WARREN

ADOPTED JANUARY 27, 2026

ACTIVE MOBILITY PLAN

Promoting a Safe, Connected, and Accessible Community for People Who Walk, Bike, and Roll

RESOLUTION FOR THE ACTIVE MOBILITY PLAN
(PANAP250001)

A regular meeting of the City Council of the City of Warren, Macomb County, Michigan held on January 27, 2026, at 7:00 p.m. Eastern Daylight Savings Time in the Council Chamber at the Warren Community Center Auditorium, 5460 Arden Avenue, Warren,

Michigan, 48092.

PRESENT: Boike, Dwyer, Lafferty, Magee, Moore, Newnan, Rogensues

ABSENT: None

The following preamble and resolution was offered by Councilmember Moore and supported by Councilmember Lafferty :

The City of Warren Planning Commission, in accordance with the procedures and requirements of the Michigan Planning Enabling Act, Public Act 33 of 2008 ("the Act"), is in the process of preparing an Active Mobility Plan, a subplan to the 2021 City of Warren Master Plan, as a forward-looking vision to improve walking, biking, and other non-motorized transportation options throughout the City of Warren.

The purpose of the plan is to identify barriers, highlight opportunities, and recommend solutions that make walking, biking, and rolling safe and enjoyable for all residents of Warren. It provides a guide for future investments in infrastructure, programs, and policies to support active mobility. This plan also aims to improve public health, environmental sustainability, transportation equity, and economic development. It aligns with national and regional best practices while offering practical, locally focused solutions for Warren's unique needs.

The Planning Commission, through the certified professional consulting firm, The Greenway Collaborative, Inc., performed studies, surveys, and careful analysis of public interests, present conditions, and future growth trends as the framework for the proposed Active Mobility Plan, a subplan to the 2021 City of Warren Master Plan.

WHEREAS, on January 12, 2021, the City Council by formal motion, APPROVED the City of Warren Master Plan; and

WHEREAS, on February 27, 2024, the City Council made the formal motion to award RFP-W-0909 for furnishing a Non-Motorized Transportation Plan (now known as the Active Mobility Plan) for the City of Warren to The Greenway Collaborative, Inc., per the request of the RFP review panel; and

WHEREAS, on June 28, 2024, Planning Staff mailed the distribution letter to surrounding municipalities, county and regional planning agencies, school districts, utility companies, and railway companies seeking comment on the Active Mobility Plan. The recipients of the letter were directed to the City of Warren website (direct link provided) to view the draft document online. No entity contacted the Planning Department for additional information after the mailing; and

WHEREAS, on July 25, 2024, a steering committee was formed that included the Mayor, City Council President, Planning Commission member, an Environmental Advisory Committee member, and City staff (Planning, Engineering, Parks and Recreation, Police, and Economic Development); and

WHEREAS, there has been significant public outreach throughout the course of this project. Prior to events, posters and lawn signs were placed at City facilities (City Hall, Community Center, Libraries, etc.) and water bills contained the events and survey information. The Communications Department was also utilized to advertise on the City's website and social media. A website, that can be accessed through the Planning Department page of the City's website or accessed directly at https://walkbike.info/warren/, has been maintained with the most up-to-date information throughout the process; and

WHEREAS, during the summer of 2024, during the online input phase, 220 surveys and 86 online map comments were provided. During the 2024-2025 online input phase, 225 surveys were completed; and

WHEREAS; the consultants, The Greenway Collaborative, Inc., hosted two (2) pop-up events; August 16, 2024 at the Butcher Park "It's Not Just a Park, It's an Adventure" event and on August 24, 2024 at the Birthday Bash. They engaged with about 30 people at each event; and

WHEREAS, on August 29, 2024, from 6:00 p.m. to 8:00 p.m. at City Hall, in the First Floor Conference Room, an Active Mobility Plan Workshop took place. A short presentation was provided along with opportunities for participants to bring up changes they would like to see. There were 18 people in attendance; and

WHEREAS, on December 11, 2024, from 6:00 p.m. to 8:00 p.m. at Maybelle Burnette Library, there was an Open House Event where there was a presentation and discussion of the preliminary plan. A head count of 20 people was taken; however, there were also online participants; and

WHEREAS, on September 4, 2025, The Greenway Collaborative, Inc. completed their preliminary draft of the plan and it became available for review and comment online at https://walkbike.info/warren/; and

WHEREAS, on October 1, 2025, a notice was published in the Warren Weekly, a paper of general circulation in the City of Warren, that the Planning Commission would hold a public hearing on October 20, 2025 in the Council Chambers at the Warren Community Center Auditorium, 5460 Arden Avenue, Warren, Michigan 48092, to consider a resolution for the Active Mobility Plan, a subplan to the 2021 City of Warren Master Plan; and

WHEREAS, on October 6, 2025, an administrative hearing presentation of the draft document was made to the Planning Commission. Norman Cox, President of The Greenway Collaborative, Inc., presented the draft document along with a PowerPoint presentation. He encouraged the public to provide additional feedback prior the October 20, 2025 Planning Commission meeting. Questions and answers were opened after the presentation; and

WHEREAS, on October 20, 2025, a public hearing was held before the Planning Commission wherein the proposed resolution for the draft Active Mobility Plan, a subplan to the 2021 City of Warren Master Plan, was considered, and the Planning Commission reviewed evidence concerning compliance with all laws and fines; and

WHEREAS, at said hearing on October 20, 2025, the Planning Commission recommended approval of the Active Mobility Plan, a subplan to the 2021 City of Warren Master Plan; and

WHEREAS, on November 17, 2025, email correspondence from The Greenway Collaborative, Inc. was submitted to the Planning Commission containing a summary of the following updates that were made to the draft plan:

Page 29:
- Updated the *"9 Mile Road: Near-Term Option"* map to include a line showing the Stephens Road Greenway, with a note indicating that the Stephens Road Greenway Project has been awarded a SEMCOG grant.

Page 38:
- Corrected spelling errors on the map; Ryan Road and Dequindre Road were labeled incorrectly.

Page 41:
- In response to public input received at the October Planning Commission meeting, revised the page to include:
    - Updated page title to *"Conceptual Nature Trails on City Property along Red Run."*
    - Removal of parking lots and sledding hill.
    - Added roadway, park, and drain labels for clarity.

Page 42:
- Replaced the existing graphic with the most recent preliminary drawing for the proposed bridge over the Red Run Drain.

These revisions reflect public input from recent meetings and staff discussions to improve accuracy and clarity while maintaining the plan's original intent; and

WHEREAS, the Planning Commission of the City of Warren resolves that the draft Active Mobility Plan be submitted to the Council of the City of Warren and said subplan to the 2021 City of Warren Master Plan be recommended for adoption; and

NOW THEREFORE, BE IT RESOLVED, that the Council of the City of Warren hereby adopts the draft Active Mobility Plan, a subplan to the 2021 City of Warren Master Plan.

AYES: Moore, Lafferty, Boike, Dwyer, Newnan, Magee, Rogensues

NAYS: None

RESOLUTION DECLARED ADOPTED this 27th day of January, 2026.

Mindy Moore

MINDY MOORE
Secretary of the Council

CERTIFICATION

STATE OF MICHIGAN)
) SS.
COUNTY OF MACOMB)

I, Sonja Buffa, duly elected City Clerk for the City of Warren, Macomb County, Michigan, hereby certify that the foregoing is a true and correct copy of the resolution adopted by the Council of the City of Warren at its meeting held on January 27, 2026.

Sonja Buffa

SONJA BUFFA
City Clerk

Drafted by:
Melissa Z. Maisano
City of Warren, Planning Department
One City Square, Suite 315
Warren, Michigan 48093-5285

When recorded return to:
City Clerk
City of Warren
One City Square, Suite 205
Warren, Michigan 48093-5285

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APPENDIX

ACKNOWLEDGMENTS

The development of this Active Mobility Plan was made possible through the leadership of the City of Warren Planning Department. We gratefully acknowledge the Active Mobility Steering Committee and the community members who participated in workshops and surveys. Special thanks to Mayor Lori M. Stone and the City Council members for their continued support and guidance.

STEERING COMMITTEE

Anthony Casasanta, Director Parks & Rec
Angela Rogensues, City Council Member
Syed Hoque, Planning Commissioner
Mayor Lori M. Stone, Mayor's Office
Jerry Hasspacher, Environmental Advisory Committee
Ron Wuerth, Planning Director
Michelle Katopodes, Planner III
Olivia Girimonte, Civil Engineer
Officer Darrin Laban, Traffic Safety Officer
Tom Bommarito, Economic Development Director

CITY COUNCIL & MAYOR

Lori M. Stone, Mayor
Dave Dwyer, Council Member Assistant Secretary - Mayor Pro-Tem
Angela Rogensues, Council Member President
Melody Magee, Council Member Vice President
Jonathan Lafferty, Council Member District 2
Mindy Moore, Council Member Secretary
Gary Boike, County Member District 4
Harry Newnan, Council Member District 5

CONSULTING PARTNERS

This plan was facilitated by The Greenway Collaborative and Fishbeck and is intended for planning purposes only.

CHAPTER ONE

OVERVIEW AND PROCESS

OVERVIEW AND PROCESS

Introduction

Promoting a Safe, Connected, and Accessible Community for People Who Walk, Bike, and Roll

The City of Warren Active Mobility Plan presents a forward-looking vision to improve walking, biking, and other non-motorized transportation options throughout the city. This planning effort builds on the City of Warren Master Plan, which identified the need for a more walkable, bike-friendly, and accessible transportation network to support community health, sustainability, and mobility.

As Warren continues to grow and evolve, this plan provides a framework for making the city safer, more connected, and more accessible for people of all ages and abilities—whether they are traveling to school, work, parks, or local businesses.

This is not a replacement for technical manuals or federal guidelines such as those provided by the American Association of State Highway and Transportation Officials or the Federal Highway Administration. Instead, it serves as a locally focused guide on how such standards can be applied to common conditions in Warren. Facility recommendations in this plan are conceptual and require further engineering review before implementation.

As conditions change, the recommendations should be reviewed and updated to ensure they continue to meet the community's needs.

Purpose of the Plan

The purpose of this plan is to identify barriers, highlight opportunities, and recommend solutions that make walking, biking, and rolling safe and enjoyable for all residents of Warren. It provides a guide for future investments in infrastructure, programs, and policies to support active mobility.

This plan also aims to improve public health, environmental sustainability, transportation equity, and economic development. It aligns with national and regional best practices while offering practical, locally focused solutions for Warren's unique needs.

Whats included

The plan is organized into five chapters and an Appendix:

Chapter One: Overview and Process — Introduces the plan, outlines the planning process, and presents key takeaways from community engagement and existing conditions analysis.

Chapter Two: Developing an Active Mobility Network — Details proposed improvements to regional and local trail networks, safety upgrades, and cross-section concepts for key corridors.

Chapter Three: Policies and Programs — Recommends policies, programs, and metrics that support the Active Mobility Network.

Chapter Four: Implementation Strategies — A phased approach that prioritizes improvements into near-, mid-, and long-term strategies based on community needs, safety, and readiness.

Chapter Five: Funding and Maintenance — Identifies potential funding sources and strategies for long-term upkeep.

Appendix—Includes details regarding inventory and analysis, community engagement, facility types, treatments, and design guidelines.

What is Active Mobility?

Active mobility refers to engaging in physical activity while moving freely and easily. From a community perspective, it promotes wellness, reduces transportation-related injuries, deaths, and pollution. From an individual perspective, it integrates exercise into daily activities and removes barriers to a more active lifestyle. While focused on **pedestrians and bicyclists**, it also includes all forms of **non-motorized transportation** and **micromobility**—compact, lightweight, clean-energy devices powered by the human body. E-bikes and e-scooters are the most common types of micromobility.

Why it Matters

Active mobility offers real benefits for individuals and the community. Safe, walkable, and bikeable environments **support healthy lifestyles, expand access to jobs, education, and essential services, reduce traffic congestion, and strengthen local economies.** In Warren—where many streets were designed primarily for cars—rethinking how we design and manage public spaces is essential to creating a more livable, equitable, and safe city.

What the Community Wants

Public input has made it clear: **residents want safer streets, well-maintained facilities, better sidewalks and crosswalks, improved cycling options, and more connected routes to everyday destinations**. This plan is a direct response to that feedback, and it offers a comprehensive set of tools and strategies to turn these ideas into reality. The goal is not just to improve mobility but to ensure the safety, health, and well-being of all residents while reducing barriers to active transportation.

Urgent Safety and Economic Impacts

The need for change is urgent. Between 2004 and 2022, Warren experienced 614 bicycle crashes and 650 pedestrian crashes. On average, that's **32 bicycle crashes and 34 pedestrian crashes per year—with nearly 3 fatalities annually**. The Van Dyke Corridor stands out as a particularly high-risk area for both pedestrians and cyclists. The estimated annual cost of crashes to the community exceeds **$45 million** per year, including both economic costs (medical care, emergency response, lost productivity) and comprehensive costs (quality-of-life impacts and societal willingness to pay to prevent crashes).[1] These figures highlight the critical need for targeted safety improvements as part of a broader effort to support active transportation.

1. U.S. Department of Transportation. "The Economic and Societal Impact of Motor Vehicle Crashes, 2009" (Revised December 2022).

COMMUNITY BENEFITS

IMPROVE PUBLIC HEALTH

Encouraging walking and biking promotes physical activity, reducing the risk of chronic diseases and improving overall health.

ENVIRONMENTAL SUSTAINABILITY

Promoting non-motorized transportation reduces greenhouse gas emissions, contributing to cleaner air and a healthier planet.

ECONOMIC BENEFITS

Non-motorized infrastructure can attract residents and visitors, boost local businesses, and create jobs in construction and related industries.

QUALITY OF LIFE

Walking and biking improve the overall quality of life by reducing stress, enhancing mental well-being, and promoting an active lifestyle.

REDUCED TRAFFIC CONGESTION

Fewer cars on the road can alleviate traffic congestion, leading to quicker and more efficient commutes for everyone.

COST SAVINGS

Less reliance on cars means lower transportation costs for individuals and reduced maintenance costs for municipalities.

ACCESSIBILITY

Non-motorized transportation options make communities more accessible to people of all abilities, including those who cannot drive and rely on transit.

COMMUNITY BUILDING

Encouraging walking and biking fosters community interaction and a sense of belonging.

FUTURE TRANSPORTATION

Active mobility plans prepare communities for future transportation trends and can help reduce dependence on fossil fuels.

SAFETY

Well-designed pedestrian and bike facilities enhance road safety for all users, reducing accidents and injuries.

Changing Demographics and Travel Behavior

Fewer teens are pursuing driver's licenses, reflecting a shift in travel behavior and transportation preferences among younger generations. According to a 2020 study, **nearly 40% of teens delayed getting their license by one to two years, and 30% delayed by more than two years**.[2] Additionally, Warren—like many communities—is experiencing growth in its **aging population**. These demographic trends highlight the increasing importance of designing a transportation system that offers safe, accessible, and convenient **active mobility options for people of all ages and abilities**. Expanding walking, biking, and transit infrastructure ensures that both younger and older residents can maintain independence and access essential services without relying on a car.

