

Bicycle and Pedestrian Master Plan

Sheboygan Metropolitan Planning Area, WI 2025







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The preparation of this report was financed in part through a joint planning grant from the U.S. Department of Transportation, Federal Highway Administration, Federal Transit Administration and by the Wisconsin Department of Transportation (WisDOT).

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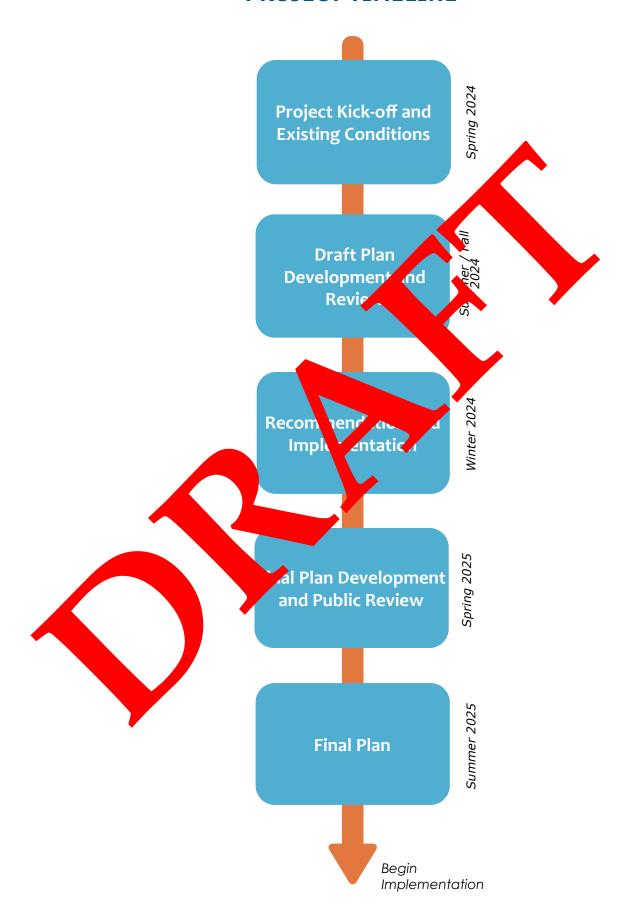
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PROJECT TIMELINE



Chapter 1 Introduction

Overview

The Sheboygan Metropolitan Planning Organization (MPO) is the policy board created and designed to carry out the area's metropolitan transportation planning process in the Sheboygan Metropolitan Planning Area (MPA). MPA boundaries are the official jurisdiction of the MPOs. These boundaries define the extent of the expected growth for the metropolitan area during the next 20 years and comprise the area within which the MPO will conduct transportation planning activities over the next 10 years, until the next decennial census.

The Sheboygan MPO consists of 10 communities: the Cities of Sheboygan and Sheboygan Falls; the Villages of Kohler and Howards Grove; and the Town of Sheboygan which are completely within the Sheboygan MPA boundary, whereas the towns of Herman, Lima, Mosel, Sheboygan Falls, and Wilson are only partially within the Sheboygan MPA boundary. Sheboygan is located in the eastern part of Wisconsin bordering Lake Michigan. Map 1 shows the location and extent of MPA in Sheboygan County.

This plan is limited to the Sheboygan MPA boundaries. However, the plan talks about the connection with the various nearby communities outside of MPA boundaries. The vision for the development of a comprehensive active transportation network is expected to occur over the course of twenty years of planning. The plan will have short term and long-term recommendations and provide a Priority list of projects and policies. The segmented nature of the transportation projects can result in piecemeal development at first as the components of the system are implemented. The plan will be updated every five years or as required.

The communities of Sheboygan MPO have committed themselves to improving walking and bicycling facilities throughout the region. Many advances have been made over the past several years to implement the recommendations stated in the "Sheboygan County Pedestrian and Bicycle Comprehensive Plan" in 2015. In terms to keep up with the growing needs of the region it is important to plan and implement for the walking and biking facilities and programs.

The City of Sheboygan makes up for the majority of the Sheboygan MPA. Hence, the plan intends to focus in depth on the City of Sheboygan, to close the gaps in the existing bicycle networks and make it safer for people of all ages. The City of Sheboygan is a mature waterfront community with a rich history, robust employment, and strong infrastructure foundation. The grided street network in the downtown area invites walkability and is overall bicycle-friendly. Correct planning would encourage citizens to utilize active modes of transportation not just for leisure purposes but also for day-to-day activities. Both the City of Sheboygan and Sheboygan County are Bronze-level Bicycle Friendly Communities awarded by the League of American Cyclists.

Introduction and Purpose of the Plan

Bicycle and Pedestrian plans contribute to sustainable urban development, improved public health, reduced traffic congestion, and decreased environmental impact. By prioritizing non-motorized modes of transportation, this plan aims to create more livable and vibrant communities.

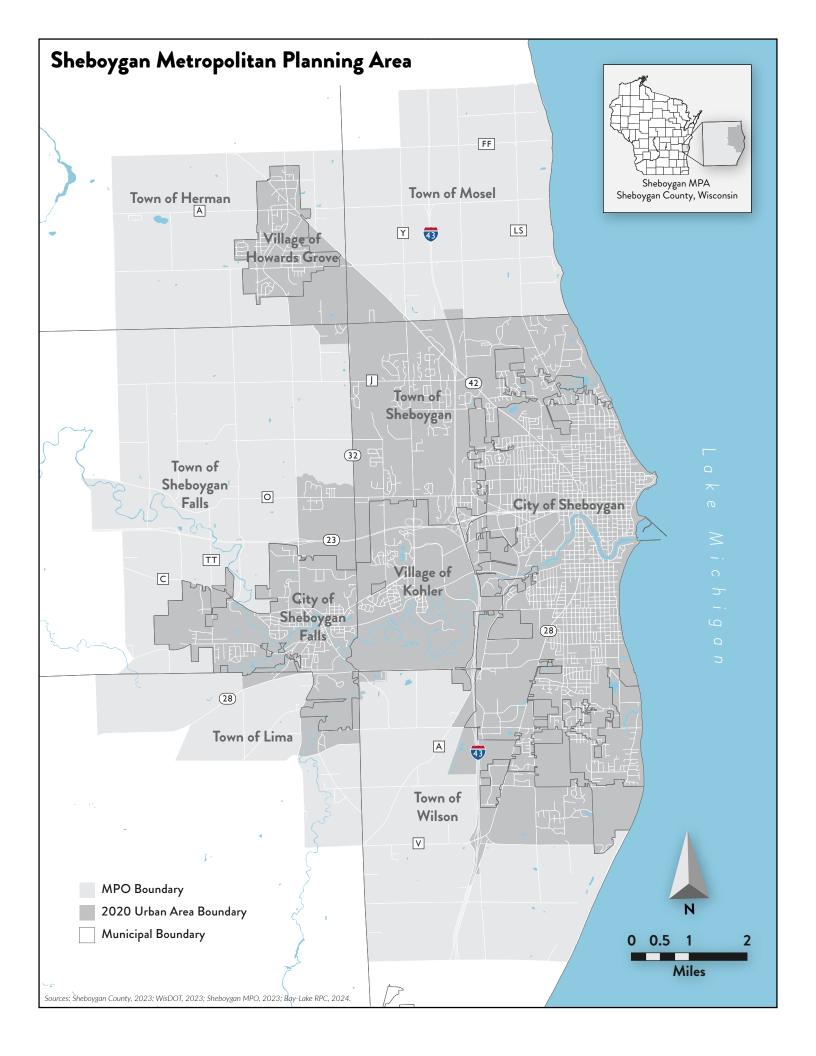
Thus far Sheboygan MPO does not have a bicycle and pedestrian plan in place. The Sheboygan Metropolitan Planning Area Bicycle and Pedestrian Master Plan is intended to help communities accomplish the vision and goals for walking and bicycling in the region by identifying priority projects, and activities to improve safety and mobility. The MPO has a vision to build an bicycle and pedestrian infrastructure that is safe and accessible to people of all ages, and comprehensive throughout the region. This plan analyses the current bicycle and pedestrian network and its conditions in terms of safety and accessibility and gives recommendations for

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improving the existing facilities and recommendations to complete the current gaps. This plan is also intended to encourage the communities within the MPA to have a base to apply for potential funding opportunities.

This Plan is a result of many comments received by the Sheboygan MPO on their public hearings of the 2023-2026 Transportation Improvement Program and Year 2050 Sheboygan Area Transportation Plan as well as other previous plans. The Plan is being completed with the support of the members of the Technical and Policy Advisory Committee of the Sheboygan MPO.

This comprehensive initiative is meant to be more than a blueprint for re-imagining our streets; it's a commitment to transforming the very fabric of how we navigate and experience our community. As we confront the challenges of urbanization and recognize the imperative to create healthier, more equitable, and environmentally conscious living spaces, this plan charts a course toward a future where walking, cycling, and other forms of active transportation take center stage. Through thoughtful strategies and community collaboration, we aspire to create not just a network of paths and lanes, but a sustainable and inclusive framework that enhances the quality of life for everyone in Sheboygan County.



Relations to Other Plans

This study is consistent with several planning documents and studies at the federal, state, regional, or local level. The recommendations from these documents have been considered during the planning process, specifically when identifying the recommended network.

Sheboygan County Pedestrian and Bicycle Comprehensive Plan 2015 update

This plan guides the County's efforts to respond to the opportunities presented by the Non-motorized Transportation Pilot Program. This plan was last updated in 2015 and has a horizon year of 2035, and the plan is scheduled to be updated next in 2025. The plan establishes Areas of Concern to provide potential locations for future bicycle and pedestrian safety projects. The plan proposes short-term and long-term pedestrian and bicycle network recommendations for each community. It also identifies the issues at unsafe intersections and provides potential countermeasures. While a lot of these proposed facilities have been built since 2015, there are several facilities to be investigated and recommended based on the current infrastructure growth and needs.

Existing Plans, Policies and Programs

Federal

Guide for the Development of Bicycle Facilities by the American Association of State Highway and Transportation Officials (AASHTO)

The Manual on Uniform Traffic Control Devices (MUTCD) by the US Department of Transportation (USDOT) Federal Highway Administration (FHWA)

State

Wisconsin Active Transportation Plan 2050 (ongoing)

Wisconsin Bicycle Planning Guidance: Guidelines for MPOs and Communities in Planning Bicycle Facilities

The Wisconsin Bicycle Facility Design Handbook

Regional

Connect: Regional Bike and Pedestrian Plan for Northeast Wisconsin

Local

Sheboygan County Bicycle and Pedestrian Plan (Adopted 2015)

City of Sheboygan Complete Streets Policy (ongoing)

Long-Range Transportation Plan for the MPO

Year 2050 Sheboygan Area Transportation Plan (SATP) analyses the existing bicycle, pedestrian, transit, intercity passenger transportation, freight transport, and street and highway networks, identifies existing and projected problems with these networks, and proposes longrange transportation system improvements. The plan also identifies short-term and long-term strategies for bicycle and pedestrian policies and programs. The plan is required to have a financial plan that identifies the funding required for the motorized and non-motorized transportation projects based on the past funding efforts by federal, state, and local entities. This plan needs to be updated every four years with a planning horizon of at least 20 years.

The operations and maintenance cost for the bicycle and pedestrian facilities untill the year 2050 was calculated. After considering the proposed pedestrian and bicycle facilities in the Sheboygan County Pedestrian and Bicycle Comprehensive Plan 2015 update and adding the operations and maintenance cost (inflation adjusted amounts for the planning period 2023-2050) to these facilities there is \$31 million left by the year 2050. The plan shows there is enough budget left in the state and federal funds by the year 2050 to use for building bicycle and pedestrian facilities.

Connect: Regional Bike and Pedestrian Plan for Northeast Wisconsin

This plan maintains and expands the ongoing progress of bicycle and pedestrian planning that has occurred at all levels of government over the past several years within the Bay-Lake Regional Planning Commission's defined region (Brown, Door, Kewaunee, Florence, Manitowoc, Marinette, Oconto, and Sheboygan counties). It inventories and evaluates existing facilities and identifies strategies to increase the use of walking and bicycling as viable transportation options in the eight northeast Wisconsin counties.

An inventory of existing facilities and an evaluation of past and present bicycle/pedestrian planning efforts, ranging from the state level to the municipal level, was conducted to assist with identifying existing gaps, desired improvements to the bicycle/pedestrian network, and continuity and potential connectivity with state and regional network connections. This plan also emphasizes the importance of bicycle/pedestrian safety and connections to schools, residential developments, places of employment, public transit, parks, tourist destinations, etc.

The plans overall vision is "We envision an efficient system of bicycle and pedestrian facilities that is continuous throughout the region and that provides safe opportunities of active transportation for people of all ages and abilities."

Non-Motorized Pilot Program

Sheboygan County was one of four jurisdictions in the United States that had been authorized an earmark of \$25 million for a "non-motorized transportation pilot program" for federal fiscal years 2006 through 2009 in SAFETEA-LU. The intent of the program was to construct "a network of non-motorized transportation infrastructure facilities, including sidewalks, bicycle lanes, and pedestrian and bicycle trails that connected directly with transit stations, schools, residences, businesses, recreation areas, and other community activity centers." The purpose of the program was "to demonstrate the extent to which bicycling and walking could carry a significant part of the transportation load and represent a major portion of the transportation solution."

