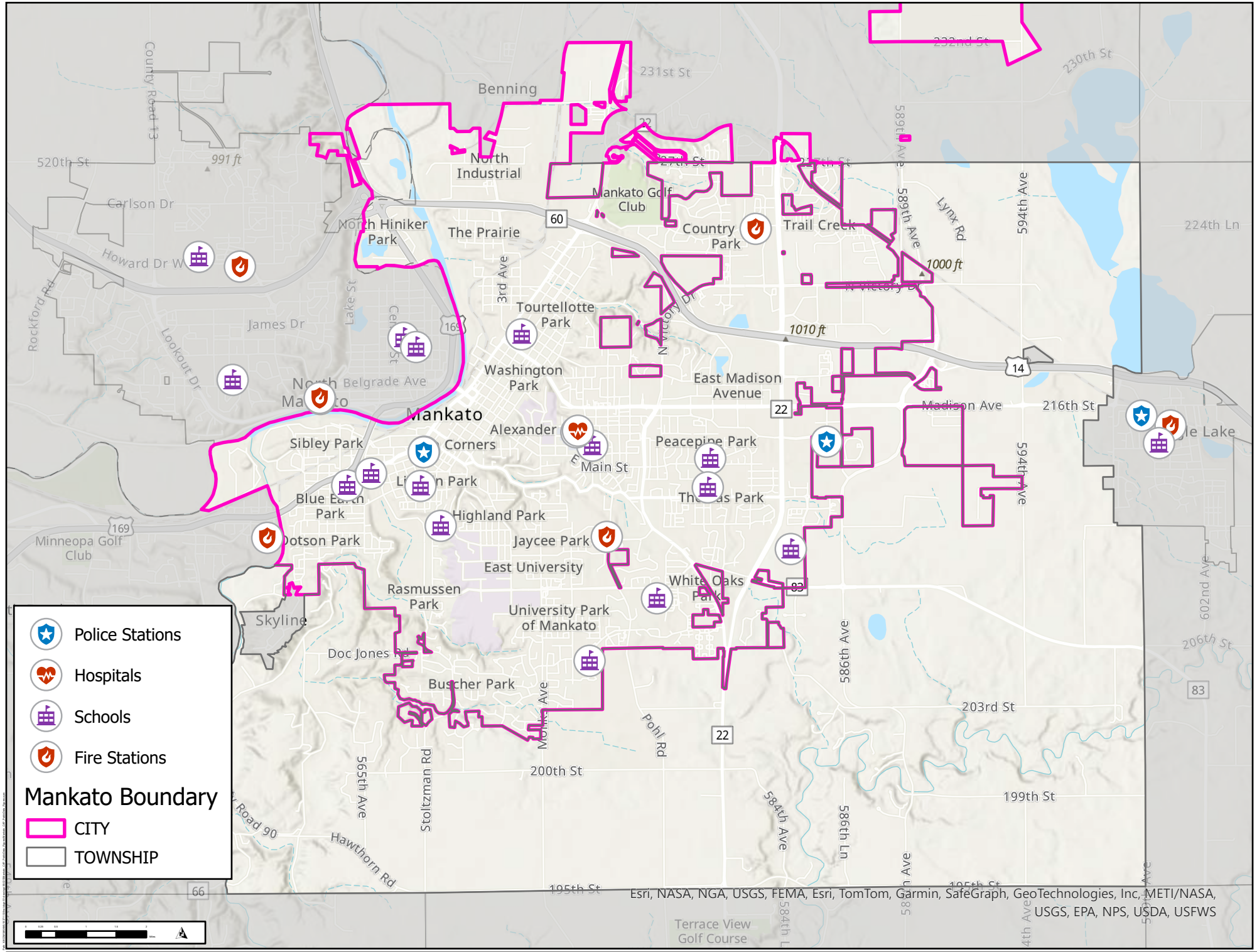

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FIGURE 6
Critical Services

6 Water Resources and Ecosystem

6.1 Land Use

"Local land use decisions have direct impacts on the health and environment of our communities.". The Building Blocks for Sustainable Communities program[10] *works with local communities across the United States to develop smart growth solutions and strategies in ways that benefit human health and the environment.* The program uses a locally led process that strengthens local capacity, facilitates partnerships and creates a path forward to achieving community-identified goals.

The land use analysis includes data from the National Land Cover Database (NLCD), which was generated in cooperation with the Multi-Resolution Land Characteristics Consortium (MRLC), a partnership of federal agencies working together[11].

The type of land use has been analyzed in relation to the total area of the City of Mankato (see **Figure 7**), with the intent to monitor the development of impervious surfaces overtime in relation to unique and valuable natural resources such as rivers, streams, wetlands and forests.

Impervious land includes surfaces such as buildings, rooftops, asphalt roads, concrete surfaces, unpaved roads, and other areas where physical properties of the land surface have been disturbed, and infiltration qualities have been significantly altered. Natural and undisturbed land where infiltration qualities have not been altered include forest, agricultural land, grasslands, wetlands, and open water. Land use in the Minnesota River-Mankato watershed is dominated by row crop agriculture, with corn and soybean production accounting for about 90% of cropped lands. **Table 2** provides a summary of land uses by type.

Table 2 – Land Use Summary

Land Use by Type		
	Area (Acres)	Ratio %
City of Mankato	12,676	--
Impervious/Developed	9,209	73%
Wetland	628	5%
Open Water	281	2%
Forest	877	7%
Agriculture/Crop	1,681	13%

6.1.1 Recommendations

- Continue to update protection and conservation methods including limitations on new development within wetland, floodplains and forest areas as well as identifying restoration opportunities.

[10] *Building Blocks for Sustainable Communities | US EPA*
[11] *National Land Cover Database | U.S. Geological Survey*

- Develop a Natural Resource Inventory and use it to track gains and losses of wetlands, forest and open water.
- Develop an inventory of City owned parking lots and buildings and evaluate impervious surfaces retrofit opportunities.
- Develop sustainable development guidelines and requirements for new developments, including urban and suburban areas.
- Require sustainability measures for new development and redevelopment projects, including tree and vegetation management plan, e.g., plant two trees for every tree that is removed as part of development.
- Increase urban tree and prairie planting density. Use natural ecosystem services to capture carbon and reduce heat island effects.

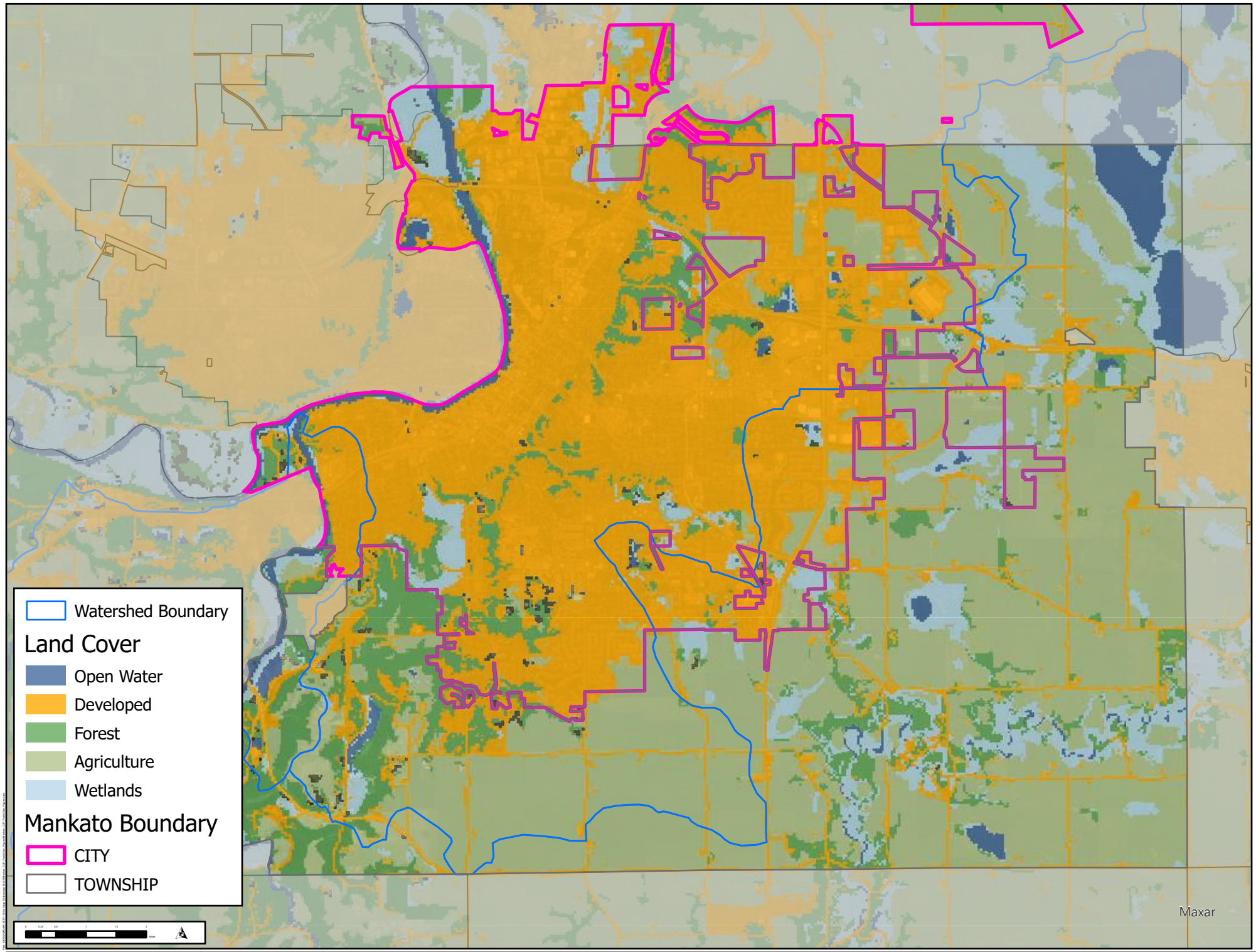

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FIGURE 7
Land Cover

6.2 Floodplain Management

Floodplain**s** have been analyzed based on the National Flood Hazard Layer (NFHL)[12] provided by the Federal Emergency Management Agency (FEMA). The NFHL is generated from effective flood maps. The current information has been used to understand the level of flood risk and type of flooding in each area.

Floodplain parameters evaluated include the total area of floodplain within the City limits and the total area of floodplains protected by levees. **Table 3** and **Figure 8** show the total area of floodplains within the City of Mankato.

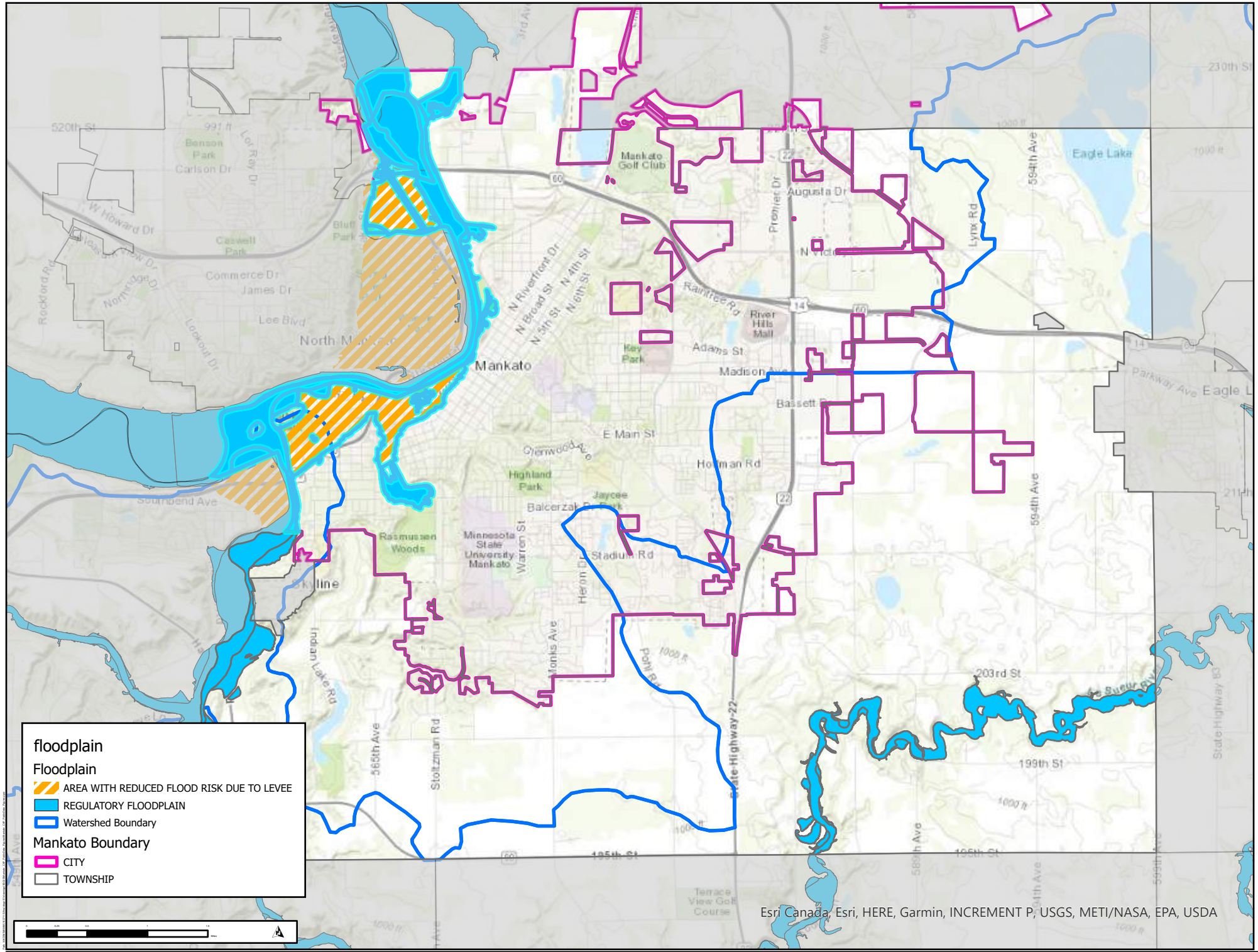
Table 3 – Floodplain Areas

Floodplains		
	Area (Acres)	Ratio %
City of Mankato	12,739	--
Minnesota River Regulatory Floodplain	658	4%
Area with reduced flood risk due to Levee	490	5%

6.2.1 Recommendations

- Analysis of riverine floodplain restoration opportunities within the City limits, including stream buffers, stream bank erosion mitigation and ecological habitat enhancement.
- Incorporate floodplain restoration into stormwater management projects.
- Evaluate opportunities on City owned land and properties within the floodplain
- Inventor infrastructure within regulatory floodplains and vulnerability analysis.
- Expand existing stormwater retention areas within floodplains and heavily developed areas.

[12] *Flood Data Viewers and Geospatial Data | FEMA.gov*



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Source: ESRI, State of MN

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FIGURE 8
Floodplains

6.3 Watershed

The State of Minnesota has adopted a watershed approach to evaluate the drainage area of an entire watershed instead of focusing on lakes and stream sections one at a time, this approach has been increasing effectiveness and efficiency in the management of the States' water resources. This watershed approach incorporates the following activities into a 10-year cycle:

1. *Monitoring water bodies and collecting data over two years on water chemistry and biology.*
2. *Assessing the data to determine which waters are impaired, which conditions are stressing water quality, and which factors are fostering healthy waters.*
3. *Developing strategies to restore and protect the watershed's water bodies and report them in a document called Watershed Restoration and Protection Strategies (WRAPS).*

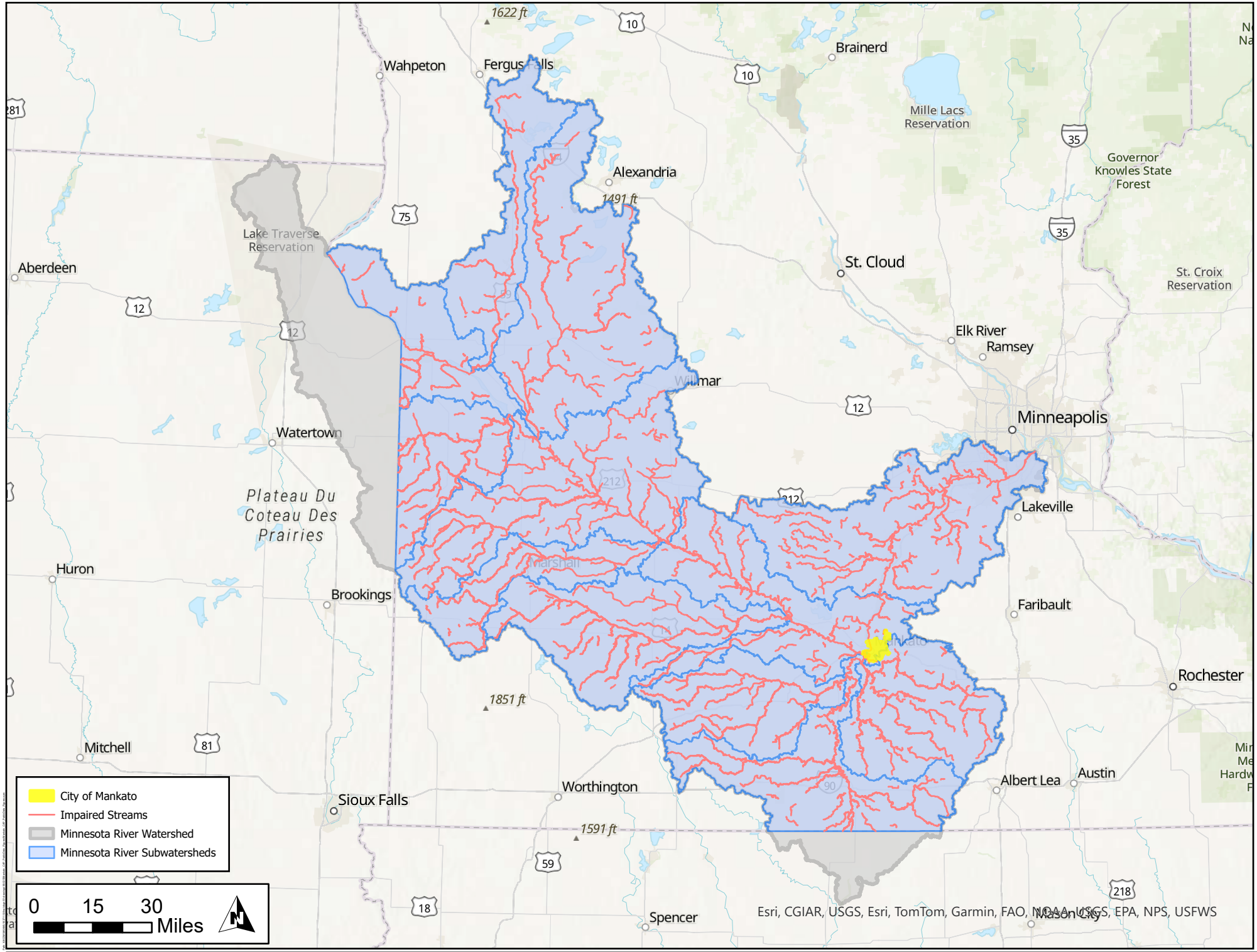
The main purpose of the WRAPS report is to summarize all the technical information so that local partners such as Soil and Water Conservation Districts, watershed districts and other local jurisdictional authorities can use it for planning and implementation projects.

The Minnesota River-Mankato watershed (Hydrologic Unit Code: 07020007) covers approximately 860,000 acres among nine counties through 1,564 miles of streams into the Minnesota River.[13] Current land use is similar to other regions in southern and western Minnesota dominated by warm-season, annual, cultivated row crops. Topography through the upland portions of the watershed is relatively flat and well drained through an extensive network of constructed ditches and subsurface tile.[14] **Figure 9** shows the watershed upstream and including the City of Mankato.

The watershed is unique, composed of 21 independent named tributaries as well as many unnamed tributaries and ravines that flow directly into the Minnesota River. The watershed is diverse in landscape, with flat cropland in the west and bluffs and lakes in the east. While the vast majority is cropland, the City of Mankato is a regional urban center with several small cities along the main stem of the Minnesota River. Like its landscape, the goals and values of water quality vary across the watershed, making consensus a challenge.

Due to the complexity of land use and pollutants that contribute to the degradation of water quality across the watershed, the City of Mankato faces ever-growing challenges and continues to work with regional stakeholders to implement restoration and protection strategies based on the MPCA guidelines. Specific recommendations have been included under the following parameters: water quality, stormwater management, wetlands and land use.

[13] *Minnesota River - Mankato | Minnesota Pollution Control Agency*
[14] *Minnesota River, Mankato Watershed Characterization Report Summary | WRL Digital Asset Management*



Project: MANKA 183711
Print Date: 5/19/2025

Map by: MAC
Projection: NAD 1983 HARN Adj MN Blue Earth Feet
Source: ESRI, State of MN

CITY OF MANKATO
CLIMATE ACTION PLAN

FIGURE 9
Minnesota River Watershed

6.4 Water Quality

Impaired waters are evaluated as defined by the MPCA, "*A body of water is considered impaired if it fails to meet one or more water quality standards and does not meet use standards for swimming, fishing, drinking, and/or aquatic species health. As required by the federal Clean Water Act, the MPCA assesses all waters of the state and creates a list of impaired waters.*" The listings are based on intensive water monitoring and is updated every two years[7]. **Figure 10** shows the impaired water bodies within the City of Mankato.

Two streams, one pond and the Minnesota River are listed for impairments within the study area, including elevated mercury levels in fish tissue and water column (HG-F and HG-W), Turbidity (T), Fecal Coliform (FC), Nutrients, PCB in fish tissue and water column (PCB-f and PCB-W) and macroinvertebrates indices (InvertBio). Impervious surfaces and heavily developed urban areas have a negative effect on streams, lakes and wetlands, increasing water temperature and adding fine sediment and pollutants to stream beds that disrupt natural habitats. **Table 4** includes Impaired Waters and the associated pollutant(s).

Table 4 – Impaired Waters

Water body	TMDL Approved for Impairment	Additional Impairments
Minnesota River	FC; HG-F; HG-W; T	InvertBio; Nutrients; PCB-F; PCB-W
Unnamed Ditch	FC	None
Unnamed Creek	FC	None
Hiniker Pond	HG-F	None

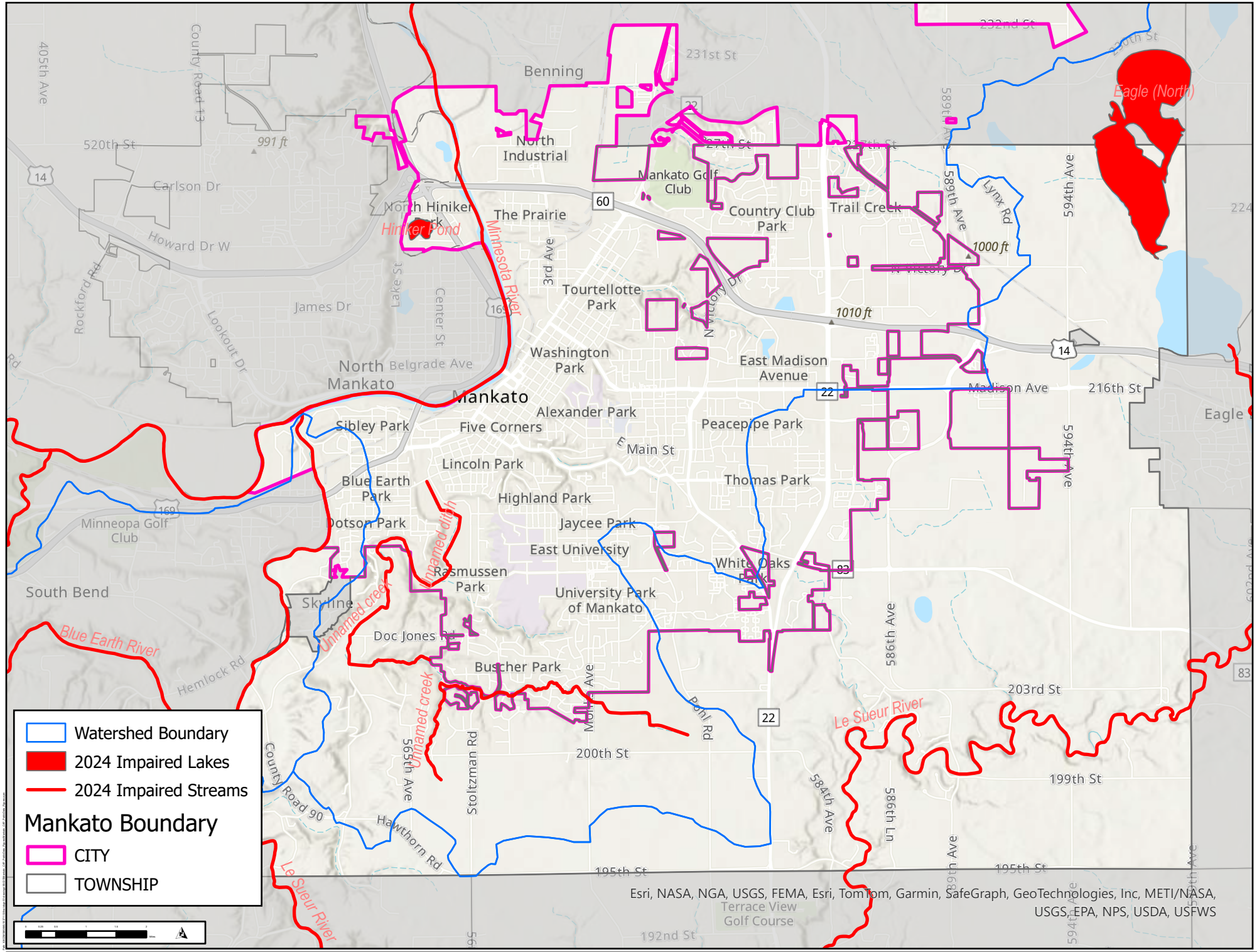
The Minnesota River has several impairments, many of which come from non-point sources. Non-point sources are associated with land use that flow overland into the river that are not concentrated to a single point (e.g. agriculture). Pollution from these sources is difficult to mitigate because they are largely dependent on volunteer practices from landowners. From the City of Mankato's perspective, much of this land is well outside of the City's control or sphere of direct influence.