The Broader Benefits of an Active Mobility Plan

Developing an Active Mobility Plan can unlock a host of **benefits that extend far beyond transportation**, fostering sustainability, healthier lifestyles, safer neighborhoods, and more vibrant communities. By prioritizing walking, biking, and transit, Warren can strengthen quality of life for residents and build a safer, more inclusive city for all.

> When asked to describe Warren in the future using one word or phrase, the top responses included: safe, bikeable, walkable, green, and better public transportation.
>
> CITY OF WARREN MASTER PLAN

2.Vaca, Federico E., et al. "Factors Contributing to Delay in Driving Licensure Among U.S. High School Students and Young Adults." Journal of Adolescent Health, vol. 67, no. 3, 2020, pp. 400–406.

Warren's Active Mobility Plan is Part of a Regional Movement for Safer Streets

Across Southeast Michigan, there is growing momentum to make streets safer for everyone. *Safe Streets Southeast Michigan*, a public education campaign led by Southeast Michigan Council of Governments (SEMCOG), promotes responsible travel behavior and emphasizes our shared role in creating safer communities.

This effort aligns with the region's *Transportation Safety Plan*, which is built around the **Safe System Approach**—a strategy designed to eliminate serious injuries and fatalities on our roads. This approach focuses on five key areas: **Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care**. It recognizes that human error is inevitable and calls for a transportation system built to minimize the severity of crashes when they occur.

Warren's Active Mobility Plan reflects and supports these regional goals by emphasizing safer, more connected, and more accessible streets—whether people are walking, biking, driving, or riding transit.

Planning Process

The development of the Active Mobility Plan began in 2024 and followed a yearlong, collaborative process guided by City staff and a Steering Committee. From the outset, the planning effort prioritized transparency, inclusivity, and meaningful community engagement.

To ensure the plan reflected local values, needs, and aspirations, the public was actively involved throughout the process. Outreach strategies included community open house and workshop, regional stakeholders meeting, interactive pop-up stations at local events and parks, and multiple rounds of surveys. This broad engagement helped shape key recommendations and ensured the plan responded to the diverse experiences of people who walk, bike, roll, and take transit in the community.

The Steering Committee provided strategic guidance throughout the process and completed a final review of the plan prior to its recommendation for adoption.

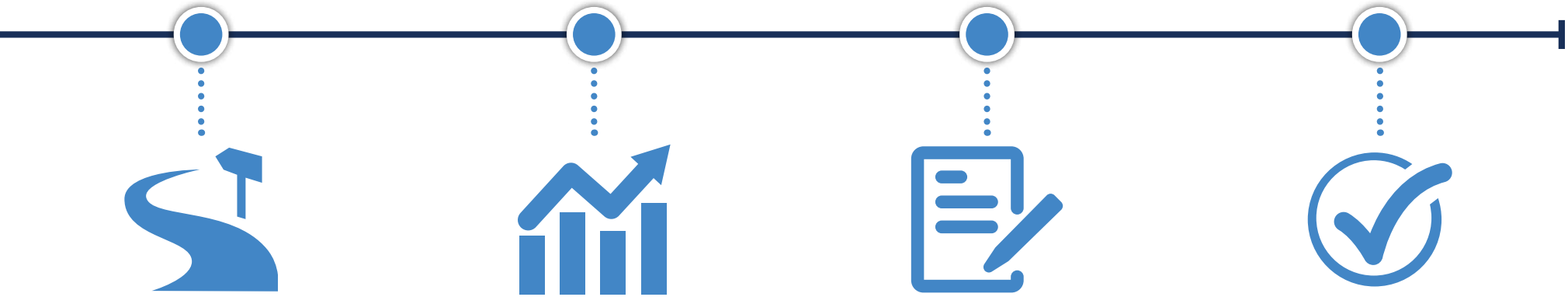
The planning process followed a phased approach to ensure thoughtful development, review, and refinement.

EXISTING SYSTEM AND PLAN EVALUATION

Analysis of current conditions, infrastructure, and past planning efforts.

ISSUES, OPPORTUNITIES AND GOALS

Identification of key challenges, opportunities, and community-driven goals.



PRELIMINARY PLANS

Drafting of early concepts for infrastructure improvements, programs, and policy recommendations.

COMMUNITY FEEDBACK AND PRIORITIES

Public input gathered to refine priorities and validate the direction of the plan.

PLAN REFINEMENT AND IMPLEMENTATION STRATEGY

Integration of community feedback and development of a practical implementation roadmap.

PLAN REVIEW AND ADOPTION

Final review by the Steering Committee and recommendation for adoption by city leadership.

Community Engagement

Community input was essential to shaping the Active Mobility Plan. Through pop-up events, workshops, surveys, and an interactive online map, residents shared ideas, identified barriers, and helped set priorities. Early engagement in August 2024 focused on gathering input to guide the plan's goals, while additional feedback on the Preliminary Plan was collected in winter 2024–2025 through a public open house and online review. This feedback directly influenced the plan's recommendations, ensuring it reflects the community's needs and vision for safer, more connected walking and biking options.

For more detail, see Appendix B: Community Engagement Summary

Pop-ups hosted at existing events around the city to collect feedback

In-person and online opportunities for community engagement

Active Mobility Plan Workshop—August 29, 2024

What We Heard

Key themes and takeways from public input

Maintenance Matters

Sidewalks, trails, and roads need repairs and better year-round maintenance. Many felt that fixing and maintaining existing sidewalks, trails, and roads should come before building new facilities.

Safety is a Top Concern

Improved lighting, safer crossings, slower traffic, and more police presence.

Improve Infrastructure

Add more sidewalks, crosswalks, protected bike lanes, and secure bike parking.

Accessibility Counts

ADA compliance, smoother paths, and reliable snow removal were top-of-mind for residents of all ages and abilities.

Connectivity is Key

Build a continuous citywide network for walking and biking that links neighborhoods, schools, and parks.

Balanced Investment

While active transportation is widely supported, many residents also urged the city to invest in essential infrastructure like roads, sewers, and drainage.

Access to Nature

People want more soft surface trails and greenways—spaces where they can retreat from the city and enjoy nature close to home.

OVERVIEW AND PROCESS

Existing Conditions

This section provides a high-level overview of the existing conditions inventory and analysis that forms the foundation of Warren's Active Mobility Plan. Understanding where people live, how they move, and the physical and social conditions that shape their daily mobility is critical to creating a safe, inclusive, and connected active transportation network.

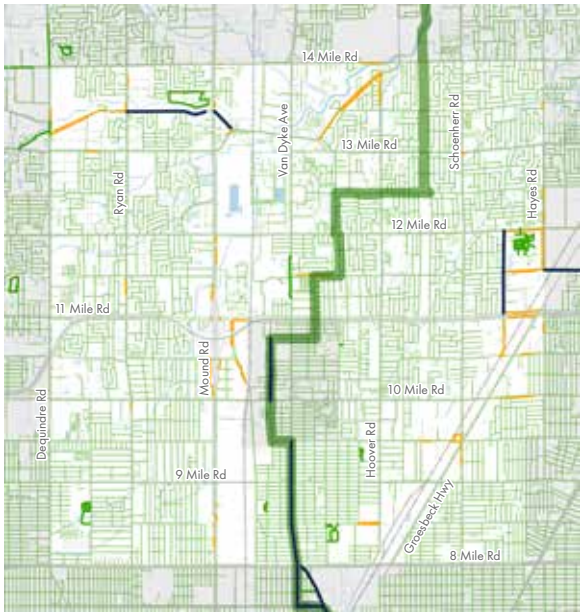
The existing conditions inventory and analysis, included in full in the appendix, brings together a wide range of datasets to provide insight into current pedestrian and bicycle infrastructure, mobility patterns, equity considerations, and physical barriers. Datasets include:

- Demographics, land use, and population density
- Bicycle and pedestrian demand and activity
- Equity and environmental justice indicators
- Existing non-motorized infrastructure
- Barriers to connectivity
- Roadway conditions and safety metrics
- Crash data for pedestrians and bicyclists
- Local and regional planning efforts

These datasets ensure that future improvements to Warren's active mobility network are data-driven, equity-focused, and aligned with regional goals. The following pages highlight key maps and takeaways from the invenotry and analysis of existing conditions.

For more detail, see Appendix A: Existing Conditions

EXISTING NON-MOTORIZED ROUTES

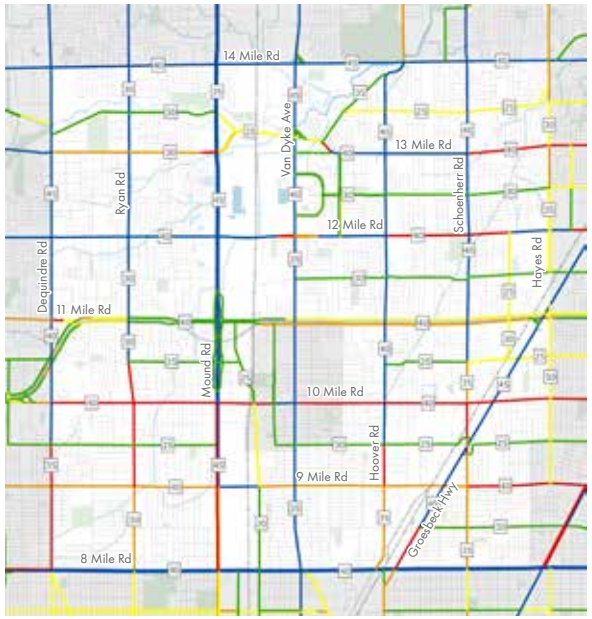


- Bike Lanes & Paved Shoulders
- Sidewalks
- Shared Use Path
- Planned Iron Belle Trail
- Major Road Sidewalk Gap

REGIONAL NETWORK

- Regional Bicycle and Pedestrain Corridors
- Existing Regional Pathways
- Iron Belle Trail

TRAFFIC VOLUMES AND SPEEDS

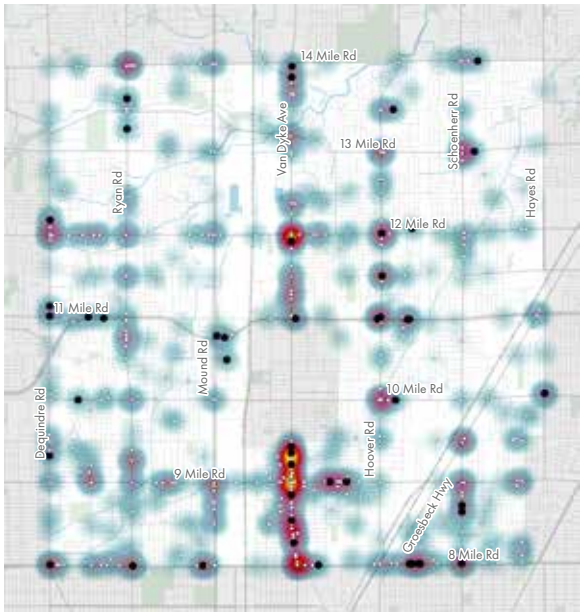


Average Daily Traffic Volumes

- ≤ 5,000
- 5,000-10,000
- 10,000-15,000
- 15,000-20,000
- >20,000

[#] Posted Speed Limit

PEDESTRIAN CRASH HEAT MAP



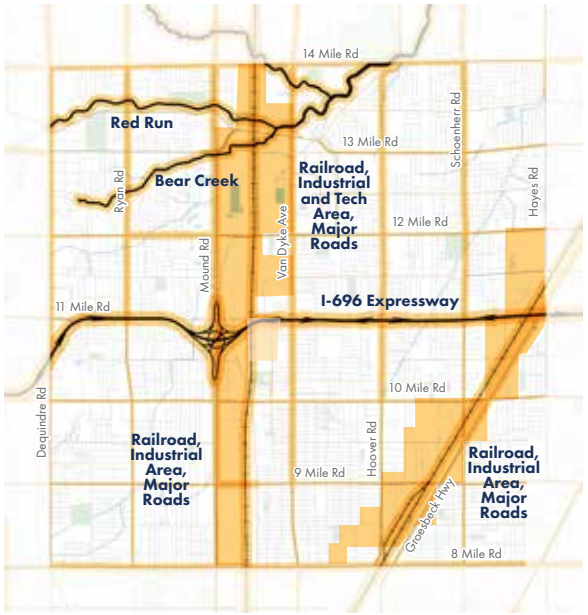
Low — High

○ Pedestrian Crash

● Fatality

On average, there are 34 pedestrian crashes per year and about 2.5 fatalities.

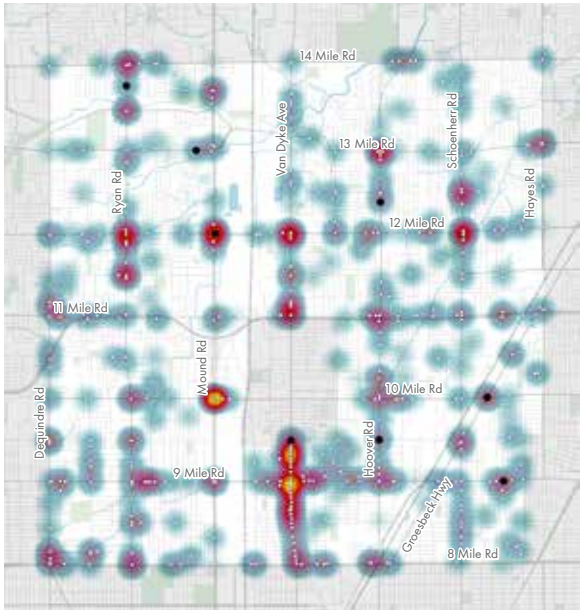
BARRIERS TO NON-MOTORIZED TRAVEL



Barriers highlighted in orange

Creeks, highways, rail corridors and large swaths of industrial development can be barriers to non-motorized travel.

BICYCLE CRASH HEAT MAP



Low — High

○ Bicycle Crash

● Fatality

On average, there are 32 bicycle crashes per year and less than 1 fatality.

What We Learned

Key themes and takeways from inventory and analysis

Warren's Size and Layout Shape Active Mobility

Warren covers approximately 35 square miles and is home to over 139,000 residents. While traditional neighborhoods are typically walkable, they are separated by wide arterial roads, railroads, and industrial areas, which make it difficult to travel across the city. This layout creates challenges in connectivity, highlighting the need for strategies to improve mobility and bridge gaps between neighborhoods.

Sidewalk Network is Extensive and Needs to be Maintained

Warren has over 900 miles of sidewalks, providing broad pedestrian coverage throughout the city. However, key gaps along arterial roads limit continuous access. The size of the network presents a significant maintenance responsibility, which was a major concern raised through public input.

Limited Bike Facilities

The city currently has only 3.5 miles of bike lanes and wide paved shoulders. As a result, most bicycle travel occurs on sidewalks or in the roadway. Strava data shows higher activity in the northeast quadrant, but safety and comfort concerns remain a barrier to wider bike use citywide.