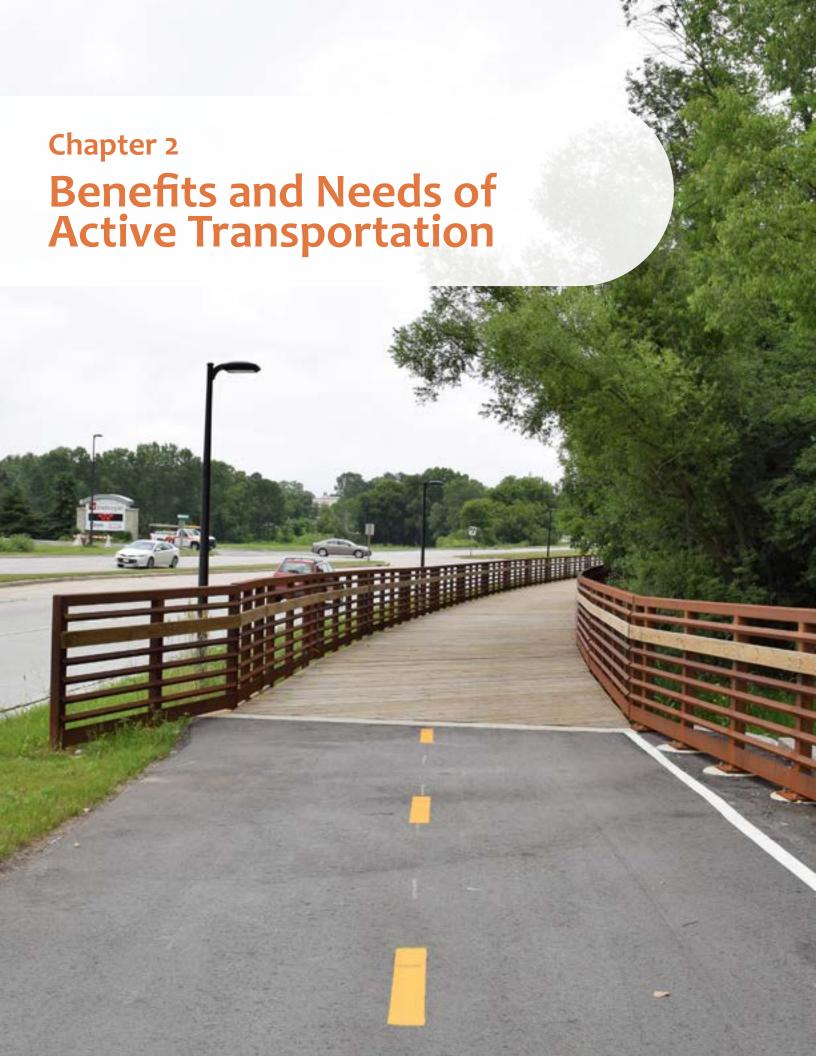
Several major trails came to fruition from this program, including but not limited to:

- Old Plank Road Trail
- Interurban Trail
- The Shoreland 400 Rail Trail
- Taylor Drive Pathway
- Rocky Knoll Mountain Bike & Hiking Trail
- Southside Utility Corridor Trail
- CTH PP Linear Parkway

Complete Streets Policy Adoption for the City of Sheboygan

Complete Streets Policy is utilizing planning and designing approaches to create and maintain streets that are safe and accessible for everyone. This includes pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

The City of Sheboygan is currently developing its own Complete Streets Policy. The city's Department of Public Works is providing details on how the streets will be designed to better prepare Sheboygan for the future, focusing on safety, addressing disparities, and incorporating green infrastructure to promote sustainability.



Balanced Transportation System

In the pursuit of creating thriving and sustainable communities, one of the fundamental aspects to consider is the development of a balanced transportation system. Such a system not only addresses the diverse needs of a community but also plays a pivotal role in promoting economic growth, social equity, and environmental sustainability. A balanced transportation system refers to a network that efficiently and equitably meets the diverse needs of a community, considering various modes of transportation and their respective users. The goal is to create a system that promotes accessibility, safety, sustainability, and efficiency.

A cornerstone of a balanced transportation system is the seamless integration of various transportation modes. This integration allows individuals to choose the most suitable mode for their needs while enabling smooth transitions between modes. Pedestrian-friendly pathways, cycling lanes, well-connected public transit networks, and efficient road systems all contribute to a diverse and interconnected transportation landscape.

Since the last few decades, the focus has been on building a transportation system for automobiles, however shifting the focus from automobiles to bicycle and pedestrian infrastructure will contribute towards balancing the transportation system. Bicycle and pedestrian infrastructure has tremendous benefits such as environmental, health, economic and improving the overall quality of life. This chapter discusses in detail the need for walking and bicycling as a means of transportation. This chapter also discusses the various benefits of active transportation, which involves modes of travel that require physical activity such as walking, cycling, roller boarding, using non-motorized scooters etc. In other words, human powered means of transportation.

Need for Walking and Bicycling

The need for walking and bicycling as modes of transportation has become increasingly apparent in contemporary society, driven by a confluence of factors ranging from health concerns to environmental sustainability and urban planning challenges. These modes of transportation offer numerous advantages that address critical issues faced by communities worldwide.

First and foremost, walking and bicycling provide sustainable alternatives to traditional motorized transportation, significantly reducing greenhouse gas emissions and reliance on fossil fuels. As climate change continues to pose a significant threat, transitioning to low-carbon modes of transportation is imperative for mitigating its impacts and building more resilient communities. By encouraging walking and bicycling infrastructure, cities can promote active transportation solutions that contribute to a cleaner and healthier environment.

Additionally, promoting walking and bicycling supports public health initiatives by fostering physical activity and reducing sedentary lifestyles. Regular exercise is crucial for preventing chronic diseases such as obesity, diabetes, and cardiovascular conditions. By integrating walking and bicycling into daily routines, individuals can easily incorporate physical activity into their lifestyles, leading to improved overall health and well-being.

Furthermore, investing in walking and bicycling infrastructure enhances urban livability and fosters vibrant communities. Pedestrian-friendly streetscapes, bicycle lanes, and green spaces contribute to creating more walkable and bikeable environments that promote social interaction, connectivity, and a sense of community. Moreover, reducing dependence on cars can alleviate traffic congestion, improve road safety, and create more equitable access to transportation options for individuals of all ages and abilities.

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The need for walking and bicycling as viable transportation modes cannot be overstated. By prioritizing these modes of transportation and investing in supportive infrastructure, communities can achieve a myriad of benefits, including environmental sustainability, public health promotion, and economic benefits (explained in detail in this chapter). Embracing walking and bicycling as integral components of transportation systems is essential for building healthier, more sustainable, and more resilient communities now and in the future.

Health Benefits

Active transportation, which involves modes of travel that require physical activity such as walking, cycling, or using non-motorized scooters, provides numerous health benefits. Walking and biking are affordable and convenient ways to be active and exercise and spend time outdoors. Many researchers have proved that spending time outdoors has many positive impacts on one's well-being. The physical environment plays an important role in one's physical as well as mental health.

According to County Health Rankings and Roadmaps in 2023, the adult (18 and over) obesity rate in Sheoygan County was 35 percent which was higher than Wisconsin (33%) and U.S. (32%). In 2020 the percentage of Sheboygan County adults that were obese was 29%, adult obesity has been growing ever since. Obesity has not only been an issue in adults but has also been an issue amongst children and adolescents. The 2021 National Health Statistics Report stated 12.7% of the children aged 2-5 years were obese, the percentage of obesity was 20.7% for 6-11 years of age and 22.2% for adolescents aged 12-19 years. The obesity prevalence has noted to increase with age amongst children and adolescents aged 2-19 years. 1

Obesity has been proven to have significant health implications. Obesity is a major risk factor for developing Type-2 diabetes. Obesity increases the risk of various cardiovascular diseases, including coronary artery disease, stroke, and heart attack. Excess weight can lead to high blood pressure, high cholesterol levels, and atherosclerosis. Obesity is associated with an increased risk of certain types of cancer, including breast, colon, endometrial, and kidney cancer. According to the CDC, a minimum of 150 minutes of moderate physical activity per week helps with weight loss and weight management. Walking and biking can be a easier form of physical activities, and, if incorporated in day-to-day life, can help achieve the recommended minimum 150 minutes of physical activity per week. One way of incorporating physical activity in day-to-day life for adults and children is walking your children to school. Safe Routes to School planning can achieve the desired connectivity and safety in the bicycle and pedestrian networks and directly increase physical activity.

The 2023 Sheboygan County Community Health Needs Assessment Report identified mental health as a top health issue. About 21% of the Sheboygan County residents suffer from some type of mental health issue. The emergency department rate and hospitalization rate for mental health related conditions in Sheboygan County amongst the Hispanic or Latino population group is respectively 1.7 times to 3.4 times higher than the County average. ²

Numerous studies have shown that regular physical activity is associated with improved mental health outcomes. Exercise can help reduce symptoms of depression, anxiety, and stress by promoting the release of endorphins, which are natural mood lifters. Walking, jogging, running, or bicycling outdoors combines the benefits of physical activity and enjoying the outdoors, resulting in improved mental and physical health.

Sheboygan County Health Statistics



15% of the population lived reasonably far from exercise opportunities ³



18% of the Adults reported to be physically inactive outside of work³



35% of the Adults reported to be Obese 3

BMI greater than 30kg/m²

Yg

CDC recommends a minimum 150 minutes of moderate exercise or 75 minutes of vigorous exercise per week. 4

CDC recommends a minimum of **30 minutes** of moderate exercise **5 days a week** to immediately **reduce anxiety, improve sleep** and **lower blood pressure.** ⁴

Long-term regular physical activities **lowers risk of heart disease, stroke, type-2 diabetes and 8 types of cancer,** (including lung and breast cancer), **reduces risk of weight gain** and reduces risk of developing **dementia and depression.** ⁴



Reduces risks of 5

Alzheimer 29%

Cognitive Decline 26%

Depression 17%



About **7.6**% Of Sheboygan County adults were **Diabetic**

About 9.9% were reported with **Asthma.** ⁶



About 21% Of Sheboygan County adults were reported to having some form of Mental Health Issue 6



Cardiovascular disease % of adults 6
High Cholesterol - 28.8%
High Blood Pressure - 27%
Coronary Heart Disease - 4.8%

Environmental Benefits

In the United States, transportation stands as the primary contributor to greenhouse gas (GHG) emissions. The endeavor to decrease these emissions is commonly known as decarbonization, a term aptly applied considering that carbon dioxide constitutes the predominant portion of the greenhouse gases emanating from transportation-related activities in 2019. The transportation sector includes all modes of travel through land, air, and sea, and it accounts for almost one third of all domestic GHG emissions. Transportation related GHG increased substantially in the past five years, largely due to an increase in vehicle miles traveled and is projected to increase in the coming years. ⁷

Light duty vehicles made up 58% of the transportation related GHG emissions following 23% of medium and heavy-duty trucks (2021). In 2021, Passenger cars traveled a total of 1.1 million vehicle miles in the U.S. This VMT and the emissions created by it can be reduced by taking some of our short trips on foot or by bicycle instead of our vehicles.⁸

According to the 2001 National Household Travel Survey, 48% of all trips were within three miles or less and 24% were one mile or less (FHWA 2001). On average it takes about 20 minutes to ride a bicycle for three miles, which is feasible for people of most ages and fitness levels. Even small transitions from short trips using cars to bicycling and walking could result in a reduction of 49 billion miles driven. A more significant shift toward these alternative modes could prevent over 100 billion miles of driving.⁹

Riding a bike accounts for about 10 times less carbon (CO₂) emissions than driving a car for the same trip.¹⁰





Cycling infrastructure, mainly parking, needs less space than car infrastructure which leads to less concealed soils by pavement. This leads to less soil and water pollution



Air Pollution is the largest environmental health risk, reduced CO2 emissions from passenger vehicles means reduction in air pollution and improved air quality



More walking and bicycling means less cars on the roads which leads to reduction of noise pollution

Economic Benefits

Using a bicycle or walking as a means of transport has tremendous direct and indirect economic benefits. Not only does choosing active modes of transport benefit the environment and the economy of the nation, but it also benefits the individuals who decide to use it. Replacing your short trips to the grocery store or park by walking or biking would save you money on gas, less health-care costs, and in the long term contribute to lower maintenance costs of your vehicle.

Active transportation can stimulate local economies by increasing foot traffic to businesses located along pedestrian-friendly streets and bike paths. Studies have shown that pedestrians and cyclists tend to spend more money at local businesses than motorists, as they are more likely to stop and explore their surroundings.

Building and maintaining infrastructure for active transportation, such as bike lanes, pedestrian paths, and crosswalks, is often more cost-effective than constructing and maintaining larger roads and highways for motor vehicles. Additionally, investments in active transportation infrastructure can lead to long-term savings by extending the lifespan of roads and reducing the need for costly repairs. Moreover, as we learned earlier, there are tremendous health benefits of walking and biking on a regular basis which potentially may lead to reduction healthcare costs associated with conditions like obesity, heart disease, diabetes, and respiratory illnesses.



\$451 Million Wisconsin's Bicycling industry

In 2021 Wisconsin's bicycling industry was second in the United States in value added to the state's economy, bringing \$451 million to the state's GDP. ¹¹



\$11.96 Billion Saved in Health-Care

Wisconsin could add up to \$11.96 billion in health care savings if the average resident trimmed just 5% from their body mass index by 2030. 12



More bicycle and pedestrian trips means less use of automobile.
Less automobile leads to less VMT meaning more **Fuel Savings**



Houses in Walkable and Bikeable Communities have **Higher Property Values** 13

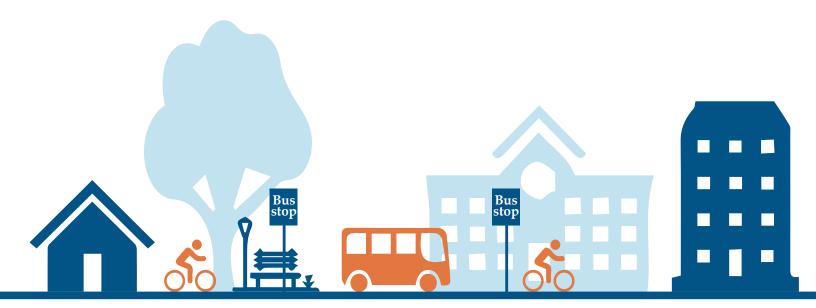
"What if We Kept Our Cars Parked for Trips Less Than One Mile?"

The U.S. Environmental Protection Agency (U.S. EPA) has estimated that if everyone chooses to walk or bike for their short trips (about one mile) instead of taking their car, the population of U.S. would collectively save about \$575 million in fuel cost and about 2 million metric tons of CO2 emissions per year. ¹⁴

Other Benefits

Improving Multimodal Connectivity

Walking and cycling helps to create sustainable mobility chains. Combining the use of bike and bus helps cover longer distance in shorter time. Walking and biking can serve as effective means to cover short distances between transit stops and final destinations, often referred to as the "first or last mile". By providing safe walking and biking routes and facilities near transit stations, commuters have more options to reach their destinations conveniently.