The other three impaired water bodies within the study area are much smaller in comparison and allow for a more targeted approach. The two unnamed streams are impaired for fecal coliform which can come from a variety of sources. Sources for bacteria include municipal stormwater, wastewater treatment plants, animal feeding operations, faulty septic systems, and waste from pets and wildlife. Gaining a firm understanding of the source of the impairment for these streams will be critical in developing strategies toward delisting these water bodies.

Hiniker Pond is the final impaired water body, and it is impaired for mercury in fish tissue. The state of MN has a statewide Mercury Total Maximum Daily Load (TMDL) report and implementation guide (Minnesota Statewide Mercury Total Maximum Daily Load; Implementation Plan for Minnesota's Statewide Mercury Total Maximum Daily Load wq-iw4-01p). Although mercury in stormwater runoff comes from atmospheric deposition, loading to specific receiving water bodies can be reduced through typical stormwater best management practices (BMPs)

6.4.1 Recommendations

- Further analysis of water quality parameters to identify specific best management practices that can be implemented as part of watershed specific and permanent stormwater management projects and improvements.
- Seek and foster partnerships with local soil and water conservation groups to provide education and outreach to landowners to implement agricultural BMPs.



CITY OF MANKATO
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FIGURE 10
Impaired Waters

6.5 Wetlands

Wetlands are one of Earth's most important ecosystems, providing a suite of ecosystems services that benefit both the environment and human civilization. Some of the services that wetlands provide are:

- Erosion and Flood Control: Wetlands and floodplains provide storage for excess runoff, which reduces the erosive forces and frequency of flooding along waterways.
- Carbon Storage: Peatlands are estimated to store 30% of the world's terrestrial soil carbon while only occupying about 3% of the world's land surface (ExecSummary-PeatlandPlaybook-Jan25.pdf)
- Water Quality: Wetlands remove nutrients and other pollutants, protecting water quality of downstream water bodies.
- Habitat: Provide habitat for a diverse array of Minnesota's plants and animals.
- Recreation: Wetlands provide recreational opportunities such as canoeing, hunting, fishing, photography and wildlife observation.

Wetlands were much more widespread than they are today having been drained to make way for settlement and agriculture. Wetlands continue to be lost today which has led to the creation of Minnesota's Wetland Conservation Act (WCA), which was passed in 1991. The goal of WCA is to "maximize the quantity, quality, and biological diversity of Minnesota's wetlands through "no net loss", restoration and enhancement, avoiding impacts, and replacing wetland values upon impact" (Minnesota Administrative rule 8420.0110 Subpart 1). (MN Wetland Status and Trends).

Wetlands in Minnesota are regulated through several programs alongside WCA:

- Department of Natural Resources Public Waters Work Permit Program (state program)
- Wetland Conservation Act (state and local)
- Clean Water Act Section 404 permit program (federal program)
- Clean Water Act Section 401 water quality certification process (state and federal program)

According to the statewide National Wetland Inventory (NWI), the City of Mankato has approximately 1,106 acres of wetlands and surface waters within the city limits, making up approximately 9% of the city land use. **Figure 7** in the Land Use section shows wetlands and surface waters within the City of Mankato. Note that the total acres of wetland and open water are slightly different than the NLCD data presented in the Land Use section of the report, since the NLCD data uses a different methodology to identify wetlands and open water.

In 2021, the City identified and produced 30% design plans for a wetland restoration site southeast of the City. The project will re-wet a historic wetland site that was drained by County Ditch 98. The primary goal of the restoration project is the creation of high-quality and diverse wetland and natural habitat. Secondary goals include stormwater detention/storage and water quality treatment.

Recommendations and strategies are included to provide guidance on continuing wetland stewardship.

6.5.1 Recommendations

- Further analysis of wetlands to identify natural wetland and wetland restoration opportunities to establish pre-development runoff rates in areas of the City that have been converted to impervious surfaces or agriculture.
- Continue to seek funding to implement the Southeast Mankato wetland restoration project.
- Develop a protection plan for existing peatlands and wetlands.
- Develop a plan to restore drained, farmed or pastured peatlands and wetlands.
- Partner with County and Townships to implement restoration and protection plans.

6.6 Stormwater Management

Large urban areas like the City of Mankato are regulated under the MPCA's Municipal Separate Storm Sewer System (MS4; MPCA 2014e) program, which requires the use of Best Management Practices (BMPs) to reduce pollutants. The City of Mankato MS4 program includes City specific urbanized area stormwater pollution prevention and partnerships with Blue Earth County, Mankato Township, South Bend Township and Minnesota State University-Mankato campus.

As defined by the MPCA, *a municipal separate storm sewer system (MS4) is a conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, storm drains, etc.) that is also owned or operated by a public entity, is designed or used for collecting or conveying stormwater, is not a combined sewer and is not part of a public owned treatment works.*[15]

The Minnesota River-Mankato Watershed Restoration and Protection Report identifies strategies for restoration and protection of the waters within this major watershed, as discussed in section 5.3. These strategies as well as priority areas were identified by a team of local and state partners. Urban and MS4 areas are identified as high priority areas for work within the watershed. Approximately 3.7% of the Middle Minnesota River Watershed is an MS4 area.

Strategies identified for urban and residential stormwater management were developed based on water quality and quantity parameters, however, these strategies are also effective as climate resiliency strategies.

The integration of natural processes with existing developed areas has been proven to deliver a broad range of economic, environmental, and social benefits., implementation of natural stormwater systems provide relief to existing stormwater sewer systems by reducing runoff volumes, peak flow rates and pollutant concentrations which is needed more than ever with the increase of intensity and frequency of precipitation events as discussed in section 5.7.

Storm sewer system improvements are necessary to efficiently manage the evolving challenges associated with climate change; interdepartmental coordination and collaboration is necessary to ensure street reconstruction projects include additional inlet capacity (additional catch basins inlets) if needed to minimize street flooding. In addition, consideration should be given to pavement overlay projects, since these projects can reduce the amount of stormwater storage in

[15] *Municipal Stormwater (MS4) | Minnesota Pollution Control Agency*

the street by up to 30%. This major reduction in street/road runoff storage increases the frequency of break out flows into properties.

6.6.1 Recommendations

- Develop a stormwater resilience plan to include analysis of existing infrastructure, vulnerability assessment, flood risk analysis, climate projections developed by the University of Minnesota Climate Adaptation Partnership.
- Develop sub-watershed hydrologic and hydraulic modeling to evaluate shallow street flooding and identify opportunities for integration of natural systems into existing systems.
- Incorporate stormwater reuse practices and bioretention practices in City owned facilities and properties to serve as a role model for the community.
- Integrate street maintenance projects with stormwater maintenance projects including street sweeping, catch basin inlet cleaning, culvert inlet cleaning, etc.

The combination of natural and traditional engineering systems can provide multiple benefits to the existing infrastructure and the community overall. Green and blue infrastructure and green streets solutions are presented as viable alternatives to traditional stormwater management.

6.7 Green & Blue Infrastructure

Urban nature solutions use green (land based) and blue (water based) infrastructure. The goal is to mimic natural functions or enhance existing natural resources in a way that integrates urban living with nature.

The MPCA Stormwater Program encourages projects to adopt green infrastructure practices due to their multiple benefits to water resources, habitat, and carbon sequestration. The objective is to create a natural infrastructure network designed to reduce the volume of stormwater runoff by capturing precipitation where it falls, managing stormwater at the surface, and creating opportunities for the localized treatment of stormwater.

6.7.1 Recommendations

- Build water storage into City parks and lands including rain gardens, vegetated swales, bio-retention cells.
- Integrate green infrastructure into roadways and street reconstruction projects.
- Improve soil health by reducing the use of nutrients/fertilizers and minimizing the use of herbicides.
- Re-evaluate the City code of ordinances to diversify lawns and increase native vegetation (trees, shrubs, vegetables and flower gardens).
- Consider ways to support the Blue Earth County rain barrel program and create educational opportunities to inform the community on installation and maintenance of the rain barrels and other residential level water management practices.

6.8 Green Streets

Urban trees reduce rainwater runoff, promote rainwater infiltration, provide shade, act as wind breaks and noise barriers and improve air quality by sequestering carbon. Additionally urban trees provide cooling solutions that have a tangible and positive impact on vulnerable

neighborhoods, which tend to be hotter than similar but wealthier neighborhoods due to greater impervious surface density and fewer natural resources that absorb stormwater.

The City of Mankato has developed a tree management plan that includes tree zones which are used for routine boulevard tree trimming, where a contractor trims all boulevard trees in 2-3 zones annually in a set order such that every boulevard tree is trimmed every 5 years. Each tree zone was created to have a similar number of boulevard trees in each zone.

Within the current city managed tree population, these are the 10 most common tree species:

Acer (Maples) – 24.8% or 4,024

Quercus (Oaks) – 9.46% or 1,534

Fraxinus (Ash) – 9.01% or 4,461

Tilia (Linden) – 8.45% or 1,371

Celtis (Hackberry) – 7.11% or 1,154

Malus (Crabapple) – 6.95% or 1,127

Ulmus (Elm) – 5.85% or 949

Gleditsia (Honeylocust) – 5.47% or 887

Picea (Spruce) – 3.88% or 629

Syringa (Lilac) – 3.24% or 526

6.8.1 Recommendations

- Integrate vegetation and urban trees into roadways and street reconstruction projects.
- Integrate tree trenches into street and parking lot development and redevelopment projects.
- Replace mowed grass areas along city streets and roadways with native vegetation including wildflowers to provide habitat for pollinators.
- Re-evaluate the use of neonicotinoid and other chemicals.
- Evaluate bus stops tree coverage and integrate tree planting with transportation improvement projects.
- Evaluate the need for a City-wide canopy survey.

6.9 Extreme Weather Events

On March 2023, the Intergovernmental Panel on Climate Change (IPCC) released the IPCC Sixth Assessment Report, which summarizes the state of knowledge of climate change, its widespread impacts and risk, and climate change mitigation and adaptation. The Report states *“Climate change is intensifying the water cycle bringing unprecedented flooding, and increased*

magnitude of droughts, among other water related hazards which will be more frequent and intense affecting already vulnerable areas worldwide."[16]

The most recent extreme event experienced in Southern Minnesota resulted in devastating flooding and significant damage across the area. The intense event occurred in June 2024 following a wet spring and a particular week of continuous rain, which produced saturated conditions throughout the watersheds. Rainfall totals varied from 7 to 8 inches in the Mankato area (**Figure 11**).

Three-day totals of 7 to 9 inches have between a 0.5% and 2% chance of occurring during any year in communities across southern Minnesota, meaning that the average recurrence interval is 50-200 years. The rainfall quickly led to major flooding in towns, and along streams and rivers in southern Minnesota, including the Minnesota River.[17]

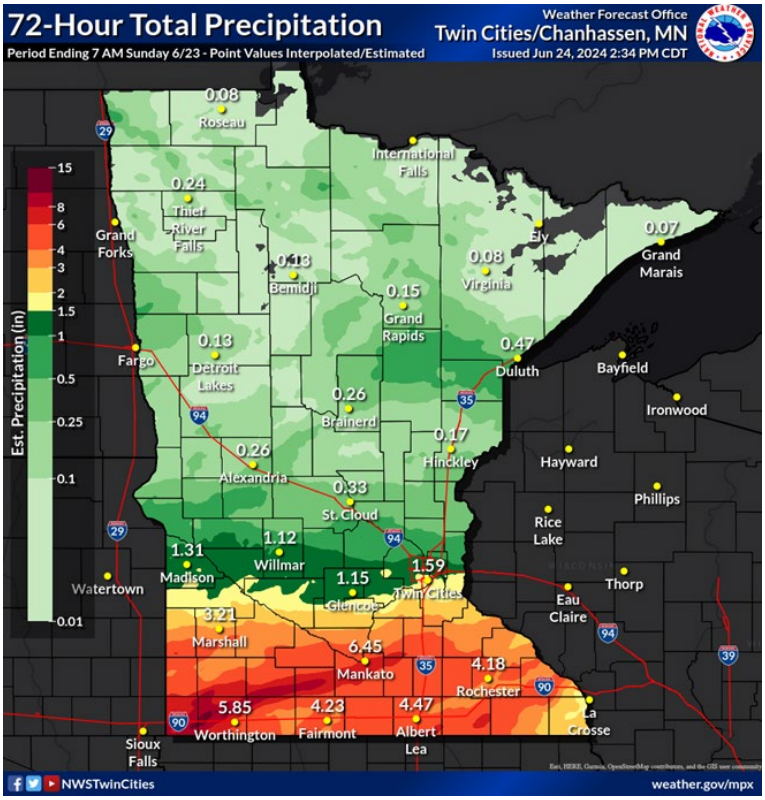

Figure 11 – Map of Estimated Rainfall Totals from June 20-22, 2024.

Image credit: National Weather Service, Twin Cities/Chanhassen

Precipitation patterns across Minnesota are expected to become more intense, with more rainfall occurring in a single event and longer dry periods in between. Seasonal precipitation trends are projected to vary significantly, often with wintertime and springtime averages projected to increase and summertime averages projected to decrease. In some cases, summertime

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[16] *The United Nations. Sixth Assessment Report — IPCC*
[17] *Minnesota Department of Natural Resources, Climate Journal Extreme Rain and Flooding in Southern Minnesota, June 20-22 | Minnesota DNR*

averages are expected to decrease so much that they can lower annual average values overall. Precipitation changes are expected to vary by region, with the southeastern part of the state expected to see the largest increase.[18]

*Future droughts in Minnesota are expected to become more severe due to rising temperatures accelerating soil moisture loss. Regionally, the Midwest is projected to experience the greatest increase in consecutive dry days in the U.S., with durations potentially extending by up to 25% by 2100 (***Figure 12***).*

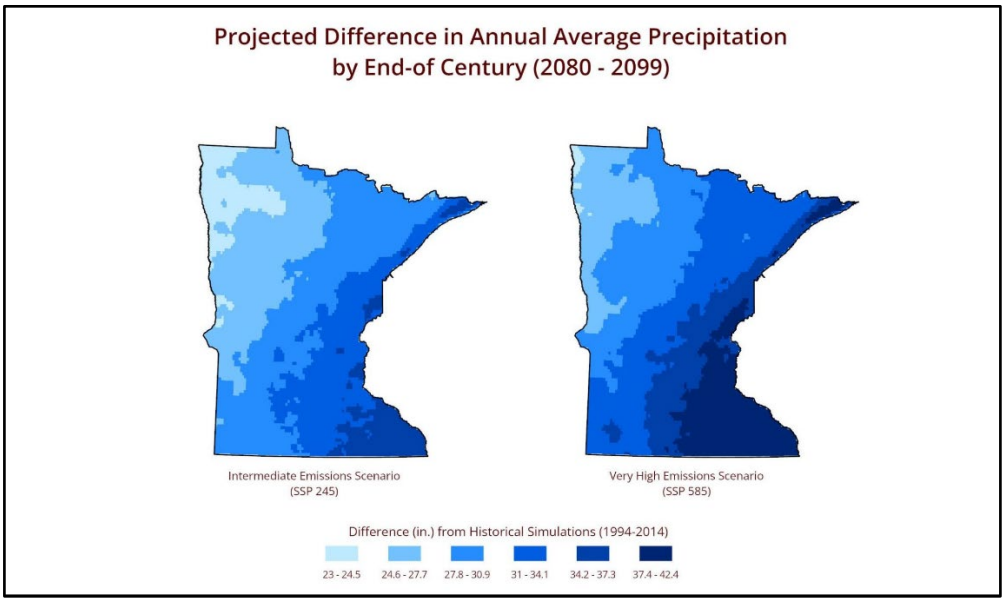

Figure 12 – End of Century Annual Average Precipitation Projections

The University of Minnesota Climate Adaptation Partnership has developed county-specific precipitation projections to assess multiple different emissions scenarios and their associated impacts on local communities. "*In South Central Minnesota, average annual temperature is projected to increase by 3.8-4.3 degrees Fahrenheit (°F) and average annual precipitation is projected to increase by up to 1.6 inches by mid-century (2040-2059), depending on the emissions scenario. The timing and intensity of precipitation is also expected to shift, with wetter springs, drier summers, shorter snow seasons, heavier rain events, and longer dry spells without measurable rainfall."*[19]

[18] *University of Minnesota. Climate Adaptation Partnership, Extreme Events | UMN Climate Adaptation Partnership*
[19] *Climate change in South Central Minnesota | UMN Climate Adaptation Partnership*

7 Energy and Greenhouse Gas Emissions

7.1 Greenhouse Gas Emissions Inventory and Monitoring

Greenhouse gas emissions are a significant contributor to climate change, primarily originating from activities such as burning fossil fuels for electricity, heat, and transportation. These emissions include gases like carbon dioxide, methane, and nitrous oxide, which trap heat in the atmosphere and lead to global warming. People calculate emissions in “CO2 equivalents” in order to have a way to add up the effects comprehensively. Monitoring and reducing these emissions are crucial for mitigating the adverse effects of climate change and achieving sustainability goals outlined in this plan.

7.1.1 Regional and Historical Perspective

Regional

Minneapolis and St. Paul have reduced emissions, particularly in electricity and waste, due to renewable energy and efficiency gains. However, transportation and building emissions remain high, with building emissions increasing due to natural gas use. Both cities are advancing district energy decarbonization and transit solutions, supported by state policies and funding. Meeting 2030 and 2050 goals will require addressing pandemic consumption rebounds, retrofitting buildings, and ensuring equitable outcomes.

2014 Citywide Greenhouse Gas Inventory

Part of Mankato’s commitment to being a good environmental steward is to reduce its greenhouse gas emissions. In 2012, Mankato entered into a cooperative agreement with North Mankato, the Minnesota Pollution Control Agency and the Envision 2020 Energy Conservation Task Force to benchmark each City’s emissions and determine trends. A report on this study shows that Mankato’s citywide emissions decreased, but that analysis was just from one year to the next.

7.1.2 Current Emissions

The most comprehensive emissions data for Mankato was from the Regional Indicators Initiative, which is intended to aid local Minnesota governments to understand local emissions and what can be done about them. More specifically its purpose is to:

- *Deepen cities' understanding of opportunities to save energy and money*
- *Promote a public understanding of cities' impact on climate change*
- *Improve cities' competitiveness for federal and state funding opportunities*
- *Inform cities' analyses, plans, and policy decisions*
- *Enable cities to track their progress over time - connecting policies and best practices to actual outcomes*

Figure 13 below summarizes Mankato’s emissions from 2015 to 2023. Nearly all communities experienced emissions reductions during the pandemic and Mankato is no exception. Emissions have rebounded since 2021 and are rising. However, the overall emissions have been reduced by 5% from 2015 to 2023, the latest year of record.

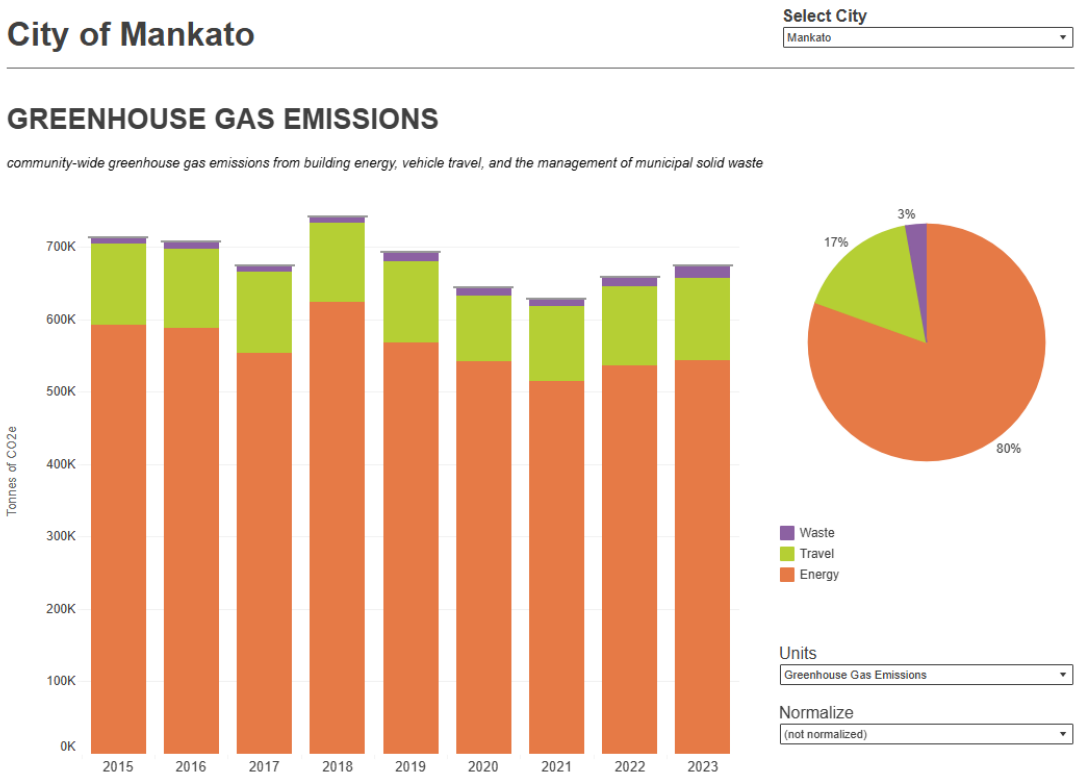

Figure 13 – Mankato Greenhouse Gas Emissions

Figure 14 gives information on where those emissions reductions come from. Emissions from natural gas, travel and waste have no real downward trend and remain mostly unchanged. Electricity use has declined since 2015 by 25% in the commercial and industrial sector, and the residential electricity use has seen about a 20% decline during that period.

In December 2018, Xcel Energy became the first U.S. energy company to pledge to deliver 100% carbon-free electricity across its eight-state service area. “Carbon-free electricity” is produced from resources such as wind, solar and geothermal that do not generate carbon emissions. Xcel Energy is transitioning to cleaner sources of energy at a pace and scale designed to manage costs and other potential impacts, making sure it maintains safety and reliability while keeping customer bills as low as possible.

Xcel Energy is committed to meeting Minnesota’s carbon-free by 2040 standard.