Regional Trails and Plans Provide a Strong Foundation

The Iron Belle Trail, 9 Mile Corridor, and other regional efforts offer strong frameworks for expanding Warren's non-motorized network. Continued coordination with local and regional partners will be key to improving long-range connectivity throughout Southeast Michigan.

High Bicycle and Pedestrian Crashes on Major Roads

Over a 19-year period, Warren experienced 614 bicycle crashes and 650 pedestrian crashes, including 55 fatalities. The Van Dyke Corridor emerged as a high-risk area for both modes.

Half-Mile Roads Offer Opportunities

Warren's half-mile road network presents a valuable opportunity. These roads typically have fewer lanes and lower speeds, making them more comfortable and suitable for walking and biking compared to the busier mile roads. They could serve as critical corridors in a safer, low-stress active mobility network.

Connectivity is Fragmented by Physical Barriers

Railroads, the I-696 expressway, and wide multi-lane corridors (like Van Dyke and Mound) divide the city and create significant challenges for pedestrians and cyclists. These barriers force long detours and limit access to key destinations such as parks, schools, and shopping areas.

Roadway Design Greatly Affects Comfort and Safety

Many of Warren's roads are high-speed and high-volume, which creates an intimidating and often unsafe environment for people walking and biking. These design characteristics are a major barrier to expanding active transportation.

Equity and Safety Must Guide Investment Priorities

Disadvantaged and equity-emphasis areas frequently overlap with high-crash zones and lack adequate infrastructure. Prioritizing these neighborhoods for investment will help address disparities and ensure safe, inclusive access to mobility options for all residents—particularly vulnerable populations.

Support for Active Transportation is Growing Locally

Recent planning efforts—including the Van Dyke Corridor Plan, Iron Belle Trail Feasibility Study, and the City's Master Plan—reflect growing community and political momentum for walkable, bikeable infrastructure. Recommended actions include implementing protected bike lanes, filling sidewalk gaps, improving crossings, and expanding Safe Routes to School programs.

CHAPTER TWO

DEVELOPING AN ACTIVE MOBILITY NETWORK

WARREN'S ACTIVE MOBILITY NETWORK

Creating a well-connected and inclusive active mobility network is a cornerstone of building a healthier, more sustainable Warren. This chapter focuses on the thoughtful development of infrastructure that supports walking, biking, and other forms of non-motorized transportation. By linking local destinations with regional assets, Warren can position itself as a key player in Southeast Michigan's transportation network.

The plan prioritizes both **regional connections**—like the Iron Belle Trail and 9 Mile Road corridor—and local **infrastructure improvements**, including enhanced **half-mile road corridors** and the proposed **River Walk**. These connections aim to make it easier for residents to access jobs, schools, parks, and transit, while also encouraging recreation and active lifestyles.

To make this vision a reality, **safety and accessibility** are at the forefront. Closing **sidewalk gaps**, upgrading **intersections and crosswalks**, and redesigning **major road** corridors for all users are critical steps toward making active transportation safe and viable for people of all ages and abilities.

Finally, the chapter outlines a **vision for future infrastructure**, identifying a **core bikeway network** as the foundation for continued growth. This initial phase focuses on high-priority corridors with the greatest potential for impact, creating a strong spine from which future connections will branch. Early investments in these key routes will set the tone for broader network development and help demonstrate the benefits of active transportation across the city.

REGIONAL CONNECTIONS

Iron Belle Trail & 9 Mile Road
Connect Warren to state and regional trail systems, expanding access beyond city boundaries.

LOCAL NETWORK

Half-Mile Roads & River Walk Trail
Build out local walking and biking routes that connect neighborhoods, parks, and community centers.

SAFETY IMPROVEMENTS

Fill Sidewalk Gaps—Improve Crosswalks & Intersections
Target areas with the greatest safety needs, making travel more secure for all users.

MAJOR ROADS

Future Cross Sections for Major Roads Re-imagined for All Modes
Design roadways to safely accommodate cars, bikes, transit, and pedestrians.

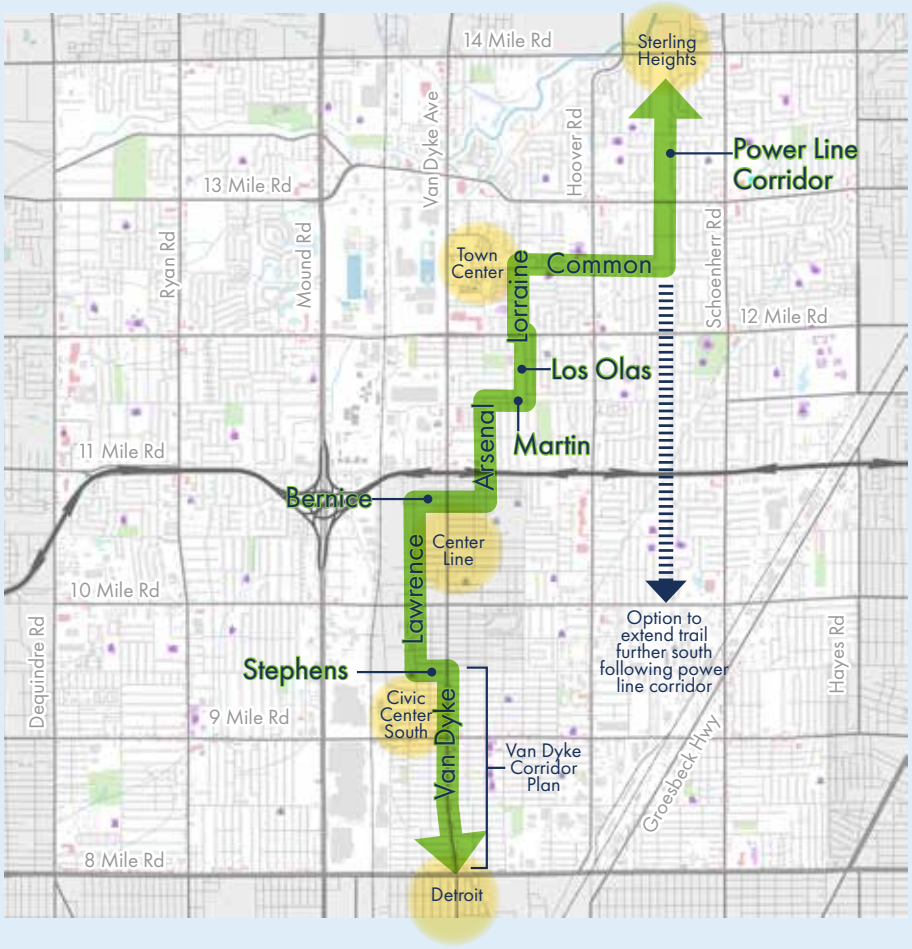
INITIAL FOCUS FOR DEVELOPMENT

Build the Core Network First
Prioritize high-impact areas to build momentum and demonstrate early success.


STOP

Iron Belle Trail

The planned Iron Belle Trail spans the State of Michigan, connecting Belle Isle in Detroit to Ironwood at the western tip of the Upper Peninsula. The City of Warren provides a key connection for the bike route through Southeast Michigan.



What's Included

- Separated bike lanes on Van Dyke
- Buffered bike lanes on Martin, Lorraine, and Common
- Multi-Use trail along power line corridor with landscaping, lighting, emergency call boxes and trail amenities
- Wayfinding
- Mid-block crossing improvements

Why It's Important

- Provides a statewide trail connection, linking Southeast Michigan to the broader Iron Belle Trail system
- Connects Warren to bike routes in Detroit and Center Line
- Addresses critical safety issues along the Van Dyke corridor, where high rates of pedestrian and bicycle crashes occur
- Serves as a major north-south connection across the city, linking the Civic Center South and Town Center

Who's Involved

- International Transmission Company for lease/easements along the utility corridor
- Macomb County Department of Roads for crosswalks and other safety features
- Michigan DNR for coordination on the Iron Belle Trail
- City of Warren

Funding Opportunities

- Transportation Alternatives Program (TAP) – Federal funding through SEMCOG and MDOT for multi-use trails and pedestrian improvements
- Safe Streets and Roads for All (SS4A) Grant Program - Provides funding for planning and implementing safety improvements State
- Trust Fund Grants (MDNR) – Funding for outdoor recreation and trail development through the Michigan Department of Natural Resources
- Regional Foundation Grants – Support from the Ralph J. Wilson Jr. Foundation and the Community Foundation for Southeast Michigan for regional trails and public space improvements
- Local Capital Improvement Program (CIP) – Can help match grant funds or support smaller-scale improvements
- Potential public-private partnerships – Collaborations with local businesses, developers, and community groups for trail enhancements

When to Expect It

- Long-term implementation, but planning can begin now
- Plans for the Van Dyke Corridor are already outlined in the Van Dyke Corridor Plan
- Begin coordinating with ITC for the power line corridor for leases and necessary agreements
- Bike lanes on Martin, Lorraine, and Common could be implemented as part of upcoming road projects or fast-tracked as a demonstration project

> I absolutely would love to see the Iron Belle Trail connection in Warren completed. I am thrilled to see the utility corridor will be used as part of the connection. This will be a wonderful use of land that is being unused other than for the utility power lines. The Iron Belle Trail system is a huge passion of mine and I cannot wait for Warren to contribute their portion.
>
> PUBLIC INPUT

A SAFE, PARK-LIKE MULTI-USE TRAIL FOLLOWING THE POWER LINE CORRIDOR

Multi-use Trail along the power line corridor would provide a park-like setting featuring landscaping, benches, lighting, art installations, community gathering spaces, and emergency call boxes, creating a welcoming and safe environment for all users. If desired, the trail could be extended further south following power line corridor between 14 Mile Road and10 Mile Road.

Key Design Guidelines for Multi-Use Trails

Trail Width: The trail should be at least 10 feet wide to allow for safe two-way use by people walking and biking. Where space allows, a width of 12 feet or more is recommended to provide additional comfort and room for passing. Include 2-foot shoulders or clear zones on each side for safety and drainage.

Surface Material: Trail surfaces should be made of smooth, durable materials like asphalt or concrete. These surfaces should be slip-resistant and designed to drain properly to prevent puddling or erosion.

Road Crossings: Safe crossings at roads are essential. On half-mile roads, Rectangular Rapid Flash Beacons should be used to improve visibility. On major roads, Pedestrian Hybrid Beacons are better for higher traffic volumes. Include refuge islands whenever possible so people can cross in two steps.

Lighting and Safety: Lighting along the trail helps improve visibility and safety, especially in the early morning or evening. Emergency call boxes and clear signage can make the trail feel safer and help people navigate.

Landscaping and Buffer Zones: Landscaping between the trail and nearby roads or utilities can improve the look and feel of the space. Native plants and rain gardens can help manage stormwater, while still allowing access for utility maintenance.

Amenities: Comfort features like benches, trash cans, bike racks, and shaded areas make the trail more enjoyable to use. Public art and community spaces can also help make the corridor feel like a welcoming, shared place.

Accessibility: All trail features should meet ADA standards to ensure the trail is accessible to people of all ages and abilities. That includes appropriate slopes, curb ramps, and surface quality.

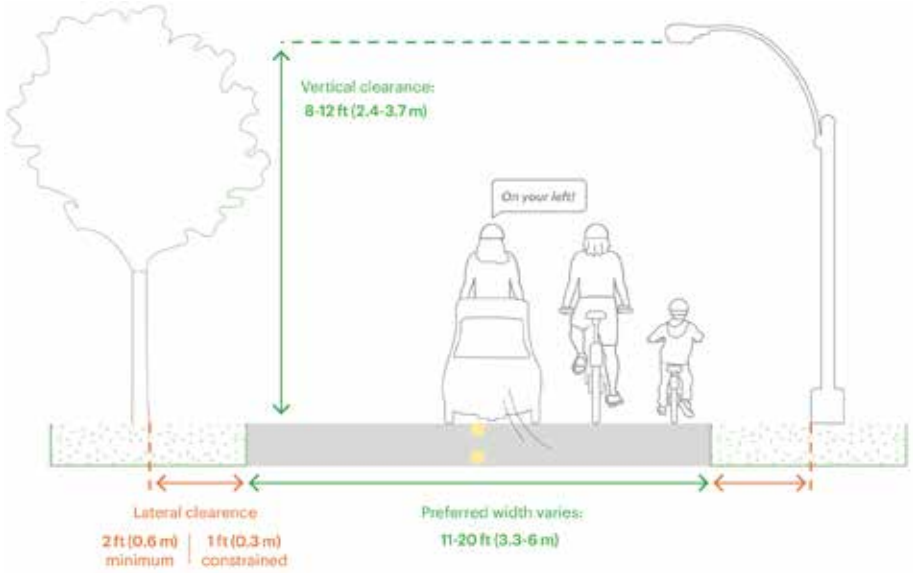
Maintenance: The city should plan for regular maintenance of the trail, lighting, landscaping, and amenities to keep the corridor clean, safe, and attractive. Coordination with utility providers is also important to avoid service conflicts.

AASHTO Guide for the Development of Bicycle Facilities

NACTO Urban Bikeway Design Guide

Rails-to-Trails Conservancy - Trail Building Toolbox

ADA Public Rights-of-Way Accessibility Guidelines



PREFERRED WIDTHS, EXCLUDING LATERAL CLEARANCE[2]				
Bicycle Volume	Preferred Width		Minimum Width	
Low: 50 bikers in the peak hour	11 ft	3.3 m	8 ft	2.4 m
Medium: Up to 400 bikers in the peak hour	15 ft	4.5 m	11 ft	3.3 m
High: Over 400 bikers in the peak hour	20 ft	6 m	15 ft	4.5 m

NACTO Urban Bikeway Design Guide

FUTURE VAN DYKE CORRIDOR CROSS-SECTION

This cross-section reflects separated bike lanes and safety improvements identified in both the Iron Belle Trail Route and Feasibility Study and the Van Dyke Corridor Plan. These enhancements aim to improve safety and comfort for all road users, particularly people biking and walking along this key corridor.

For more information on design best practices and guidance, see the Major Roads section of this chapter.