Improving Accessibility and Security

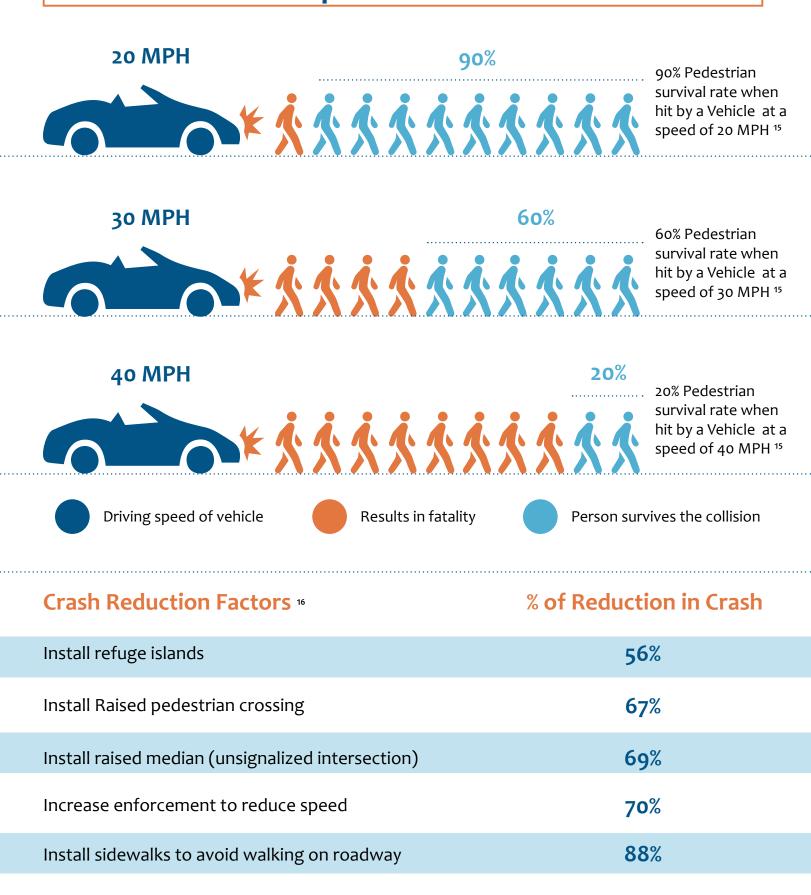
Bicycle and pedestrian infrastructure improves accessibility by providing dedicated pathways and routes for cyclists and pedestrians. This enables people of all ages and abilities to travel easily and safely, including children, the elderly, and individuals with disabilities. It fosters inclusivity and promotes equitable access to transportation options. An increase in the number of people cycling and walking on streets leads to heightened social control, which acts as a deterrent to criminals and fosters a greater sense of perceived security among the community.



Improving Quality of Life

Walking and cycling serves as a social activity, fostering connections between individuals and neighborhoods. By facilitating interactions and exchanges, it holds the potential for enhancing social cohesion and bridging gaps between people of diverse backgrounds and social strata, ultimately contributing to a more cohesive society. Improved connections also leads to overall improvement in quality of life.

Relation between Speed and Pedestrian Crashes



Chapter 2 Sources

- 1 National Health Statistics Reports 2021
- 2 Physical Activity Guidelines for Americans 2nd edition
- 3 County Health Rankings and Roadmaps, 2023. www.countyhealthrankings.org
- 4 Physical Activity Guidelines for Americans 2nd edition
- 5 + Guure et. al. 2017: Impact of Physical Activity on Cognitive Decline, Dementia, and Its Subtypes: Meta-Analysis of Prospective Studies+ Schuch et. al. 2018: Physical Activity and Incident Depression: A Meta-Analysis of Prospective Cohort Studies
- 6 2023 Community Health Needs Assessment Report, Aurora Medical Center-Sheboygan County
- 7 U.S. EPA, why we need to decarbonize transportation, 2023 update
- 8 U.S. EPA, Fast Facts U.S. Transportation Sector GHG Emission 1990-2021
- 9 Active Transportation for America, the case of increased federal investment in Bicycling and walking, Rails-to -trails conservancy
- 10 European Cyclists Federation, 2013
- 11 Supporting Wisconsin's Vital Outdoor Economy, Economic Data and Impact Report 2020-2022
- 12 Milwaukee Journal Sentinel, Health and Fitness, Sept. 18, 2012.
- 13- Walking the Walk, Joe Cortright, Impresa, Inc., 2019.
- 14- U.S. EPA, green vehicles guides
- 15-ITE, Community for Transportation Professionals
- 16 Desktop Reference for Crash Reduction Factors, FHWA, 2007

Chapter 3 Vision and Goals

Plan's Vision

Creating a community where active transportation is seamlessly integrated into daily life through a safe, convenient, and enjoyable bicycle and pedestrian network that accommodates individuals of all ages and abilities.

How Would We Get There?

The goals below extend from the vision statement and align with the previous goals and objectives of the local plans as well as the MPO's long-range transportation plan "2050 SATP".

Establish a Safe and Secure Bicycle and Pedestrian Network





- Develop dedicated bicycle lanes and paths that prioritize safety, providing cyclists with protected routes throughout the community
- Improve and expand pedestrian infrastructure, including sidewalks, crosswalks, and pedestrianfriendly intersections, to create safe and inviting spaces for individuals to walk comfortably.

Create Recreational Corridors



- Develop recreational corridors and greenways that connect neighborhoods, parks, and community spaces, encouraging residents to engage in physical activities such as walking, jogging, and cycling.
- Design and maintain public spaces along the bicycle and pedestrian network to be aesthetically
 pleasing, inviting, and enjoyable, encouraging community members to use active transportation for
 leisure and recreation.

Community Engagement and Education



 Conduct community engagement initiatives to gather input and feedback from residents, while also launching educational programs to raise awareness about the benefits of active transportation, safety practices, and the overall vision for the community.

Enhance safety and connectivity



 Ensure that the bicycle and pedestrian network connects key destinations such as schools, parks, residential areas, commercial centers, and public transit stops to create a comprehensive and complete transportation system.

Promote Accessibility for All



• Implement universal design principles in the development of bicycle and pedestrian infrastructure to ensure that individuals of all ages and abilities, including those with disabilities, can comfortably and safely use the network.

Chapter 4 **Existing Conditions**



Existing Conditions Overview

Existing analysis helps better understand the bicycle and pedestrian trends and issues. This chapter summarizes different types of analysis that were carried out to learn the current biking and walking conditions in the Sheboygan MPA. The analysis is conducted to understand various elements needed for designing a comprehensive active transportation network, such as existing infrastructure, demand analysis, equity, and safety.

21%

of Sheboygan
County households
have limited access
to a vehicle

83,247
MPA Total Population



30.02 Miles

of Multi-use Trails

17.6 Minutes

Mean Travel Time to work



42.38 Miles

of Paved Shoulders

53% of working population

Commute to work <15 Minutes



0.4%

44.49 Miles

of Bike Lanes/Sharrows

Means of Transport to work

1.8%

<1.7%

Bike Public Transit

80.2%

Drive Alone

Facility Types

This section provides an overview of different bicycle facility types that could be used in creating an active transportation network.

Conventional Bike Lanes

A Bike Lane is defined as a portion of the roadway that has been designated by stripping, signage, and pavement markings for the preferential or exclusive use of bicyclists.



Buffered Bike Lanes

Buffered bike lanes are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.



Protected Bike Lanes

Protected Bike Lane either at the street level or raised have some sort of physical, stationary, vertical separation between moving motor vehicle traffic and the bike lane. Examples of vertical separation include plastic posts, bollards, curbs, planters, raised bumps or parked cars.



Choosing what facility works best is largely based on the type of scenario. For instance, in rural areas a shared use path could serve both bicyclists and pedestrians. However, in the urban areas with more bicyclists may need a separate bike lane and pedestrians need a separate sidewalk for reducing congestion and providing safety. Other facilities such as lighting, bike parking, benches to rest, street scape, signage for pedestrian and bicyclists are important part of an active transportation network.

Paved Shoulder

Paved shoulders are the paved areas adjacent to motor vehicle travel lanes. They can be considered for corridors that cannot accommodate 5-foot bike lanes or as an interim step for corridors where funding has not yet been secured by adding bike lane markings and signs.



Shared Lane Markings or Sharrows

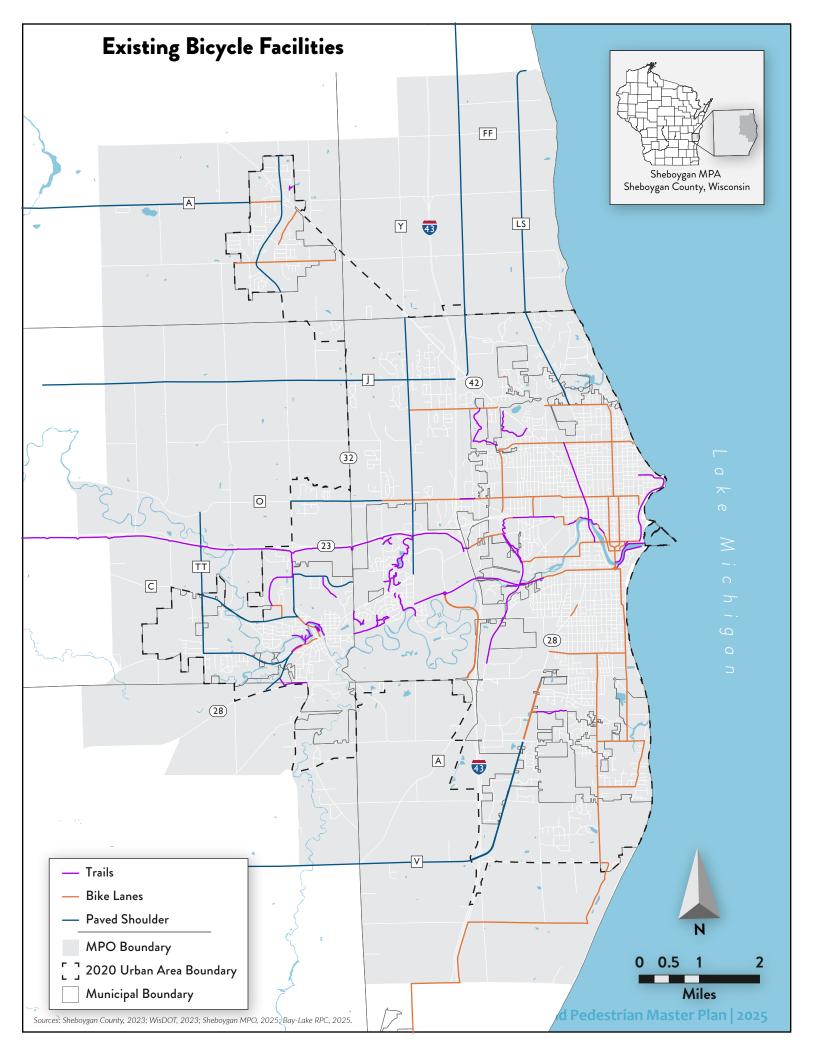
Shared Lane Markings or "sharrows," are road markings used to indicate a shared lane environment for bicycles and automobiles.

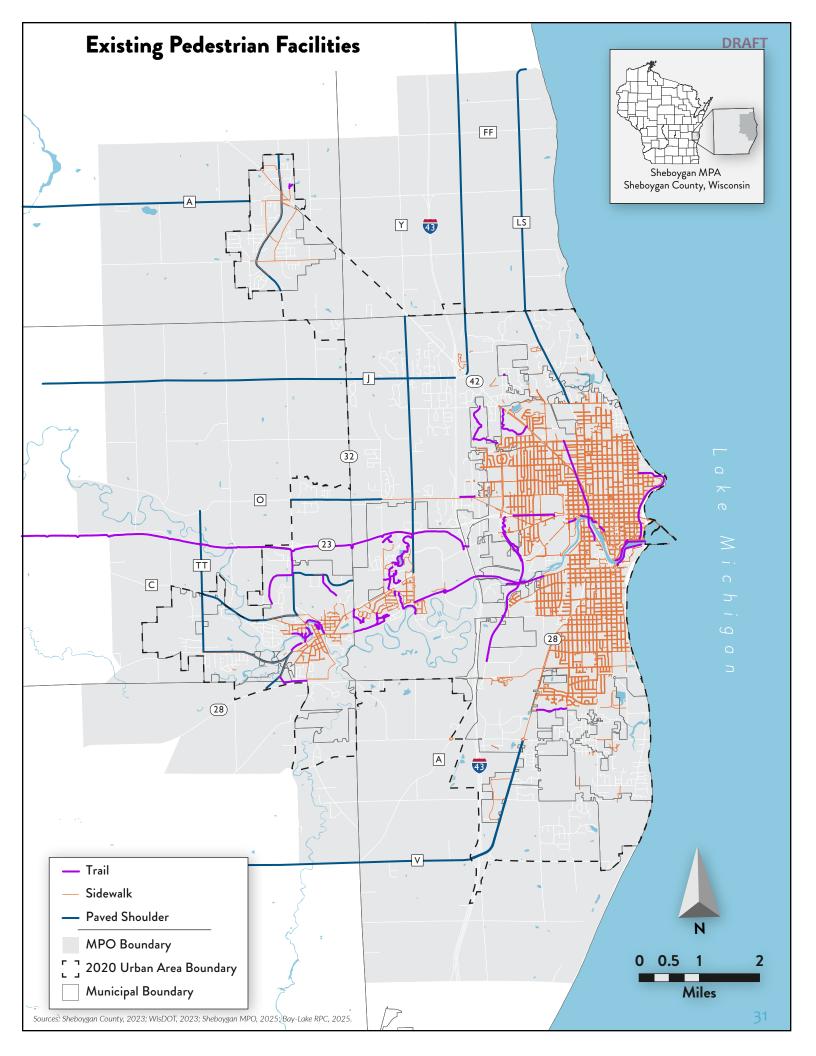


Shared-use paths

Shared-use or multi-use paths are largely non-motorized facilities most often built on exclusive rights-of-way with relatively few motor vehicle crossings. Properly used, shared-use paths are a complementary system of off-road transportation routes for bicyclists and others.







Demand Analysis

A demand analysis was conducted for the area to identify the areas with high demand for bicycle and pedestrian activities. The high demand areas are focused in the urban areas within the Cities of Sheboygan and Sheboygan Falls and Villages of Kohler and Howards Grove. The city of Sheboygan downtown and the south of City of Sheboygan shows the highest demand, where there is high residential and commercial density. Kohler Company also shows a moderate to high demand due to the number of people working at the facility. The City of Sheboygan Falls and Village of Howards Grove's downtown area shows moderate to high demand.

The map on the following page show a composite bicycle and pedestrian demand analysis within the Sheboygan MPA. The composite demand analysis was calculated using equally weighted factors. These factors are described below:

Population Density:

All trips start with walking. People are likely to walk or bike near their homes to go to transit stops or nearby shops or for recreation. Hence, it is important to look at the active transportation network around these areas.

Employment Density:

Higher employment density provides higher likeliness of people walking or biking around these areas.