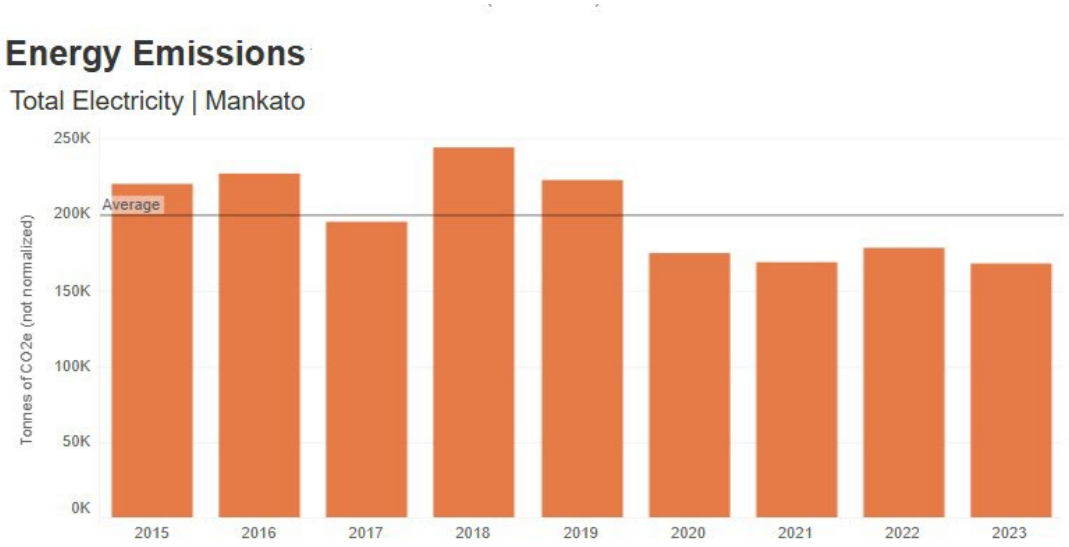

Figure 14 – Emission Reductions

The most notable fact about Mankato's emissions footprint is the commercial and industrial use of natural gas. Mankato appears to have one of the largest per capita natural gas usages among Minnesota communities (**Figure 15**). These numbers are also before ADM converted their coal fired operations to natural gas. No data is available at this time which details the additional natural gas demand.

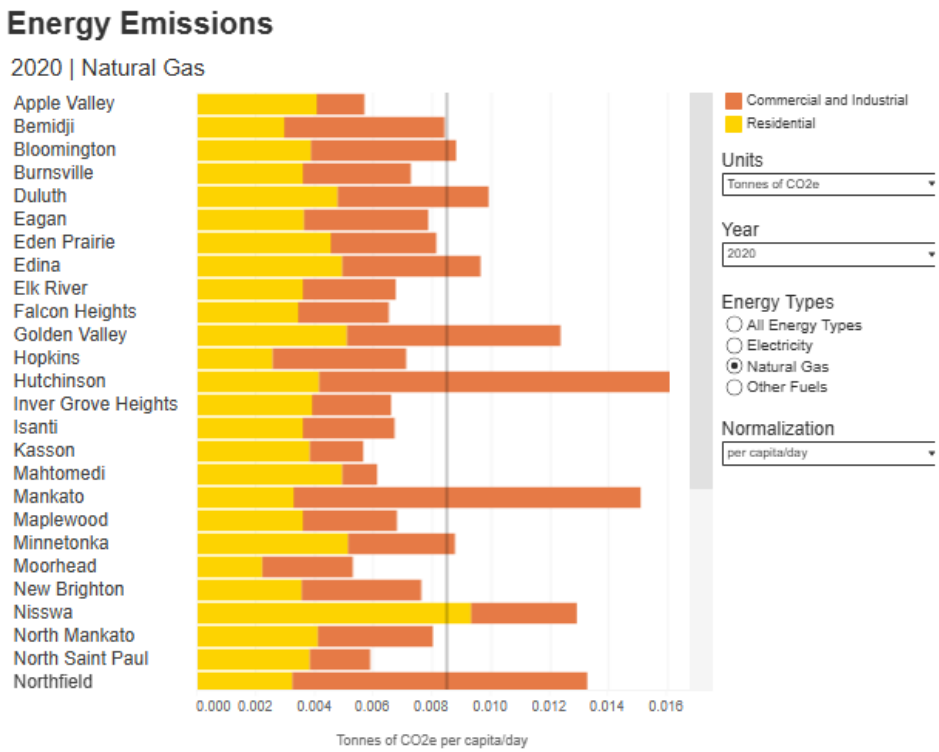

Figure 15 – Emissions by City (per Capita/Day)

For perspective, about 69% of Mankato's energy emissions are from natural gas. For Rochester it is 38%; for Duluth it is 54%.

Another way to look at the emission trends in Mankato is to compare those emissions year-by-year to other similarly sized and situated communities. Inner and outer ring communities around Minneapolis and St. Paul were excluded. As shown in **Figure 16**, Mankato, Duluth and Rochester all saw gradual declines in emissions prior to 2020. Since the pandemic, reductions in emissions for both Rochester and Mankato have plateaued.

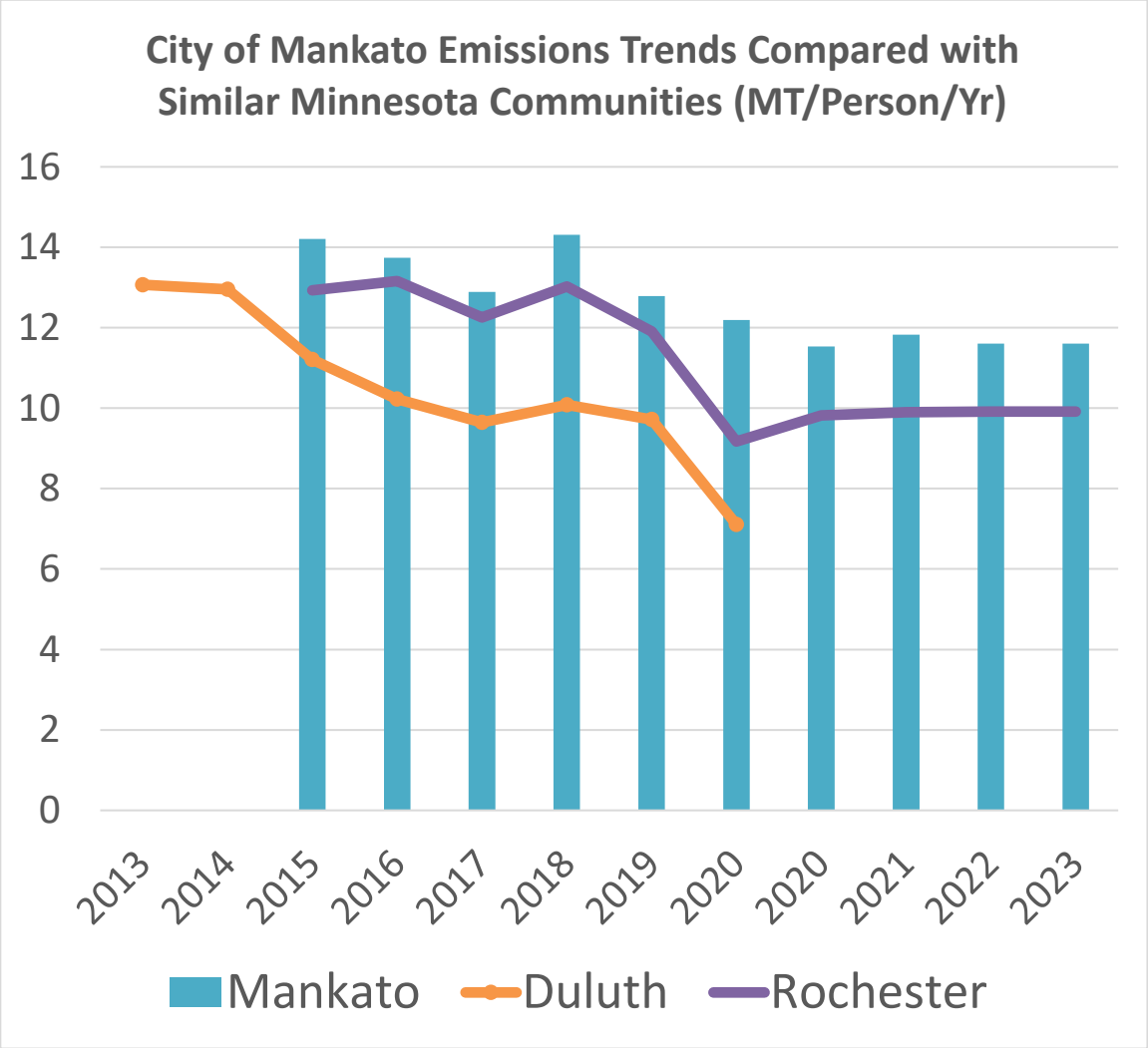

Figure 16 – Emissions Reduction Comparison

7.2 Waste Management

Waste management for the City is accomplished by a combination of landfilling and incineration. The large rise in emissions from landfilling waste most likely would be attributed to importing waste from other regions. The cross boundary transfer makes planning difficult for Mankato, not just in the waste category but also in energy as well. **Figure 17** shows the emissions for solid waste that is landfilled and incinerated. **Figure 18** shows the percentage of solid waste that is landfilled and incinerated.

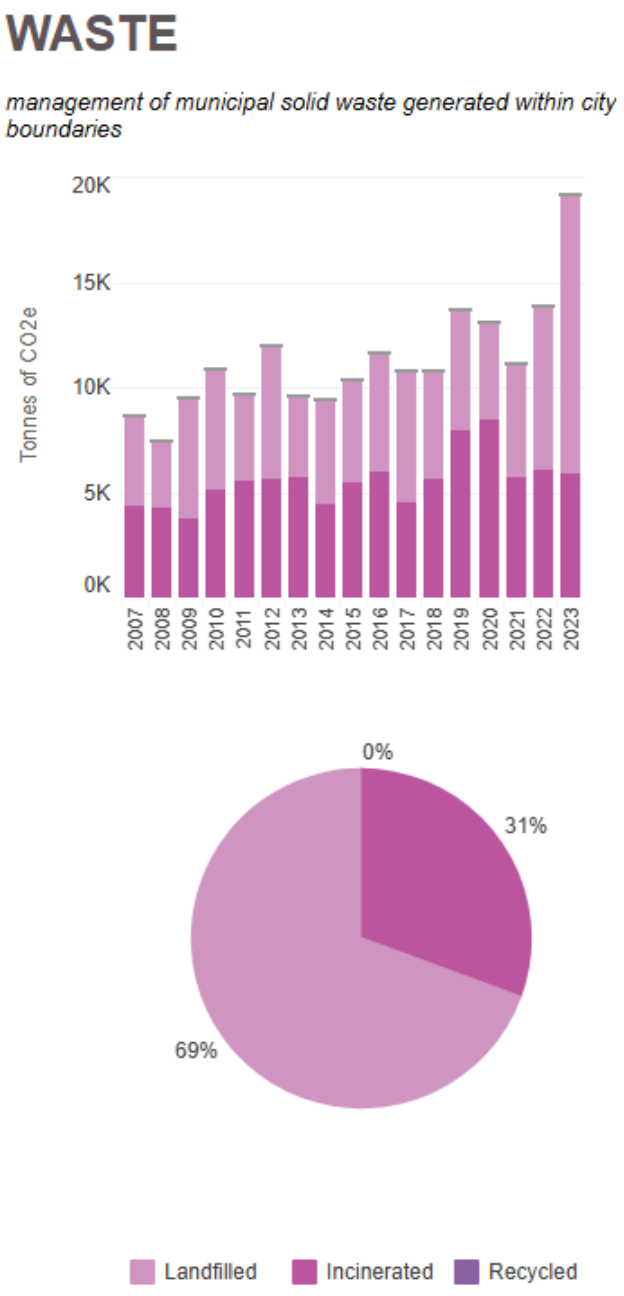

Figure 17 and Figure 18 – Emissions and Breakdown of Solid Waste

7.2.1 Sustainable Roofing

It is estimated that 5% to 8% of landfill contributions in Mankato come from the disposal of used roofing materials (built-up and shingled roofs). The City of Mankato is currently using a method to reduce premature tear-offs on flat or built-up roofs owned by the City. This would not only reduce landfill contributions but would also save taxpayer dollars and reduce emissions from unnecessary material production, transportation and installation.

While still in the study stage at the time of this report, this effort will likely demonstrate decreased premature tear-off of existing roofing saving landfill space, reduced emissions from products to repair the roofs and money saved for all of Mankato.

A similar approach is done by at least one residential roofing company. While putting a few layers of roofing on a home is a common practice, it will need to be torn off after 20 years or so. A steel roofing company offers a product that can be installed over existing asphalt shingles, boasting a lifespan of more than 50 years. At the end of that time both the steel and the asphalt would be removed and recycled.

7.2.2 Waste Reduction

7.2.2.1 Recommendations

- Continue to educate the community on the effects of single use plastic and Styrofoam.
- Evaluate additional options for community and individual composting programs.
- Continue to support Blue Earth County compost bin program.
- Work with community partners to create educational materials on residential and commercial waste reduction strategies.
- Identify local initiatives to increase participation in recycling programs.

7.3 Other Considerations

7.3.1 Urban Heat

The “urban heat island” or UHI is a term to describe the temperature differences between urban and rural communities caused by heat-absorbing man-made surfaces and the lack of shade or vegetation. **Figure 19** shows the Mankato Area Urban Heat Island and **Figure 20** shows a zoomed in map of Downtown Mankato. The build-up of summertime heat can negatively impact the community with increased emissions, disproportionate impact on poorer residents’ health. Often tree canopies are less dense in poorer communities and can occur for a variety of reasons including smaller lots, poor maintenance, lack of water or disease.

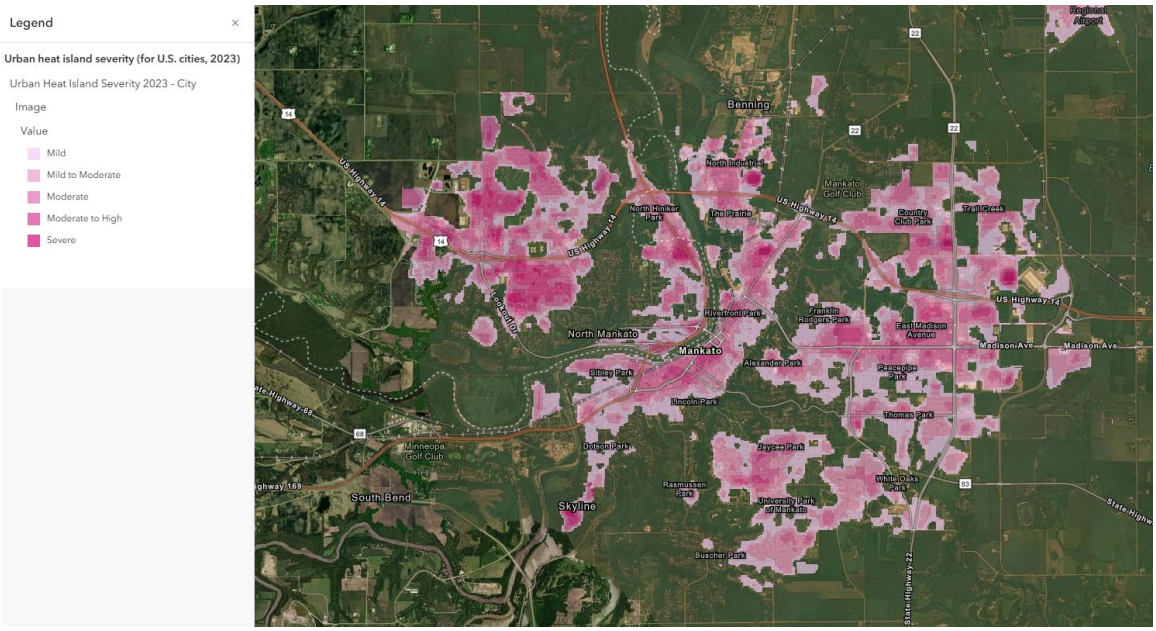

Figure 19 – Mankato Area Urban Heat Island

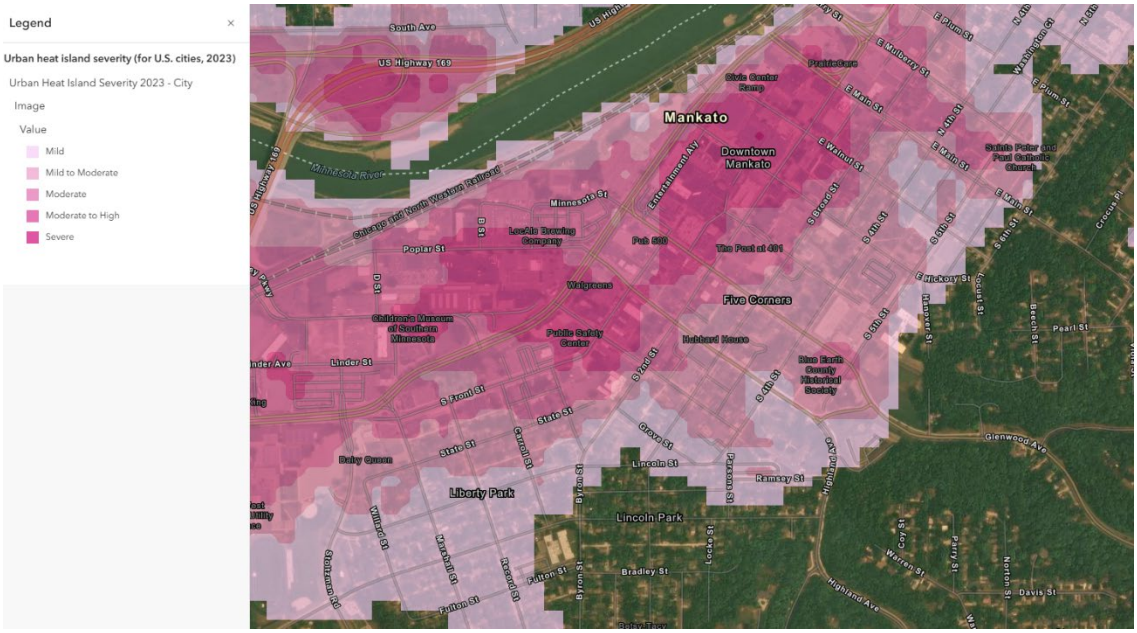

Figure 20 – Downtown Mankato Urban Heat Island

7.3.2 Techniques to Address UHI

The absence of a tree canopy is the greatest contributor to urban heat island effects. This lack of shade, combined with hard, heat absorbing surfaces can lead to these conditions. The City of Mankato has a long-term plan to map the existing tree canopy and from that determine a strategy for addressing low canopy areas in under-represented parts of town and a goal for achieving that desirable canopy.

7.3.3 Cool pavement

Over 40% of the land area of many U.S. cities is made of public and private pavements. These surfaces are treated every 3 to 10 years, and cool pavement leverages that concept of area and frequent maintenance to address urban heat island effects. The chip and seal program currently underway in Mankato uses a pink granite gravel in the chip and seal (Figure 21). This stone by its color and the nature of its material, may reduce summertime temperatures in Mankato as much as 10°F.[20]

[20] *Senevirathne, D. M., et al. "Effects of Pavement Texture and Colour on Urban Heat Islands: An Experimental Study in Tropical Climate." Urban Climate, vol. 40, Nov. 2021, p. 101024.*

Figure 21 – Photo of Mankato's Chip and Seal

While 10°F may not seem like much, it is similar to commercially available products today designed to cool pavement. Some cool pavement coatings come with uncertain runoff characteristics, but Mankato's material choice would have no negative water quality effects.

The effects across the entire community could reduce heat stress on people and reduce the energy consumption for air conditioning. Further analysis is necessary to confirm whether these granites are actually lowering summertime temperatures.

7.4 Projected Emissions

When we combine our understanding with the future expected emissions for the City, projected emissions can be estimated. **Figure 22** below indicates the challenges that Mankato faces in the pursuit of carbon neutrality. Emissions have remained flat or increased for natural gas and waste categories. Emission reductions from transportation will likely come from the increased adoption of electric vehicles, which are projected to be 65% of all on-road vehicles by 2050.

Emissions from coal use likely ended in 2023 or 2024. Electrical emissions are expected to decline to 100% carbon free electricity by 2050.

Carbon neutrality could be obtained by an "all of the above" approach combined with increased partnership with commercial and industrial natural gas users and exploring the use of natural systems for regional carbon offsets.

Mankato's pragmatic approach to carbon neutrality focuses on cost-effective efficiency improvements which incorporate the feasibility of long-term maintenance and partnering with businesses, non-profits, and other units of government to enhance performance and services. While the future will include new opportunities, it will likely be accompanied by this strategy.

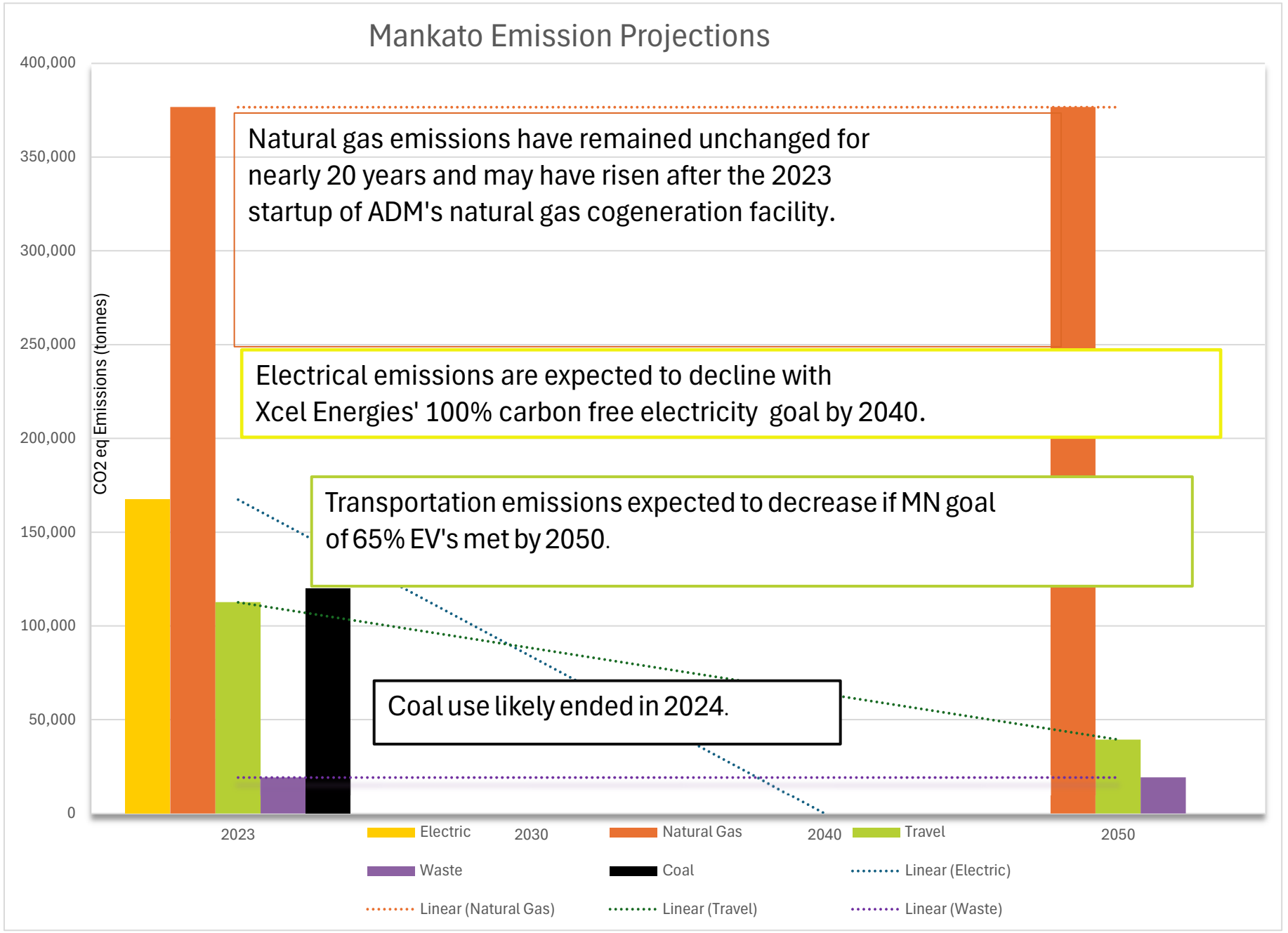

Figure 22 - 2050 Projected Emissions

7.4.1 Recommendations

- Continue to look for funding opportunities to enhance City's fleet with alternative energy vehicles.
- Improve energy efficiencies of existing buildings and systems as budgets allow through equipment and management software upgrades.
- Consider updating City ordinances regarding acceptable use of "last mile" transportation alternatives.
- Consider the development of sustainable materials procurement plan, which can reduce the impact of material procurement, use and re-use/disposal.
- Map the existing tree canopy and determine a strategy for addressing low canopy areas in under-represented parts of town with a goal for achieving that desirable canopy.

8 Transportation

The backbone of a livable community is its transportation system. In a livable community, the transportation system, from cars to bike lanes, connects and moves people to social and economic activities.[21]

8.1 Public Transportation

Across the US about 55% of Americans have access to public transportation.[22] However in smaller communities that availability drops to 30 to 40%. Real time tracking available on the Mankato Transit System is similar to smaller communities servicing universities with students who are more likely to adopt real time tracking technology. This service likely improves ridership and reduces emissions.