> Love to see the curbs between the bike and car lanes. My only note is that these need to be reliably plowed in the winter.
>
> PUBLIC INPUT

FUTURE SEPARATED BIKE LANES ON MARTIN, LORRAINE AND COMMON

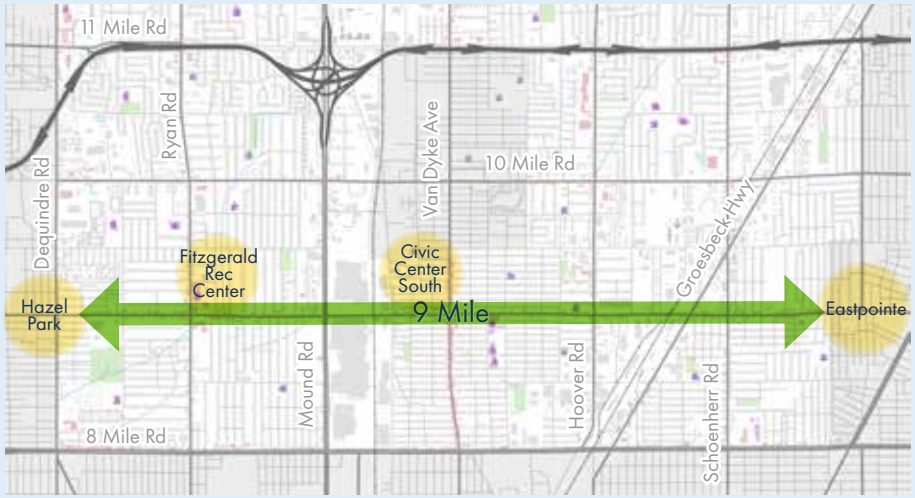
This concept illustrates separated bike lanes and safety improvements recommended in the Iron Belle Trail Route and Feasibility Study. These half-mile roads serve as both regional and neighborhood connections, providing important routes for people walking and biking. The proposed upgrades aim to enhance safety and comfort for all users while maintaining convenient access for local traffic.

For additional design guidance, see the Half-Mile Roads section of this chapter.

> Please consider extending cross sections for some corridors beyond the indicated path. For instance, Common west of Lorraine (specifically leading to the city center) seems like a common (pun intended) sense extension to a destination.
>
> PUBLIC INPUT

9 Mile Road

The 9 Mile corridor has been identified as a key regional corridor for bicycle and pedestrian travel by the Southeast Michigan Council of Governments, with plans to transform its streetscape across communities in Macomb and Oakland counties.



What's Included

- Two-way separated bike lane
- Mid-block crossing improvements
- Enhanced transit stops
- Placemaking elements
- Road diet (reconfiguration to reduce lanes and improve bike/pedestrian facilities)

Why It's Important

- Recognized as a key regional corridor for bicycle and pedestrian travel by SEMCOG
- Serves an underserved area of the city, improving mobility and safety
- Enhances connectivity across communities in the region

Who's Involved

- City of Warren
- Downtown Development Authority (DDA)

> "Looking forward to seeing a road diet & cycle track across 9 Mile. Would love to see playgrounds along 9 Mile too like they have in Oak Park."
>
> PUBLIC INPUT

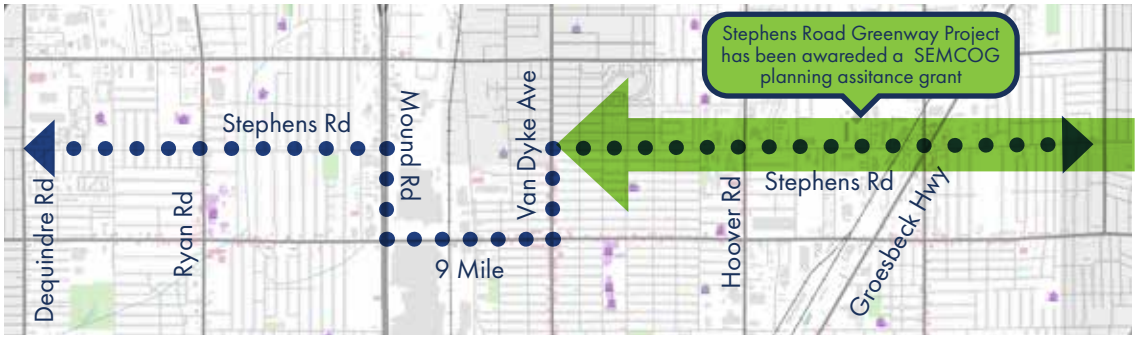
Funding Opportunities

- Transportation Alternatives Program (TAP) – Federal funding available through SEMCOG and MDOT for pedestrian, bike, and streetscape enhancements
- Safe Streets and Roads for All (SS4A) Grant Program - Provides funding for planning and implementing safety improvements
- Local Capital Improvement Program (CIP) – Can be used to cover design or match grant funding
- Safe Routes to School (SRTS) initiatives to enhance crosswalk safety around the Lincoln High, Middle, and Elementary School campus (Van Dyke Public Schools)
- Potential coordination with MDOT or county road agencies for joint infrastructure upgrades
- Relatively low cost if improvements are included with scheduled road resurfacing projects

When to Expect It

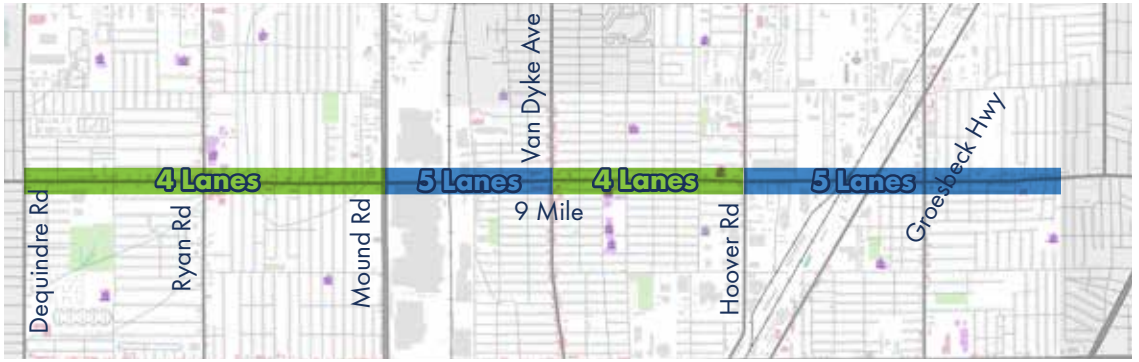
- This is a long-term priority project to be addressed as part of road and/or utility work.
- Opportunities to implement as demonstration projects in the near term

9 MILE ROAD: NEAR-TERM OPTION



Transforming 9 Mile into a regional bicycle and pedestrian corridor could take some time. In the near-term, Stephens Road could be used as a temporary cross-town connection with basic signage, pavement markings, and crosswalk upgrades. See Half-Mile Roads recommendations for more details on how Stephens Road could be updated.

9 MILE EXISTING CONDITIONS: INCONSISTENT CROSS-SECTION



9 MILE ROAD: LONG-TERM PRIORITY

9 Mile Road currently has an inconsistent cross-section that shifts between four and five lanes. These changing lane configurations contribute to higher vehicle speeds, unclear turning movements, and limited space for people walking or biking.

A long-term priority is to reconfigure the corridor with a consistent three-lane cross-section—one travel lane in each direction with a center turn lane. This approach would improve traffic flow, reduce crash risks, and create space for safer, more comfortable multimodal facilities.

The following pages illustrate the future vision for 9 Mile Road, showcasing how a consistent three-lane design can transform the corridor into a safer and more inviting street for all users.

FUTURE 9 MILE ROAD CROSS-SECTION: THREE-LANE DESIGN WITH BIKEWAY, GREEN BUFFER, AND SAFETY ENHANCEMENTS

A consistent three-lane cross-section to improve traffic safety:

- A two-way separated bike lane from the roadway with lighting
- Landscaping and rain gardens between the bikeway and roadway
- Mid-block crossing islands
- Bus pull-off bays with transit shelters
- On-street parking in strategic locations where space allows

> I LOVE the way this is set up. If more roads can be changed to be set up like this, that would be perfect.
>
> PUBLIC INPUT

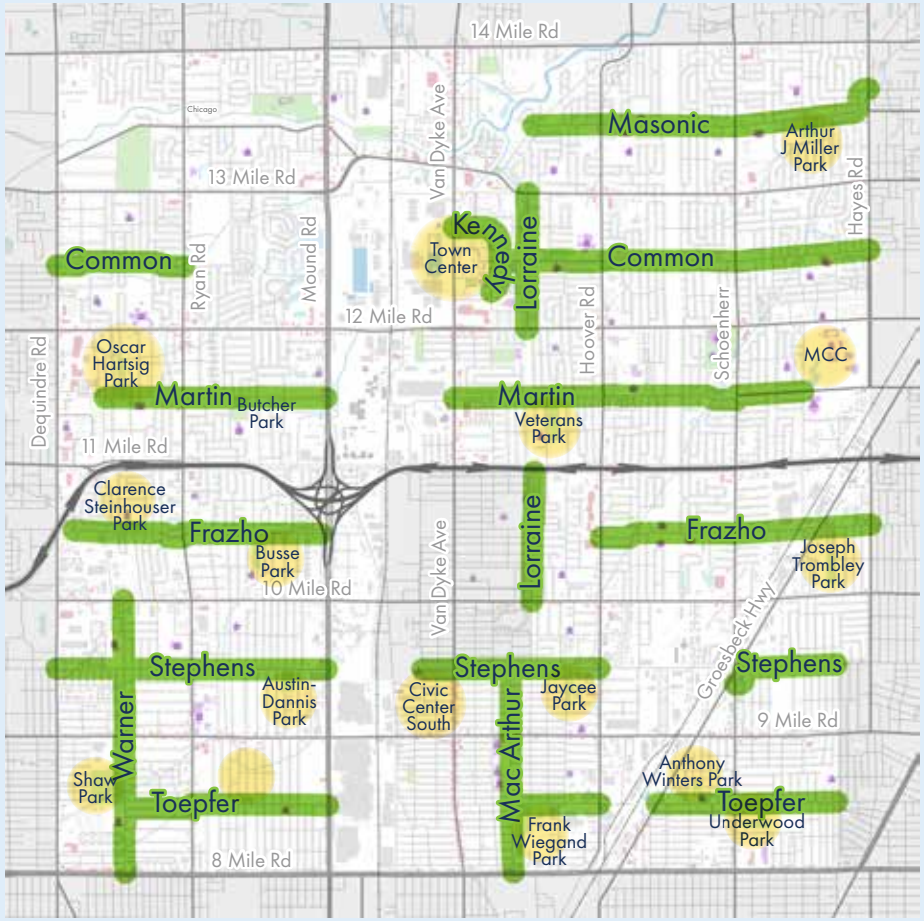
FUTURE 9 MILE ROAD CROSS-SECTION: COMPACT DESIGN WITH RAISED DIVIDER FOR PROTECTED CYCLING

Where space is limited, the two-way separated bike lane will be separated from the motor vehicle traffic by a raised divider.

> I would love to see 9 Mile be a major bicycle corridor from Southfield to Jefferson! I've been asking for this for years!
>
> PUBLIC INPUT

Half-Mile Roads

The half-mile roads provide low-stress alternatives to busy major roads, making them ideal for a bikeway network in Warren. They connect neighborhoods to schools, parks, and recreation areas. This plan explores three options to upgrade the half-mile roads and improve bicycle and pedestrian travel.



What's Included

Options for improving bicycle and pedestrian travel include:

- Shared roadways with traffic calming
- Designated on-street bike lanes with buffers
- Two-way cycle tracks on one side of the street

Each option has different benefits and challenges, and the best choice will depend on the specific street and community needs. While this plan provides a starting point, final designs will need more detailed engineering studies and input from local residents.

Why It's Important

- Connects parks, schools, and other key destinations across the city
- Supports equity by addressing gaps in underserved neighborhoods
- Provides safe and quiet routes away from busy roads
- Offers alternative routes for walking and biking with lower traffic speeds

Who's Involved

- City of Warren

> "Completely separated bike lanes on the half-mile roads to increase safety"
>
> PUBLIC INPUT

Funding Opportunities

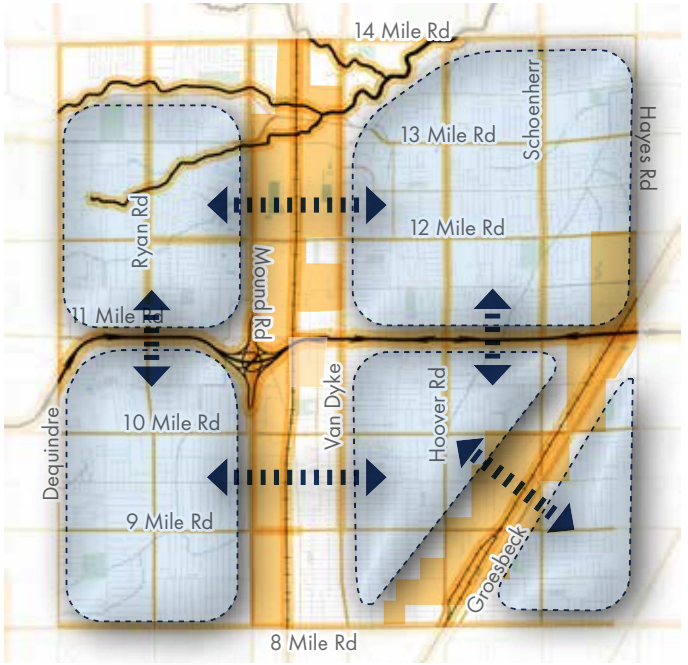
- Relatively low cost if implemented as part of road resurfacing or reconstruction projects
- MDOT Transportation Alternatives Program (TAP) – Supports improvements to non-motorized infrastructure, including bike lanes and pedestrian facilities
- Safe Streets and Roads for All (SS4A) Grant Program - Provides funding for planning and implementing safety improvements
- Local Capital Improvement Program (CIP) – City funds that can be used to match state or federal grants for infrastructure improvements

When to Expect It

- These upgrades should be incorporated as part of road resurfacing or reconstruction projects
- Some areas may be implemented sooner as demonstration projects to show immediate benefits and build momentum, refer to the Core Network Section of this chapter for specific demonstration projects
- SEMCOG awarded a planning assistance grant for the Stephens Road Greenway Project, a multi-city initiative along a key half-mile corridor planned for 2025–2026 in Warren, Center Line, Eastpointe, and St. Clair Shores