Retail:

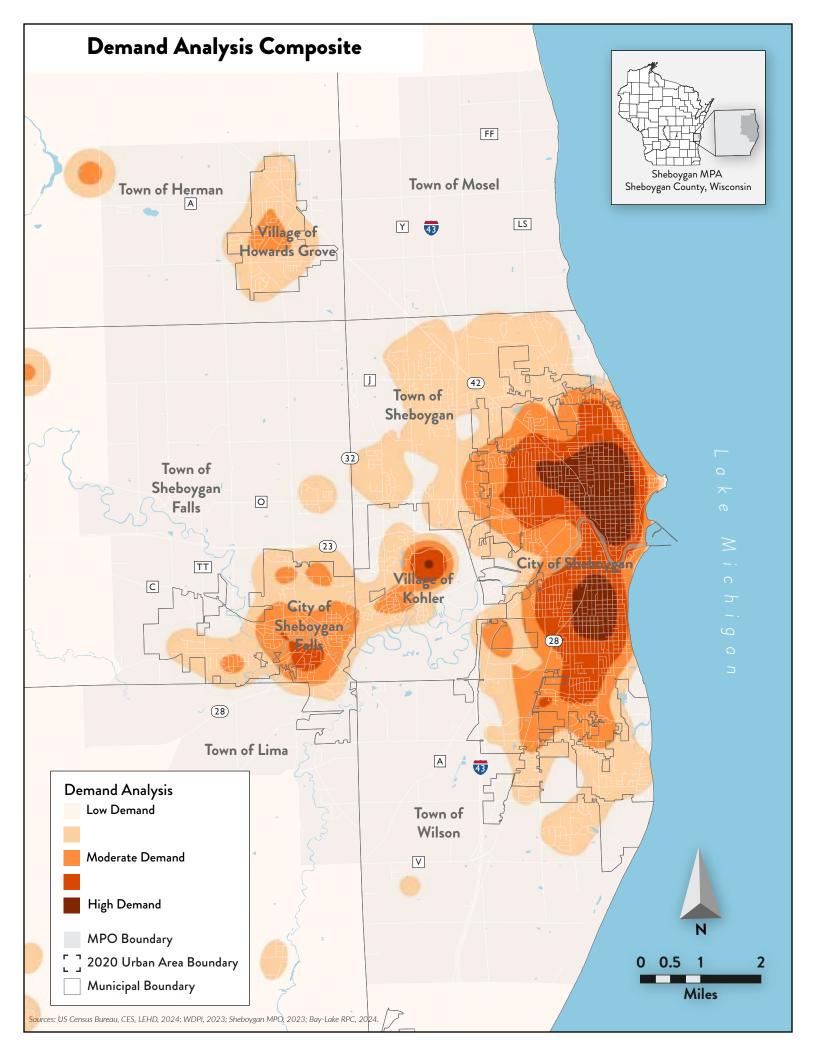
Restaurants and shops can be great generators of walking and biking trips.

Schools/Colleges:

Sheboygan MPA has four school districts providing a practical network for students to walk or bike to their school. Schools are top destinations for walking and biking for students that are below the driving age and or cannot drive due to economic reasons.

Park and Recreation Places:

Trails and parks are the biggest recreational places for people to bike or walk to.



Crash Analysis

A transportation crash analysis can provide greater insight into potential problem locations where the interaction between vehicles and bikes and pedestrians has resulted in an accident. Crash data from 2018-2022 was gathered from the Wisconsin Traffic Operations and Safety Laboratory within the Sheboygan MPA. All crashes involving non-motorized vehicles and pedestrians were analyzed to identify problem locations and trends.

Non-motorized and Pedestrian Crashes

The following Maps show the location of crashes involving bicyclists and pedestrians. The size of the dots indicates the concentration of accidents in any given area. In order to reduce clutter, the maps have been separated to show bicycle crashes and pedestrian crashes. For both bicycle and pedestrian crashes, the highest cluster of accidents is focused in downtown Sheboygan and the commercial corridor along Wisconsin 28 on the south side of Sheboygan.

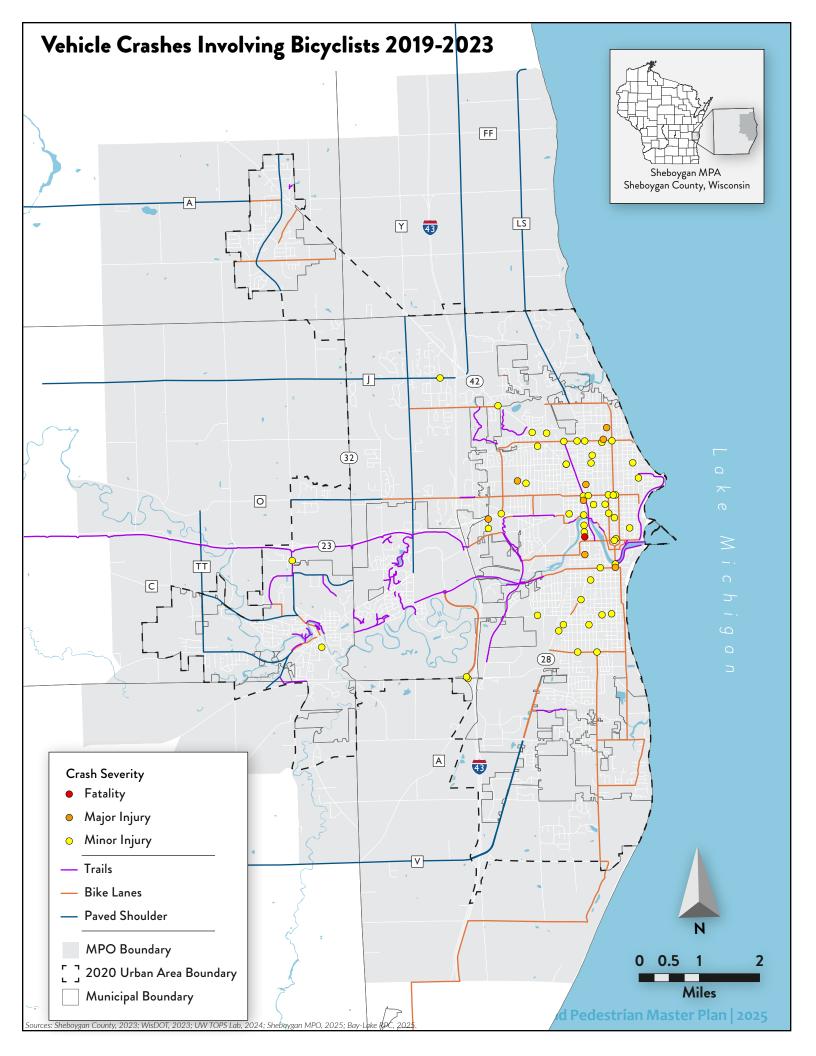
Behavioral vs Safety Crashes

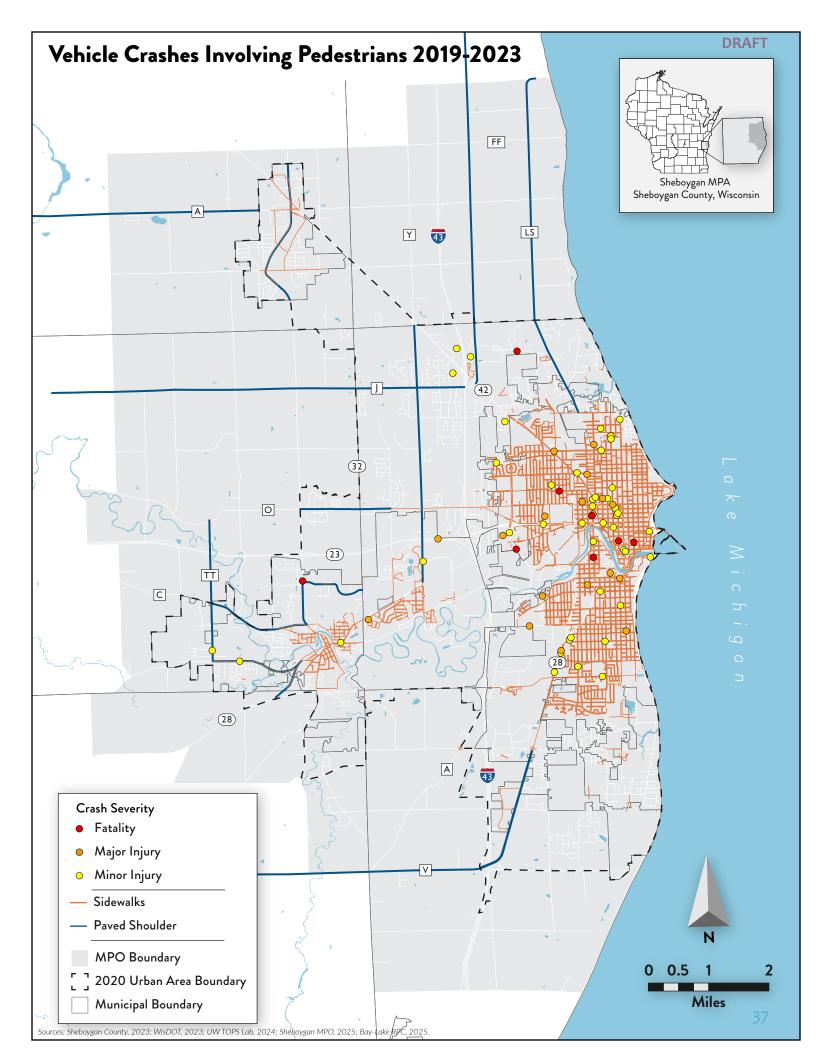
An analysis of the crash data was performed to determine if the crashes were primarily the result of human behavior, or if the crash could have been potentially mitigated by the addition of roadway safety measures. The following criteria determines whether a crash was due to a behavioral issue, or a safety issue:

- Behavioral Issues: Behavioral issues are those issues which were caused by the behavior of the driver, biker, or pedestrian. In these types of crashes, human error tends to be the main contributing factor to the crash. While roadway design factors might contribute to the crash, the primary reason for the crash is behavioral issues. For this analysis, behavioral issues include aggressive behavior by one or more persons involved in the crash, use of drugs or alcohol, collisions where bikers or pedestrians are struck within the roadway at non-controlled areas (i.e. not at controlled intersections or mid-street crosswalks), pedestrians or bikers failing to yield to the driver who had the right-of-way, pedestrians running into the road, pedestrians or bikers standing, laying, or playing in the roadway, drivers striking workers in a work zone, or drivers, pedestrians, or bikers traveling the wrong way or on the wrong side of the road. Figure 1 shows a breakdown of these types of crashes separated out by bicycle and pedestrian involved accidents.
- Safety Issues: Safety issues are those issues which may be able to be mitigated by roadway improvements designed to improve safety for non-motorized vehicle riders and pedestrians. These improvements can include installation of sidewalks and bike lanes, clearly defined crosswalks, red flashers on stop signs, crosswalk buttons to allow riders and pedestrians to change intersection lights or flashing light alerts at non-intersection crosswalks, etc. In this analysis, safety issues included bicyclist left turn merges, drivers failing to yield to non-motorized vehicle drivers and pedestrians, loss of control and turning errors, non-motorized vehicle and pedestrian crashes in parking lots, and poor visibility. While these types of crashes usually involve human error also, there are potential roadway improvements which could be installed to mitigate some of these crashes. Figure 2 shows a breakdown of these types of crashes separated out by bicycle and pedestrian involved crashes.

Non-Motorized and Pedestrian Fatal and Serious Injury Crashes

From 2019 to 2023 there were 7 fatal crashes and 24 serious injury crashes involving bikes and pedestrians in the Sheboygan MPA. The reasons for the accidents vary greatly. Approximately 52% of these crashes occurred at locations with a stop sign on the cross street and free flowing traffic on the main street. Table 1 provides information about bike and pedestrian fatal crashes and Table 2 provides information on bike and pedestrian involved serious injury crashes.





Equity Analysis

Active transportation can help bring communities together and address the social and economic barrier that might divide a community. By analyzing equity we can understand the needs and accessibility of various socio-economic and demographic groups and address those needs by recommending priority projects that would benefit those groups of population. Traditionally, vulnerable population rely heavily on alternate modes of transportation such as walking, biking, or using public transport. These populations include young adults, low-income individuals, households without access to a vehicle or minority groups.

Separate density maps were prepared using data from the U.S. Census Bureau for the economic and demographic indicators to see the higher percentage of the population groups in the area. All the data was collected from American Census Bureau 2018-2022, 5-year estimates and density maps were made at the census block group level. The following three indicators were mapped for the equity analysis:

Population Below Poverty:

The percentage of population that is living at or below the federal poverty level.



6% of the population is below poverty level

Minority Population:

The percentage of population that identifies as non-white or multiple races/ethnicities.



9% of the population belongs to a minority group

Household without Access to a Vehicle:

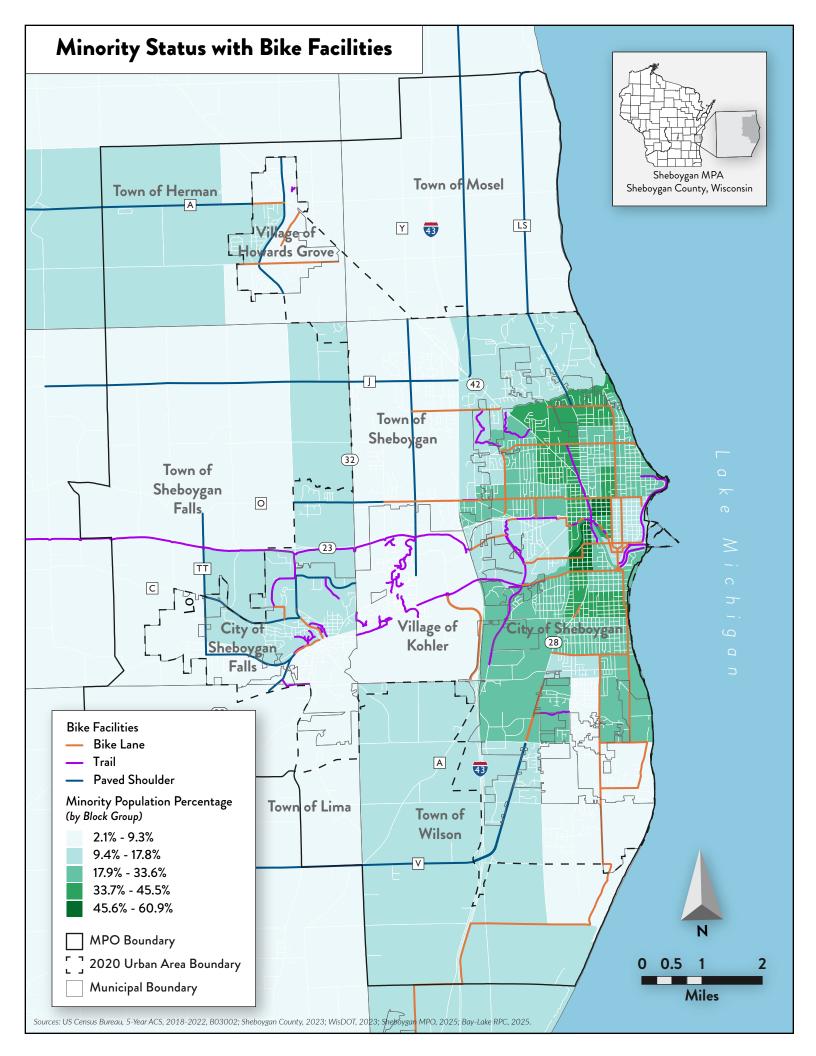
The percentage of households that stated they do not have regular access to a vehicle. 1.8% no vehicle household