However, US Census data shows that commuter ridership for Mankato is 0.8% which is below the national average (5%) and the levels for some smaller Minnesota communities (3%).[23]

Ride sharing services are still transforming the way Americans travel in communities. Most studies show that while these often create time benefits, emissions go up with their use.[24]

One way to increase ridership, reduce emissions and improve service is to consider a microtransit system. Wilson, NC (population 49,000) did a 2-year study of on-demand system and found that ridership increased by more than 2 times. It created equitable accessibility transit for the elderly, residents with disabilities, and homes without vehicles.[25]

8.2 Personal Vehicles

The best source of information for personal vehicle use is the Minnesota Department of Transportation. Over 5,000 monitoring points across the state are used to monitor vehicle miles traveled and from this information estimated miles traveled are recorded. **Table 5** below is a section of the MnDOT tabulation of Vehicle Miles Traveled for 2023[26]:

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[21] *Livable Communities: Innovative, Inclusive and Equitable Cities - National League of Cities*
[22] *Posillico, Caitlin. A Quantitative Look at Urban Public Transportation – Putting Methods to the Madness. 27 Mar. 2023*
[23] *Explore Census Data. Table B08301.*
[24] *Clewlow, Regina R., and Gouri S. Mishra. Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States. Oct. 2017.*
[25] *Transforming Public Transit with a Rural On-Demand Microtransit Project (Report 0243) | FTA*
[26] *MnDOT. "Roadway Data Products - TDA, MnDOT." State.mn.us, 2015*

Table 5 – Vehicle Miles Traveled for 2023

County	City	Route System	Daily VMT	Annual VMT	Centerline Miles	Percent Sampled
Blue Earth	Mankato	2 - US Highway	199,010	72,837,502	6.6	100
Blue Earth	Mankato	52 - Non-numbered US Highway	2,264	828,623	0.1	100
Blue Earth	Mankato	3 - MN Highway	68,498	25,070,172	4.9	100
Blue Earth	Mankato	32 - Former Highway	843	308,486	0.1	100
Blue Earth	Mankato	4 - County State Aid Highway	114,825	42,025,838	14.7	100
Blue Earth	Mankato	5 - Municipal State Aid Street	250,658	91,740,802	43.0	100
Blue Earth	Mankato	8 - Township Road	61	22,185	1.0	3
Blue Earth	Mankato	10 - Municipal Street	106,691	39,048,997	136.1	13
Blue Earth	Mankato	25 - Local Park, Forest or Reservation Agency Road	1	435	0.2	0
Blue Earth	Mankato	30 - Alleyway	83	30,323	16.6	0

The people of Mankato drive about 1,000,000 miles per year. This number has been declining since 2006 and currently is below 800,000 miles per year. This translates to less than 3 tons of CO2 emissions per person. **Figure 23** and **Figure 24** show the total and per capita emissions related to travel, respectively. There is good correlation between this method of calculating carbon emissions and those made in detail in 2014.[27] For 2009, Schwartzkopf found emissions for Mankato were 3.0 tonnes of CO2eq per year and the MnDOT/RII method found it to be 3.2 tonnes as shown below. Schwantzkopf's data was not used in this analysis, but for comparative purposes only.

[27] *Schwartzkopf, L. "Mankato and North Mankato Citywide Greenhouse Gas Inventories." Apr. 2014.*

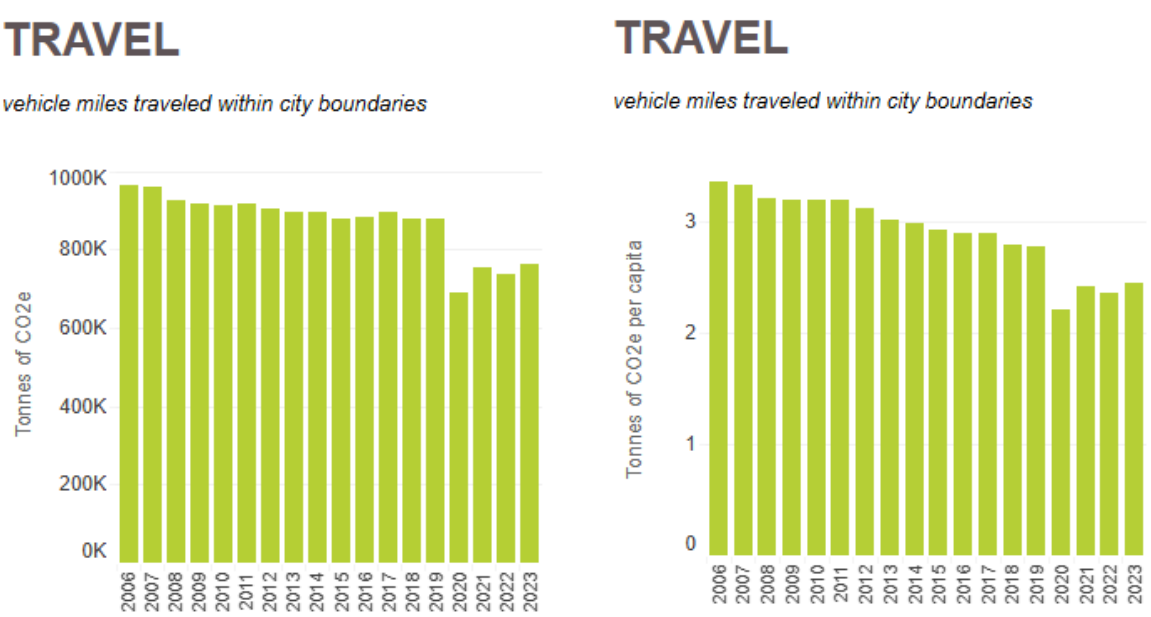

Figure 23 and Figure 24 – Total and Per Capita Emissions

Figure 25 shows that vehicle miles traveled are declining statewide and Mankato's emissions track similarly to other communities.

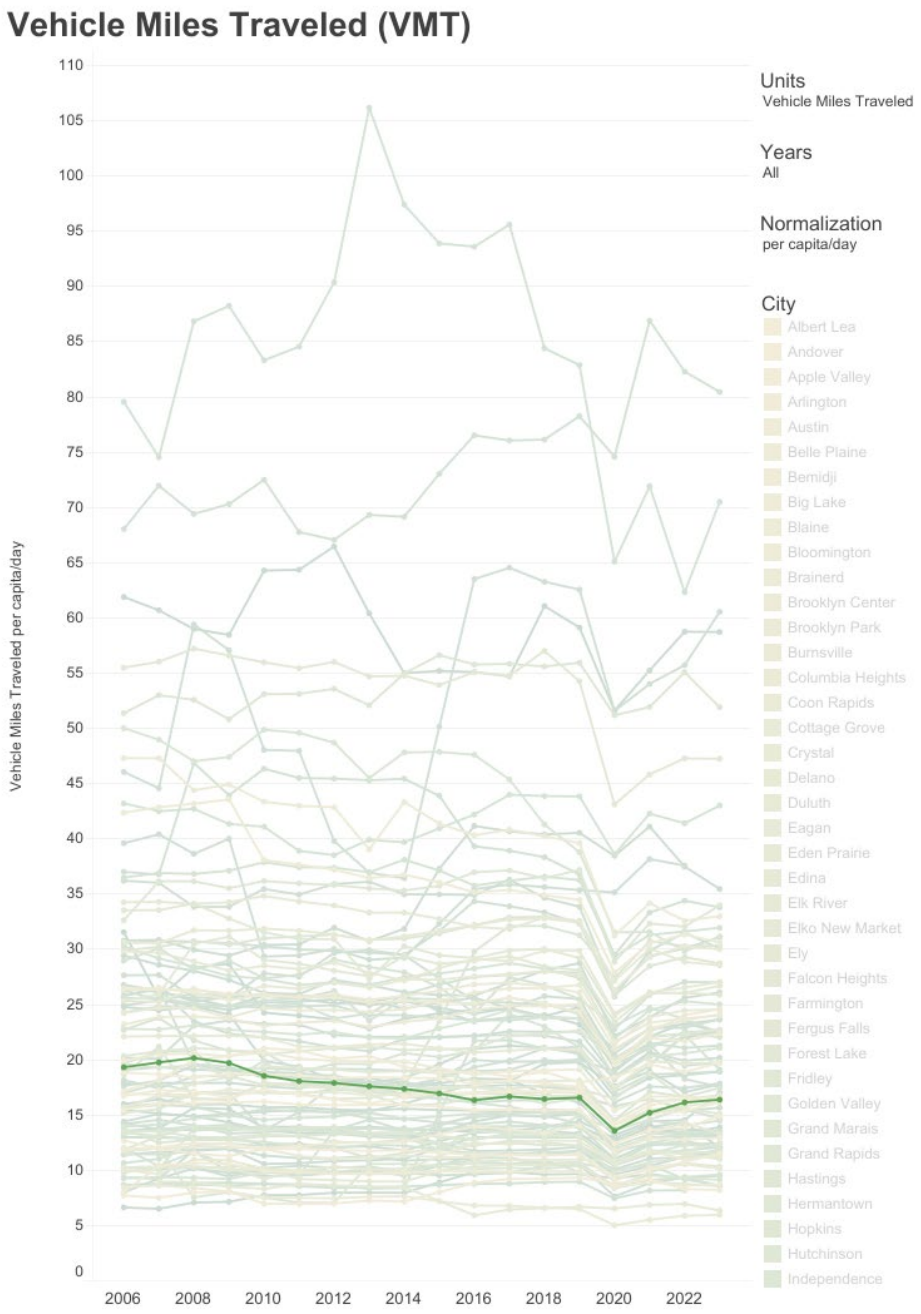

Figure 25 – Vehicle Miles Traveled

8.3 Lower Emission Vehicles

8.3.1 Fuels for Internal Combustion Engines

The State of Minnesota has been leading its citizens with strategies for lower emissions from internal combustion engines for nearly twenty years. Minnesota's biofuels current mandate requires B20 diesel in summer (April–September, with B10 allowed April 1–14), B5 in winter, and E10 (gasoline with 10% bio-based ethanol) gasoline year-round, with E15 approved for 2025. These reduce the carbon intensity of these fuels.

The state supports these mandates through grants, infrastructure investments, and the Governor's Council on Biofuels, aiming for a clean fuels standard to further reduce carbon intensity. While economically and environmentally beneficial, the mandates face challenges from industry opposition, supply disruptions, and competing EV policies. Minnesota remains a national leader in the implementation of these fuel blends.

8.3.2 Electric Vehicles

There are various projections on the rate of adoption of electric vehicles in this US. Some predict mandates will be required for significant adoption, while others cite technological improvements are expected to remove cost and charging barriers for wider adoption.

Statewide, less than 1% of all registered vehicles in Minnesota are electric. In Mankato, that level was 0.3 percent in 2021.[28] Nationally, the data shows about 1.4% of vehicles are electric. The most recent data is from 2023. The data from 2024 is expected to reveal that electric vehicle sales were approximately 5 to 7% of all new vehicles and align with national trends.

The State of Minnesota has a goal of 5% of all light duty vehicles to be electric by 2025 and 65% by 2040. In 2024, the State of Minnesota created the Minnesota electric vehicle rebate program which offers up to $2,500 for new electric vehicles and $600 for used EV's.[29]

The National Renewable Energy Laboratory expects electric vehicles to be up to 42,000,000 by 2030 or as much as a 10 times increase.[30]

8.3.3 Electric Vehicle Charging

One of the common barriers to adoption for electric vehicles is "range anxiety," which refers to concerns that owners have over the ability to find adequate charging infrastructure when needed. Electric vehicle charging around the country is currently a confusing field of chargers, charging infrastructure, infrastructure suppliers with various membership requirements and uncertain costs per charge.

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[28] *EVI-Pro: Electric Vehicle Infrastructure – Projection Tool | Transportation and Mobility Research | NREL.*
[29] *Electric Vehicles - Performance Measure Dashboard - MnDOT.*
[30] *EVI-Pro: Electric Vehicle Infrastructure – Projection Tool | Transportation and Mobility Research | NREL.*

There are well over 50 charging station ports listed throughout Mankato listed on the Plugshare website (52 station ports) at 16 locations shown (see **Figure 26**). The local newspaper, the Mankato Free Press, did an article about EV charging in 2021 and listed many locations.[31] It showed that about 10% of the charging is free.

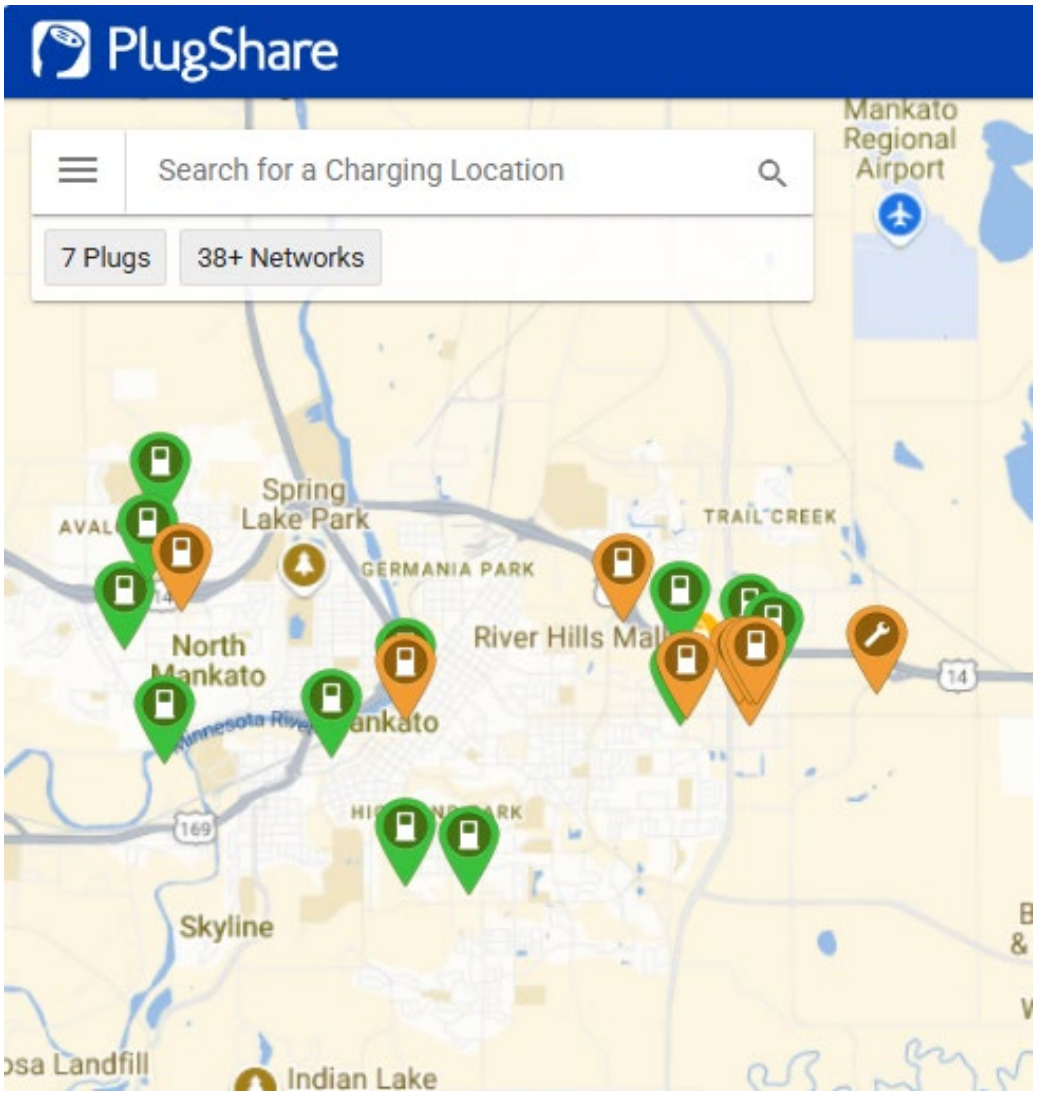


Figure 26 – Plugshare EV Charging Locations

A recent announcement by Walmart may improve the number of charging stations in Mankato. They have been cited in the past as the largest private owner of parking lots in the US. Walmart currently has several different charge suppliers across the US. They are committed to rolling out a completely different business model. Of their 5,000 stores across the United States, thousands are expected to have Walmart-branded charging stations by 2030. Whether that service will

[31] *Fischenich, Mark. "Ask Us: EV charging stations vary in who pays." Free Press, The (Mankato, MN), sec. Local News, 27 June 2021.*

become available in Mankato or not is uncertain because it will be based upon the adoption rate of electric vehicles in the community.

8.3.4 Recommendations

- Continue to look for opportunities to improve ridership and service for public transit. Study if electrified, on demand service makes sense for Mankato.
- Consider ways to support continued expansion of electric vehicle charging stations.
- Develop a plan to beneficially manage for "last mile" transportation like electric bikes and scooters.
- Monitor grant programs for opportunities to upgrade the City's fleet or charging infrastructure.
- Consider adopting rules for requiring low or no emission vehicles for self driving, on-demand vehicles.

8.4 Biking Corridors

Biking offers a healthy and clean alternative to cars when traveling in town. Providing dedicated bike lanes is a great way to encourage residents to bike while improving road safety. Currently, the City of Mankato has approximately 25 miles of on-road bike lanes for travel, which accounts for approximately 9% of Mankato's streets providing bike lanes. The City also has a network of approximately 28 miles of paved trails that can be used for travel around the City. **Figure 27** shows the biking corridors within the Mankato Area. Each neighborhood was analyzed for bike lanes present and a metric of bike lane length per road length was developed. While this is a high-level analysis, it does provide a broad snapshot of how bikeable each neighborhood and the City is overall. This also can provide the start of a more in-depth analysis that could evaluate the feasibility and value of adding more bike lanes to each neighborhood. **Table 6** shows a summary of road length and bike lane length, including the percentage of bike lanes compared to road length by neighborhood.

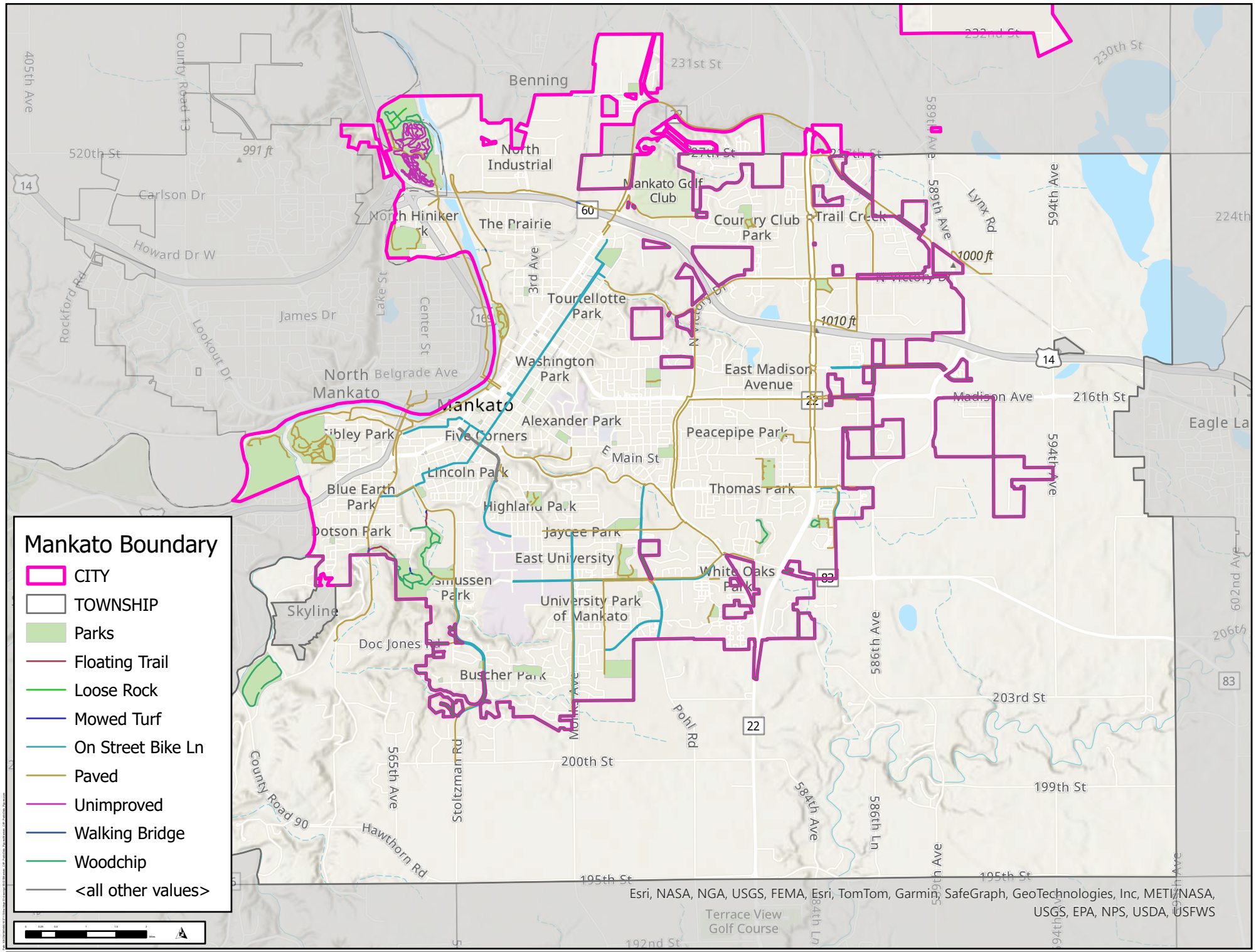
Table 6 – Summary of Road Length, Bike Lane Length and Percentage of Bike Lanes by Neighborhood

Neighborhood	Road Length [mi]	Bike Lane Length [mi]	Bike Lane/Road Length [%]
Alexander Park	7.4	0.0	0%
Blue Earth Park	7.8	0.6	8%
Buscher Park	10.9	1.6	15%
Country Club Park	21.9	0.0	0%
Dotson Park	6.8	0.0	0%
Downtown	1.9	0.4	21%
East Madison Ave	29.5	1.9	6%
East University	3.1	0.9	29%
Eastwood Park	19.6	0.0	0%
Erlandson Park	9.9	0.0	0%
Five Corners	3.7	0.9	24%
Franklin Rogers Park	11.3	0.0	0%

Neighborhood	Road Length [mi]	Bike Lane Length [mi]	Bike Lane/Road Length [%]
Highland Park	7.1	0.4	6%
Jaycee Park	11.5	1.7	15%
Liberty Park	5.6	1.0	18%
Lincoln Park	3.9	0.8	21%
MSU Campus	2.7	1.0	37%
North (Airport)	5.1	0.0	0%
North (Hiniker Park)	4.6	0.0	0%
North (Industrial)	13.0	0.0	0%
Peacepipe Park	9.3	0.0	0%
Rasmussen Park	8.5	2.6	31%
Riverfront Park	4.3	0.7	16%
Sibley Park	15.8	1.1	7%
The Prairie	10.9	0.0	0%
Thomas Park	20.1	1.1	5%
Tourtellotte Park	14.0	2.2	16%
University Park	10.6	3.1	29%
Washington Park	5.1	0.6	12%
White Oaks Park	17.6	0.0	0%
City of Mankato	**303.5**	**22.6**	**7%**

8.4.1 Recommendations

- Analyze any upcoming road reconstruction projects for the opportunity to incorporate additional bike lanes.
- Further analyze and develop more sophisticated metrics by neighborhood to assess need and benefit of providing more bike lane infrastructure.
- Seek opportunities to provide bike parking in common destination areas to further encourage biking as an alternative mode of transportation.