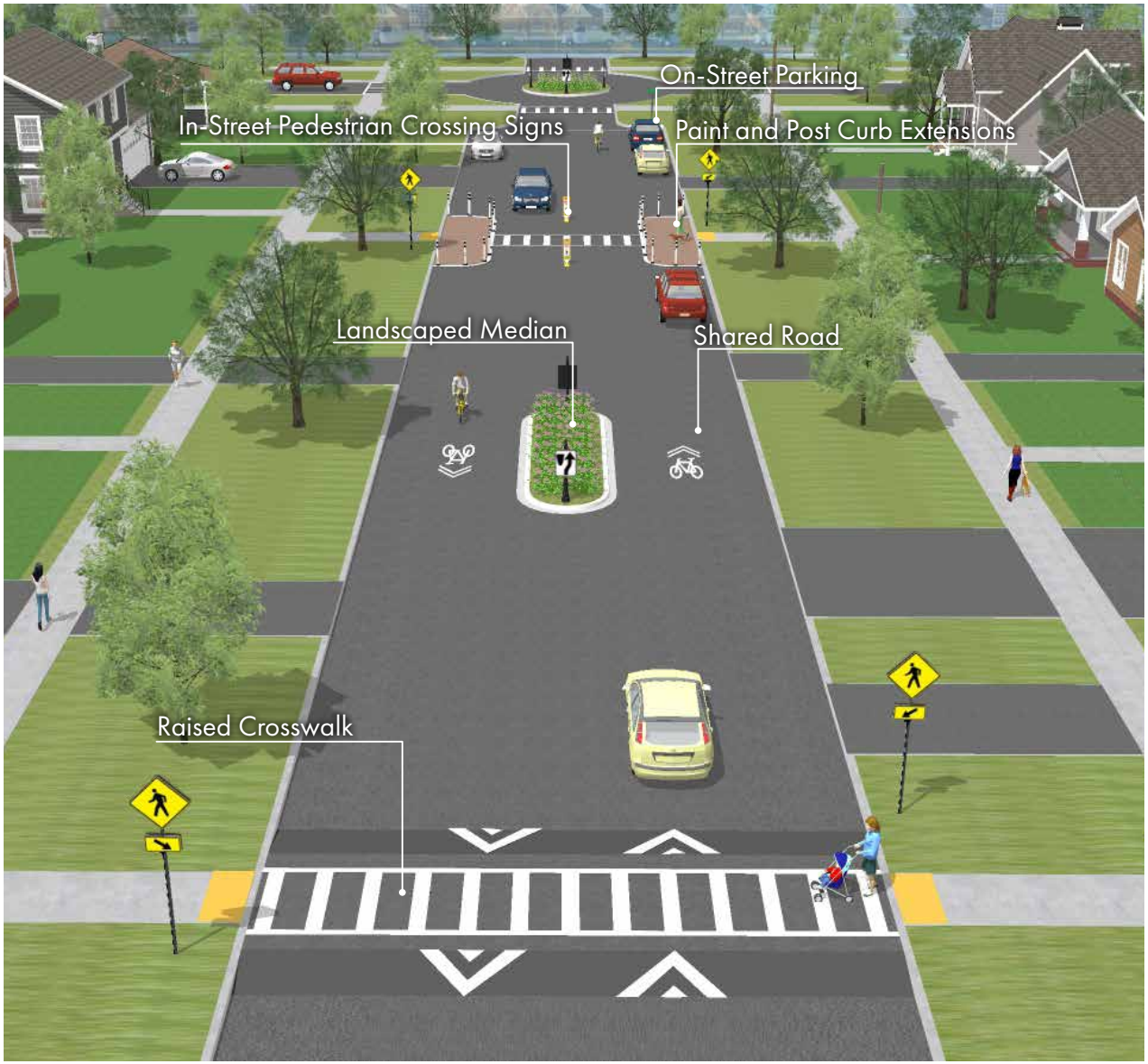
> I prefer designated, protected bike lanes. We still have a general unawareness of motorized vehicle drivers that people may be biking and they need to share the road.
>
> PUBLIC INPUT

OVERCOMING BARRIERS AND CONNECTING GAPS ALONG THE HALF-MILE ROADS



The orange areas on the map highlight challenging zones for pedestrian and bicycle travel. Barriers such as the river, freeways, and industrial areas create obstacles and disconnections along the half-mile roads. These connections will only be effective if pathways are provided along major roads that pass through these barriers to help overcome these challenges.

HALF MILE ROAD WITH SHARED ROADWAY WITH TRAFFIC CALMING



- Reduces vehicle speeds and cut-through traffic.
- Maintains existing parking.
- May not provide enough separation between cyclists and cars.
- Potential for conflicts between different road users.
- May require adjustments to traffic flow and infrastructure.

> Residential speed hump program (like Detroit) would be huge. Need to slow people down on residential streets and that seems to be like a very cost-effective, quick model that has drawn accolades for Detroit.
>
> PUBLIC INPUT

HALF MILE ROAD DESIGNATED ON-STREET BIKE LANES

- Provides dedicated space for cyclists.
- Easy and cost-effective to implement with road striping.
- Narrower lanes reduce vehicle speeds.
- Removes on-street parking.
- Requires ongoing enforcement and education to assure motor vehicles are not parking in the bike lanes.

> I'd like to see this, at a minimum, on all half mile roads, along with sidewalks.
>
> PUBLIC INPUT

HALF MILE ROAD TWO-WAY SEPARATED BIKE LANE ON ONE SIDE OF STREET

- Provides dedicated space for bicyclists.
- Maintains on-street parking on one side of street.
- Narrower lanes reduce vehicle speeds.
- Requires ongoing enforcement and education to assure motor vehicles are not parking in the bike lanes.
- Additional safety features required at intersections and when transitioning to a conventional bike lane.

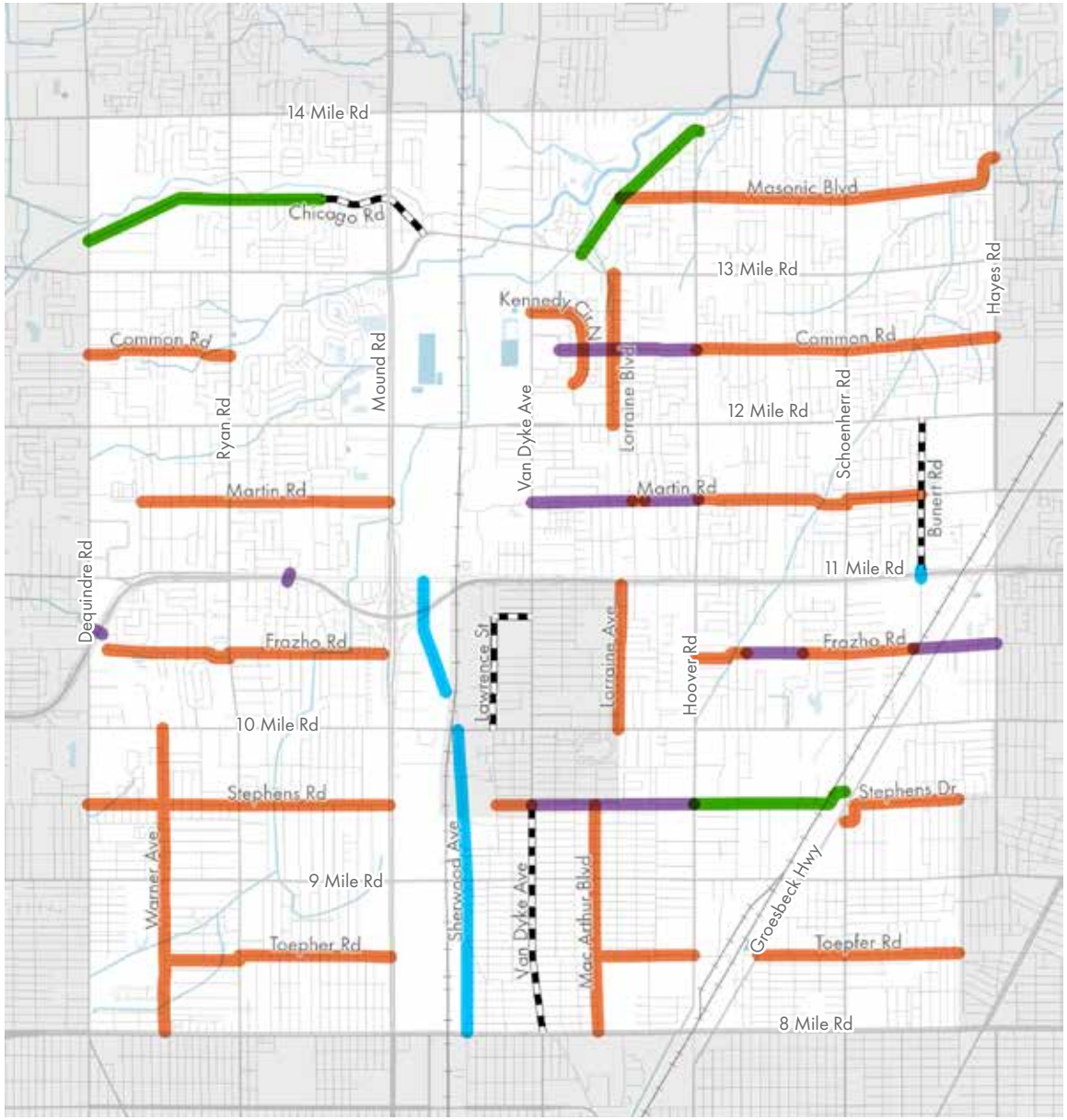
> Love it. Keep cyclists together on a cycle track vs both sides of the road. Easier for motorists to interact with. Also feels more protected and easier to keep clean.
>
> PUBLIC INPUT

Opportunities for Bike Lanes on Half-Mile Roads in Warren

This map shows opportunities to add bike lanes along Warren's half-mile roads. These streets offer a smart way to use existing road space by paving shoulders for dedicated bike lanes, converting four-lanes to safer three-lane configurations, narrowing lanes and restriping, or removing on-street parking where appropriate.

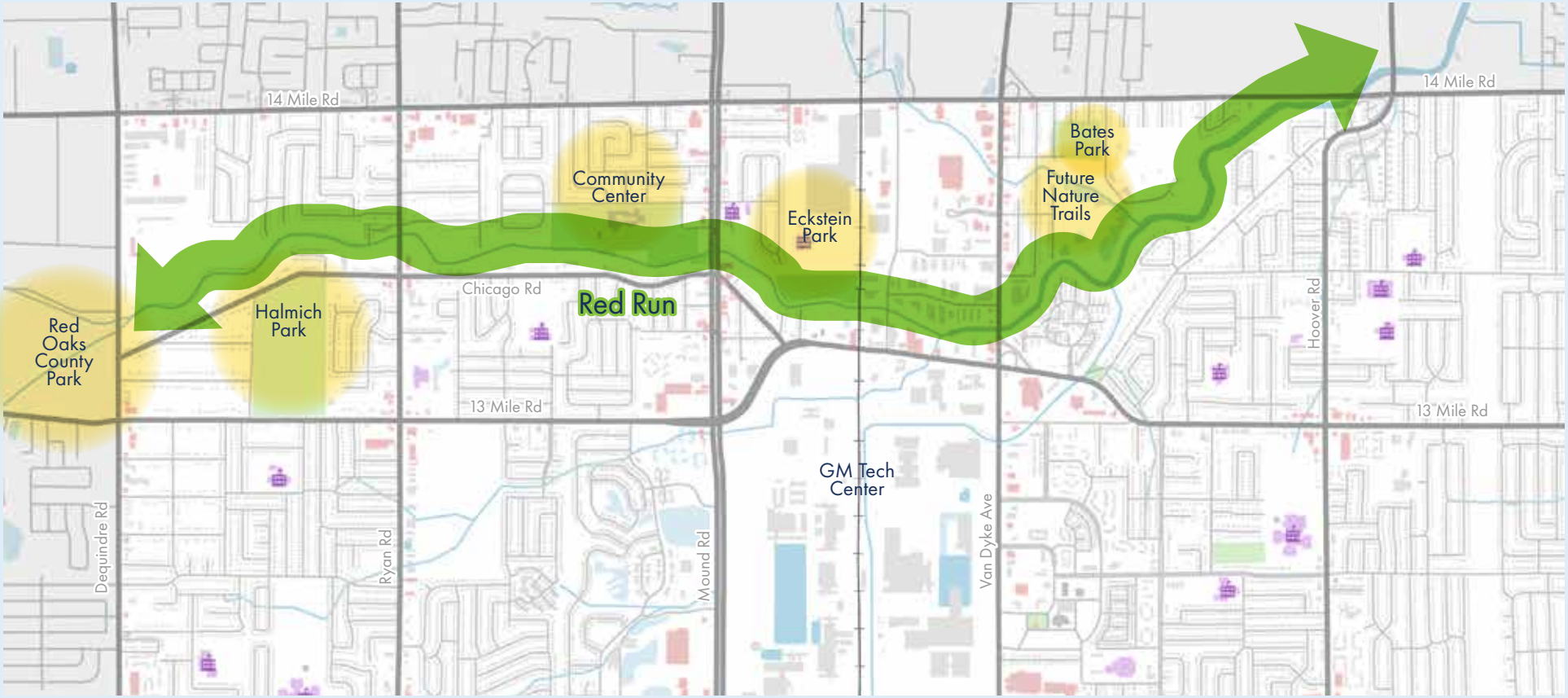
With less traffic and slower speeds, half-mile roads are a low-stress alternative to major roads—great for people of all ages who want to walk or bike. Focusing on these routes can help connect neighborhoods, parks, and community destinations with safer, more comfortable travel options.

- **Paved Shoulders**—Add bike lanes by paving existing road shoulders
- **Road Diet (4-to-3 Conversion)**—Reconfigure four-lane roads to three lanes with bike lanes
- **Lane Narrowing & Restriping**—Add bike lanes by narrowing wide traffic lanes
- **On-Street Parking Modifications**—Create space for bike lanes by altering existing on-street parking
- **Existing**—Bike Lanes and Paved Shoulders



River Walk

Warren's proposed River Walk would offer a soft surface trail designed to provide a peaceful, natural corridor along the Red Run. While the vision for this trail has been in place for some time, significant challenges, such as securing property easements, stand in the way of making it a reality. The trail would connect key parks and recreation areas, offering a safe, scenic route with a focus on sustainability. Despite the obstacles, the project aims to enhance access to natural spaces and provide a tranquil escape for residents.



What's Included

- Soft surface nature trails providing a scenic, natural corridor along the Red Run
- Trail amenities such as benches, picnic tables, trash receptacles, and wayfinding/ interpretive signage
- Nature trail and sledding hill near Bates Park
- Landscaping and habitat enhancements to support sustainability and natural beauty
- Pedestrian bridge to the Community Center over the Red Run, connecting to neighborhoods along Chicago Road

Why It's Important

- Public input revealed strong interest in increased access to natural areas within the city
- Offers a restorative, quiet environment for walking, recreation, and nature appreciation
- Connects key parks and recreation spaces, improving mobility and access
- Promotes environmental stewardship through sustainable design

Who's Involved

- City of Warren
- Drainage and stormwater management authorities
- Property owners and neighborhood stakeholders along the Red Run

Funding Opportunities

- Michigan Natural Resources Trust Fund (MNRTF) – Supports land acquisition and development of outdoor recreation
- Recreational Trails Program (RTP) – Funds trail construction, maintenance, and amenities
- Land and Water Conservation Fund (LWCF) – Helps develop public parks and natural corridors
- Urban and Community Forestry Grants – Supports tree planting and landscaping along trails
- Potential public-private partnerships – Local businesses or institutions could contribute to trail segments or amenities
- Local Capital Improvement Program (CIP) – City funds that can help match state or federal grants

When to Expect It

- Long-term project; implementation depends on securing necessary property easements and addressing drainage constraints
- Planning and coordination phases may begin in the near term to support future construction
- Pedestrian bridge to the Community Center could be pursued as an early-phase project, with near-term planning and funding opportunities

> "Please make this happen sooner rather than later! Kids are growing up too quickly and would love to utilize this before they grow up. We often have to leave the city to do activities like this - lets make it happen HERE."
>
> PUBLIC INPUT

RIVER WALK EXAMPLES

The planned route would include soft surface nature trails that offer a scenic route along the Red Run. Key amenities could include rest areas with benches and picnic tables, trash receptacles, wayfinding and interpretive signage, and landscaping to enhance the natural beauty of the area.