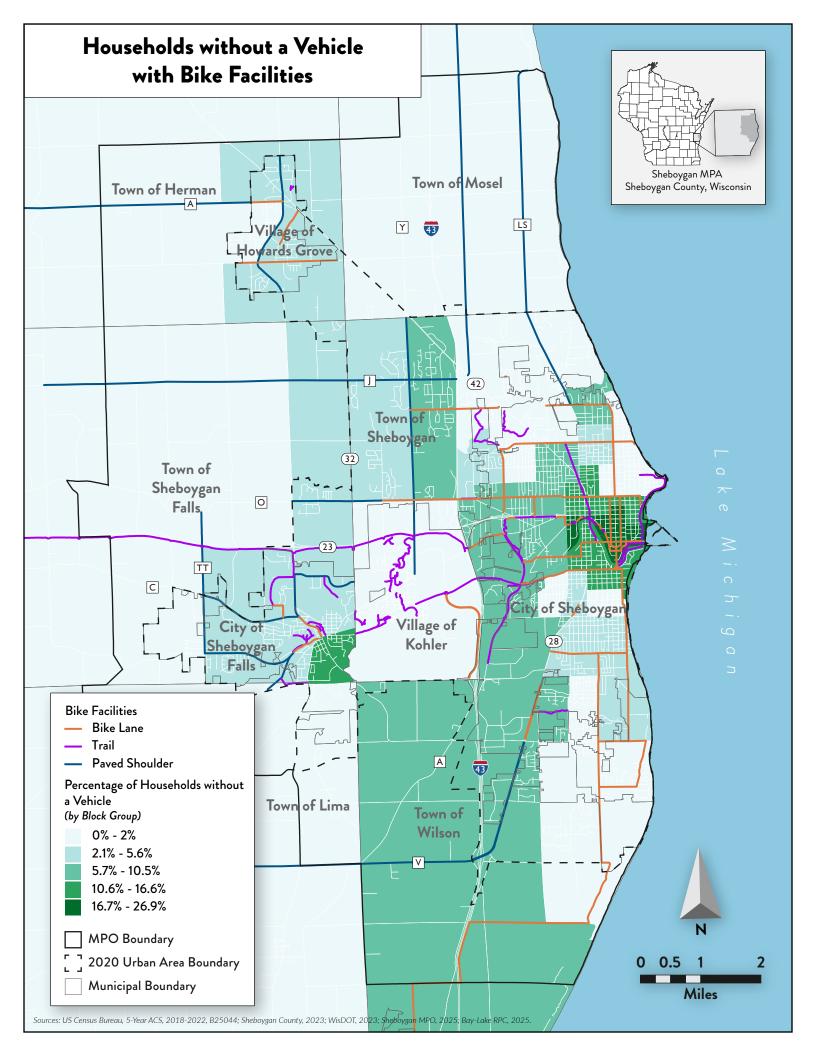


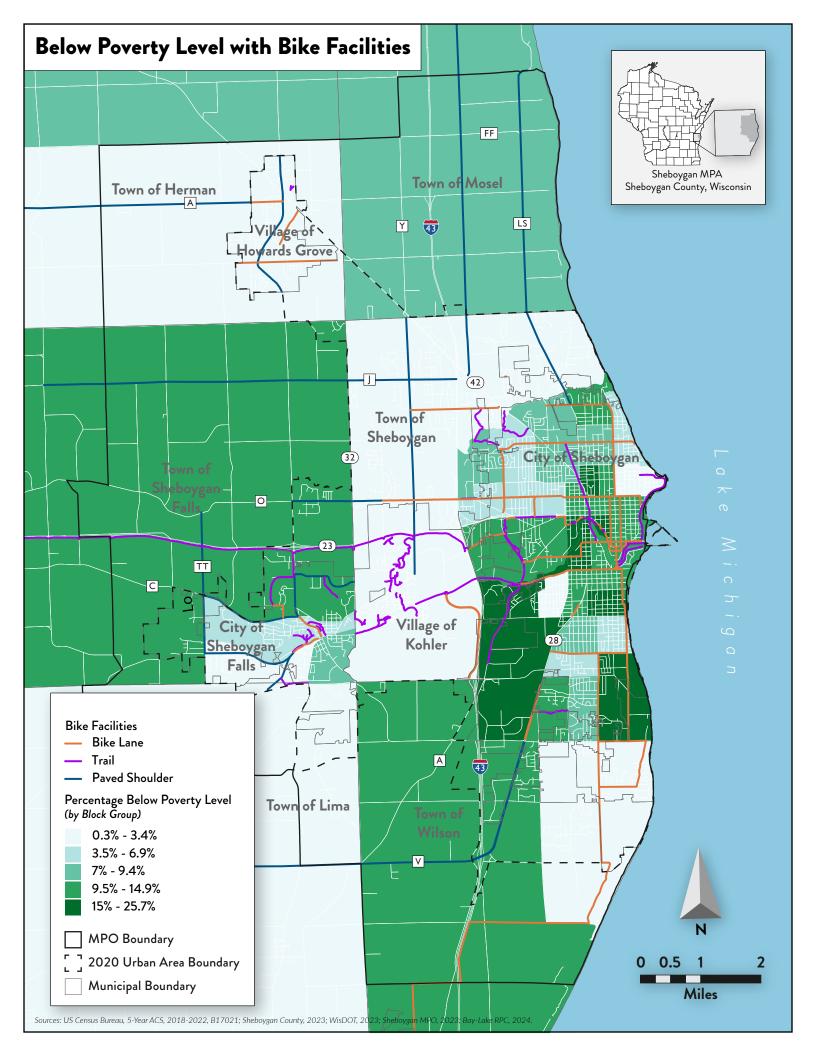
1.8% of households does not have access to a vehicle



17.2% of this population are between the ages 5 and 17







Bicycle Level of Traffic Stress Analysis

Comfort and convenience are key factors for determining whether individuals choose to ride a bike, whether it's for commuting, everyday needs, recreation, or inter-modal transportation connections. The stress that individuals feel when bicycling is inherently subjective, but research indicates that more people feel comfortable bicycling on streets with lower Bicycle Level of Traffic Stress scores.

Level of Traffic Stress (LTS) is the stress on a bicyclist due to roadway and traffic conditions. It was first proposed by Furth, Mekuria, and Nixon in 2012¹. LTS values can range from 1 to 4, with LTS 1 being the lowest stress and LTS 4 being the highest stress. LTS 1 and LTS 2 are generally considered low stress, which is acceptable to most of the adult population. Furth et al. have since released updated LTS criteria (v.2.0)² with more refined stress values for segments. In addition to segment stress, Furth also proposed criteria for crossing stress at intersections³. A segment's LTS value depends on factors such as number of lanes, traffic volume, speed, presence of bike facility, parking lane, width of bike lanes, etc. Crossing stress depends on the number of crossing lanes, speed, and traffic control devices present at the intersection. The LTS criteria used in this project are a slight modification of LTS v2.0. The details of the criteria and assumptions can be found in Appendix A.

Following explains the definition of each LTS Scores as described by Peter Furth.4

LTS 1: Strong separation from all except low speed, low volume traffic. Simple crossings. Suitable for children.

LTS 2: Except in low speed / low volume traffic situations, cyclists have their own place to ride that keeps them from having to interact with traffic except at formal crossings. Physical separation from higher speed and multilane traffic. Crossings that are easy for an adult to negotiate. A level of traffic stress that most adults can tolerate, particularly those sometimes classified as "interested but concerned."

LTS 3: Involves interaction with moderate speed or multilane traffic, or close proximity to higher speed traffic. A level of traffic stress acceptable to those classified as "enthused and confident."

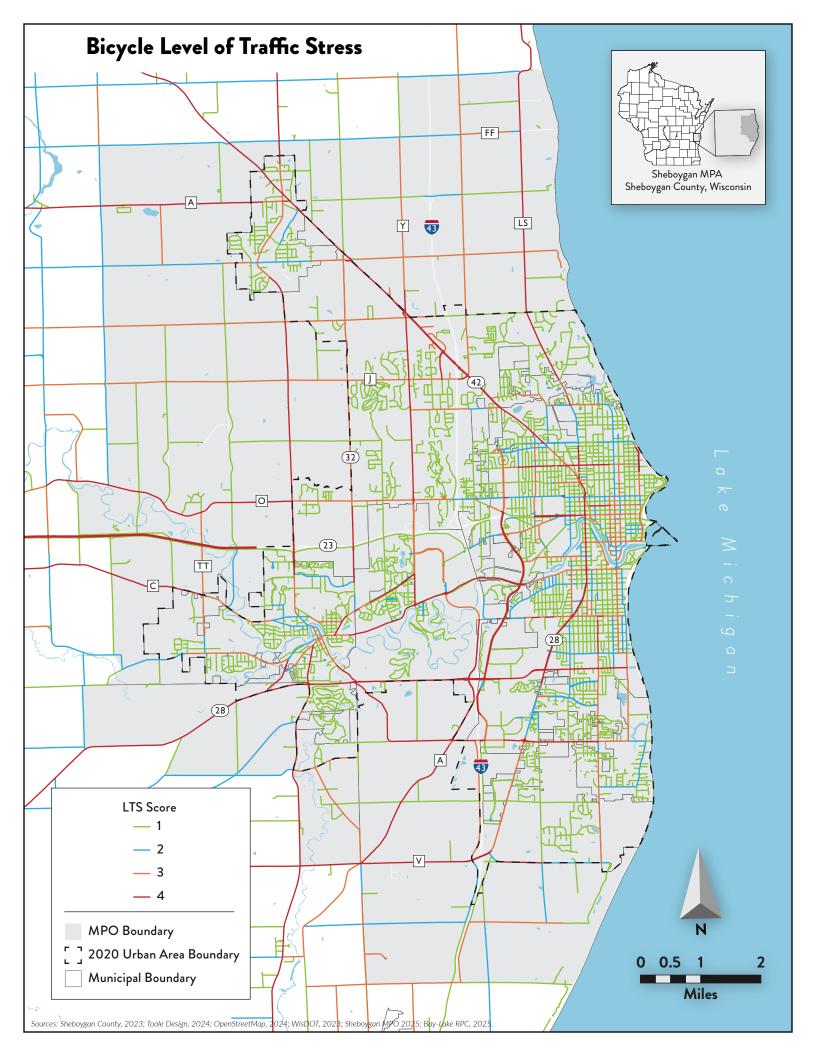
LTS 4: Involves interaction with higher speed traffic or close proximity to high-speed traffic. A level of stress acceptable only to those classified as "strong and fearless."

¹ https://transweb.sjsu.edu/sites/default/files/1005-low-stress-bicycling-network-connectivity.pdf

² https://cpb-us-w2.wpmucdn.com/sites.northeastern.edu/dist/e/618/files/2014/05/LTS-Tables-v2-June-1.pdf

³ https://peterfurth.sites.northeastern.edu//wp-content/uploads/2014/05/LTS-Tables1.pdf

^{4 &}lt;a href="https://peterfurth.sites.northeastern.edu/level-of-traffic-stress/">https://peterfurth.sites.northeastern.edu/level-of-traffic-stress/



Bicycle Network Analysis

Network connectivity can be a difficult concept to describe, understand, and, crucially, to measure. While traditional methods of aggregating mileage of bike lanes or measuring as-the-crow-flies distance between destinations and bike facilities are easy to measure, they fail to capture the importance of having an interconnected network of low-stress bike routes connecting people to their destinations. BNA aims to capture the importance of the interconnectedness of bicycle routes by measuring access to destinations.

BNA measures network connectivity at a census block level. For each census block, shortest paths are calculated both along the low-stress network (LTS 1-2) and overall network (LTS 1-4) to all other census blocks within two miles along the network. Travel along the low-stress network often requires longer distances than the overall network, which can be a barrier when the low-stress distance far exceeds the overall network distance. To account for this, a maximum detour of 25 percent is applied to low-stress routes when compared to overall network distance. BNA's routing algorithm considers both segment stress and crossing stress – a low-stress route is possible only if it does not require travel along any high-stress links or high-stress crossings.

Input Sources

The following data are used as inputs for BNA.

- Network with LTS scores BNA requires a routable network with segment and crossing LTS values. The LTS analysis completed as part of this project created such a routable network with the required LTS scores and other information needed for BNA.
- 2. Destination locations BNA uses different types of destination locations (full list in Appendix A). The destination data is downloaded from publicly available sources like Open Street Map (OSM) and Census Bureau (employment and population).
- 3. Census Blocks The census block level data used is from 2020 decennial Census.

BNA Scores

The output of BNA is a score assigned to each block on a scale of zero to 100 based on the destinations that can be reached using both low-stress and high-stress networks with higher scores suggesting greater accessibility to destinations. The destinations used in the analysis include different categories based on the type of destinations.

Each census block is assigned a score for each individual type of destination and scores are aggregated based on weights assigned to that destination type. A full list of destinations and their weights is given in Appendix A.

A location's BNA score depends on two factors:

- 1) whether there are destinations nearby, and
- 2) whether the low-stress network connects to those destinations.

In other words, a low-stress network is only one aspect of having accessibility to destinations. In this analysis, we calculated two types of BNA measures with each one highlighting the two factors:

Measure 1 – A measure that highlights the difference between high-stress and low-stress networks (Figure 1).

Measure 2 – A recalculated measure 1 that incorporates destination density (Figure 2).