Project: MANKA 183711
Print Date: 5/19/2025

Map by: MAC
Projection: NAD 1983 HARN Adj MN Blue Earth Feet
Source: ESRI, State of MN

CITY OF MANKATO
CLIMATE ACTION PLAN

FIGURE 27
Community Spaces

Appendix A

Public Comments Received

Mankato Climate Action Plan

Community Comments

Social Infrastructure

Parks & Recreational Opportunities - Community Spaces
Community Gardens & Food Programs
City's Code of Ordinances-Regulations-Permits -Utilities
Community Livability
Housing
Education/Stewardship
Coalition/Partnership/Alliance

Water Resources, Land Use and Ecosystem

Water Management
Extreme Weather Events
Floodplain Management
Land Use
Stormwater Management
Wetlands

Green House Gas Emissions

GHG Inventory & Monitoring
Waste Management
Plastic Reduction
Food waste
Energy & Renewable Energy

Transportation

Public Transportation/Buses
Biking Corridors
Electric Vehicles

Parks & Recreational Opportunities - Community Spaces

Collaborate with District 77 on expanded use of school's green spaces, giving neighborhoods additional 'parks' when school is not in session – including dog walkers in acceptable areas, i.e. property perimeter walking.
Open all Mankato parks to responsible pet owners for on leash visits in non-playground & non zoo areas. More US households have pets than children.
Creatively consider ways ball fields can be enjoyed by other users, including a selected number for mini-dog park exercise.
Plant shade trees along walking trails for cooling shade on HOT days. Also helps buffer highway noise & pollution.
Increase management (number of hours of work) in our parks. Many parks are well-worn (mud at high-use locations), but overrun with invasive species. Parks are seeing a loss of native plants and animals due to high deer populations and invasive species encroachment - the city needs to remove inasive species and plant native species in those open niche.
The city needs to focus on conserving the green space it has and encourage higher density developement instead of sprawl that is car-centric with little access to parks on the hill.
Parks and recreational Opportunities: Stop planting cultivars, hybrids, and non-native plants in parks, city-owned spaces, and as city street trees. Instead, plant those flora that are native to our river valley and prairie ecosystems , and those species who will function well with the encroaching shift of planting zones (as our climate further warms in the future). Utilize boulevards and stretches of public lands as spaces for native plantings. When it comes to growing prairie plants/ native plants/ pollinator gardens/ rain gardens, work with city codes and ordinances to eliminate barriers to homeowners and tenants from planting them. My house literally has to be on the 'Do not cite' list for being unkempt yard in order to be allowed to have a prairie planted in my front yard. Our community and ecosystem is less vulnerable and more resilient when our city staff actually do maintenance at parks/ city land that removes invasive plant species. Black Locust, Amur Cork Tree, garlic mustard, and buckthorn dominate land at Rasmussen, Highland, and Williams parks. We need to be cultivating what should be growing there- natively. Invest time and staff hours in properly maintaining the wild spaces that our city has in its possession.
Idea6: I would like to see a safe, large,and attractive park with walking trail on the hilltop - East Side. Like Sibley Park.
Comment6: I would like that park to be like Benson Park in N.Mankato with native prairie plants. All storm water settling ponds are candidates for walking paths and prairie plantings.
Community spaces: Provide latrines at parks where there are no built bathrooms.
Create a public nature center
Water based activities on the river

Community Gardens & Food Programs

Support master gardener program
Incentives for pollinator gardens, rain gradens, native vegetation- private property as an opportunity
Stop spraying city property
Support community gardens
Homegrown natural park
Support more community farms- good for local economy and multiethic groups
Support community farm and food production programs
Community events with nature activities create strong connections, healthy food, healthy communities
Provide a 4 seasons farmers market and workshops like native pollinators, food preserving, gardening.
Support local food systems, more access and more resources
Allow urban chickens
Home grown natural park, do it! Cost nothing
Encourage gardening, vegetation, cooking, and composting
Gardening classes in libraries and neighborhood parks
Mobile cooking classess in libraries and neighborhood parks. 1:1 training w/experts
Composting classes

City's Code of Ordinances-Regulations-Permits -Utilities

Implement good governance. Add climate risk analysis to all city's projects, evaluate how climate can adversely impact the project.
Implement best management practices in all projects. Single projects over 50K i.e. equiments replacement- study long term impact of the actions.
promote, seek out cost savings over the long-term for first initiatives.
Work with utility providers, helping them with clean energy goals.
Promote clean energy, sustainability, electrification, insulation – air sealer & related contractor training with apprenticeship program.
Pilot program of 'free energy audits' for landlords, including discount on rental license renewal. Consider improvement grants with 25% match & property recognition.
Encourage home improvements & usage decreases in energy or water; hard surface or turf replacements with modest financial support.
Encourage utilities to help setup a Green fund: 1 cent extra per kWh for heated driveway, hot tubs outdoor, etc. Green fund for energy literacy, matching funds, etc. (Ecopartners initiative).
Require sustainability improvements added to development projects when Developer's ask for TIF or other accommodations.
Consider building permit fee reductions when multiple EV charging ports or other sustainability initiatives incorporated.
Review City's land use, economic, zoning ordinances & strategic plan with resilience, adaptation & mitigation of climate change eyes.
Prepare for upcoming hyperscale data center requests including: industrial zone only, full transparent permitting process with environmental review, require green building standards including clean energy, noise & water efficiency. Data centers are 'extraction' industries, pulling water & energy from a region, with related minimal jobs which are not 'high tech.' Recently data center expansion requests have failed in Iowa, Western Sweden & elsewhere because of these downsides.
Bring new projects to people earlier in the process, not when almost final for improved adoption.
Idea7: I would like to see the City of Mankato to take a stance on the State of Minnesota's involvement in geoengineering of the weather. Description: How can we properly care for the planet with geoengineered cloud seeding taking place daily without our permission.
Comment7: I would like to hear more about this. If it's true, I would imagine the intent would be to have more moisture in a regular basis, but, correct me if I'm wrong, I believe we are in a multi-year drought.
Idea28: Incentivize citizens to reduce their environmental impacts Description: Build incentives into tax or services that reward citizens (e.g. offer discounts for wastewater if they have a rain barrel like the do in Detroit; offer discounts on trash if they recycle without violations and/or do composting; reduce property taxes for high tree canopy areas and well-managed native prairie plantings).
Provide $ incentives for agricultural reaseach and environmental projects. Lobby state/federal governement to provide funding for research onr reducing aggricultural carbon emissions. And to provide incentives for more multi-use/multi/crop farm land use, no till fields, drip irrigations and other green practices
home grants for installing new insulation, heat pumps, solar shingles, water barrels, smart thermostats in residential homes
Implement climate risk management for every city project. For every city project evaluate how climate could adversely impact it, then implement it with resilience and mitigation in mind.

City's Code of Ordinances-Regulations-Permits -Utilities

Find grants for changes to avoid more cost to residents
Provide carrots and sticks for landlords to do efficiency retrofits of their properties

Community Livability

The city needs to develop requirements for any project requesting city dollars (tax increment, financing, forgiveness or fees, etc.) to build into their project some GHG reduction action.
Community livability: design neighborhoods and commercial areas for walkability, bikeability, and mass-transit use. When we design our spaces for interactions with neighbors, we are more likely to interact with others in our neighborhood and are more invested in the overall wellbeing of our community.
Permanent covered farmers market
Promoting & supporting local food sources
Livability investments (parks, housing, walkable retial, entretainment) all help people from generating GHG by driving to the Cities.
Community cooling centers
Healthy foods- Fund local produce for school programs , fresh foods and seasonings available at food shelves, engourage DIY storing of foods, spices, seasonings.
Find a permanent place to host our local Farmers' Market, perhaps in the parking lot footprint of the old mall at Victory Rd and Madison Avenue.
Sharing equipment and repairing existing owned hems
Invest in a substantial library of things collection at our local libraries so community members can reduce waste and production- would include tools, crafting equioment, sporting goods, other occasional use items.
Hold repair clinics at job sites and libraries and neighborhood parks.
Open library pickup locations in neighborhoods to allow easier access and reduce car use
Health Care- Mankato area dental clinics DO NOT accept MNCARE insurance, only the metro aerea will accept it- Passenger rail to the metro would allow low income citizens to travel where clinicns take MNCARE insurance
Community safe spaces for seniors

Housing

Housing: Continue to develop increased housing in places that are proximal to vitals of life (grocery stores). Engage with developers and local business owners to open grocery stores in any places deemed 'food deserts'. Prioritize housing development in places other than wetlands, and minimize disturbances to existing habitats/ water drainage/ ecosystems. Provide incentives to builders/ homeowners for utilizing heating systems that use electricity of natural gas. Establish a moratorium on future natural gas supply lines to future commercial and residential builds. Centralize economic development along high-use corridors such as Madison Avenue, Riverfront Drive, and Stadium Road.
Create affordable family home sub-divisions
Buidling codes for clean energy for all housing developments
Housing developments need to plan for water collection for future uses in drought conditions.

Education/Stewardship

K-12 School grounds & surrounding neighborhood garbage pickup could be a regular infrequent 'physical education' class activity - building respect for nature, school assets & agency to do the right thing.
Lessons learned from Morris, MN 'Model' successes, including how it got started: https://cityclimatecorner.com/episodes/morris-mn-a-climate-smart-municipality
Visualization: Mankato is progressive, preserving our unique vulnerable location at the apex of prairie, farms, rivers, lakes & big woods – working conservation for our collective successful & happy future. We are not of the Gary, Indiana model.
Idea23: Educate citizens about renewable energy options Description: -Promote information about renewable energy options in homes or apartments at home builder shows or other events or include in the city newsletter (i.e. community solar, geothermal, installing solar panels, etc.)
Idea29: Bring awareness of climate change effects to the area.
Idea30: Good climate change work is started by the city; moving forward more quickly will hopefully help slowdown the impact.
Idea31: Any action plan needs to have specific deadlines for accountability.
Idea32: Plans needed for all types of weather.
Accesible adult and community education
Kudos to the City for starting this Climate Action Plan
SUPER KUDOS to the City for all the good climate mitigating actions that you are already doing.
Education on electrification for residents
Education/ Stewarship: It would be great if we used the Free Press Newspaper to describe how our city is doing in decarbonizing infrastructure, reducing environmental degradation, restoring wetlands and native habitats, and working to achieve the goals of our climate action plan. We know education most meaningfully occurs when people encounter information repeatedly, so let's use our media to that end. Environmental Initiatives: We can shape Mankato residents/workers/visitors' behaviors towards less environmentally harmful choices if we structure the ease of particular decisions. I hope that development and execution of this plan uses an inter-departmental collaboration to reach its intended goals in an optimal way. Thank you for considering my feedback.

Coalition/Partnership/Alliance

Create and support a coalition to connect multiple stakeholders and leaders in local government/agecnies, business, nonprofit organizations, academia, and the public.
Expand sustainability City professional staff.
Bloomberg Green, 3-15-25 Help consumers make better choices: "...government can't cover the full cost of the transition. Officials should also rally public support, as has been done in previous crises such as war efforts & the Covid pandemic...It needs to be clear that there is a plan in which the public have a role to play, & in which they are being enabled & supported to do so, in a way that's fair across society."
3.To build community support including implementation bring stakeholders together for multiple round table meetings: energy companies, business, environmental, school, government, non-profit, youth, elders, etc.
Regional cooperation partnerships: Region 9, N Kato, School District 77, MnS-Mankato, SouthCentral College, St. Peter, Blue Earth & Nicollet Counties, similar to Ecopartners of Telluride, rural Colorado: https://www.ecoactionpartners.org/
Identify Climate Action champions in each City dept & outside partner organizations
Gather supportive local & regional organizations showing strength of coalitions, synergies, momentum & workload sharing. Coalitions may improve grant scoring.
Highlight sustainability & conservation success stories, including testimonials from all types of citizens, interest areas, businesses, churches, non-profits, etc.
Sustainability citizen committee of informed committed members, including diverse stakeholders to monitor Mankato's Climate Action plan, adapt, change, renew with new ideas, etc.
EXCITING positive opportunity to start & build toward impactful accomplishments. With results, we can win over some of the
Promote new 'mind shift' - fun to be part of the solution: composting food waste, extra comfort of well insulated buildings, low-cost electric transportation miles, recycle, refuse, reuse, repurpose, solar panels.
Invite UnM-Mankato to strongly participate & assistance: administrators, professors & students
Bring in various social & economic constituent to learn from their strengths & incorporate into climate action initiative – including learning new challenges earlier in the process to address them.
Share information across boundaries including innovations, lessons learned & future community vision.
Inquire if Mankato Area Foundation has donors who would support Mankato's accelerated green conservation future initiatives, short-term or ongoing.
Understand it takes time to build community trust & always be respectful.
Need both elected representative (city council) & city staff on committee for max coordination.
Image of climate action to consider: Ecopartners uses a ship's steering wheel. Spokes are its valued partners.
Heavily promote City's efforts all support: resilience, power grid improvements, backup, economic sustainability benefits, cost savings.
Seek out Foundations & state of MN green grants, including add in-house grant writer.
The greater Mankato area is lacking a hub that coordinates community education related to our local environment. Such as a nature center that provides education and resources for families, school groups, community members, and visitors to the area. It would be beneficial to see a sustainable and coordinated effort to highlight and service the trail, natural, and recreational resources that Mankato has to offer.

Coalition/Partnership/Alliance

Idea: Citizen Sustainability Commission-set up Description: Members dedicated to advancing Mankato's sustainability & conservation goals, including bringing new initiatives forward. Many MN cities have long had city citizen groups working alongside staff & neighbors, to preserve, protect & promote. Experienced & multifaceted committee advisory to the City Council, similar to current Planning Commission.
Comment: I agree and believe this proposed commission would be one that founders and members of the myriad environmentally focused groups in Mankato would be eager to join!
Comment: I agree with this - I would love to see food waste/food recovery efforts to align with this and possibly include food
Comment: I would appreciate a conversation on how to align the business community with this effort, including business incentives for solar.
Idea: Mindset PR Campaign Description: Inspiring public relation campaign-local citizens, businesses, kids, elders, sportsman, leaders, champion their climate actions & why, including: Reduce, Reuse, Recycle, Repurpose
Idea17: I, too, would like to see a citizen sustainability committee that could help implement a climate action plan with contacts and volunteers. Description: With so many grants for climate change right now, it could help locate best ones for our plan, find good material for posting on a city web page for environmental tips and help publicize events such as Fix-It, Mend-it or Reuse events. But it would need participation by a top staffer committed to sustainable goals.
Idea33: Have a full time employee responsible for implementing the plan. Work in partnership with surrounding towns with climate action plans.
Sustainability citizen committee
Hands on community clean up or restoration projects in partnership with Blue Earth Project and Prairie Enthusiast
Workshops for community and highschools
Join Backyard prairie projects, laws to legumes, water resoruce center
Environmental learning in partnership with elementary and highschools, project based learning, place based learning
Encourage Mankato Area Foundation to Start an Environmental Giving Circle (similar to their Women's Giving Circle) where non-profits can pitch environmental projects to be funded.
Consider climate advisory committee of citizens and staff to implement plan and revise periodically
We need a designated grant writer to help pay for our action plan. Your existing staffers are handling enough.
Support a partnerhip wit University professors and students
Designate a resilince officer to direct partnership
Include existing service groups, fraternal groups, private and non-profit groups to gather imput, meet weekly/monthly, cast a wide net.
Engage schools and coordinate projects arounf specific events like earth day.
Create a partnerhip with organizations like water resources center and prairie center.
Implement pilot projects with the help of a support system with existing groups, provide a guide of funding sources
Develop a core program with trained volunteers
Support partnerships like Blue Earth program land stewarship, food recovery-Mankato zero waste
Bring organizations together with a coalission, with regular meetings, fund coordinator/manager
Greatest need is a partnership to establish priorities and communicate with groups
Create a group to support existing programs like Living Earth Center

Coalition/Partnership/Alliance

Need a planning commity to connect different organizations
Engage future generations with educational programs coordinating with volunteer based groups and existing local programs
Form a citizens sustainability board to work with and advise the city.
Partner with MSU with SROC & UM Institute on the environemnt so research can be done here.
Work with greenseam to promote research findings
Outreach to won colleges to offset maintenance cost to maintain access to green spaces (MLK, service days)
Create a resilience officer position to work on all aspects of climate and work with community
Support and partner with Blue Earth project
Partner with North Mankato

Public Transportation/Buses

The current timeframes of bussing operations are limited in the early hours and overnight. There are no other public transport options during this timeframe. More options, even less frequent than daytime hours, would be beneficial to those who work outside of the typical workday hours or wanting to connect to stores and other resources.
Incease mass transit use by offering more frequent routes. Develop a city plan to increase population density, reduce parking requirements for new developments, increase regional transit hub use (trains and buses).
The current timeframes of bussing operations are limited in the early hours and overnight. There are no other public transport options during this timeframe. More options, even less frequent than daytime hours, would be beneficial to those who work outside of the typical workday hours or wanting to connect to stores and other resources.
Develop a city plan for how to encourage city-wide use of mass transit buses. Promote mass transit in our community by establishing one of the parking lots at River Hills Mall/ MNSU campus as a video-monitored 'Park and Ride' (as used in Wisconsin) so as to encourage carpooling. Encourage local residents to use mass transit over their vehicles in town by providing a rebate/ credit system for city bus use (punch card or subsidized fares). Reduce emissions by implementing a 'no idling ordinance' for all parked vehicles between Memorial Day and Labor Day (temperatures during these months are warm enough that running climate controls is unnecessary). Work with MN DOT and other state departments to use existing railways and right-of-ways for a passenger train line to be used between Mankato and the Twin Cities. For future building development in the municipality, abolish car parking requirement minimums and instead require projects' investment in non-automobile based infrastructure/bikeability/walkability. Examples include: positioning buildings on lots so as to promote pedestrian and biking access (and bike rack installation). There is so much land that we end up dedicating to frontage roads and other transitory uses that could instead be developed for increased density of commercial and residential functions. Work with city zoning to prevent urban sprawl at the outskirts of our city's footprint and re-zone currently developed land for higher density. When our city builds out rather than up, we have less distance that must be traveled to maintain infrastructure. Let's shape the behaviors and geographic development of Mankato's future growth to minimize carbon generation by limiting the distance needed to travel throughout the city, and reduce the city's cost to provide basic utilities by keeping the city's footprint as compact as possible.
Discourage car and truck idling
Idea: For Mankato to truely thrive and become even greater, is to focus on transportation. Bussing should be expanded and more accessable.
Comment: Just the opposite many buses city, school and True transit run around nearly empty all of the time doing more polluting than ever. Get rid of the buses.
Idea: Reducing the carbon footprint Description: Changing Riverfront dr from 2 lanes back to 4 lanes would great improve our environment, because traffic equals carbon. Also the city of Mankato could do with less vehicles during the weekdays half of the traffic is from city employees aimlessly driving around
Comment: Agree !
Idea: I think adding more bus service extra routes/ stops / hours would help not only reduce emissions but would also slow more people to work.
Comment: Bad idea ! get rid of the buses.
Comment: I can see both sides of this. It is disappointing to see empty busses, but it's also concerning to see the bus shelter at WalMart overflowing with people. I also wonder about minimal or missing bus shelters at high density housing areas and industrial parks. Maybe I'm just not seeing what is actually there because I'm driving main roads? Ultimately I feel like smart bus service is necessary for both economic and environmental sustainability. I'm sure the data is being used wisely to plan for the future.
Examine bus route timing between residential areas and large city employers to ensure that bus commuting is possible for more residents.
Idea: Develop regional mass transit Description: Encourage regional mass transit routes (trains and bus). Help to develop more consistent and frequent routes between hubs.

Public Transportation/Buses

Passenger rail to the metro would allow low income citizens to travel where clinics take MNCARE insurance.
City buses should use renewable fuel sources
MnDOT Passenger rail connecting Mankato to the metro an beyond will reduce emissions by implementing renewable energy.
Begin conversations for MnDOT rail plan
Right size bus population riding
sutainable aviation fuel and prep
High speed raid connected to Twin Cities and Rochester
Limited health care options require travel to twin cities- public transit could help

Biking Corridors

Increase protected bikeways encourage non-car transportation methods, provide protected bike lockers and safer bike routes (especially with ebikes becoming more popular - be forward thinking!).
Increase protected bikeways and incease mass transit use by offering more frequent routes. Develop a city plan to increase population density, reduce parking requirements for new developments, encourage non-car transportation methods, increase regional transit hub use (trains and buses), provide protected bike lockers and safer bike routes (especially with ebikes becoming more popular - be forward thinking!).
Idea12: Increase mass transit and biking/walking routes Description: Modify city planning to prioritize mass transit and protected biking/walking routes to encourage use of these transportation methods.
Comment12: Encourage streetscapes that feel safe & attractive for walkers.
Idea21: Improve green transportation infrastructure Description: -Build more charging station infrastructure in the city to make electric vehicles a viable option for residents and visitors, especially residents who live in apartments (i.e. city ramps, parks, hotels, library, etc).
Create safe corridors for biking around hilltop and connecting residential areas to commercial districts to make bike commuting more possible for residents who don't live downtown.
Make walkable corridors between residential areas and commercial areas, especially on hilltop so residents don't need to rely on vehicles to get groceries, visit restaurants, shop, etc.
Provide rebates for electric bike purchases (Mankato hills are tough!)
Continue to build out the bicycle network so residents can easily and safely bike or walk to destinations reducing traffic congestion and air pollution. This includes expanding trail network and on street separated bicycle infrastructure.
Better bike infrastructure for Hilltop commercial area
More bike racks/parking
Promoting walking & biking so it is easier to get around more projects like riverwalk
Safer bikes lanes and more bike lanes
Bike racks at transit stops -Frank Rogers park and unernss plaza
Establish designated exclusive bike lanes
Continue to build out the bicycle network including trails ans separated on street infrastructure. Connect network to destination points, grocery stores, heath facilities, sports complexes, etc.
Jersey bike barriers where possible. Painted lanes are not infrastructure
More bike lanes
More natural barriers between car and bike lanes
More safe bike crossing spaces along madison avenue
Contiue actions lie bike/pedestrian infrastructure that reduce dependence o cars
Every crosswalk/intersection needs signage- safety for wheelchairs and bikes
Protected bike lanes

Biking Corridors

Throughout the city, consider investment in non-automobile centric infrastructure as a way to reduce greenhouse gas emissions, environment-degrading roadways. Work with MAPO and construction engineering firms with all future roadwork to fully support and prioritize pedestrian, bike, and e-bike/ scooter travel. Discontinue the use of pedestrian push-buttons for initiating 'Walk' signals at semafores/ signalized intersections, and program semafores to include walk signals as a default for all green light crossings. Shape the behavior and culture of Mankato as one in which walking, biking, and mass-transit are typical and central. We need to develop the expectation for drivers that other forms of transportation are using our roadways. Develop a master plan for e-bike and scooter usage within the city. Implement a plan and pursue a contract with bikeshare, scooters, and carshare companies for use in the city.

Electric Vehicles

Idea: The Plan should include clear adaptation and mitigation actions. Add solar panels to all city rooftops, city fleet to electric vehicles. Description: These steps can be phased in as part of regular roof maintenance and vehicle replacement cycles. The energy and maintenance savings will amortize thus saving taxpayer dollars, and the city will contribute fewer greenhouse and polluting gasses creating a healthier environment for all.
Comment: Electric vehicles are to expensive and return on investment is negative.
Electric and other low-emission public transport
Idea21: Improve green transportation infrastructure Description: -Build more charging station infrastructure in the city to make electric vehicles a viable option for residents and visitors, especially residents who live in apartments (i.e. city ramps, parks, hotels, library, etc).
Every city vehicle electric. Phase in on the normal vehicle
Electric vehicles for city cars and SUVs
Fix /build more public EV chargers
Electric public transportation
EV transportation when possible
EV charging stations in Old Town
Construct a plan for supporting electric vehicle charging stations on housing rental properties (New Jersey as a state has some great guides/materials that direct municipalities on how to logistically support electric car charging in residential, commercial, and industrial sectors). Seek grants and subsidies from the state of Minnesota/ non-profits and institutions that will support EV car chargers (Level 2 is much easier) at numerous destinations in the city (River Hills Mall, City Center Municipal Parking Garage, Hospital, All Seasons Arena, MNSU campus lots). Specifically aim for a reduction in a number of Internal Combustion vehicles driven on city roadways by a specific date (use a SMART goal), and craft strategies for how to achieve that goal. Work with city leadership to draft a plan and timeline for converting the fleet of city vehicles (public safety squad cars, red flat bed trucks, city-owned cars and sedans) to EV's through selling and trade-ins. Work with State of Minnesota to use the bargained rate that they have been able to negotiate when purchasing vehicles.

Water Management

Idea16: Water Resilience & New Threat Description: 2025 - fifth yr Mankato City water quantity concerns, “strict water rationing” since 2021 drought. New THREAT: Hyperscale Data Centers (massive warehouse full of computers extracts a full city’s worth of water (once & done) demanding HUGE electricity, which is also water hungry). Proactive zoning, environmental requirements, full permit 'eyes open' reviews needed.
Data center water use
Trash/pollution capture rivers/lakes
How is polluted sediment from Rapidam dam failure going to be handled in City of Manakto?
I am honestly thrilled that our city has been able to acquire funds to upgrade our waste water facility. Let's get the upgrades done!
Progressive billing rates for water use, the more used, higher rates similar to income tax brackets to encourage stewardship.
Lead pipes are still used throughout Mankato and provide longterm health concerns for our community.