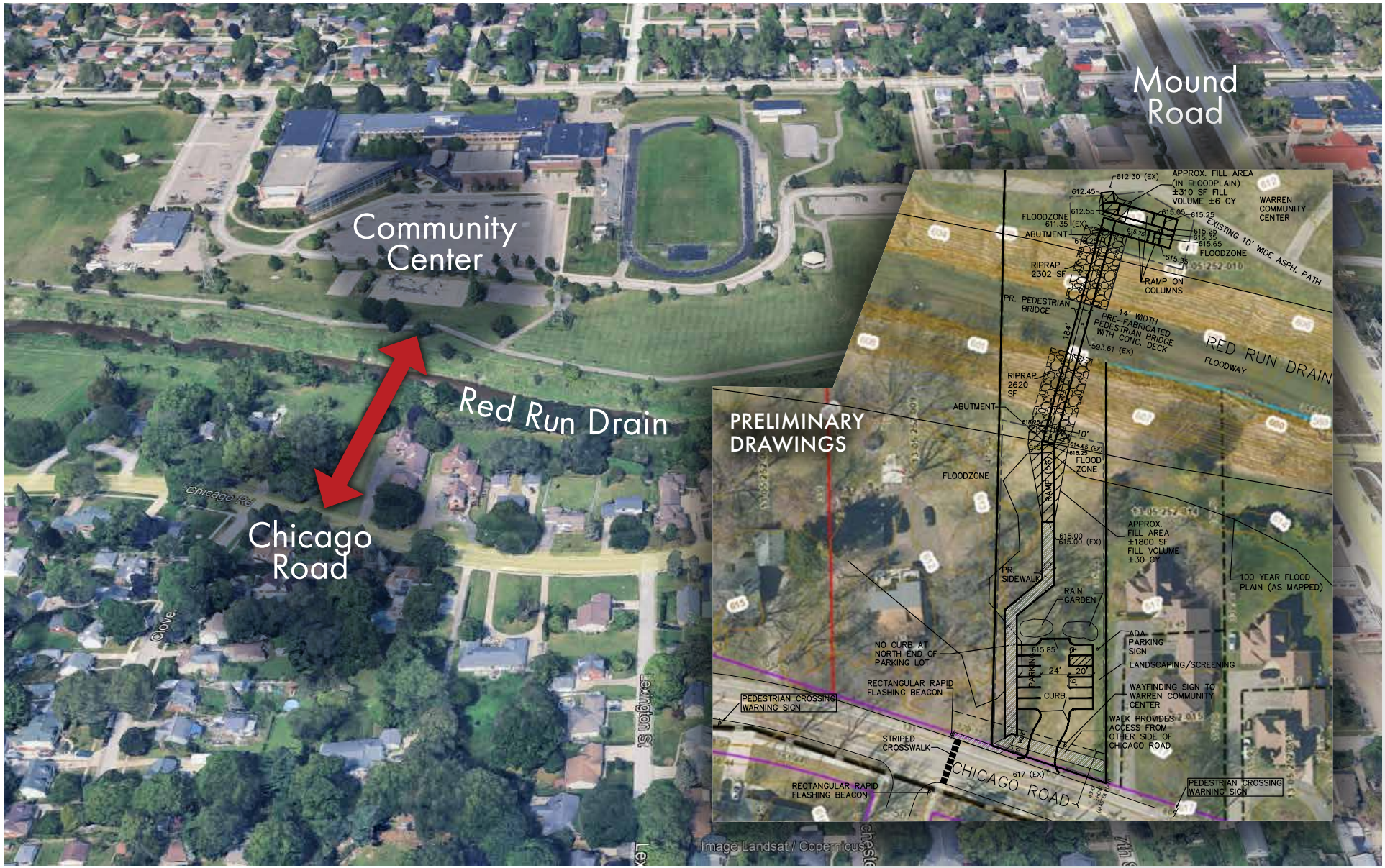
> This is an awesome idea! The Red Run area can be beautiful if planned correctly. I love the nature trail idea south of Bates Park!
>
> PUBLIC INPUT

CONCEPTUAL NATURE TRAILS ON CITY PROPERTY ALONG RED RUN

WARREN

PEDESTRIAN BRIDGE TO COMMUNITY CENTER

The planned pedestrian bridge will provide a safe, direct connection for people walking and biking between the Community Center and neighborhoods along Chicago Road. It will connect to the existing paved shoulder and sidewalk on Chicago Road, enhancing access. As a near-term priority, it is recommended as a key starting point for the River Walk. This bridge would offer a visible, high-impact improvement in connectivity and serve as a strong first step toward realizing the broader trail vision.



- Use a concrete deck structure to ensure durability, accessibility, and low maintenance.
- Ensure the bridge is compliant with ADA and AASHTO standards for shared-use paths.
- Provide a seamless connection from the bike lanes and sidewalk on Chicago Road to the multi-use path at the Community Center.
- Design appropriate approach ramps and transitions to create a smooth grade alignment for cyclists and pedestrians.
- Incorporate a trailhead at the Community Center parking lot (north of the bridge) with bike parking and bike repair station with tools.
- Include wayfinding signage, benches, landscaping, and lighting.
- Implement Rectangular Rapid Flash Beacon for midblock crossing on Chicago
- Anticipate a longer-than-average review timeline due to environmental and hydraulic constraints.

Sidewalk Gaps

Warren has a robust sidewalk network, but there are a few key gaps—particularly along the Mile Roads—that need attention. This map highlights critical areas where sidewalk connections are missing along major roads. These gaps should be addressed to improve pedestrian safety, accessibility, and transit access.

Sidewalk Gaps along Major Roads

Critical Gaps to Complete First

What's Included

- Filling critical sidewalk gaps along Mile Roads and other major corridors
- Prioritizing high-need areas near schools, parks, and transit stops

Why It's Important

- Public input highlighted the need for improved sidewalk maintenance and connectivity
- Enhances pedestrian safety along busy corridors and access to transit
- Provides a basic transportation option for residents without access to a vehicle
- Improves access to key destinations like schools, parks, and transit routes
- Supports equity by addressing gaps in underserved neighborhoods
- Ensures compliance with the Americans with Disabilities Act (ADA)

Who's Involved

- City of Warren
- Macomb County Department of Roads
- Michigan Department of Transportation (MDOT)

Funding Opportunities

- Transportation Alternatives Program (TAP) – Funds sidewalks, crosswalks, and ADA improvements
- Safe Routes to School (SRTS) – Supports walking and biking improvements near schools
- Safe Streets and Roads for All (SS4A) Grant Program - Provides funding for planning and implementing safety improvements
- Community Development Block Grant (CDBG) – Helps fund sidewalks in low- to moderate-income areas
- Congestion Mitigation and Air Quality (CMAQ) – For projects that reduce car trips and improve air quality
- Local Capital Improvement Program (CIP) – City funding for infrastructure, often used to match grants
- Developer Contributions – Sidewalks added as part of new developments or road improvements

When to Expect It

- Short- to mid-term priority for planning and implementation
- Priority gaps should be addressed first
- When a road is reconstructed, sidewalk gaps should be addressed as part of the project to maximize efficiency, reduce costs, and minimize disruption to the community.

SIDEWALK MAINTENANCE

Maintaining Warren's sidewalk network is key to keeping it safe and easy to use. Regular upkeep helps prevent hazards, makes walking easier, and ensures that everyone—no matter their ability—can get around the city. A first step in this process is creating an ADA Transition Plan to enhance accessibility and ensure that people with mobility challenges can easily navigate around the city.

See Chapters 4 and 5 for details on recommended sidewalk policies and maintenance schedules.

> Having sidewalks in good condition is important to me and my family.
>
> PUBLIC INPUT

Priority Sidewalk Gap Locations

The following sidewalk gaps have been identified as high priorities for improvement based on community input, safety considerations, and connectivity to key destinations and should be addressed first. **These locations represent critical missing links in the city's pedestrian network**—many along major roads or near parks, schools, transit routes, and community facilities. Filling these gaps will enhance walkability, promote safer travel for all users, and support broader mobility and equity goals across Warren.

Installing sidewalks provides significant safety benefits for pedestrians. Research shows that sidewalks can lead to a **65–89% reduction in crashes** involving pedestrians walking along roadways (Gan et al., Update of Florida Crash Reduction Factors and Countermeasures, Florida DOT, 2005). This underscores the critical role sidewalks play in creating safer, more walkable communities.

> "I grew up in Warren, northwest area of the city. I would like to see city sidewalks everywhere so the people can walk and not have to go into the street."
>
> PUBLIC INPUT

Dequindre Rd (1,540 feet)
Two gaps on the east side between E 13 Mile Rd and E 14 Mile Rd. This segment is a key connection along a major road, adjacent to Red Oaks County Park and near existing bus service. Completing the sidewalk enhances access to transit and recreational spaces.

Chicago Rd (12,350 feet)
Gap between Dequindre Rd and Mound Rd. This is a major east-west corridor through residential neighborhoods, connecting to Halmich Park, the Community Center, and Eckstein Park. Filling this long segment supports safer, more direct pedestrian access to community destinations.

Chicago Rd (3,465 feet)
Gap between Hoover Rd and Masonic Blvd. Extending the sidewalk on the east side to Hoover Rd ensures a continuous sidewalk on at least one side, improving pedestrian connectivity in a residential area and to bus service on Hoover.

Ryan Rd (590 feet)
Short gap on the east side between E 14 Mile Rd and Chicago Rd. This segment completes a key sidewalk gap on a major road and links to nearby transit just a quarter mile away on E 14 Mile Rd.

Ryan Rd (995 feet)
Gap on the west side between 11 Mile Rd and 12 Mile Rd. Filling this gap connects residential neighborhoods to a local market and improves walkability along a major road corridor.

E 13 Mile Rd (811 feet)
Gap on the south side between Dequindre Rd and Ryan Rd. Completing this gap has been consistently highlighted during public input as a top priority and is essential for providing safe pedestrian access to Halmich Park.

E 14 Mile Rd (281 feet)
Gap just east of Mound Rd. Closing this short segment provides a critical link to nearby bus stops and strengthens the pedestrian network on a major roadway.

E 14 Mile Rd (1,460 feet)
Gaps on the south side west of Hoover Rd. Completing these links ensures continuous sidewalk access along E 14 Mile Rd and improves connectivity to nearby transit stops.

Martin Rd (1,022 feet)
Gap on the north side between Van Dyke and Hoover. This segment connects residential areas to bus service on Van Dyke and serves as a vital link along a major corridor.

Martin Rd (3,913 feet)
Multiple gaps between Bunert Rd and Hayes Rd along Macomb Community College. This sidewalk is a key connection between the college campus and Warren Woods Tower High School, supporting student and pedestrian access.

E 12 Mile Rd (2,563 feet)
Gap on the south side between Bunert Rd and Hayes Rd along Macomb Community College. Completing this connection enhances safety for pedestrians in a residential area and supports access to transit and education facilities.

Bunert Rd (2,586 feet)
Coordinate with Macomb Community College to complete the sidewalk gap on the east side between Martin Rd and E 12 Mile Rd alongside the college campus. This half-mile road serves as a connector for students and residents accessing nearby schools, the college, and transit.

Hayes Rd (4274 feet)
Three gaps on the west side between Martin Rd and Common Rd. These segments provide a crucial pedestrian link along a major road, improving access to Macomb Community College, nearby schools, and E 12 Mile Rd transit.

Frazho Rd (660 feet)
Two gaps on the north side between Bunert and Hayes Blvd. Completing these provides a continuous sidewalk along a key half-mile road. Requires coordination for safe railroad crossing.

Stephens Rd (942 feet)
Gap on the south side between Hoover Rd and Schoenherr Rd. This segment ensures a continuous sidewalk along a key corridor, improves transit access, and requires coordination for safe railroad crossing.

Schoenherr Rd (713 feet)
Gap between Stephens Rd and Groesbeck Hwy. Completing this link along a major road enhances direct access to nearby bus stops.

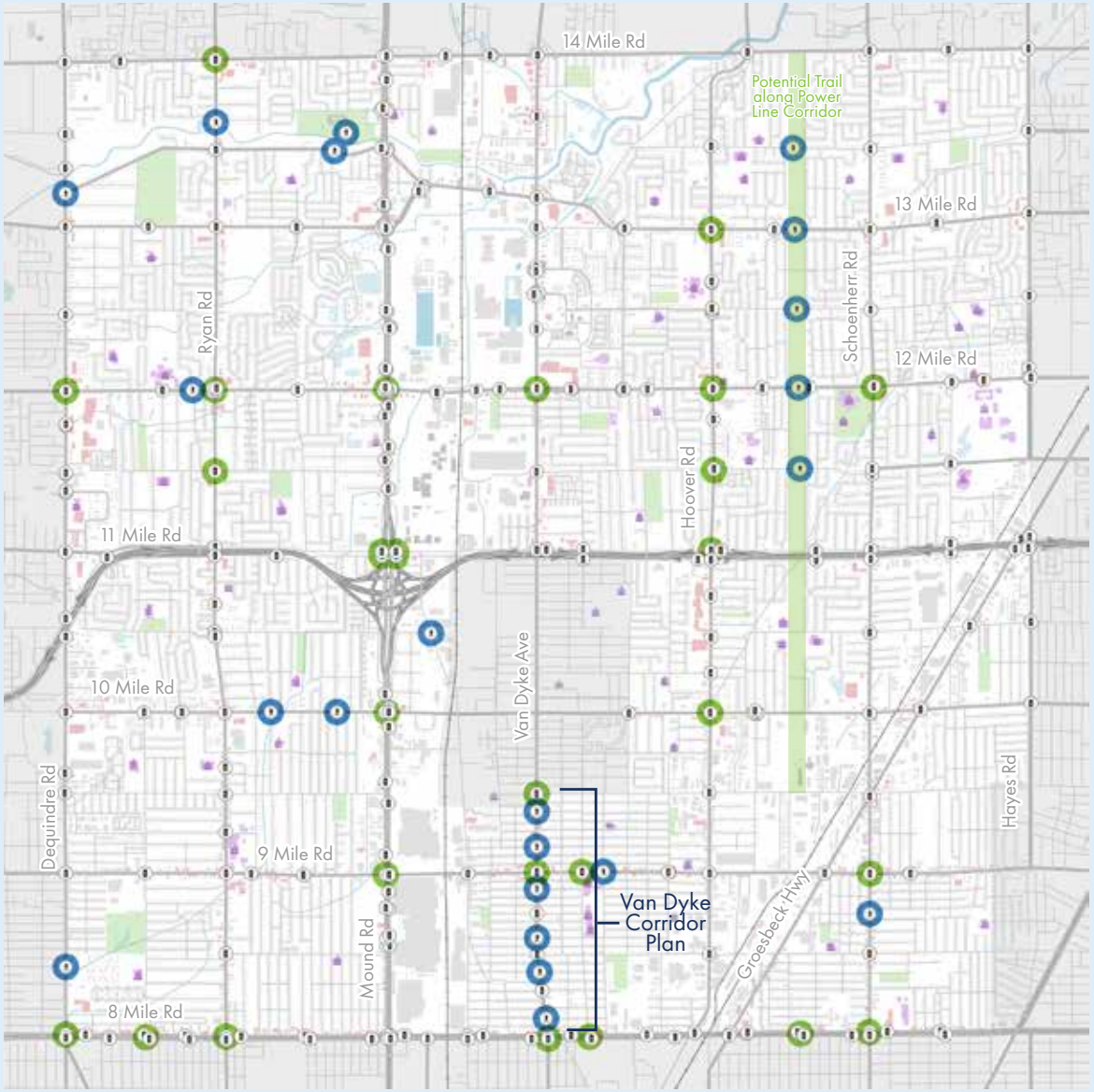
Sherwood Ave (2,420 feet)
Three gaps on the east side between 10 Mile Rd and 11 Mile Rd. This is a key half-mile connection featuring important freeway and railroad crossings. Coordination with the City of Center Line is needed to ensure continuous sidewalk access across the railroad and to connect with the existing sidewalk at Braun Road. Filling these gaps would also improve access to transit on 10 Mile Rd and create a potential link to Memorial Field in Center Line.