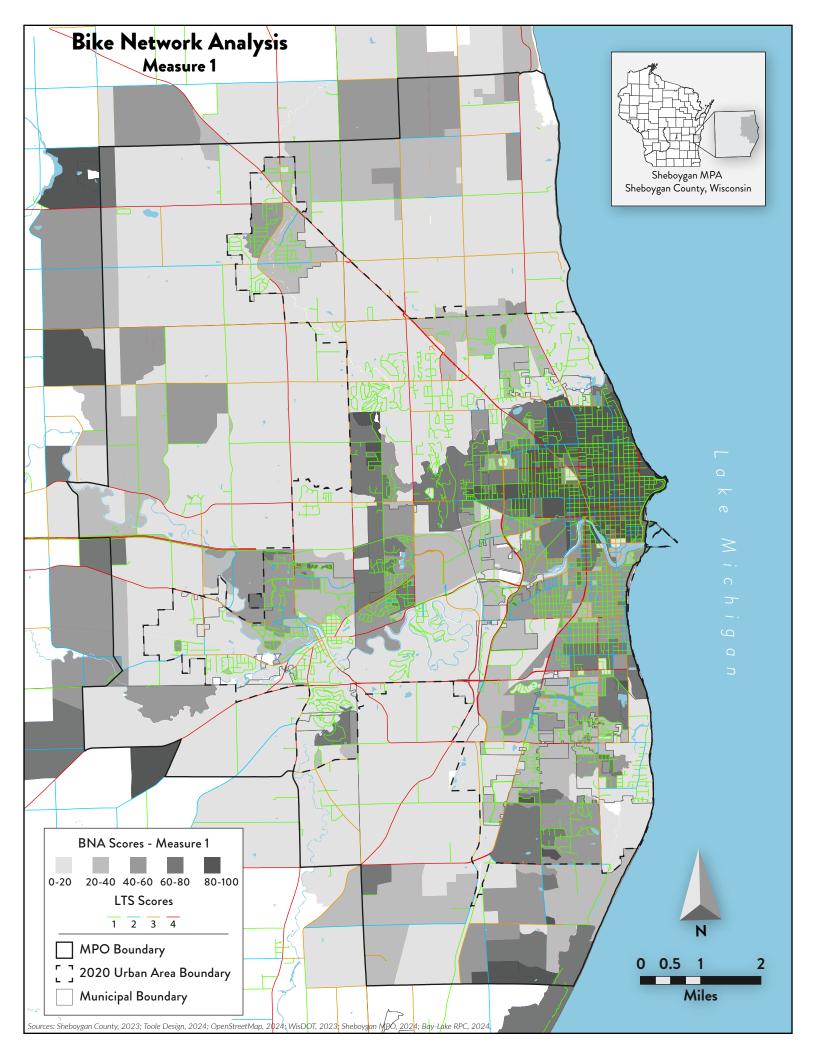
Measure 1

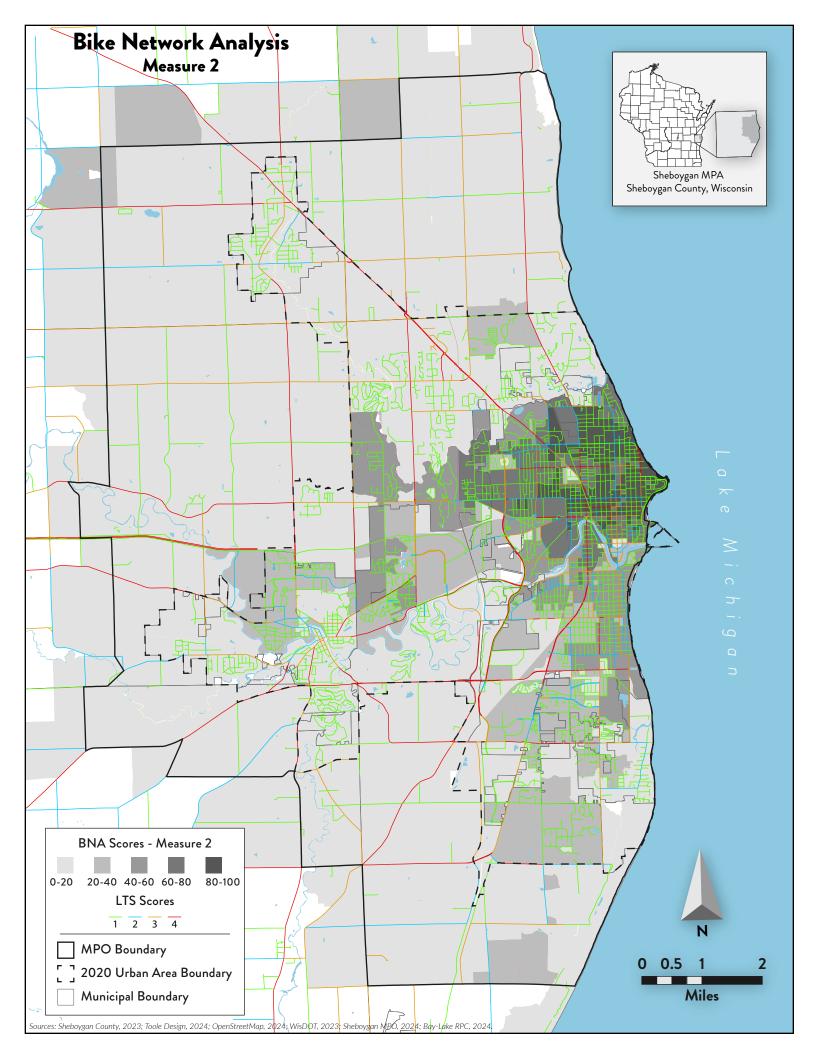
Measure 1 examines the difference in the total number of destinations of each type accessible via the high-stress and low-stress networks. If a destination type is not present in a block, it is not considered in the sub score for that destination type. In Measure 1, a greater score means that a greater share of destinations present in the block are reachable via the low-stress network; A lower score indicates that a greater share of destinations present in the block are only reachable via the high-stress network. Overall, this measure helps to visualize the difference in network connectivity between blocks.

Measure 2

Measure 2 examines the difference in the total number of destinations of each type accessible via the high-stress and low-stress networks. However in contrast to Measure 1, if a destination type is not present in a block, that destination type sub score receives a score of 0. In Measure 2, a greater score means that there are more destinations and those destinations are reachable via the low-stress network; A lower score indicates that there are fewer total destinations and they are therefore less accessible via the low-stress network.

For further information please attached Appendix B.







This chapter summarizes the information that was gathered from various stakeholders, the public and steering committee.

Public Input

Sheboygan MPO staff conducted a series of surveys and outreach to get public input regarding current conditions and proposed improvements for walking, bicycling and educate them for the importance of the Bicycle and Pedestrian Master Plan. The public input methods included attending community meetings at libraries, and hosting a booth at local farmers' market.

Dates and Locations of public input sessions:

February 9, 2023 - Mead public Library

August 19, 2023 - City of Sheboygan Farmers' market

In-person and Online Survey

An outreach in the form of in-person and online survey was also conducted as a part of the Bicycle and Pedestrian Master Plan. In-person engagement was an important component of the Plan. Commission staff hosted a booth at the local farmer's market in the City of Sheboygan Saturday August 19th, 2023. The survey was made available to all members of the public between the months of August and September 2023. The survey asked participants to provide feedback on the current state of bike and pedestrian travel within the Sheboygan MPO, and what the public wants to see for future bike and pedestrian travel. In total, the survey had 83 responses.

Both the interactive map and the survey were posted on the Commission's social media channels. Other committees like the City of Sheboygan's Complete Street Policy webpage and the Sheboygan Active Transportation Group's social media channels also promoted the surveys. The results of the interactive map and the survey are summarized in the next section of this chapter.

83 SURVEY RESPONSES



27% of respondents said walking in Sheboygan is **Difficult**

44% of respondents said they prefer wide shoulders and sidewalks



49% of respondents said biking in Sheboygan is **Difficult**

44% of respondents said they prefer bike lanes over wide shoulders

Most popular Trails

- 1. Lakefront Bike Path
- 2. Shoreland 400 Rail Trail
 - 3. Old Plank Road Trail

PURPOSE OF WALKING trips

- 1. Exercise (37%)
- 2. To enjoy outdoors/nature (30%)
 - 3. Transportation (16%)

PURPOSE OF BIKING trips

- 1. Exercise (38%)
- 2. Transportation (26%)
- 3. To enjoy outdoors/nature (20%)

WHAT WE HEARD

Prioritize cycling for convenience and safety, and automobiles will benefit as a result.

I feel unsafe not being separated from the traffic by any barrier.

Protected bike lanes would be the single best contribution to the community to improve current problems.



Thank you for working on this initiative. Slower traffic and physical protection (especially at intersections) could transform transportation in Sheboygan.

Build and maintain high quality bike infrastructure that connects people to destinations and people will use it year round.

I would like to feel safe to bike with a Burley or young kids with me to get around the county. I feel unsafe not being separated from the traffic by any barrier.

The city street surfaces are terrible for biking especially Lakeshore Drive.



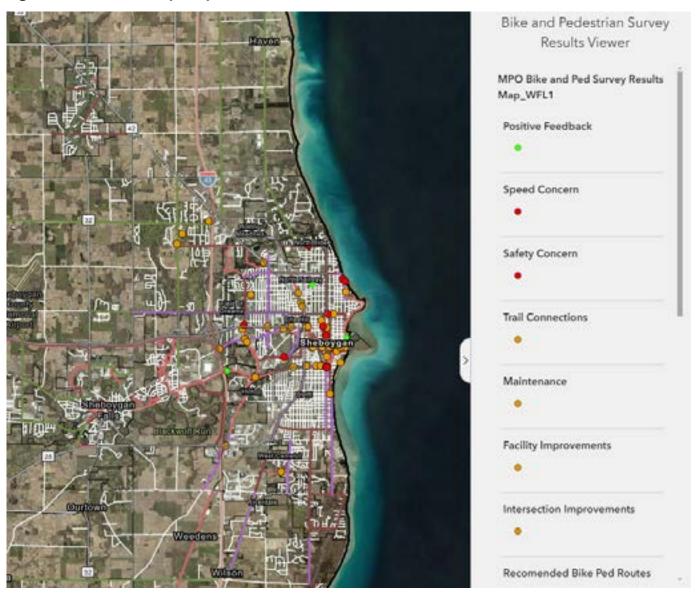


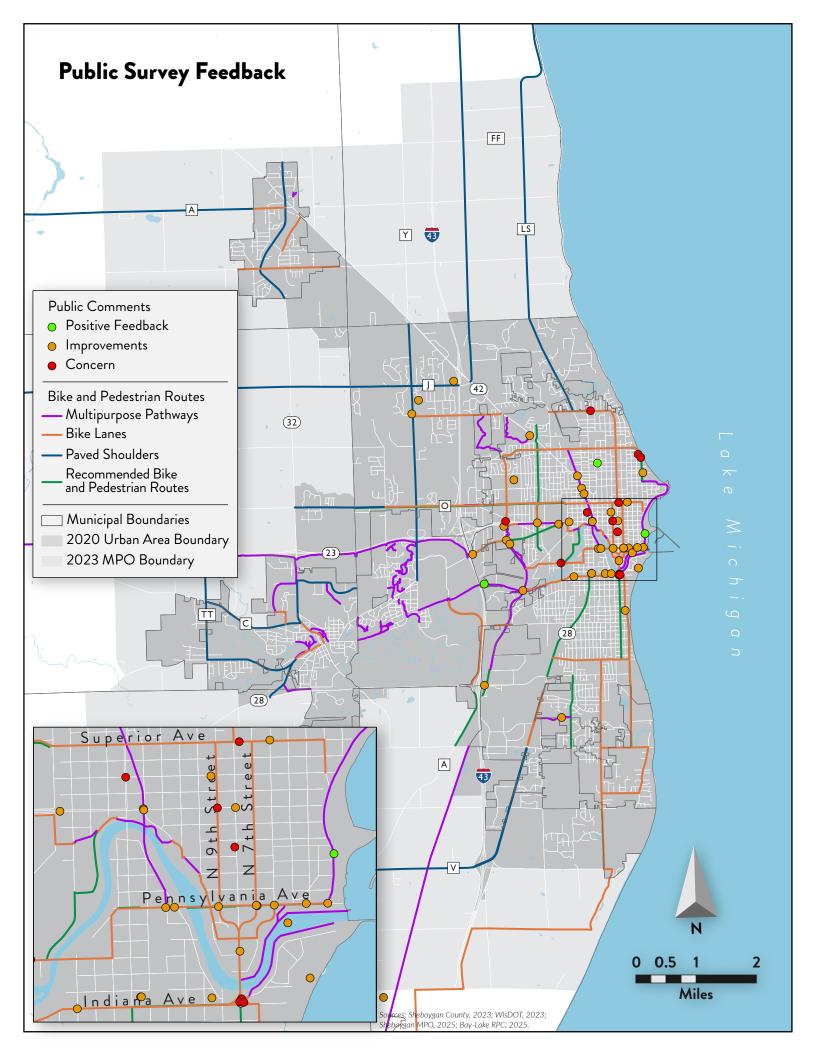
Online Interactive Map

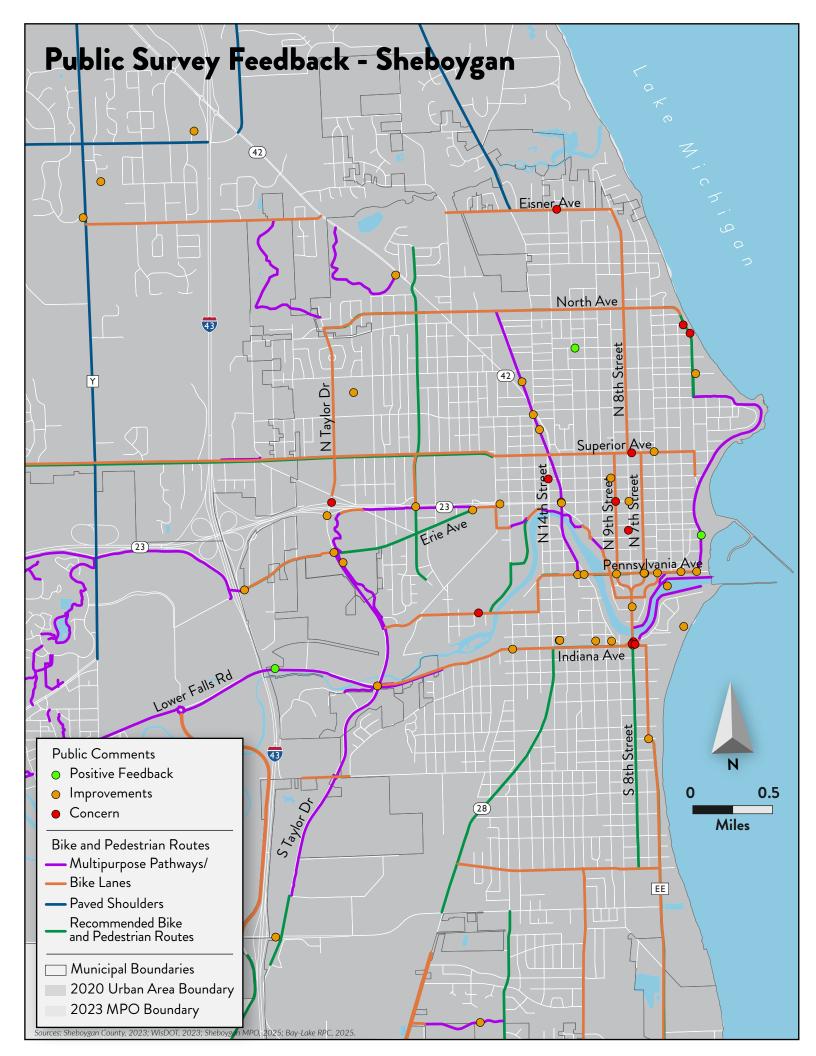
Public outreach efforts for the Bicycle and Pedestrian Master Plan had started in early 2023 after receiving multiple feedback on various MPO plans stating the need of improvement in the current Bicycle and Pedestrian network in Sheboygan MPA. This led to initial phase of receiving comments from public especially for the bicycle infrastructure. The purpose of this outreach was to gauge the public interest and figure out the demand and necessity for improving the bicycle and pedestrian infrastructure in the MPA.