Extreme Weather Events

Extreme Weather Events: We need to increase the water storage capacity of stormwater drain system and also reduce the load we expect to enter into the system at any given point in time. I live on the 300th block of Broad Street. In the last 7 years, our basement has been subject to flooding of several inches of water on two separate occasions. The inability of our current stormwater system to handle the torrential rains--that will continue to be a new normal-- cause excessive risk to the livelihood of homeowners and tenants in the less affluent parts of Mankato (residents living at lower elevations in the MN river valley).
Need to be prepared for extreme weather

Floodplain Management

Floodplain Management: Mankato needs to reduce speed and volume of rainwater that enters the Minnesota River. We need to achieve this by restoring wetlands on the East side of town (that were once drained for agricultural use), use current riverfront floodplains as wetlands, increase the water storage capacity of private property through the promulgation of rain gardens and wetland creation, establishing a moratorium on the installation of future agricultural rain tile within city and/or county limits. Perhaps our city could imitate Detroit, Michigan's program of rebates to municipal water bills through the installation of rain barrels on private properties.
Flood Control Infrastructure: While the flood wall appears to be doing its job well, functionally there is little use of it if our stormwater drains back up and flood basements all the same. These two need to be upgraded with increased capacity so that our river valley development (city center) avoids water inundation.
Even as we need to "protect" the community from the Minnesota and Blue Earth rivers, we need to keep them open to the community so people feel connected.
Protection/Conservation and restoration of native vegetation in riparian zones
Education and assist with finding projects (plantings, rip rap, etc.) that will prevent erosion of ravine soils (this may occur on private
Riverbank needs Natural restoration- City needs to replant native trees, grasses, and vegetation.

Land Use

Idea5: I believe we need more green spaces with native plants and trees, similar to Bluff park. Description: The north side of town (north of 14, from Riverfront to Hwy 22) is particularly empty.We are so lucky as a town to still have empty spaces within city limits that are used as farm land. These areas are perfect for parks with native wildflowers, trees, paths for biking and walking, etc.However, more often than not the lots are sold to developers who construct yet another apartment complex.We should save the green spaces before they are gone for good.
Comment: Mankato already has hundreds of acres of park that are under used (just drive thru them and look at how empty they usually are) lets first make use of what we have.
Idea15: Less irresponsible development for "growth". Description: More and more green land, trees, fields, etc. are being ripped up for asphalt, concrete, and cheap buildings. Meanwhile, developers are in a hurry to get there first only to find out they can't do whatever they want because of wetlands or other things they didn't look at FIRST. The east side of Mankato lost so many trees for proposed mix of residential housing that somehow turned into commercial shed buildings with townhomes next to it. If trees are torn down for development they should be required to replace those trees near that same area.
The city needs to start looking 20 years down the road and asking IF it's needed and what the consequences may be of giving land developers free reign to do whatever - only to troubleshoot crowded roads, problem intersections, etc. that somehow the city "didn't see coming". Not only is it costly to fix these hasty builds for the sake of having it done, but it's a waste of open, green and climate friendly undeveloped land. Pushing irresponsible growth for the sake of a bigger tax base has climate consequences. Think better, not bigger.
Idea19: Revise developers' current option: tiny "payment in lieu" of green space parkland dedication. Description: Meaningfully increase developers' "payment in lieu" of park dedication & expand required projects' parkland dedication - specially in dense housing. Residents including children, need nearby nature outdoor spaces.
Idea20: Create a sliding scale of property development fees Description: Set property development fees at a high level but give credit for green development plans — e.g., for green building plans, energy savings plans, solar panels, geothermal plans. If the project is entirely carbon neutral, then all fees may be waved.
Idea25: Increase carbon capture with native plantings Description: Increase urban tree and prairie planting density. Use ecosystem services to capture carbon and reduce heat island effects.
Idea26: Reduce city parking requirements Description: Modify city parking requirements. The city has an over-reliance on cars and a huge amount of area dedicated to hardscape parking, which adds costs to new projects, decreases population density, deters mass transit/pedestrian/biking transportation use and adds to flooding issues when water has no ground to infiltrate slowly through.
Start acquiring larger 10+ acre parcels for parks
Establish 'natural' parks, where chemicals are rarely used. Signage informs the user it is extra safe for children & pets to play on – visitors will understand the dandelions, as Rochester, MN does.
Limit land use expansion-suburban development

Stormwater Management

Encourage green parking lots to reduce stormwater runoff and lower temperatures
Build water storage into City parks, via increase non mowed areas, adding native seeds & slow drainage.
Seek out & encourage land water storage.
Plant more trees and manage their growth
Plant wildflower in ditches
Reduce water impacts by increasing water-porous surfaces, decrease surface parking requirements and roadways. Increase rain gardens and rain barrel use in the city. Increase urban tree and prairie land to capture more water and control floods.
Encourage pollinator lawns, low groundcover, clover lawns and rain gardens instead of Kentuky bluegrass -Anti lawn movement
Green infrastructure /water retention
Expand existing stormwater retention areas to provide retention "credits"for neighborhood without active retention areas
Upgrade/expand existing storm water retention areas to have multi layer treatment with more "natural areas" at finish.
Promote water storage & quality
Green Streetscapes: If 'green streetscapes' is meant to describe the sustainability and ecological value of city streets and boulevards, we have a long way to go if we were to describe Mankato streetscapes that way. Currently, we still plant non-native street trees in places that Justin Lundborg considers to be prone to salt toxicity, rather than finding native alternatives. And, the abundance of mowed grass among city streets and roadways could be replaced by native grasses that provide habitat for pollinators. In honesty, the city streetscapes in their current state provide minimal value ecologically, are not sustainable, are currently cared for by city staff in ways that generate more CO2, and confine native plantings rather than allowing them to proliferate in areas that they naturally want to grow in.
Our current streetscape beautification is a vision of land managed for uniformity, a lawnmower, and a lack of willingness to let use natural plants for competing with weeds. I would love to see our city's landscaping/ streetscape/ natural space ordinances experience a paradigm shift in which we realize the possibilities of working with native native plants of our area to achieve our end goals of beautification. Also, we need to ban neonicotinoid use in the city of Mankato. Research has proven that these chemicals decimate insect populations we rely upon for pollination-- particularly, bees. Environmental Initiatives: Please consider any and all ways to educate and incentivize Mankato residents to implement the topics I previously described here.
Work with MN DOT, US Army Corps of Engineers, and all related parties to critically evaluate current shoulder and right of way mowing, wetland impacts, and water draining for their environmental impact and ecosystem degradation. We do not need to have the land (or bike path area) adjacent to our Minnesota River Levee mowed, chemically sprayed, or have vegetation razed. Find ways to adopt land management practices that utilize Bio-controls of native species and take advantage of ecosystem services along the Highway 169 corridor, Highway 14 corridor, and the Minnesota River.
Utilize sand/ gravel instead of computer controlled salting. All of our salt used in Winter finds its way into the Minnesota River; it's time we start restoring the quality of the water way in how we responsibly drain our streets' rainwater/ storm drains

Wetlands

Idea24: Wetland restoration Description: The city should be looking at wetland restoration. A lot of the new development is taking place in areas of the city that used to be wetlands. Wetland restoration is more important than ever to absorb the heavy rain events brought by climate change and reduce the likelihood of major flooding.
Support the wetland rewilding project
land water storage-encourage wetlands
New development needs to implement geothermal heating and cooling. Reduces the use of non renewable energy sources and reduces the overall costs of heating and cooling. Especially important for low income housing.
Expect more of developers- much more real green space

GHG Inventory & Monitoring

Green House Gas (GHG) inventory survey ID large emitters & categories baseline document needed.
“What you can measure, You can manage.” Update Green House Gas (GHG) survey annually, with formal report every third year.
Set community GHG goals mid & long-term, then monitor, react, adjust.
Up & down river valley, Le Hillier to Mankato north end, including 3rd Ave - need those extreme industrial exhaust stacks to greatly reduce high GHS emissions.
Include annual reporting to city residents on emissions and power input/output from the garbage burning power plant. 1. emissions so we know a. What we are breathing and b. The potential for particulates in the surrounding water. 2. Power input/output so residents can understand ratio of energy used to process & transport materials to energy produced.
Infrastructure: Our city has made very little apparent progress on de-carbonizing our city's buildings, heat demands, electrical providers, fleet vehicles, lawn and park care, and tools and equipment. From this plan, I expect to see a solid, specific goals and objectives with a timeline from our city staff for how we will electrify and decarbonize the city's buildings, heat demands, electrical providers, fleet vehicles, lawn and park care, and tools and equipment.
Idea: Expect more GHG reductions from Mankato's largest contributors. Description: Dialogue with the large businesses adding large amounts of greenhouse gases to our greater Mankato air. Ask, then expect & eventually demand action - including withholding permit extensions, variances, etc. when possible.
Idea18: Xcel is planning to expand Wilmarth incinerator to burn more trash from other counties. Approval of Jefferson Quarry work should be paused. Description: The 3 high emission plants of Wilmarth, Mankato Energy and ADM, are all within one mile of Germania Park which is an Environmental Justice area. Can we justify exposing more residents there and the rest of Mankato to the health effects? Approval needs to be reconsidered.
Better accesible monitoring of nearby manufacturing spaces and their environmental impact
Better awareness & monitoring of air pollutants CHS/ADM/Wilmarth energy center
Have an easy place online for people to access for air quality daily or even better hourly.
Air monitor(an official one) near the incinerator
Please set goals to reduce area GHG and start annual monitoring

Waste Management

Require all business garbage dumpsters also have adequate recycle canisters
Garbage can overflow: educate wind trash pollution harm & effort to retrieve.
Request West Central hauler develop secure trash lid & empty process.
Wilmarth Excel Garbage Burner: Require new exhaust cleaning equipment-procedures to 'state of art – cutting edge' methods every five years. Do not accept Metro area's garbage, turning Mankato into the big city's dump, discouraging urbanites to reuse, recycle, & refuse. Wilmarth's exhaust deposit's materials in nearby low-income Germania Park, Jefferson Quarry planned housing, developing Lime township recreation area, Minnesota River, food growing farmland, etc.
More public education on our waste management infrastructure. How can we work towards less waste systematically and become more self-sufficient?
Idea11: Ban single use styrofoam Description: Follow the Twin Cities and ban black plastic, styrofoam and other foam to-go containers.
Comment11: If you cant ban the Styrofoam, collect it for special use recycling twice a year.
Can we have a recylcing bin next to each trash bin for our parks, city events and athletic fields
Can we make reuse and reduce a new priority? Education could be provided with a city webpage for ways to reduce and events
Zero waste give and take exchange regular basis
Stop burning Metro-big city garbage here!
Get a boichar plant for woody waste and sell the carbon credits (Lincoln, NE is doing this)
Require all business have recycling

Plastic Reduction

Mandatory consumer plastic bag fee at checkout counters, with the retailer keeping the fee.
Let's ban plastic bags and encourage reusable options!
I do feel that our city is able to effectively work around MN state legislation that outright forbids plastic bag bans if we are willing to explore the topic further.
Reverse vending (plastics & glass) machines in local businesses
Ban/tax/premium on use of single use plastics in town boundaries
Please include a fee on bags with the action plan. We'll wait too long for the plan law to get defeated, let's start the plastic control

Food waste

Expand compost drop-offs to District 77 schools, grocery store &/or participating restaurant dumpsters
Encourage restaurant's kitchen & wait staff to compost unusable food waste.
Curbside compost pickup
Instead of curbside organic pickup- have it in the neighborhoods- central place-hopefully less costly
Waste Management: It is great that our city has compost available to residents. I take advantage of the city's dropoff locations on a weekly basis. Our city can further reduce greenhouse gas emissions by specifying to-go containers from food vendors (ban polystyrene/ styrofoam containers) and require the default use of biodrgadable/ compostable/ 100% recycled content bags from local merchants.
offer discounts for citizens recycling and composting properly
Need a food donation program
Increasing composting though a curb-side pickup program would reduce GHG on two ways: The composting process 2, eliminating people drigving to drop-off sites.
More compost dropoffs
Compost dropoff at school dumspters please
Idea9: Minimize food waste by building local food recovery plan to capture all excess food in & ensure food is provided to people in need Description: Minimize food waste by building local food recovery plan to capture all excess food in our region and ensure food is provided to people in need - including food system infrastructure and common metrics.
Comment9: Yes! Would be great if the city constructed a small free food panty shed in every neighborhood, (in a park for example) where residents could drop non perishable goods, keeping everything local and in each neighborhood (as opposed to having to take non perishable goods to the food shelf which has limited drop off hours and needs a volunteer present to accept donations) this could greatly affect food waste as people might be more likely to clean out their pantries more often to give away items getting close to expiration that they don't expect to use

Energy & Renewable Energy

Home energy audits & improvements enhance comfort & save money.
Promote initiatives aimed at business sustainability & energy savings. Possible programs include: MNimize https://mnimize.org/ MN Chamber of Commerce's Energy Smart www.mnchamber.com/your-opportunity/energy-smart
Evaluate geothermal energy based on previos study completed years ago -Manakto and North Mankato
Provide data of GHG emitted by the city and large emitters
Apply for the state-level geothermal pilot study if possible
Start enforcing the MN energy code on commercial buidligns
Harden electrical infrastructure
Work with businesses to reduce emissions
One stop energy shop to empower homeowners/landlords/contractors to improve home energy efficiency block by blick
Roofscapes and green walls on city buidlings
Streamline solar permitting i.e solar+ app
Please consider the cummulative impact of Wilmart incinerator HDM and Mankato energy emissions a mile from EJ community and the development of Jefferson Quarry
Future Housing developments for low income families need to be planned with geothermal in mind. Reduces utility costs, which reduces housing costs.
Discourage architectural lighting on buidlings
Every city facility all LED lights
More solar on public buildings
Clean renewable energy
Remove unnecessary lighting outside
Idea22: Incentivize energy efficiency Description: -Build expectations for energy efficiency, renewable energy, and climate resiliency into new city projects and permitting processes. -Educate residents about programs and funding available for energy audits and helping older homes improve their energy efficiency. -Incentivize areas businesses to update their infrastructure to reduce emissions by utilizing green energy or improve energy efficiency with tax credits.
Idea10: Add trees or solar panels to all parking lots Description: Trees shade parking lots during hot summer days. Adding solar panels would do the same, plus produce carbon-free electricity. Both these programs have been implemented in many cities throughout the world.
Comment10: Agree. This is especially important for new developments.
Idea: The Plan should include clear adaptation and mitigation actions. Add solar panels to all city rooftops,
Comment: I agree with solar on as many rooftops as possible. I have solar on my home and dollars wise it amounts to pre buying all or a portion of my electric at a fixed rate. The life span of materials will be 25+ years but we have them paid off in less than 6. Maintenance is minimal. Demand for electricity goes up exponentially and the supply needs to keep up.
Idea10: Add trees or solar panels to all parking lots Description: Trees shade parking lots during hot summer days. Adding solar panels would do the same, plus produce carbon-free electricity. Both these programs have been implemented in many cities throughout the world.

Energy & Renewable Energy

Comment10: Agree. This is especially important for new developments.
Increase solar on all city buildings. Incentivize white roof surfaces and residential solar. Increase incentives to have citizens mitigate their environmental impacts (, increasing their tree and native garden plantings, using rain barrels or rain gardens, using electric vehicles, etc.)

Comments Received at the Public Meeting - May 19, 2025

Energy Emissions, Waste Management, Transportation

Implement litter tax to fund litter clean-up programs - by Boy Scouts, Campfire girls, church youth groups, etc.
Inspire pride in clean community by the youth participating in projects.

Land Use, Floodplains, Water Quality and Wetlands, Green and Blue Infrastructure

Eliminate min. parking requirement
Turn some of Madison East & River Hills Parking in Green Space
Stop doing all the unnecessary mowing at ponds behind Walmart
Coordinate mowing along Western MN River Bike Trail and chemical spraying of plants to be as minimal as possble. By not mowing for weeks, Mankato gains literally acres of wildlife habitat.
Reduce and manage for invasive flora & fauna species.

Environmental Justice, Social Vulnerability, Critical Services and Infrastructure

Social Vulnerability - How does zoning come into play as far as food deserts. Look at current zoning ordinances.
How does future housing development fit in the plan? Are there plans to decarbonize and fix homes to be more energy efficient.

Parks - Recreation and Food Programs, Community Livability, Biking Corridors

Are there opportunities for Nature centers? Environmental education for public/schools is important for adoption of the plan.

Comments Received on the DRAFT Climate Action Plan from May 19 to May 29

The plan looks really good! I was excited to see you include reducing plastic bag and styrofoam use. I hope you plan to put a fee on plastic bags and ban styrofoam. They are both causing irreversible harm to our community and everywhere. Please also include a city policy to not buy plastic bottled water and instead offer water in nonplastic pitchers and reusable drinking glasses. Please also include requirement that all sports fields, parks and city events have recycling and composting bins clearly marked; pesticide free lawn care; recycling of furniture and household items at the spring and fall clean up; an MSU swap event at moving out and moving in times; compostable take out for all food service, grocery stores and big box stores that have grocery departments; periodic public service announcements on KTOE and KEYC on how to compost and recycle and the benefits; incentives for food service and restaurant services to separate out their organics and recycle them; implementation of reusable foodware deposit/return service for take out at all food establishments; a bottle and can deposit/refund station to recycle all cans and bottles; a city reuse center and tool lending library; filter system at the wastewater treatment plant to filter out PFAS, other toxic plastic chemicala and microplastics; a skip the stuff campaign for restaurants to hand out throwaway plastic straws, condiment packets, and utensils upon request only or switch to compostable utensils, straws and inhouse condiment dispensers; proper repair and maintenance of EV charging stations. Thank you for providing an excellent plan! I hope you can add ordinances to reduce plastic use and increase composting.
(1) The City of Mankato absolutely needs a sustainability committee to monitor and oversee progress on its Climate Action Plan and other similar initiatives. Perhaps that committee could also oversee parks, trails, nonmotorized transportation and safe pedestrian options. Many cities throughout Minnesota have such committees. Indeed, Mankato remains an outlier by not having one. The city could take as a model the Mankato Schools Sustainability Committee in order to create a similar committee or commission for itself. (2) More emphasis should be spent on commercial and industrial energy efficiency, including green building codes and minimizing the use of natural gas. (3) All new construction, whether residential, commercial, government or other, should aspire to the highest possible green building standards aspiring for zero-carbon energy use. (4) All new parking lots should include either solar panels or tree cover. Older parking lots should be retrofitted to add trees or solar panels. (5) All multifamily or multi-tenant housing should be required to have minimum Level 2 EV chargers (or wiring therefor) built in. (6) The City should work hand in glove with Greater Mankato Growth to emphasize more energy efficiency practices in the business sector.

Comments Received on the DRAFT Climate Action Plan from May 19 to May 29

I'd like to thank the city staff and consultants involved in developing Mankato's proposed Climate Action Plan. It's encouraging to read that air quality and reducing emissions are central issues. It also includes expanding recycling, education on the negatives of single use plastic bags and Styrofoam, more options for composting and increasing the EV vehicle charging network. These are all significant areas of interest for me but I fail to see any set goals to achieve in a specific period of time that would establish a firm commitment. Without goals this lacks accountability and sounds more like a wide-ranging wish list than an action plan that will motivate and measure progress. One item that I did not see mentioned was the formation of a citizen's working committee to assist with the implementation and education areas as a true partner for the city staff and council. With as many experienced environmentalists as we have in this community that want to help, I would hope the city would have at least have the formation of such a group scheduled for the next 12 to 18 months. Such a group has been welcomed and valuable in many other cities. Again, thank you for your hard work.
We want the best bang for our buck when making investments to address climate change. First and foremost, we must hold ourselves accountable for the money spent and the results we achieve. The City must clearly communicate to its taxpayers: 1) Precisely how much money is being budgeted/expended for climate change initiatives 2) Identify the measurable goals, and if they are being met 3) The positions responsible for implementation 4) What practical impact on our lives do we expect to see from these investments, and were they achieved. I'm hard pressed to identify anything we as a community can achieve in this arena when our federal government is not only stripping most climate change initiatives from its agenda or shuttering them altogether, while at the same time ramping up coal, oil, and natural gas production. This reality doesn't begin to address what other countries like China, Russia, India, Brazil, Indonesia, etc., are doing to power their energy sector. It's interesting to note that the top three emitters of greenhouse gases, China, the United States, and India, contribute 15X the amount of GHG as the bottom 100 countries. Additionally, the energy sector, which powers our economy, is by far the largest emitter of GHG, which brings me to my drop-in-the-bucket suggestion for a local climate change initiative. Mankato doesn't operate in a closed ecological system; we are directly impacted by what happens in the world around us, particularly concerning the climate. We must consider what initiatives top emitters have implemented to power their energy sector. To this end, we should not spend money to make ourselves feel virtuous. The City should pursue initiatives/grants designed to allow people to access any City of Mankato bus free of charge. Most likely, the money currently being realized via cash fares, token sales, and monthly/daily passes is negligible compared to the budget. Thus, the City should consider submitting a request to the State, or self-fund an initiative to cover this cross-functional climate change, public transit, and environmental justice initiative. The immediate benefits for our residents, the State, and our local government(s) of eliminating the bus fare will be: 1) Improved access to reliable transportation options for low/moderate-income people (positive environmental justice impact). 2) Decrease the number of car trips within our community (positive CO2 impact). 3) Increase ridership on an underused system, thus improving performance metrics. 4) The initiative can be implemented quickly. 5) Elimination of fareboxes and their maintenance costs, since all you need are passenger counters. This alone would save hundreds of thousands of dollars, as fareboxes and the associated infrastructure are tens of thousands of dollars apiece in acquisition costs. In the end, the City can elect to move to expensive alternative fuel buses, but if people aren't accessing the service at a much higher rate, we're having a negligible, if any, impact on GHG emissions, and incurring significant expense. Additionally, we will experience: 1) Higher capital costs for rolling stock and the associated infrastructure, as well as 2) Encounter reliability/durability issues. The main objective of this low-cost, cross-functional initiative is to get people out of their cars and on the bus, thus providing positive, measurable impacts on climate change, bus ridership, and environmental justice benchmarks.

Comments Received on the DRAFT Climate Action Plan from May 19 to May 29

I am impressed with the number of environmental concerns addressed by this plan. I am especially pleased that native species are included in several sections of the plan and that protecting/restoring wetlands, floodplains and forest areas is a part of it. Evaluating impervious surface retrofits is also a big one for me--I think of it every time I drop off organics at the site on Victory Drive. The parking lot there seems far bigger than what is needed. Are there, or will there be, any SMART goals for the recommendations? It's hard to gauge progress without them. In section 7.2.2.2 is it possible to include, "Actively pursue funding opportunities for expanding composting programs"? Would there be any value in updating the city's Green Step progress? Thank you for the countless hours that have been put into creating this plan.
I am so grateful the city of Mankato is taking the project on, and it is being addressed from a holistic lens which includes community livability and wellbeing as well as infrastructure upgrades and local conservation efforts. We have so much potential to be environmental leaders who prioritize the health of our environment, citizens, and communities. I am particularly happy to see support for local food systems, conservation and native vegetation plans, community education, and consideration and support for vulnerable communities who are impacted by environmental challenges. I am also happy to see that the city plans with work in partnership with local organizations and businesses who have been dedicated to addressing the social and environmental needs of this community. By working in partnership with groups who know the needs of the community, we can support each other more effectively.
Overall, I'm pleased with the plan and glad the city is taking this on! This is really important work! Adjustments to consider: I'd like to see the plan incorporate more education & incentivisation of citizens to participate in climate actions too. Yes, we have low costs for water treament and road/park upkeep, but charges can be increased overall to allow the city to perform actions that increase ecosystem services/stormwater mitigation. Adding discounts for properly deployed rainbarrels and raingardens on properties would be a great incentive for citizens to change from the status quo. The city also needs to increase efforts/staffing to manage our current natural resources and properties better... specifically, we have several natural areas and parks that are not managed enough to reduce invasive species and increase opportunities of native habitats (remove invasive and plant natives that will provide ecosystem services). Hire more people to manage our land better. Hire more people to water the trees that have been recently planted. Hire more people to reduce invasive species and plant native species in Rassmussen, Williams Nature Center, Hiniker Pond and Kiwanis Recreation Area...
I absolutely agree on the need to bring more citizen participation and education into the plan! The plan will be more successful if we have the whole community involved and educated on the plan. People love positive hands-on projects that have benefits for their local environment, and there are a lot of local parks and natural areas in desperate need of some management. I see potential for both hiring teams to manage areas and volunteer opportunities. Rassumusen Woods and Williams Nature Center off the top of my head need invasive species removal and have so much potential for public stewardship projects. To see Mankato be a city that actively organizes its citizens on conservation efforts would be so powerful and restorative!
Missing measurable interim goals (percentage of change, numbers) before 2050 as seen in other MN city Climate Action Plans. Examples: RED WING, “reducing community-wide greenhouse gas emissions 9% over the next five years.” DULUTH, “Achieve energy reduction targets for city buildings and facilities to meet 10% emissions reduction goal, per mayoral term (80% by 2050).” NORTH MANKATO (draft), “Achieve “fuel switching” of 10% of existing buildings using on-site fossil fuel combustion to electrification or renewable energy by 2040.” Those city plans then detail specific actions to achieve their interim goals. www.redwingmn.gov/DocumentCenter/View/3672/Red-Wing-Climate-Action-Work-Plan-PDF?bidId= https://duluthmn.gov/media/12752/duluth-cawp_final_and_financememo.pdf https://palebluedot.llc/02-buildings-nm
This comprehensive multifaceted plan is wonderful! I think providing education for residents on treating lawns in environmentally friendly ways would also be beneficial.