> Promote consistent sidewalk designs throughout the city, and create pedestrian-exclusive routes to promote physical fitness and navigational safety. Residents need better walkability both in their neighborhoods and on the main roads.
>
> PUBLIC INPUT

Crosswalks & Intersections

Warren's existing road network is critical for connecting neighborhoods and services, and intersections and crosswalks play a key role in ensuring safety. Wide roads with multiple lanes make it difficult for pedestrians to cross, and many drivers don't expect pedestrians, especially when turning. Crash data shows that a significant number of bike and pedestrian crashes occur at intersections. Additionally, there are areas where new mid-block crossings are needed to provide safe crossing opportunities when distances between signals are too large. This plan proposes upgrades to signalized intersections and new midblock crosswalks to improve safety and connectivity, with features to enhance visibility and reduce traffic conflicts.

The proposed crosswalk measures are based on a master plan-level assessment of factors like speed, lane count, and crossing islands. Each crosswalk will require an engineering study to determine the appropriate treatment.



Priority Intersections: Upgrade and improve intersections to enhance safety and accessibility for vulnerable users

New Midblock Crosswalk Locations: New crosswalks to support pedestrian demand, enhance the core network, and address high-risk crash locations

What's Included

- Upgrades to existing signalized intersections to enhance pedestrian safety and ADA accessibility
- New midblock crosswalks along major corridors to improve connections to transit and key destinations
- Features may include high-visibility markings, pedestrian refuge islands, countdown signals, curb ramps, and push-button signals
- Improved visibility at intersections with pulled-back stop bars, speed tables, pedestrian islands, and signalized midblock crossings
- Road safety audits for high-risk corridors

Who's Involved

- City of Warren
- Macomb County Department of Roads
- Michigan Department of Transportation (MDOT)
- SMART (Suburban Mobility Authority for Regional Transportation)

Why It's Important

- Addresses critical safety concerns at locations with a high rate of pedestrian and bicycle crashes
- Improves access to transit stops, especially along the Mile Roads and other high-traffic corridors
- Enhances overall walkability and connectivity, supporting all ages and abilities
- Responds to community input calling for safer crossings and more pedestrian-friendly streets

When to Expect It

- Short- to mid-term implementation, depending on location and coordination with road resurfacing or reconstruction
- Priority locations should be considered for early action, especially where pedestrian safety risks are highest
- New crosswalks should be added alongside sidewalk gap and transit stop improvements

Funding Opportunities

- Transportation Alternatives Program (TAP) – For crosswalks, pedestrian signals, and safety infrastructure
- Safe Routes to School (SRTS) – For crossings near schools
- Safe Streets and Roads for All (SS4A) Grant Program - Provides funding for planning and implementing safety improvements
- Community Development Block Grant (CDBG) – For ADA-compliant curb ramps and sidewalks in qualifying areas
- Local Capital Improvement Program (CIP) – Matching or supplemental funding

> "I would really like to see more crosswalks on 10 Mile Rd. and 13 Mile Rd. I also really like the look of those crosswalks on the half mile roads by the power lines."
>
> PUBLIC INPUT

Priority Crosswalk and Intersection Locations

Improving pedestrian and bicycle safety is a central goal of the Warren Active Mobility Plan. **This section highlights priority intersections where crashes, high demand, and gaps in infrastructure make upgrades urgent.** These locations were selected based on crash data, user needs, and alignment with regional and citywide active mobility objectives.

Several intersections, particularly along Van Dyke Avenue south of Center Line, have a high concentration of pedestrian and bicycle crashes. This corridor also forms part of the Iron Belle Trail, a major regional route, reinforcing the need for improved crossings and safer intersection design.

Additionally, many of the identified locations fall within Warren's Core Network—a proposed system of "all ages and abilities" bikeways designed to connect neighborhoods, parks, schools, and commercial areas. Upgrading intersections and filling key crossing gaps is essential to ensuring the network is safe, functional, and inviting for all.

Note: An asterisk (*) indicates a history of fatal bike or pedestrian crashes near the location.

High-risk signalized intersections for vulnerable road users

The following intersections are listed in order of priority based on their history of pedestrian and bicycle crashes. Each location should be evaluated for potential safety enhancements to protect vulnerable road users.

High-risk for Bike Crashes

- E 10 Mile & Mound
- E 12 Mile & Mound*
- E 12 Mile & Van Dyke
- E 12 Mile at Schoenherr
- E 13 Mile at Hoover
- E 9 Mile and Mound
- E 9 Mile and Federal (school crossing)
- E 12 Mile & Ryan
- Martin & Ryan

High-risk for Pedestrian Crashes

- E 12 Mile & Van Dyke
- E 8 Mile & Van Dyke
- E 9 Mile & Van Dyke
- E 10 Mile & Hoover
- E 9 Mile & Schoenherr
- E 12 Mile and Dequindre
- E 13 Mile at Hoover
- E 8 Mile at Dequindre, Ryan, and Schoenherr
- Hoover at 12 Mile, Martin and Westbound 11 Mile*

Signalized Intersections Needing Pedestrian Crosswalk Upgrades

These intersections currently have traffic signals but lack full pedestrian infrastructure. Upgrades are necessary to improve safety and connectivity, especially in areas with crash histories and core pedestrian/bicycle network relevance.

- E 8 Mile & Wattham /Goulburn – Add pedestrian crossings to existing signals; location has a history of crashes and fatalities*
- E 8 Mile & Federal – Upgrade existing half signal to include a full pedestrian crossing; a pedestrian hybrid beacon (PHB) is needed for westbound traffic due to past crashes and a recorded fatality*
- E 8 Mile & Warner/Mitchell – Add pedestrian crossings to existing signals; key link in the core network and site of previous crashes
- E 11 Mile & Mound – Upgrade all four signalized legs to include full pedestrian access, enabling north-south pedestrian movement at this intersection

Corridor Safety Assessments

From a corridor-wide perspective, key arterial roadways such as 9 Mile and 8 Mile exhibit characteristics that would benefit from a Road Safety Audit (RSA). These corridors experience high volumes of vehicle and pedestrian traffic, and several segments are associated with elevated crash risk and limited non-motorized infrastructure. Conducting safety audits along these corridors would allow for a data-driven evaluation of existing conditions, help identify systemic safety issues at intersections and midblock locations, and guide targeted improvements.

New Midblock Crosswalks

These locations currently lack safe pedestrian crossings despite significant demand, crash history, or proximity to parks, trails, and community destinations. New midblock crosswalks—potentially including pedestrian hybrid beacons (PHBs), rectangular rapid flashing beacons (RRFBs), or refuge islands—are recommended.

- Van Dyke at Jewett – Pedestrian activity and documented crash history, a new midblock crossing is recommended in the Van Dyke Corridor Plan; install a PHB to enhance safety*
- Van Dyke at Republic – Pedestrian activity and documented crash history, a new midblock crossing is recommended in the Van Dyke Corridor Plan; install a PHB to enhance safety*
- Van Dyke at Maxwell – Pedestrian activity and documented crash history, a new midblock crossing is recommended in the Van Dyke Corridor Plan; install a PHB to enhance safety*
- Van Dyke at Studebaker – Pedestrian activity and documented crash history, a new midblock crossing is recommended in the Van Dyke Corridor Plan; install a PHB to enhance safety*
- Van Dyke at Meadow – A new midblock crossing is recommended in the Van Dyke Corridor Plan; install a PHB to enhance safety
- Van Dyke at Jackson – A new midblock crossing is recommended in the Van Dyke Corridor Plan; install a PHB to enhance safety
- Dequindre at Chicago – Provide access to Red Oaks County Park; install PHB with refuge island
- Chicago at Cloverly – Provides access to new pedestrian bridge over Red Run; install RRFB
- Warren Community Center Driveway – Serves new pedestrian bridge; add high-visibility crosswalk to community center
- Masonic at Powerline Corridor/Iron Belle Trail – Major trail crossing point; install PHB or RRFB and signage with future trail
- E 13 Mile at Powerline Corridor/Iron Belle Trail – Major trail crossing point; install PHB or RRFB and signage with future trail
- Common at Powerline Corridor/Iron Belle Trail – Major trail crossing point; install PHB or RRFB and signage with future trail
- E 12 Mile at Powerline Corridor/Iron Belle Trail – Major trail crossing point; install PHB or RRFB and signage with future trail
- Martin at Powerline Corridor/Iron Belle Trail – Major trail crossing point; install PHB or RRFB and signage with future trail
- E 12 Mile at Wexford /Ohmer – Located along the core bike network; install PHB with refuge island
- E 10 Mile at Cunningham – Core bike route with no nearby signalized crossing; install PHB with refuge island
- Sherwood at Mackersie – Serves core bike route; install RRFB, potential to add refuge island with 4 to 3 lane conversion on Sherwood
- E 9 Mile at MacArthur – proposed bike route with history of fatalities on E 9 Mile; install RRFB, potential to add refuge island with 4 to 3 lane conversion on E 9 Mile*
- Schoenherr at Fisk – Long distance between signalized crossings and crash history with fatalities; install PHB
- Dequindre at E Evelyn – Long gap between signals and crash history; install PHB, potential to add refuge island with 4 to 3 lane conversion on Dequindre
- E 10 Mile at Curie – Long distance between signalized crossings; install PHB with refuge island
- Ryan at Dawson – Long distance between signals and bicycle and pedestrian fatalities along this corridor; install PHB with refuge island

Strategies for Designing Safer, More Accessible Crosswalks and Intersections

Designing safe and accessible crosswalks and intersections is critical to supporting active transportation and protecting the most vulnerable road users—people walking and biking. Today's streets present added challenges to safety, including large vehicles with high hoods that block sightlines, driver distraction from cell phones, and excessive vehicle speeds. These factors reduce visibility and reaction time, increasing the risk of serious crashes.

A comprehensive set of design treatments can significantly improve safety, reduce conflicts, and enhance visibility at crossings and intersections. **The following design strategies address common safety challenges,** especially on half-mile roads, local streets, and multi-lane corridors.

Designing for Nighttime and Low Light Conditions

In Warren, 25% of bicycle crashes and 45% of pedestrian crashes occur at night. Crosswalk visibility at night is critical for safety. Studies show that Rectangular Rapid Flash Beacons (RRFBs) are highly effective at increasing driver yielding behavior, particularly in low-light conditions. RRFBs should be installed at key crossings on half-mile roads and local streets, where visibility and yielding are often problematic. Pedestrian Hybrid Beacons should be used at mid-block crossings on the mile roads. Studies have also found that pedestrians generally prefer traditional traffic signals at night. If a corridor does not have lighting, at a minimum lighting should be added at signalized intersections to improve safety.

FHWA Proven Safety Countermeasure: Rectangular Rapid Flash Beacons

FHWA Proven Safety Countermeasure: Pedestrian Hybrid Beacons

FHWA Proven Safety Countermeasure: Lighting

NCHRP 17-97 Strategies to Improve Pedestrian Safety at Night (Completed, not yet published)

Include Medians and Pedestrian Refuge Islands Whenever Possible

Medians and pedestrian refuge islands are strongly recommended,at both mid-block and signalized locations, helping people cross one direction of traffic at a time. These provide a physical buffer and reduce pedestrian exposure to vehicle lanes.

FHWA Proven Safety Countermeasure: Medians and Pedestrian Refuge Islands

Use Pedestrian Hybrid Beacons on Multi-Lane Roads

PHBs are recommended for mid-block crossings on busy, multi-lane roads without traffic signals. They provide a clear stop signal to vehicles when a pedestrian is present. When possible, PHBs should be paired with refuge islands for maximum safety and comfort.

FHWA Proven Safety Countermeasure: Pedestrian Hybrid Beacons

AASHTO Guide for the Development of Bicycle Facilities, Chapter 10: Bike Guide Traffic Signals and Pedestrian Hybrid Beacons

Prioritize People Walking and Biking at Intersections

To protect vulnerable road users, intersections should be designed to clearly and consistently prioritize people walking and biking over turning vehicles. Key treatments include:

Implement Leading Pedestrian Intervals (LPIs) provide pedestrians with a 3–7 second head start before parallel vehicle movements begin. This increases visibility and significantly reduces conflicts with turning drivers.

Use No Right Turn on Red policies at key crossings improves safety by eliminating one of the most common and dangerous conflict points. It also enhances sightlines between drivers and people in the crosswalk.

FHWA Proven Safety Countermeasure: Leading Pedestrian Interval

AASHTO Guide for the Development of Bicycle Facilities, Chapter 10: Bike Guide Traffic Signals and Pedestrian Hybrid Beacons

NACTO Urban Street Design Guide: Intersection Design Elements

NACTO Urban Bikeway Design Guide: Designing Safe Intersections

Design Intersections to Slow Turns and Protect People Walking and Biking

Slower vehicle turning speeds at intersections give people on bikes, pedestrians, and drivers more time to acknowledge and react to one another, reducing the likelihood and severity of crashes. Key treatments to manage and reduce approach and turning speeds include:

Curb extensions to narrow the travel lane and shorten crossing distances

Raised crosswalks to increase pedestrian visibility and reduce vehicle speeds

Intersection realignment and mountable truck aprons, especially at skewed crossings, using paint, flexible delineators, or modular materials to create closer-to-90-degree turns.

Centerline and lane line hardening with modular speed humps, rubber islands, or flexible posts to physically guide slower, safer vehicle turns.

Narrow Receiving Lanes to discourage wide, fast turns.