MPO staff attended a public meeting that discussed various planning issues at the Mead Public library in the city of Sheboygan in late February 2023. The MPO staff developed an interactive map (using Arc GIS) that was available for public input. The map allowed the public to provide comments on specific locations in terms of their concerns, room for improvement as well as positive feedback. The users were encouraged to provide comments on the route they already bike, or the roads they would like to use but are unable to due to concerns. The users also identified the safety concerns at various intersections and streets. The interactive map can be viewed on figure (below...) Some 60 people provided their comments on the interactive map.

Figure: .. Interactive Map for public comments on Arc GIS







Chapter 6 Recommendationss

Introduction

Sheboygan MPO staff reviewed Sheboygan Area Transportation Plan (2050 SATP), Sheboygan County Bicycle and Pedestrian Plan update 2015, extensive set of local plan documents, public input, the bicycle Level of Traffic Stress, and conducted additional planning analysis to develop master lists of projects to be considered for inclusion in this plan.

Bicycle and Pedestrian Projects Recommended for Short-term

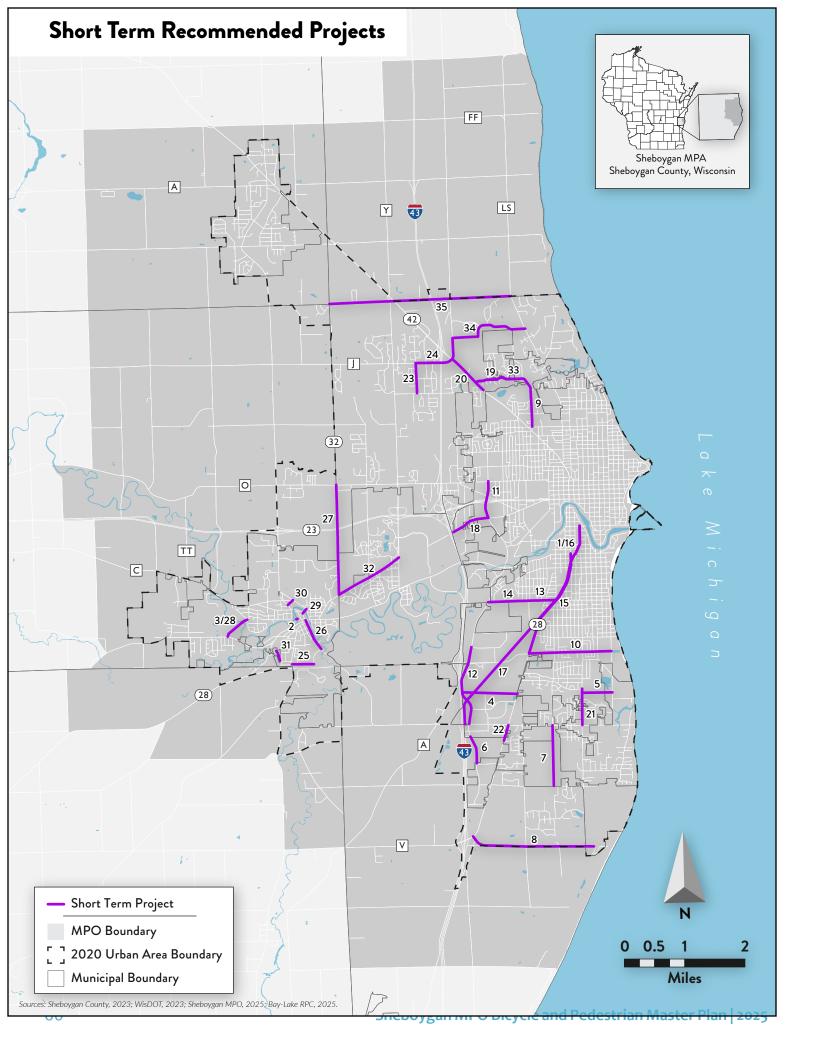
Num- ber	Project Description	Jurisdiction	Facility Type	Mile- age	Score
1	Union Avenue from S. 26th Street to S. Taylor Drive	City of Sheboygan	Bike Lane	1.12	18
2	Taylor Drive from Erie Ave to Superior Ave	City of Sheboygan	Sidewalk and Bike lane	0.62	17
3	Union Pacific Rail-Trail Conversion extension in the City of Sheboygan, Penn Ave to Union Ave	City of Sheboygan	Muti purpose path- way/trail	1.33	16
4	State Highway 42/Calumet Drive from Mueller Road to County Highway J	Town of Sheboygan	Sidewalk/Multi-use Path	0.73	15
5	N. 21st Street from North Avenue to Najacht Road	City of Sheboygan	Bike lane	0.85	13
6	Washington Avenue from S. Business Drive to Lakeshore Drive	City of Sheboygan	Bike lane	1.37	13
7	Union Avenue from S. 26th Street to State Highway 28/S. Business Dr	City of Sheboygan	Bike Lane	0.54	13
8	Weeden Creek Road, from S. Business Drive to Lakeshore Drive	Sheboygan County	Sidewalk	1.71	11
9	Mill Road from State Highway 42 to Najacht Road to Eisner Ave	City of Sheboygan/ Town of Sheboygan	Sidewalk/ Paved Shoulder	0.80	10
10	South 18th Street. From Stahl Road to Sunny Side Road	City of Sheboygan	Two-lane facility with pedestrian/ multi use trail	1	10

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11	Construction of a Multi-Use Pathway in the Alliant Energy Utility Corridor on the South Side of the City of Sheboygan, South Taylor Drive to County Highway OK/South Business Drive	Sheboygan County/ City of Sheboygan	Multiuse Pathway	0.91	10
12	Construction of a Multi-Use Pathway in the Alliant Energy Utility Corridor on the South Side of the City of Sheboygan, County Highway KK/South 12th Street to Lakeshore Drive	Sheboygan County	Multiuse Pathway	0.5	9
13	County Highway V from County Highway OK to Kohler-Andrae State Park	City of Sheboygan	Bike lane	2.07	9
14	Greenfield Drive from Village of Kohler Western limits to High- land Drive	Village of Kohler	Bike lane	1.17	7
15	Playbird Road from Lakeshore Road to Rangeline Road	Town of Sheboygan	Bike lane	3.02	7
16	Construction of a Bridge for Bicyclists and pedestrians over the Sheboygan River near the former Tecumseh Engines Plant in the City of Sheboygan Falls	Sheboygan County	Multiuse Bridge	2.21	7
17	Construction of a Bridge for Bicyclists and pedestrian over the Sheboygan River near the Bemis Manufacturing Plant in the City of Sheboygan Falls	Sheboygan County	Multiuse Bridge	0.05	7
18	South Taylor Drive, from Race- track Road to Horizon Drive	City of Sheboygan	Multiuse Trail	0.47	7

Bicycle and Pedestrian Projects Recommended for Mid-term

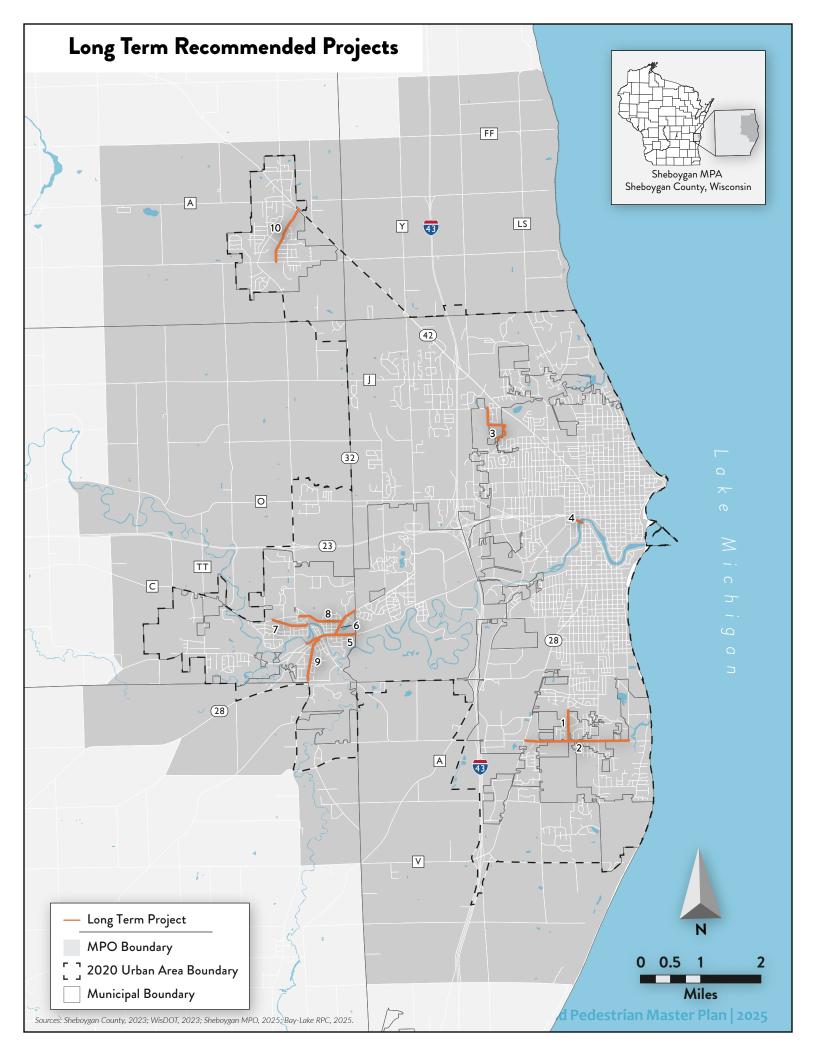
Num- ber	Project Description	Jurisdiction	Facility Type	Mileage	Score
1	Union Pacific Rail-Trail Conversion extension in the City of Sheboy- gan, Union Ave to Weeden Creek Road	City of Sheboygan	Muti purpose pathway/trail	2.64	17
2	S. Taylor Drive from Crocker Ave- nue to County Highway EE/Weed- en Creek Road	City of Sheboygan	Muti purpose pathway/trail	1.35	14
3	County Highway J from N. 50th Street to State Highway 42	Sheboygan County	Sidewalk	0.37	12
4	Range Line Road from Fond du Lac Avenue to County Highway O	City/Town of She- boygan Falls	Paved Shoulder	1.83	11
5	Erie Avenue from the Old Plank Road Trail to N. Taylor Drive	City of Sheboygan	Multipurpose lane	0.64	10
6	State Highway 28/S. Business Drive, from Washington Avenue to Indiana Avenue	City of Sheboygan	Bike Lane	1.85	10
7	S. 12th Street from County High- way EE/Weeden Creek Road to Camelot Boulevard	City/County of Sheboygan	Sidewalk	0.61	10
8	Broadway Street from County Highway PP/Monroe Street to Dartmouth Drive	City of Sheboygan Falls	Bike Lane or Paved Shoulder	0.55	9
9	Heather Valley Road, Enterprise Drive, Najacht Road-Lakeshore Road to STH 42	Town of Sheboy- gan	Bike lane	1.73	8
10	Old County Highway PP to River Oaks Drive, Including a Bridge over the Sheboygan River	City of Sheboygan Falls	Muti purpose pathway/trail	0.44	8
11	Broadway Street to Water Street, Including a Bridge over the She- boygan River	City of Sheboygan Falls	Muti purpose pathway/trail	0.10	8
12	County Highway OK/S. Business Drive from County Highway EE/ Weeden Creek Road to Riverdale Avenue	City/County of Sheboygan	Sidewalk	0.27	7
13	N. 50th Street from County Highway J to Mueller Road	Town of Sheboy- gan	Sidewalk	0.63	7



14	Spring Street from State Highway 32/Main Street to Fond du Lac Avenue	City of Sheboygan Falls	Sidewalk	0.12	5
15	Pinehurst Court from Pine Street to Kay Avenue	City of Sheboygan Falls	Sidewalk	0.18	5

Bicycle and Pedestrian Projects Recommended for Long-term

Num-	Project Description	Jurisdiction	Facility Type	Mile-	Score
ber				age	
1	Giddings Ave from Buffalo St to Amherst Ave	City of Sheboygan Falls	Bike lane	0.73	11
2	Audubon Rd from Millersville Ave to Madison Ave	Village of Howards Grove	Bike Lane	0.98	9
3	Monroe St (CTH PP) from River Park Bridge to Village of Kohler	City of Sheboygan Falls	Bike lane	0.85	9
4	Poplar St from Monroe St to Fond du Lac Ave	City of Sheboygan Falls	Bike lane	0.26	8
5	N Taylor Drive from North Ave to Mueller Road (via 33 rd Street)	City of Sheboygan	Muti purpose path- way/trail	0.91	8
6	Construction of Multiuse pathway over the Sheboygan River from Kiwanis Park to Wisconsin Ave	City of Sheboygan	Muti purpose path- way/trail/Bridge	0.09	7
7	Fond du Lac Ave from STH 32 to Rangeline Rd	City of Sheboygan Falls	Bike lane	1.02	7
8	S. 18 th Street, from Weeden Creek Road to existing sidewalk	City of Sheboygan	Sidewalk	0.51	7
9	Leavens Ave from Broadway St to Fond du Lac Ave	City of Sheboygan Falls	Bike lane	0.60	5



Low-cost infrastructure changes for short-term implementations

Num- ber	Location	Bicycle LTS Score	Concerns	Possible Improvement
		•	City of Sheboygan	
1	3 rd Street from Broughton Dr to Park Ave	3	Car speeding Street is 40 feet wide with parking on both sides	Convert one side parking so 2 separated bike lanes can fit.
				Striping change. Possibly implementing traffic calming measures.
2	3 rd Street from Park Ave to North Ave	4	Not comfortable to ride bike on a 20 ft wide road because of cars speeding.	Narrowing the motorized lane from 20 ft wide to 10 ft and adding bike lanes with a buffer on both sides. Or additional traffic calming measures
3	N 8 th Street	3	Speed concerns, even though there are stop signs at every intersection people still speed.	Drop speed limit? Add a separate bike lane by removing parking from one side?
4	S 8 th Street	3	Speed concerns	Convert 4 lanes to 2 lanes and add separated bike lane instead of Sharrows
5	Pennsylvania Ave	3-4	Bike lane is not visible, people often drive in the bike lanes Bike Lane ends at S 9 th street and merging into traffic is hard.	Paint the bike lanes and add buffer between bike lanes and motorized lanes. Consider eliminating parking on side and having more space for the bike lane.
6	Eisner Ave	3	Heavy traffic flow, uncomfortable for most bike riders.	Paint the bike lane to be more visibly prominent.
7	Geele Ave	4	Did not receive any comment, however, has a high stress score	Provide wayfinding for bikers to show better roads to take instead of Geele Ave (since it would be difficult to add a bike lane)
8	N 14 th Street	4	Heavy traffic, no bike lanes very dangerous for bicyclists (state owned road) Multiple pedestrian crashes	Possibly add a sidewalk and provide more street-lights for better visibility of pedestrians while crossing. A separated bike lane would be a great addition.