Comments Received on the DRAFT Climate Action Plan from May 19 to May 29

I was disappointed that Light and Noise pollution are not a part of the action plan. Light and noise pollution in all probability will be improved indirectly if the Plan is implemented, but more is needed. Light Pollution: Excessive, misdirected, or obtrusive artificial light. It has detrimental effects on humans, wildlife, and ecosystems, impacting everything from human health and night sky visibility to the natural patterns of nocturnal animals. Some cities, at a minimum, are measuring their light pollution to establish a baseline. Decreases in light pollution are sometimes gained through the other aspects of reduced energy consumption, Zoning and land Use Planning. Noise Pollution: Some time back a partial survey showed Mankato to have high noise levels. The Climate Action Plan could help provide awareness, demonstrate ways to reduce noise, and incorporate noise reduction in land use planning. Planting of trees, landscaping, soundproofing of transportation corridors and land use zoning. Residential development adjacent to freeways or industrial areas need improvement.
This draft 5 year installment of a 15 year plan excludes an ongoing citizen committee of promotion & assistance. Withholding citizen agency, abandons the foot soldiers eager to carry information into their businesses, venders, churches, neighborhoods... Lots of other cities, including Albert Lea & Red Wing, have successfully incorporated engaged community sustainability stakeholders - propelling, broadening, deepening & monitoring initiatives. As has Mankato past & present - Envision 2020, Downtown Planning Task Force with Civic Center creation, United Way Committees, Mankato Area Foundation... City of Mankato, please do not cut loose citizens who submitted over 700 suggestions. Harness their positive energy to help reach our mutual goals.
1. The recommendations make no mention of local distributed energy like solar and wind at city facilities, residences, commercial buildings, or institutions. City support, permitting, and partnerships are critical to encouraging and facilitating local renewable energy development. Since we can't take climate action without renewable energy, to not even mention renewable energy as an reccomendation for the community to is an oversight. There were 13 comments/ideas that mentioned solar and how to make this more accessible for the community. Yet it was not included as a recommendation or action for the city, nor our community as a whole. **2. The recommendation to only "Analyze any upcoming road reconstruction projects for the opportunity to incorporate additional bike lanes" is not strong enough to actually inspire action.** We should be pushing to increase the # of miles and the quality of bike lanes in our community. Of the 20-25 community comments about biking, there were 13 that asked for some combination of safer, protected, and separated biking infrastructure, but the plan makes no recommendation to improve the bike infrastructure or even increase it. It only suggests that we analyze opportunities for this, which doesn't seem like enough to me. **3. The plan makes no mention of electrification as the best path forward for decarbonizing the buildings in our community.** There is a vague goal to "Improve energy efficiencies of existing buildings and systems as budgets allow through equipment and management software upgrades". Air Source Heat Pump, Water Source Heat Pump, and Ground Source Heat Pumps (Geothermal) are all accessible and effective technologies that should be clearly mentioned as paths forward to decarbonizing city, residential, commercial, and institutional buildings. By not mentioning these technologies and only talking vaguely about "efficiency" the plan leaves the door open to leaning on fossil fuels going forward, which we can't afford to do.

Appendix B

Recommendations

5.2 Social Vulnerability Index

- Further analysis of SVI under each parameter evaluated under the Climate Action Plan. i.e. Floodplains, public transportation, housing.
- Evaluate transportation networks within highest vulnerability areas.
- Evaluate access to critical services within highest vulnerability areas.
- Identify “food deserts” areas, characterized by lack of grocery stores and access to fresh foods.

5.3 Environmental Justice Areas of Concern

- Create and make available an Emergency Response Toolkit offering tips and suggestions for residents to increase their emergency preparedness.
- Develop a communication plan to reach vulnerable populations with limited access to the internet, language barriers or disabilities.
- Create an accessible/user friendly guide to vulnerable communities to basic and emergency services.
- Continue to develop and work with community networks to test strategies that support vulnerable populations.

5.4 Community Spaces- Parks & Recreational Opportunities

- Develop a conservation plan for existing green spaces and open land owned by the City.
- Evaluate the feasibility of a permanent location for Local Farmer’s Markets including 4-seasons markets.
- Develop a native species/desired species vegetation plan for existing parks.
- Develop a plan for removal of non-native species or not desired species.
- Evaluate partnerships with community/volunteer groups to create and schedule events for vegetation planting and maintenance.
- Create guidelines for pet owners to ensure leash visits and waste pickup.
- Evaluate future opportunities for development of parks like Sibley Park, especially on the hilltop/east site.
- Evaluate the feasibility of a public nature center that includes education and volunteer opportunities.

5.5 Community Gardens and Food Programs

- Consider ways to support community farms, local food systems and food production programs.
- Consider ways to support the community food programs and similar programs.
- Establish guidelines for community gardens and identify City owned land opportunities to establish community gardens.
- Consider ways to support master gardener program.
- Re-evaluate the City’s code of ordinances to allow urban chickens.

- Consider ways to support cooking, gardening, composting, preserving, pollinator friendly vegetation classes and workshops in libraries and neighborhood parks.

5.6 Community Livability & Housing

- Develop a walkability plan for downtown and commercial districts.
- Consider ways to support affordable family homes subdivisions.
- Centralize economic development along high-use corridors such as Madison Avenue, Riverfront Drive, and Stadium Road; and develop walkability/bikeability plans for each corridor.
- Educate developers on potential grant funding sources for sustainable development practices. For example, MINNPACE.com.

5.7 Critical Services and Critical Infrastructure

- Develop facility specific flood risk analysis.
- Development of emergency plans to ensure critical facilities continue to provide critical services during and after extreme weather events.
- Identify key infrastructure, vulnerabilities and level of risk.
- Identify emergency shelters including cooling and heating shelters.
- Identify critical sectors and conduct assessments to determine vulnerabilities.
- Explore opportunities to work with privately owned facilities to develop collaboration programs and conduct assessments.

6.1 Land Use

- Continue to update protection and conservation methods including limitations on new development within wetland, floodplains and forest areas as well as identifying restoration opportunities.
- Develop a Natural Resource Inventory and use it to track gains and losses of wetlands, forest and open water.
- Develop an inventory of City owned parking lots and buildings and evaluate impervious surfaces retrofit opportunities.
- Develop sustainable development guidelines and requirements for new developments, including urban and suburban areas.
- Require sustainability measures for new development and redevelopment projects, including tree and vegetation management plan, e.g., plant two trees for every tree that is removed as part of development.
- Increase urban tree and prairie planting density. Use natural ecosystem services to capture carbon and reduce heat island effects.

6.2 Floodplain Management

- Analysis of riverine floodplain restoration opportunities within the City limits, including stream buffers, stream bank erosion mitigation and ecological habitat enhancement.

- Incorporate floodplain restoration into stormwater management projects.
- Evaluate opportunities on City owned land and properties within the floodplain
- Inventor infrastructure within regulatory floodplains and vulnerability analysis.
- Expand existing stormwater retention areas within floodplains and heavily developed areas.

6.4 Water Quality

- Further analysis of water quality parameters to identify specific best management practices that can be implemented as part of watershed specific and permanent stormwater management projects and improvements.
- Seek and foster partnerships with local soil and water conservation groups to provide education and outreach to landowners to implement agricultural BMPs.

6.5 Wetlands

- Further analysis of wetlands to identify natural wetland and wetland restoration opportunities to establish pre-development runoff rates in areas of the City that have been converted to impervious surfaces or agriculture.
- Continue to seek funding to implement the Southeast Mankato wetland restoration project.
- Develop a protection plan for existing peatlands and wetlands.
- Develop a plan to restore drained, farmed or pastured peatlands and wetlands.
- Partner with County and Townships to implement restoration and protection plans.

6.6 Stormwater Management

- Develop a stormwater resilience plan to include analysis of existing infrastructure, vulnerability assessment, flood risk analysis, climate projections developed by the University of Minnesota Climate Adaptation Partnership.
- Develop sub-watershed hydrologic and hydraulic modeling to evaluate shallow street flooding and identify opportunities for integration of natural systems into existing systems.
- Incorporate stormwater reuse practices and bioretention practices in City owned facilities and properties to serve as a role model for the community.
- Integrate street maintenance projects with stormwater maintenance projects including street sweeping, catch basin inlet cleaning, culvert inlet cleaning, etc.

6.7 Green & Blue Infrastructure

- Build water storage into City parks and lands including rain gardens, vegetated swales, bio-retention cells.
- Integrate green infrastructure into roadways and street reconstruction projects.
- Improve soil health by reducing the use of nutrients/fertilizers and minimizing the use of herbicides.

- Re-evaluate the City code of ordinances to diversify lawns and increase native vegetation (trees, shrubs, vegetables and flower gardens).
- Consider ways to support the Blue Earth County rain barrel program and create educational opportunities to inform the community on installation and maintenance of the rain barrels and other residential level water management practices.

6.8 Green Streets

- Integrate vegetation and urban trees into roadways and street reconstruction projects.
- Integrate tree trenches into street and parking lot development and redevelopment projects.
- Replace mowed grass areas along city streets and roadways with native vegetation including wildflowers to provide habitat for pollinators.
- Re-evaluate the use of neonicotinoid and other chemicals.
- Evaluate bus stops tree coverage and integrate tree planting with transportation improvement projects.
- Evaluate the need for a City-wide canopy survey.

7.2 Waste Management

- Continue to educate the community on the effects of single use plastic and Styrofoam.
- Evaluate additional options for community and individual composting programs.
- Continue to support Blue Earth County compost bin program.
- Work with community partners to create educational materials on residential and commercial waste reduction strategies.
- Identify local initiatives to increase participation in recycling programs.

7.4 Projected Emissions

- Continue to look for funding opportunities to enhance City's fleet with alternative energy vehicles.
- Improve energy efficiencies of existing buildings and systems as budgets allow through equipment and management software upgrades.
- Consider updating City ordinances regarding acceptable use of "last mile" transportation alternatives.
- Consider the development of sustainable materials procurement plan, which can reduce the impact of material procurement, use and re-use/disposal.
- Map the existing tree canopy and determine a strategy for addressing low canopy areas in under-represented parts of town with a goal for achieving that desirable canopy.

8.3 Lower Emission Vehicles

- Continue to look for opportunities to improve ridership and service for public transit. Study if electrified, on demand service makes sense for Mankato.
- Consider ways to support continued expansion of electric vehicle charging stations.

- Develop a plan to beneficially manage for “last mile” transportation like electric bikes and scooters.
- Monitor grant programs for opportunities to upgrade the City’s fleet or charging infrastructure.
- Consider adopting rules for requiring low or no emission vehicles for self driving, on-demand vehicles.

8.4 Biking Corridors

- Analyze any upcoming road reconstruction projects for the opportunity to incorporate additional bike lanes.
- Further analyze and develop more sophisticated metrics by neighborhood to assess need and benefit of providing more bike lane infrastructure.
- Seek opportunities to provide bike parking in common destination areas to further encourage biking as an alternative mode of transportation.

Appendix C

Every Voice Mankato Summary and Data

City of Mankato
Climate Action Plan

Community Feedback Summary on DRAFT
Comments closed 05/29/25

General Overview

- Appreciation for developing a plan that includes working with local organizations, businesses, and vulnerable communities on climate mitigation
- Support for addressing air quality, emissions reduction, recycling, composting, and electric vehicle infrastructure
- Desire to form a Mankato community climate committee
- Opportunity for Mankato to be viewed as climate action leader in Minnesota
- Use available City resources to lead a clean energy transition
- Include all the work that Mankato has already accomplished and incorporated into operations

Key Suggestions

1. Create a committee consisting of Mankato residents
    - Assist in promotion and education of climate initiatives
2. Adopt firmer language
    - Change terms in the plan (e.g. consider, research) to be more specific
    - Include more tracking and benchmarks
    - Greenhouse gas emissions monitoring should be more specific
3. Enhance management of natural resources and parks
    - Native species protection, wetland and floodplain restoration
    - Impervious surface reduction and invasive special control
4. Education
    - Increase community education and outreach to encourage actions such as use of rain barrels, composting, and use of environmentally friendly lawn care products
    - Ongoing communication about plan progress and additional climate mitigation actions residents can take
5. Expand energy recommendations
    - Emphasize local, renewable energy and address accessibility
    - Encourage electrification of heating/cooling
    - Address barriers to adopting clean energy technologies
6. Include commercial and industrial sectors
    - Commercial and industrial emissions need stronger attention
    - Suggest adoption of sustainable building ordinances
    - Promote use of heat pumps in building rehabilitation programs
    - Advocate for green building codes, solar or tree cover for parking lots
    - Partner with Greater Mankato Growth to encourage business sector energy efficiency

Summary Report

01 February 2025 - 27 May 2025

Every Voice Mankato

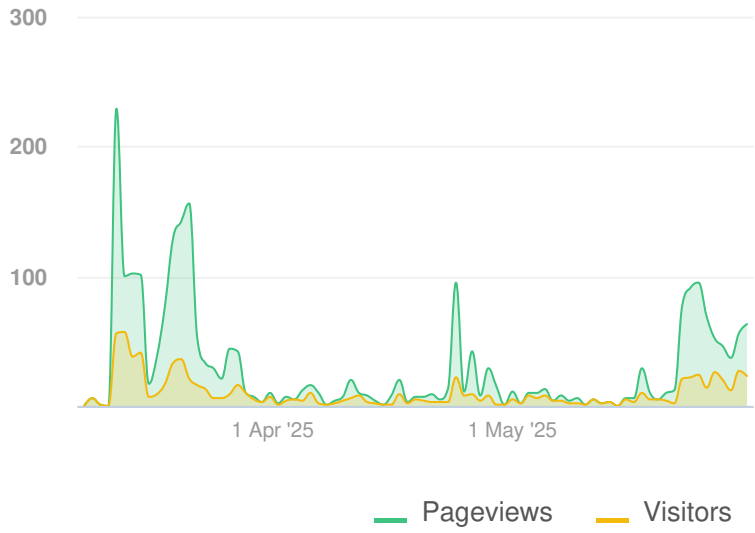
PROJECTS SELECTED: 1

Mankato Climate Action Plan

FULL LIST AT THE END OF THE REPORT

GRANICUS

Visitors Summary



Highlights

TOTAL VISITS
1 k

MAX VISITORS PER DAY
57

NEW REGISTRATIONS
15

ENGAGED VISITORS
32

INFORMED VISITORS
190

AWARE VISITORS
596

PARTICIPANT SUMMARY

ENGAGED

INFORMED

AWARE

32 ENGAGED PARTICIPANTS

	Registered	Unverified	Anonymous
Contributed on Forums	12	0	0
Participated in Surveys	3	0	0
Contributed to Newsfeeds	0	0	0
Participated in Quick Polls	0	0	0
Posted on Guestbooks	0	0	0
Contributed to Stories	0	0	0
Asked Questions	0	0	0
Placed Pins on Places	3	0	0
Contributed to Ideas	23	0	0

** A single engaged participant can perform multiple actions*

	(%)
Mankato Climate Action Plan	32 (5.4%)

** Calculated as a percentage of total visits to the Project*

ENGAGED

INFORMED

AWARE

190 INFORMED PARTICIPANTS

	Participants
Viewed a video	0
Viewed a photo	0
Downloaded a document	56
Visited the Key Dates page	65
Visited an FAQ list Page	0
Visited Instagram Page	0
Visited Multiple Project Pages	157
Contributed to a tool (engaged)	32

** A single informed participant can perform multiple actions*

	(%)
Mankato Climate Action Plan	190 (31.9%)

** Calculated as a percentage of total visits to the Project*

ENGAGED

INFORMED

AWARE

596 AWARE PARTICIPANTS

	Participants
Visited at least one Page	596

** Aware user could have also performed an Informed or Engaged Action*

Mankato Climate Action Plan	596

** Total list of unique visitors to the project*

ENGAGEMENT TOOLS SUMMARY

2	1	0	0	0	0	0	1
FORUM TOPICS	SURVEYS	NEWS FEEDS	QUICK POLLS	GUESTBOOKS	STORIES	Q&A'S	PLACES

1

FORUM TOPICS SUMMARY

2	Forum Topics
12	Contributors
50	Contributions

TOP 3 FORUM TOPICS BASED ON CONTRIBUTORS

11
Contributors to
Draft Plan Feedback

2
Contributors to
April 21 Townhall Presentation

SURVEYS SUMMARY

1	Surveys
3	Contributors
3	Submissions

TOP 3 SURVEYS BASED ON CONTRIBUTORS

3
Contributors to
March 18 Community Engagement Input

PLACES SUMMARY

1	Places
3	Contributors
5	Pins

TOP 3 PLACES BASED ON CONTRIBUTORS

3
Contributors to
Drop a Pin

IDEAS SUMMARY

1	Ideas
23	Contributors
150	Contributions

TOP 3 IDEAS BASED ON CONTRIBUTORS

23
Contributed to
Share an Idea

INFORMATION WIDGET SUMMARY

4	0	0	0	1
DOCUMENTS	PHOTOS	VIDEOS	FAQS	KEY DATES

DOCUMENTS

4	Documents
56	Visitors
101	Downloads

TOP 3 DOCUMENTS BASED ON DOWNLOADS

31	29	21
Downloads	Downloads	Downloads
Mankato Climate Action Plan Presentation May 19.pdf	Mankato Climate Action Plan Draft Plan	Mankato Climate Action Plan Presentation (4.21.25 Virtual Townhall)

KEY DATES

1	Key Dates
65	Visitors
84	Views

TOP 3 KEY DATES BASED ON VIEWS

84
Views
Mankato Climate Action Plan

TRAFFIC SOURCES OVERVIEW

REFERRER URL	Visits
www.mankatomn.gov	222
www.google.com	113
m.facebook.com	20
www.bing.com	20
l.facebook.com	15
www.keyc.com	15
lm.facebook.com	14
news.google.com	13
android-app	10
www.ecosia.org	9
www.mankatofreepress.com	8
duckduckgo.com	5
content.govdelivery.com	4
radiomankato.com	3
mail3.spectrum.net	2

SELECTED PROJECTS - FULL LIST

PROJECT TITLE	AWARE	INFORMED	ENGAGED
Mankato Climate Action Plan	596	190	32

Survey Responses

01 March 2025 - 27 May 2025

March 18 Community Engagement Input

Every Voice Mankato

Project: Mankato Climate Action Plan

GRANICUS

VISITORS
16

CONTRIBUTORS			RESPONSES		
3			3		
3	0	0	3	0	0
Registered	Unverified	Anonymous	Registered	Unverified	Anonymous

Respondent No: 1
Login: madisonvandersee
Email: madisonvandersee@gmail.com

Responded At: Mar 19, 2025 16:21:27 pm
Last Seen: Mar 19, 2025 21:09:28 pm
IP Address: 134.29.63.154

Q1. **Transportation Comments**

The current timeframes of bussing operations are limited in the early hours and overnight. There are no other public transport options during this timeframe. More options, even less frequent than daytime hours, would be beneficial to those who work outside of the typical workday hours or wanting to connect to stores and other resources.

Q2. **Community Health and Economy Comments**

The greater Mankato area is lacking a hub that coordinates community education related to our local environment. Such as a nature center that provides education and resources for families, school groups, community members, and visitors to the area. It would be beneficial to see a sustainable and coordinated effort to highlight and service the trail, natural, and recreational resources that Mankato has to offer.

Q3. **Water Resource Comments**

Lead pipes are still used throughout Mankato and provide longterm health concerns for our community.

Q4. **Green House Gas Comments**

More public education on our waste management infrastructure. How can we work towards less waste systematically and become more self-sufficient? Let's ban plastic bags and encourage reusable options!

Respondent No: 2 | Responded At: Mar 22, 2025 15:39:27 pm
Login: mkaproth | Last Seen: May 21, 2025 16:15:51 pm
Email: mkaproth@yahoo.com | IP Address: 172.58.11.50

Q1. **Transportation Comments**

Increase protected bikeways and incease mass transit use by offering more frequent routes. Develop a city plan to increase population density, reduce parking requirements for new developments, encourage non-car transportation methods, increase regional transit hub use (trains and buses), provide protected bike lockers and safer bike routes (especially with ebikes becoming more popular - be forward thinking!).

Q2. **Community Health and Economy Comments**

Increase management (number of hours of work) in our parks. Many parks are well-worn (mud at high-use locations), but overrun with invasive species. Parks are seeing a loss of native plants and animals due to high deer populations and invasive species encroachment - the city needs to remove inasive species and plant native species in those open niche. The city needs to focus on conserving the green space it has and encourage higher density developement instead of sprawl that is car-centric with little access to parks on the hill.

Q3. **Water Resource Comments**

Reduce water impacts by increasing water-porous surfaces, decrease surface parking requirements and roadways. Increase rain gardens and rain barrel use in the city. Increase urban tree and prairie land to capture more water and control floods.

Q4. **Green House Gas Comments**

Increase solar on all city buildings. Incentivize white roof surfaces and residential solar. Increase incentives to have citizens mitigate their environmental impacts (offer discounts for citizens recycling and composting properly, increasing their tree and native garden plantings, using rain barrels or rain gardens, using electric vehicles, etc.)

Respondent No: 3
Login: schmd04
Email: azimuthgridnorth000@gmail.com

Responded At: Mar 22, 2025 16:26:41 pm
Last Seen: Apr 21, 2025 22:02:23 pm
IP Address: 172.58.9.212

Q1. **Transportation Comments**

Work with MN DOT, US Army Corps of Engineers, and all related parties to critically evaluate current shoulder and right of way mowing, wetland impacts, and water draining for their environmental impact and ecosystem degradation. We do not need to have the land (or bike path area) adjacent to our Minnesota River Levee mowed, chemically sprayed, or have vegetation razed. Find ways to adopt land management practices that utilize Bio-controls of native species and take advantage of ecosystem services along the Highway 169 corridor, Highway 14 corridor, and the Minnesota River. Throughout the city, consider investment in non-automobile centric infrastructure as a way to reduce greenhouse gas emissions, environment-degrading roadways. Work with MAPO and construction engineering firms with all future roadwork to fully support and prioritize pedestrian, bike, and e-bike/ scooter travel. Discontinue the use of pedestrian push-buttons for initiating 'Walk' signals at semafores/ signalized intersections, and program semafores to include walk signals as a default for all green light crossings. Shape the behavior and culture of Mankato as one in which walking, biking, and mass-transit are typical and central. We need to develop the expectation for drivers that other forms of transportation are using our roadways. Develop a master plan for e-bike and scooter usage within the city. Implement a plan and pursue a contract with bikeshare, scooters, and carshare companies for use in the city. Utilize sand/ gravel instead of computer controlled salting. All of our salt used in Winter finds its way into the Minnesota River; it's time we start restoring the quality of the water way in how we responsibly drain our streets' rainwater/ storm drains. Develop a city plan for how to encourage city-wide use of mass transit buses. Promote mass transit in our community by establishing one of the parking lots at River Hills Mall/ MNSU campus as a video-monitored 'Park and Ride' (as used in Wisconsin) so as to encourage carpooling. Encourage local residents to use mass transit over their vehicles in town by providing a rebate/ credit system for city bus use (punch card or subsidized fares). Construct a plan for supporting electric vehicle charging stations on housing rental properties (New Jersey as a state has some great guides/materials that direct municipalities on how to logistically support electric car charging in residential, commercial, and industrial sectors). Seek grants and subsidies from the state of Minnesota/ non-profits and institutions that will support EV car chargers (Level 2 is much easier) at numerous destinations in the city (River Hills Mall, City Center Municipal Parking Garage, Hospital, All Seasons Arena, MNSU campus lots). Specifically aim for a reduction in a number of Internal Combustion vehicles driven on city roadways by a specific date (use a SMART goal), and craft strategies for how to achieve that goal. Work with city leadership to draft a plan and timeline for converting the fleet of city vehicles (public safety squad cars, red flat bed trucks, city-owned cars and sedans) to EV's through selling and trade-ins. Work with State of Minnesota to use the bargained rate that they have been able to negotiate when purchasing vehicles. Reduce emissions by implementing a 'no idling ordinance' for all parked vehicles between Memorial Day and Labor Day (temperatures during these months are warm enough that running climate controls is unnecessary). Work with MN DOT and other state departments to use existing railways and right-of-ways for a passenger train line to be used between Mankato and the Twin Cities. For future building development in the municipality, abolish car parking requirement minimums and instead require projects' investment in non-automobile based infrastructure/bikeability/walkability. Examples include: positioning buildings on lots so as to promote pedestrian and biking access (and bike rack installation). There is so much land that we end up dedicating to frontage roads and other transitory uses that could instead be developed for increased density of commercial and residential functions. Work with city zoning to prevent urban sprawl at the outskirts of our city's footprint and re-zone currently developed land for higher density. When our city builds out rather than up, we have less distance that must be traveled to maintain infrastructure. Let's shape the behaviors and geographic development of Mankato’s future growth to minimize carbon generation by limiting the distance needed to travel throughout the city, and reduce the city’s cost to provide basic utilities by keeping the city’s footprint as compact as possible.

Q2. **Community Health and Economy Comments**

Parks and recreational Opportunities: Stop planting cultivars, hybrids, and non-native plants in parks, city-owned spaces, and as city street trees. Instead, plant those flora that are native to our river valley and prairie ecosystems , and those species who will function well with the encroaching shift of planting zones (as our climate further warms in the future). Utilize boulevards and stretches of public lands as spaces for native plantings. When it comes to growing prairie plants/ native plants/ pollinator gardens/ rain gardens, work with city codes and ordinances to eliminate barriers to homeowners and tenants from planting them. My house literally has to be on the 'Do not cite' list for being unkempt yard in order to be allowed to have a prairie planted in my front yard. Our community and ecosystem is less vulnerable and more resilient when our city staff actually do maintenance at parks/ city land that removes invasive plant species. Black Locust, Amur Cork Tree, garlic mustard, and buckthorn dominate land at Rasmussen, Highland, and Williams parks. We need to be cultivating what should be growing there- natively. Invest time and staff hours in properly maintaining the wild spaces that our city has in its possession. Community spaces: Provide latrines at parks where there are no built bathrooms. Community livability: design neighborhoods and commercial areas for walkability, bikeability, and mass-transit use. When we design our spaces for interactions with neighbors, we are more likely to interact with others in our neighborhood and are more invested in the overall wellbeing of our community. Housing: Continue to develop increased housing in places that are proximal to vitals of life (grocery stores). Engage with developers and local business owners to open grocery stores in any places deemed 'food deserts'. Prioritize housing development in places other than wetlands, and minimize disturbances to existing habitats/ water drainage/ ecosystems. Provide incentives to builders/ homeowners for utilizing heating systems that use electricity of natural gas. Establish a moratorium on future natural gas supply lines to future commercial and residential builds. Centralize economic development along high-use corridors such as Madison Avenue, Riverfront Drive, and Stadium Road. Find a permanent place to host our local Farmers' Market, perhaps in the parking lot footprint of the old mall at Victory Rd and Madison Avenue.

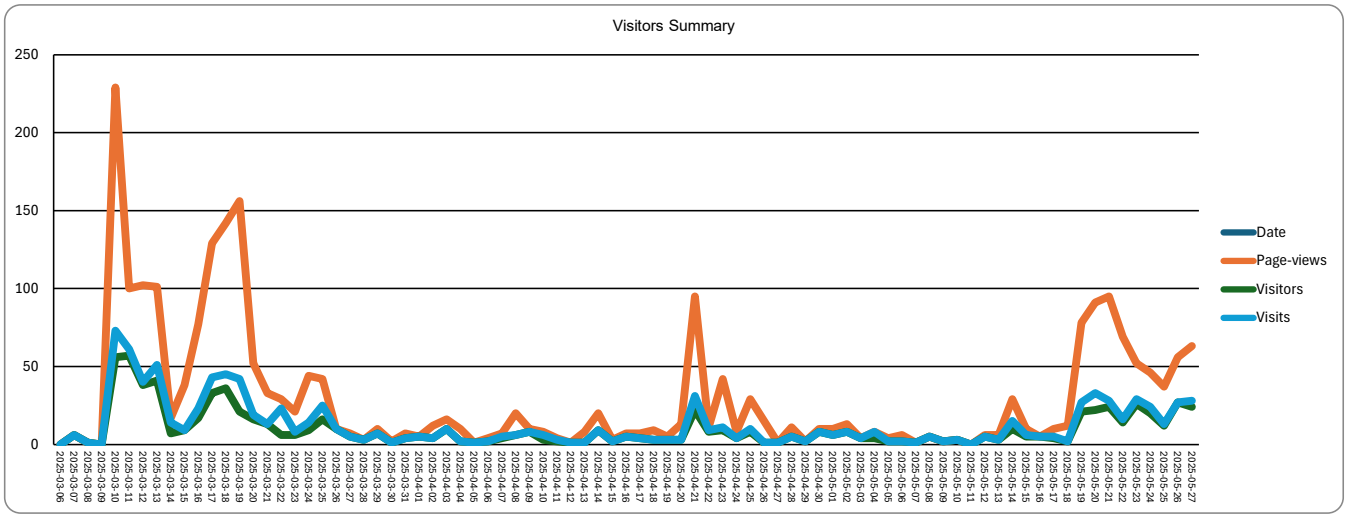
Q3. **Water Resource Comments**

Extreme Weather Events: We need to increase the water storage capacity of stormwater drain system and also reduce the load we expect to enter into the system at any given point in time. I live on the 300th block of Broad Street. In the last 7 years, our basement has been subject to flooding of several inches of water on two separate occasions. The inability of our current stormwater system to handle the torrential rains--that will continue to be a new normal-- cause excessive risk to the livelihood of homeowners and tenants in the less affluent parts of Mankato (residents living at lower elevations in the MN river valley). Floodplain Management: Mankato needs to reduce speed and volume of rainwater that enters the Minnesota River. We need to achieve this by restoring wetlands on the East side of town (that were once drained for agricultural use), use current riverfront floodplains as wetlands, increase the water storage capacity of private property through the promulgation of rain gardens and wetland creation, establishing a moratorium on the installation of future agricultural rain tile within city and/or county limits. Perhaps our city could imitate Detroit, Michigan's program of rebates to municipal water bills through the installation of rain barrels on private properties. Flood Control Infrastructure: While the flood wall appears to be doing its job well, functionally there is little use of it if our stormwater drains back up and flood basements all the same. These two need to be upgraded with increased capacity so that our river valley development (city center) avoids water inundation. Waste Water: I am honestly thrilled that our city has been able to acquire funds to upgrade our waste water facility. Let's get the upgrades done!

Q4. **Green House Gas Comments**

Infrastructure: Our city has made very little apparent progress on de-carbonizing our city's buildings, heat demands, electrical providers, fleet vehicles, lawn and park care, and tools and equipment. From this plan, I expect to see a solid, specific goals and objectives with a timeline from our city staff for how we will electrify and decarbonize the city's buildings, heat demands, electrical providers, fleet vehicles, lawn and park care, and tools and equipment. Waste Management: It is great that our city has compost available to residents. I take advantage of the city's dropoff locations on a weekly basis. Our city can further reduce greenhouse gas emissions by specifying to-go containers from food vendors (ban polystyrene/ styrofoam containers) and require the default use of biodrgadable/ compostable/ 100% recycled content bags from local merchants. I do feel that our city is able to effectively work around MN state legislation that outright forbids plastic bag bans if we are willing to explore the topic further. Green Streetscapes: If 'green streetscapes' is meant to describe the sustainability and ecological value of city streets and boulevards, we have a long way to go if we were to describe Mankato streetscapes that way. Currently, we still plant non-native street trees in places that Justin Lundborg considers to be prone to salt toxicity, rather than finding native alternatives. And, the abundance of mowed grass among city streets and roadways could be replaced by native grasses that provide habitat for pollinators. In honesty, the city streetscapes in their current state provide minimal value ecologically, are not sustainable, are currently cared for by city staff in ways that generate more CO2, and confine native plantings rather than allowing them to proliferate in areas that they naturally want to grow in. Our current streetscape beautification is a vision of land managed for uniformity, a lawnmower, and a lack of willingness to let use natural plants for competing with weeds. I would love to see our city's landscaping/ streetscape/ natural space ordinances experience a paradigm shift in which we realize the possibilities of working with native native plants of our area to achieve our end goals of beautification. Also, we need to ban neonicotinoid use in the city of Mankato. Research has proven that these chemicals decimate insect populations we rely upon for pollination-- particularly, bees. Environmental Initiatives: Please consider any and all ways to educate and incentivize Mankato residents to implement the topics I previously described here. Education/ Stewarship: It would be great if we used the Free Press Newspaper to describe how our city is doing in decarbonizing infrastructure, reducing environmental degradation, restoring wetlands and native habitats, and working to achieve the goals of our climate action plan. We know education most meaningfully occurs when people encounter information repeatedly, so let's use our media to that end. Environmental Initiatives: We can shape Mankato residents/workers/visitors' behaviors towards less environmentally harmful choices if we structure the ease of particular decisions. I hope that development and execution of this plan uses an inter-departmental collaboration to reach its intended goals in an optimal way. Thank you for considering my feedback.

Project Report:	Mankato Climate Action Plan	01 March 2025	to	27 May 2025



Project Highlights

Total Visits	1.01 k
New Registrations	15
Video views	0
Photo Views	0
Document Downloads	101

ENGAGED PARTICIPANTS	32		
Engaged Actions Performed	**Registered**	**Unverified**	**Anonymous**
Contributed on Forums	12	0	0
Participated in Surveys	3	0	0
Contributed to Newsfeeds	0	0	0
Participated in Quick Polls	0	0	0
Posted on Guestbooks	0	0	0
Contributed to Stories	0	0	0
Asked Questions	0	0	0
Placed Pins on Places	3	0	0
Contributed to Ideas	23	0	0

INFORMED PARTICIPANTS	190
Informed Actions Performed	**Participants**
Viewed a video	0
Viewed a photo	0
Downloaded a document	56
Visited the Key Dates page	65
Visited an FAQ list Page	0
Visited Instagram Page	0
Visited Multiple Project Pages	157
Contributed to a tool (engaged)	32

AWARE PARTICIPANTS	596
Aware Actions Performed	**Participants**
Visited at least one Page	596

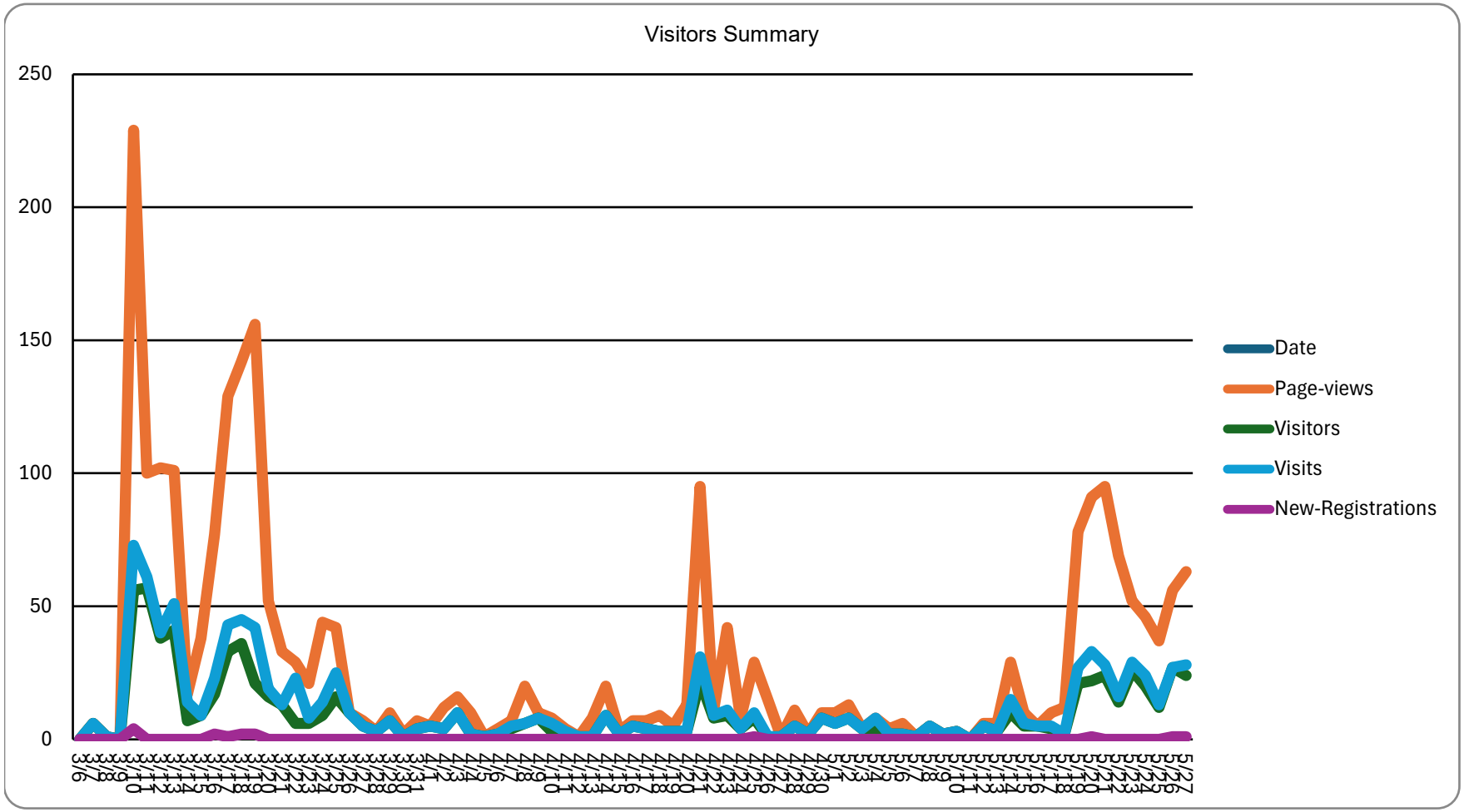
ENGAGEMENT TOOLS SUMMARY									
Forum Topics	**2**	Guestbooks	**0**	**Places**	**1**	**News Feeds**	**0**	**Ideas**	**1**
Qandas	**0**	Quick Polls	**0**	**Stories**	**0**	**Survey Tools**	**1**		

Tool Type	Engagement Tool Name	Tool Status	Visitors	Contributors		
				Registered	Unverified	Anonymous
Brainstormers	Share an Idea	Archived	102	23	0	0
Maps	Drop a Pin	Published	12	3	0	0
SurveyTools	March 18 Community Engagement Input	Archived	16	3	0	0
Forum Topics	April 21 Townhall Presentation	Archived	20	2	0	0
Forum Topics	Draft Plan Feedback	Published	42	11	0	0

INFORMATION WIDGET SUMMARY									
DOCUMENTS	**4**	**PHOTOS**	**0**	**VIDEOS**	**0**	**FAQS**	**0**	**KEY DATES**	**1**

Widget Type	Engagement Tool Name	Visitors	Downloads /Views
Document	Mankato Climate Action Plan Presentation May 19.pdf	27	31
Document	Mankato Climate Action Plan Draft Plan	20	29
Document	Mankato Climate Action Plan Presentation (4.21.25 Virtual Townhall)	15	21
Document	Mankato Climate Action Virtual Townhall April 21	14	20
Key Dates	Key Date	65	84

Visitors Summary		Mankato Climate Action Plan
01 March	to	27 May 2025



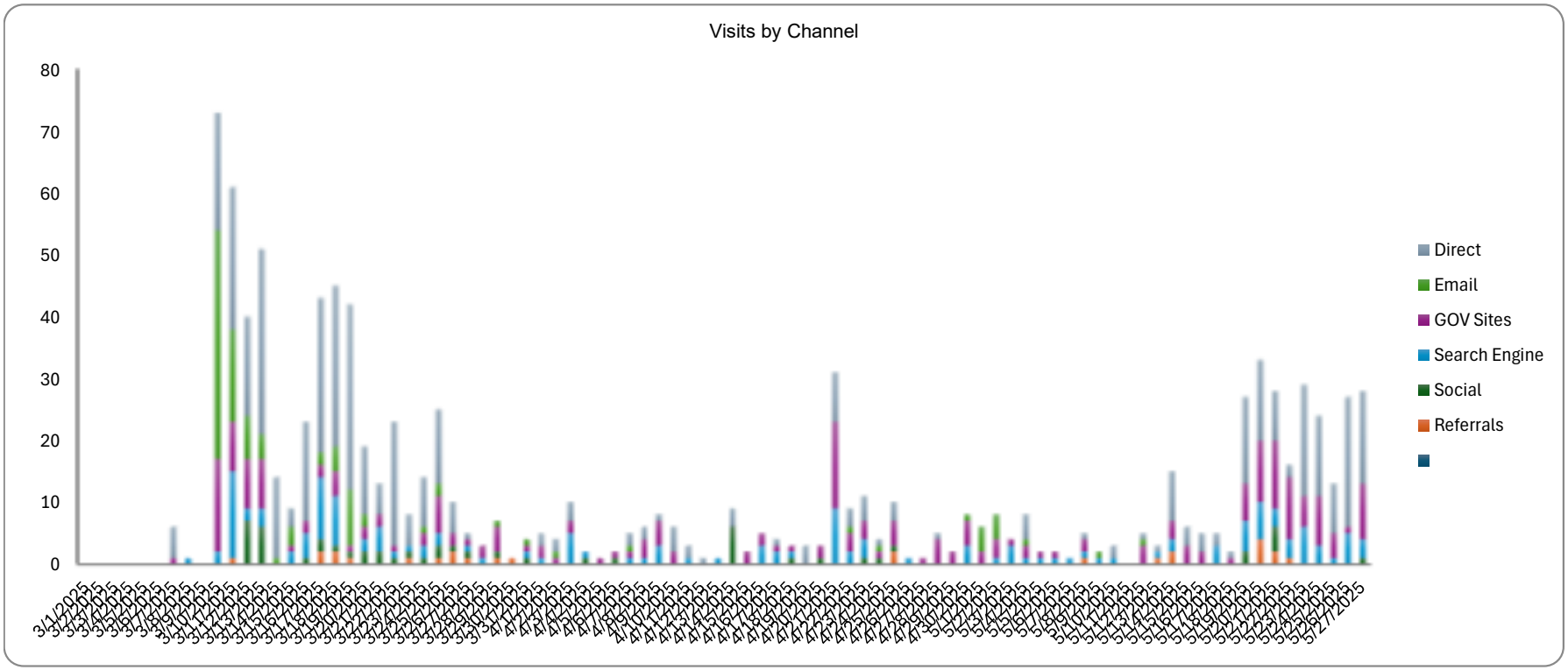
Date	Page-views	Visitors	Visits	New-Registrations
3/6	0	0	0	0
3/7	6	6	6	0
3/8	1	1	1	0
3/9	0	0	0	0
3/10	229	56	73	4
3/11	100	57	61	0
3/12	102	38	40	0
3/13	101	41	51	0
3/14	17	7	14	0
3/15	38	9	9	0
3/16	77	17	23	2
3/17	129	33	43	1
3/18	142	36	45	2
3/19	156	21	42	2
3/20	52	16	19	0
3/21	33	13	13	0
3/22	29	6	23	0
3/23	21	6	8	0
3/24	44	9	14	0
3/25	42	16	25	0

Date	Page-views	Visitors	Visits	New-Registrations
3/26	10	10	10	0
3/27	7	5	5	0
3/28	3	3	3	0
3/29	10	7	7	0
3/30	2	1	1	0
3/31	7	4	4	0
4/1	5	5	5	0
4/2	12	4	4	0
4/3	16	10	10	0
4/4	10	2	2	0
4/5	1	1	1	0
4/6	4	2	2	0
4/7	7	4	5	0
4/8	20	6	6	0
4/9	10	8	8	0
4/10	8	3	6	0
4/11	4	2	3	0
4/12	1	1	1	0
4/13	8	1	1	0
4/14	20	9	9	0

Date	Page-views	Visitors	Visits	New-Registrations
4/15	3	2	2	0
4/16	7	5	5	0
4/17	7	4	4	0
4/18	9	3	3	0
4/19	5	3	3	0
4/20	13	3	3	0
4/21	95	22	31	0
4/22	11	8	9	0
4/23	42	9	11	0
4/24	8	4	4	0
4/25	29	8	10	1
4/26	15	1	1	0
4/27	1	1	1	0
4/28	11	5	5	0
4/29	2	2	2	0
4/30	10	8	8	0
5/1	10	6	6	0
5/2	13	8	8	0
5/3	4	4	4	0
5/4	8	4	8	0

Date	Page-views	Visitors	Visits	New-Registrations
5/5	4	2	2	0
5/6	6	2	2	0
5/7	1	1	1	0
5/8	5	5	5	0
5/9	2	2	2	0
5/10	3	3	3	0
5/11	0	0	0	0
5/12	6	5	5	0
5/13	6	3	3	0
5/14	29	10	15	0
5/15	10	5	6	0
5/16	5	5	5	0
5/17	10	4	5	0
5/18	12	2	2	0
5/19	78	21	27	0
5/20	91	22	33	1
5/21	95	24	28	0
5/22	69	14	16	0
5/23	52	26	29	0
5/24	46	20	24	0
5/25	37	12	13	0
5/26	56	27	27	1
5/27	63	24	28	1

Sources of Traffic Summary		Mankato Climate Action Plan
01 March 2025	to	27 May 2025



Traffic-Channel	Source	Aware-Visits	Informed-Visits	Engaged-Visits
Direct	-	457	146	69
Referrals	android-app	4	1	0
Referrals	granicus.lightning.force.com	1	0	0
Referrals	search.brave.com	1	0	0
Referrals	www-keyc-com.cdn.ampproject.org	1	0	0
Referrals	www.ecosia.org	9	7	3
Referrals	www.keyc.com	4	0	0
Referrals	www.mankatofreepress.com	4	4	1
Referrals	www.mnsu.edu	1	0	0
Referrals	www.msn.com	1	0	0
Search Engine	bing	20	8	0
Search Engine	duckduckgo	5	2	2
Search Engine	google	126	56	7
Email	ehq	3	3	0
Email	govdelivery	100	37	8
Email	tbiefyvifel	2	0	0
Social	facebook	50	21	1
Social	instagram	1	0	0
.GOV sites	gov	222	84	18

Date	Direct	Email	GOV Sites	Search Engine	Social	Referrals
3/1/2025	0	0	0	0	0	0
3/2/2025	0	0	0	0	0	0
3/3/2025	0	0	0	0	0	0
3/4/2025	0	0	0	0	0	0
3/5/2025	0	0	0	0	0	0
3/6/2025	0	0	0	0	0	0
3/7/2025	5	0	1	0	0	0
3/8/2025	0	0	0	1	0	0
3/9/2025	0	0	0	0	0	0
3/10/2025	19	37	15	2	0	0
3/11/2025	23	15	8	14	0	1
3/12/2025	16	7	8	2	7	0
3/13/2025	30	4	8	3	6	0
3/14/2025	13	1	0	0	0	0
3/15/2025	3	3	1	2	0	0
3/16/2025	16	0	2	4	1	0
3/17/2025	25	2	2	10	2	2
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3/24/2025	8	1	2	2	1	0
3/25/2025	12	2	6	2	2	1
3/26/2025	5	0	2	0	1	2
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3/31/2025	0	1	1	1	1	0
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4/16/2025	0	0	2	3	0	0

Date	Direct	Email	GOV Sites	Search Engine	Social	Referrals
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4/18/2025	0	0	1	1	1	0
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4/21/2025	8	0	14	9	0	0
4/22/2025	3	1	3	2	0	0
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4/24/2025	1	1	1	0	1	0
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5/8/2025	1	0	2	1	0	1
5/9/2025	0	1	0	1	0	0
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5/19/2025	14	0	6	5	2	0
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5/21/2025	8	0	11	3	4	2
5/22/2025	2	0	10	3	0	1
5/23/2025	18	0	5	6	0	0
5/24/2025	13	0	8	3	0	0
5/25/2025	8	0	4	1	0	0
5/26/2025	21	0	1	5	0	0
5/27/2025	15	0	9	3	1	0

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