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9	N 15 th street from Calumet to North Ave	4	Did not receive any comment, however, has a high stress score	Add separated bike lanes. Easy to add by narrowing the vehicle lanes. Add trees to make the roads more inviting for pedestrians and bicyclists
10	Superior Ave	2 (Shar- row)	Vehicle Speeding (20ft wide vehicle lanes with parking on both sides)	Convert one side parking into 2 separated bike lanes and narrow existing car lanes
11	Erie Ave and Kohler Memorial Drive	4	Very narrow Sidewalk	
			Town of Sheboygan	
13	Mueller Rd / County Road J	4	Safer access to the Firehouse Park There is Lincoln-Erdman Elementary School Off of CTH J	Add a separated/buffered bike lane

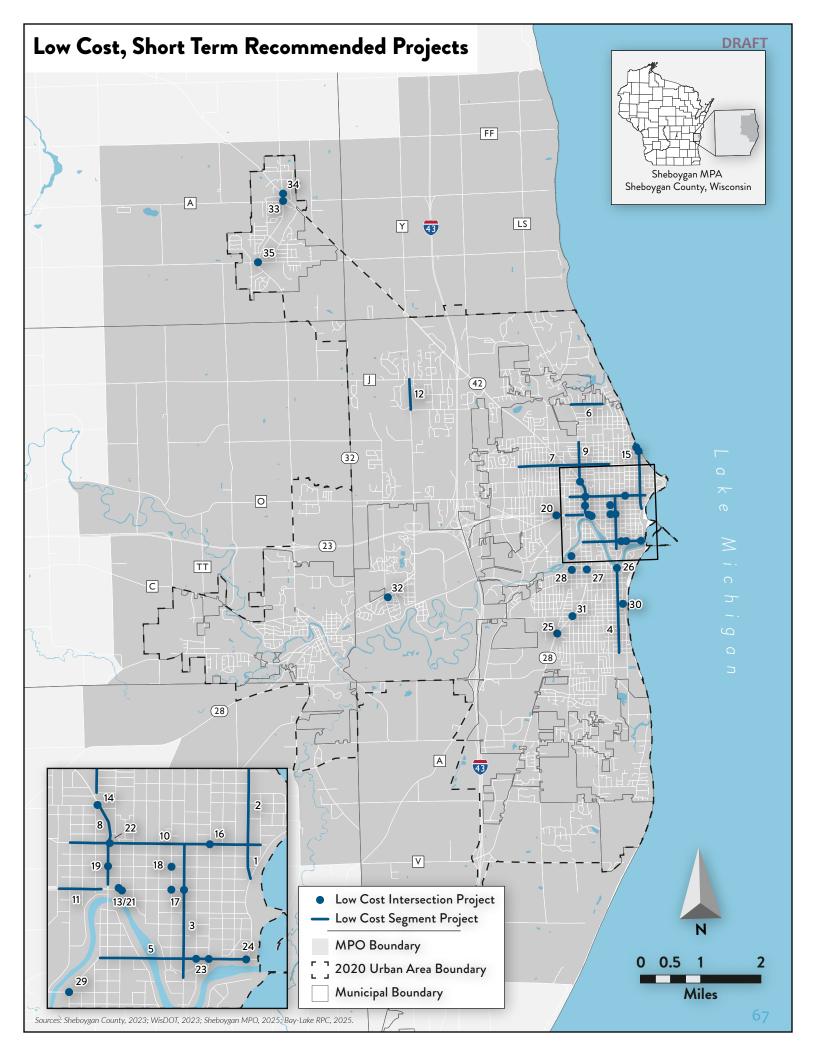
Intersection Improvements

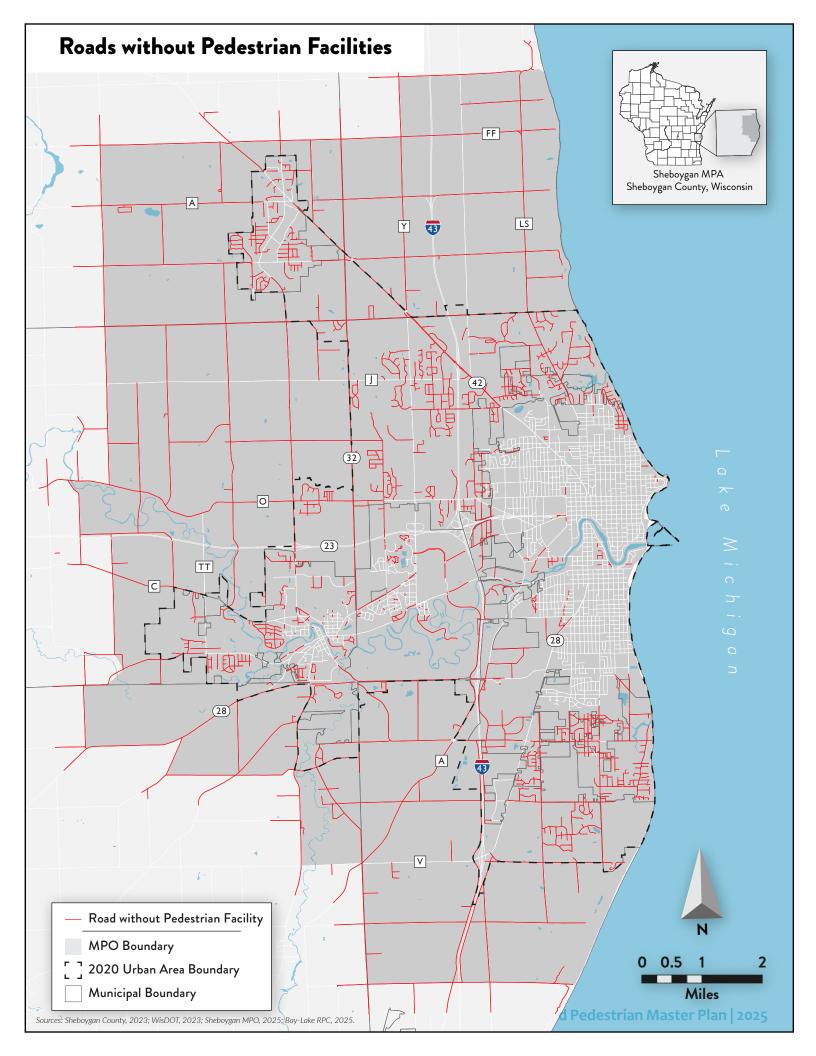
Num-	Intersections	Crossing	Concerns	Possible Improvement
ber		stress		
		score		
			City of Sheboygan	
14	Erie and Shorel and 400 trail	2 (but in reality, it is 3)	Car speeding and not stopping for pedestrians or bikes to cross the street. It Is dangerous.	Installing colored/raised crosswalk and adding a HAWK signal will help vehicles slow down and stop when someone needs to cross.
15	N 15 th Street and S ae - man n / 42 Calumet Ave	1-2	Have to wait for multiple red lights to cross for pedestrians/bicyclists	
16	N 3 rd street and Clifton Ave/ Clement Ave	3-4	Due to the wide lane and drivers being distracted by the view of the lake it is hard to cross these roads.	Narrowing the motorized lane from 20 ft wide to 10 ft and adding bike lanes with a buffer would help with the crossing as well
17	N 6 th Street and Superior Ave	3	The roundabout is too small for traffic to slow down	Add 4-way yield signs
18	N 8 th street and Erie Ave N9th and Eerie Ave	3	Worst for pedestrians, Drivers turning right (south) don't pay attention	Adding a bump out curb to slow down for right turns.

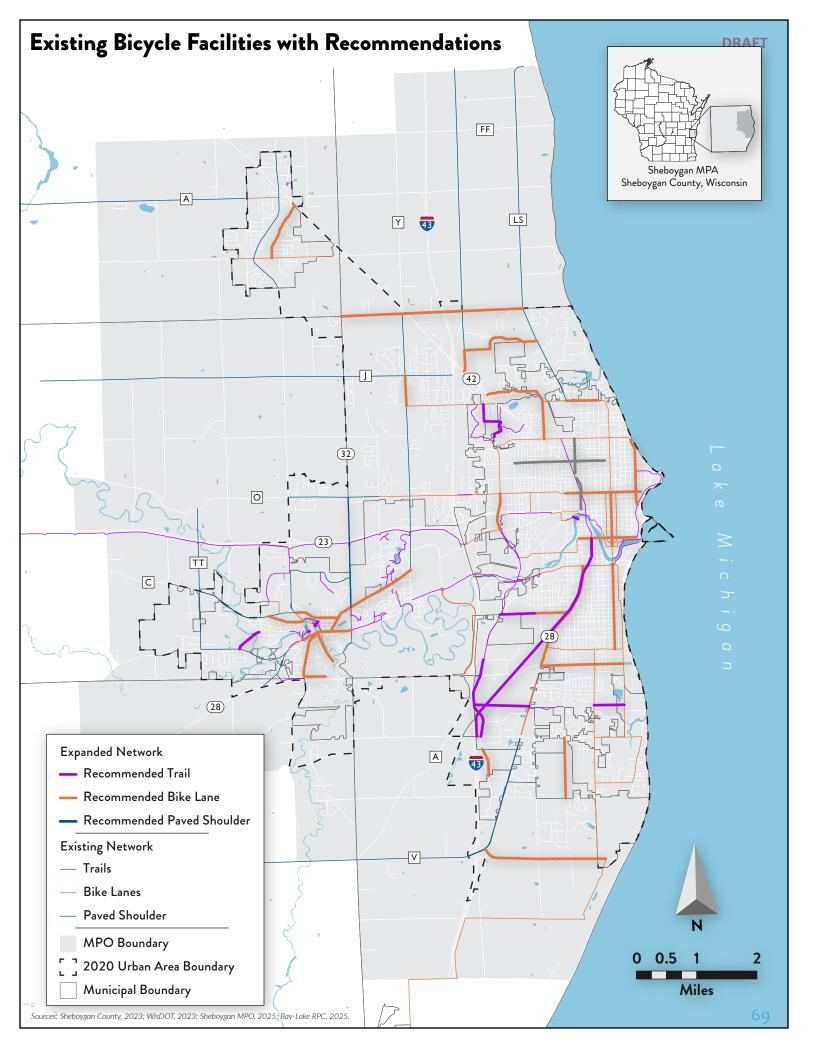
19	N 9 th and Michigan Ave	2	Bike parking facility missing	Add bike racks
20	N 14 th St and Michigan Ave	3-4	Worst for pedestrians/ very dark (multiple ped crashes including a fatality)	Do not allow left turns from 14 th onto Michigan and do not allow left turns from Michigan onto 14 th . Also, do not allow x-ings on Michigan. Best solution would be a roundabout, but real estate would be needed likely.
21	Erie Ave and Kohler Memorial Drive	2	Needs improvement at the intersection	
22	Erie Ave and N 13 th Street	2 (feels like 3-4)	Hard to see the crossing sign beforehand for drivers especially with the slope	Raised crosswalk with flashing beacon signs
24	Trail crossing at Superi- or and N14th	3	Heavy traffic, lot of waiting time for the lights to turn green	Install a scramble signal
25	Penn Ave and N 6 th St Penn Ave and N 7 th St	2		Consider eliminating the right turn lane, it is a 4 way stop, and right turn lane is not required
26	Penn Ave and Broughton Drive	2	Difficult to cross due to cars speeding, and hard to see the cross walk	Make the signage more prominent and add more crossing signage (few feet before the turn for drivers to notice) Add colored/raised crosswalk
27	S. Business Drive	4	Speeds and lack of bike/ped amenities	Add a multipurpose path
28	Traffic Circle at S 8 th St and Indiana Ave	3	Highly dangerous for pe- destrians and bicyclists	
29	S 14 th St and Indiana Ave	4	Will have affordable housing, make sure the residents have safe access to Shoreland 400 trail when it is completed.	
30	S 17th St and Indiana Ave	2-3	Due to the bike lane ending here the drivers often cut the cyclists off (because of the left turn lane).	Remove right turn lane turning south onto the 17 ^{th.} Traffic counts likely do not warrant an extra turn lane.

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31	17 th and New Jersey Ave		Unsafe, Cars turning right at a speed.	Reduce the curve of the corner and make turns sharper to avoid speeding issues and add more street lights to increase visibility.
32	S 7th St and High Ave and Lakeshore Drive	2		
33	Union Ave and S Business Drive	2	Too many near miss pedes- trian accidents	
			Village of Kohler	
34	School st/Hill St,	1	6-point intersection	Install colored or more prominent crosswalks
		Villa	ge of Howards Grove	
35	College Ave and STH 32	2	Poor visibility	Improve lighting and paint crosswalks or install roundabout
36	STH 42 and 32	2	High traffic, skewed inter- section	Solar Powered Flashing Stop Signs or install round- about
37	STH 32/S Washington Ave and Millersville Ave/CTH JJ	2	High traffic, high speeds	Solar Powered Flashing Stop Signs, or install roundabout and colored crosswalks







Project Prioritization Scoring Criteria

Sheboygan MPO staff and the Bicycle and Pedestrian Review Committee reviewed all the projects and developed a scoring matrix to refine the project list. Total of 12 scoring criteria were considered for each project.

Factors	Weight	Notes
A. Contributes to the SATP network	1	
B. On Fixed Transit Route	1	Can only get point B or C, not both
C. Connects to fixed transit route (first/last mile connections)	1	Can only get point B or C, not both
D. Crosses the urbanized area boundary (rural urban connections)	1	
E. In a local plan	2	
F. Improves the LTS score	2	
G. Multi-jurisdictional	1	
H. Within high crash location	3	
 Is both a bike and pedestrian project 	3	
J. Project addresses ADA deficiency	2	
K. High demand area	2	If area near the project is in the high demand area (from the analysis) provide 2 points of near a high demand area provide 1 point
L. High BNA score? / High demand area	1	
M. Near a school/ park	1	If the bike lane/sidewalk leads to a school or public park



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