AASHTO Guide for the Development of Bicycle Facilities, Section 5.1: Geometric Design Treatments to Improve Intersection Safety

FHWA Fact Sheets: Improving Intersections for Pedestrians and Bicyclists

NACTO Urban Street Design Guide

NACTO Urban Bikeway Design Guide: Designing Safe Intersections

Michigan DOT Sidepath Reference Sheets: Sidepath Design Best Practices

Encourage Safer Speeds and Driving on Half-Mile and Local Roads

Local and collector streets often face issues with drivers speeding or running stop signs. Traffic calming treatments can increase compliance and improve pedestrian safety:

In-street pedestrian signs (e.g., "Yield to Pedestrians") can be used to alert drivers and reinforce the presence of crosswalks. Place in-street "Yield to Pedestrians" signs at mid-block and intersection crosswalks to reinforce pedestrian priority and slow approaching vehicles

Raised crosswalks slow down traffic and make pedestrians more visible by bringing the crossing up to sidewalk level. They are especially useful on local streets where drivers tend to speed or roll through stop signs, helping increase driver awareness and improve safety.

Mini roundabouts to calm traffic at intersections and reduce turning speeds

Chicanes or lane shifts to reduce long, straight speeding-prone segments and make drivers more attentive near crossings

FHWA Proven Safety Countermeasure: Crosswalk Viability Enhancements

NACTO Urban Street Design Guide

NACTO Urban Bikeway Design Guide: Designing Safe Intersections

FHWA Traffic Calming ePrimer

MDOT User Guide for R1-16 Gateway Treatment for Pedestrian Crossings

Design for all ages and abilities

Safe crosswalk and intersection design must serve everyone—including children, older adults, people with disabilities, and people biking. This means using curb ramps, detectable warnings, audible signals, and longer crossing times to support pedestrians, while also providing protected bike lanes, bike signals, and traffic calming to create low-stress biking environments.

ADA Standards for Accessible Design – U.S. Department of Justice

Public Right-of-Way Accessibility Guidelines

FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities

NACTO Urban Bikeway Design Guide: Designing Safe Intersections

Major Roads

Warren's major roads play a crucial role in connecting neighborhoods, businesses, and essential services, supporting both local and regional traffic. As the city grows and the demands on its transportation system increase, the need to redesign these roads to better accommodate all users becomes more important. The proposed future cross sections for Warren's major roads illustrate how these roads can be re-imagined during future road reconstruction projects to improve safety, mobility, and accessibility for everyone.

What's Included

- Traffic Safety Enhancements: Improved visibility at intersections, pulled-back stop bars, speed tables, pedestrian islands, and signalized midblock crossings
- Separated Facilities & Micromobility: Paths separated from traffic for walking, biking, e-scooters, and other micromobility devices
- Multimodal Hubs: Integration of bus stops, EV chargers, bike share stations, and space for emerging technologies like autonomous vehicles
- Enhanced Amenities: Streetscape features including benches, trees, shade, public art, lighting, and green infrastructure like rain gardens

Why It's Important

- Improves safety for all users by redesigning high-speed, high-volume corridors to reduce conflicts between vehicles, pedestrians, and cyclists
- Aligns with best practices in modern street design, focusing on safety, accessibility, and sustainability
- Supports growth by improving mobility options for all users as travel demand increases
- Connects key destinations—neighborhoods, schools, businesses, and regional routes
- Ensures roads reflect the long term vision for a safer, connected, more inclusive, and resilient transportation system

Who's Involved

- City of Warren Engineering, Planning, and Public Works Departments
- Macomb County Department of Roads
- Michigan Department of Transportation (MDOT)
- SMART Transit and regional transportation partners

When to Expect It

- Long-term implementation, coordinated with future road reconstruction projects
- Major Road Guidelines will guide project design as opportunities arise through routine resurfacing and corridor redevelopment
- Near-term planning may begin to align improvements with upcoming road projects and secure early implementation opportunities

Funding Opportunities

- Transportation Alternatives Program (TAP) – For pedestrian, bike, and streetscape improvements
- Congestion Mitigation and Air Quality (CMAQ) Program – For projects that reduce emissions
- Federal RAISE Grants – For multimodal, sustainable infrastructure
- MDOT/FHWA safety funding – For high-crash corridors and proven safety measures
- Safe Streets and Roads for All (SS4A) Grant Program - Provides funding for planning and implementing safety improvements
- Local Capital Improvement Program (CIP) – To align with city-led road reconstruction

> Good design is a million times better than police enforcement at keeping people safe. Roads that work for everyone, not just drivers are what make a community work.
>
> PUBLIC INPUT

Strategies for Redesigning Warren's Major Roads

Warren's major roads will no longer be designed just to move cars—they will be **re-imagined to move people**. Future reconstruction projects will provide an opportunity to repurpose these corridors into complete streets that support safe, efficient travel for walking, biking, rolling, riding transit, and driving.

Warren's future street designs will go beyond painted bike lanes to **create safe, multimodal corridors that truly serve people of all ages and abilities**. By reallocating space—reducing unnecessary asphalt, narrowing travel lanes, and repurposing the right-of-way—major roads will be transformed into complete streets that **prioritize comfort, safety, and accessibility.**

Wide, fast-moving roads will be redesigned to include **physically separated paths** for biking, walking, and micromobility, with facilities that extend continuously through intersections. These changes will support everyone—from kids on bikes to older adults using mobility aids—while also making room for essential amenities like **street trees, stormwater infrastructure, shade, lighting, and seating.**

Designing for all modes will help advance Warren's long-term goals for safety, sustainability, equity, and economic vitality, turning major roads into **corridors of connection rather than barriers**.

These re-imagined cross sections will transform car-dominated corridors into **safe mobility routes** that encourage more people to walk, bike, and roll every day.

The following strategies highlight key design principles to guide future development.

KEY FEATURES INCLUDE:

Traffic Safety Enhancements: Improve safety with enhanced visibility at crosswalks by pulling back stop bars and installing speed tables at intersection driveways, as well as equipping midblock crossings with pedestrian islands and signalized beacons.

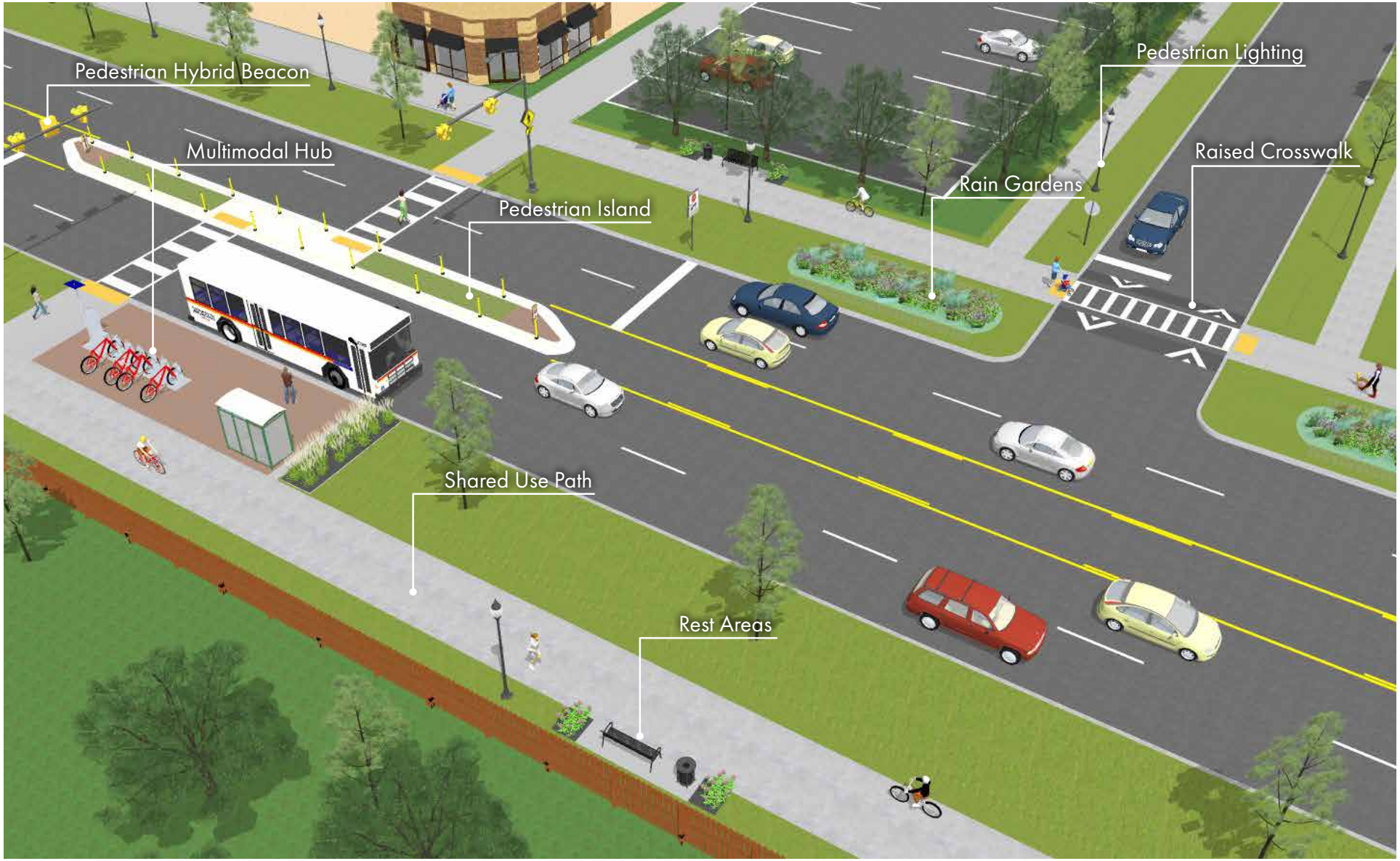
Separated Facilities and Micromobility: Prioritize vulnerable users by providing pathways separated from vehicle traffic. Accommodate micromobility options, such as e-bikes and scooters, with dedicated spaces to ensure safety and accessibility.

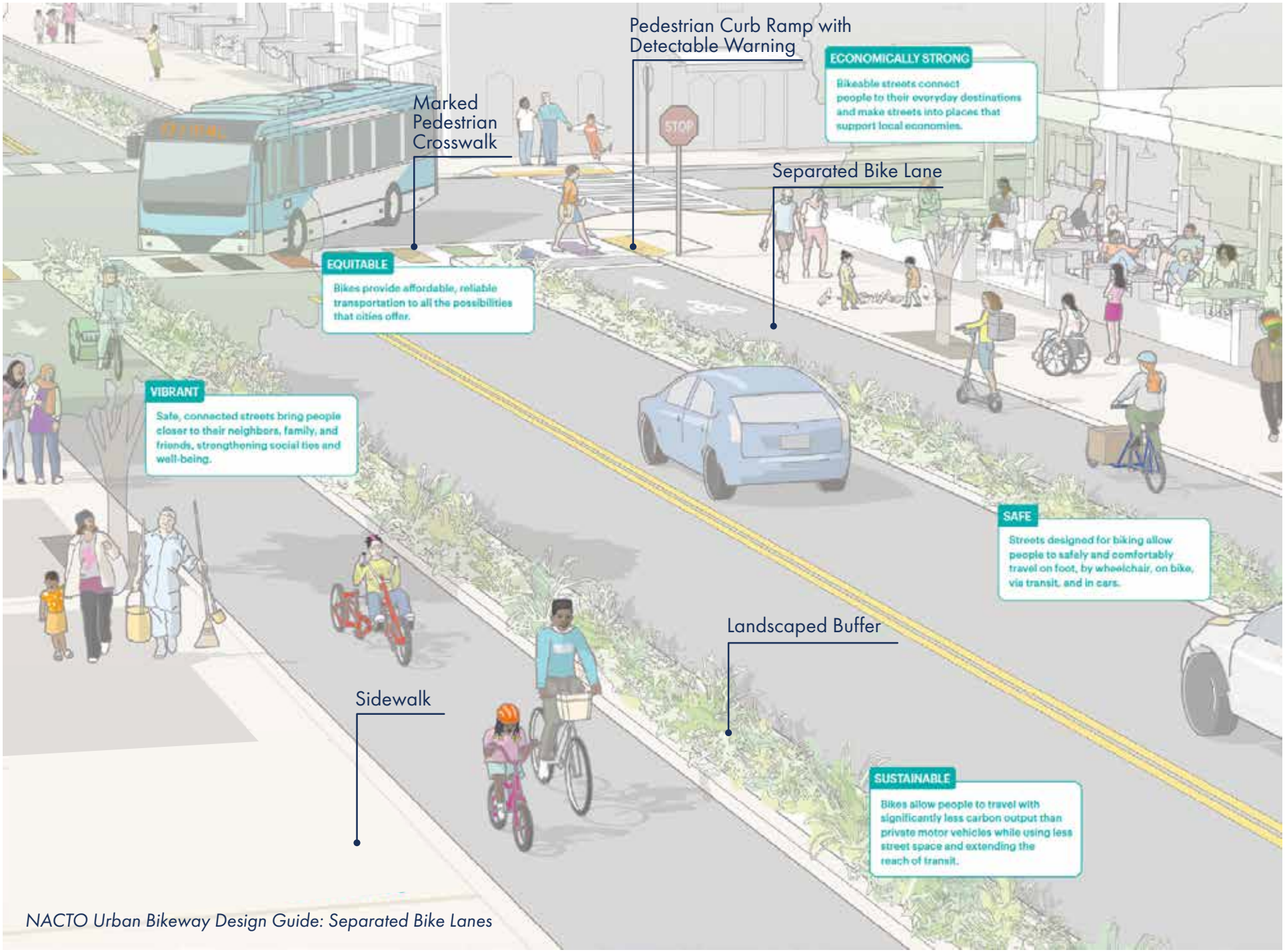
Multimodal Hubs: Embrace the future of transportation by integrating features like bus stops, EV chargers, and bike share stations to support diverse options, including autonomous vehicles and micromobility.

Image Source: Collaborative Mobility UK

Enhanced Amenities: Incorporate benches, landscaping, shade, public art, and rain gardens to enhance comfort, accessibility, and environmental sustainability.

EXAMPLE OF FUTURE CROSS SECTIONS FOR MAJOR ROADS





NACTO Urban Bikeway Design Guide: Separated Bike Lanes

Create Bikeways for All Ages and Abilities

Create safer, more inclusive bikeways by providing dedicated, physically separated facilities for biking, walking, and micromobility. These facilities should allow people of all ages and abilities to travel comfortably and confidently along major corridors. The goal is to build for comfort, not speed—prioritizing low-stress, accessible designs that invite use by everyone. Safe, comfortable bikeways are key to attracting traditionally under-represented riders, including women, children, older adults, and people with disabilities. Key design strategies include:

Use raised or physically separated bike facilities instead of painted lanes, such as wide shared-use paths or separated lanes.

Mark conflict zones at driveways and intersections with green paint to improve visibility and alert drivers to the presence of cyclists.

Use on-street parking as a buffer between bike lanes and traffic strategically, with enough separation to reduce dooring risks and improve cyclist safety.

Design bus stops to reduce conflicts by using boarding islands or setback bike lanes, along with clear sightlines and signage for safety.

Ensure smooth, intuitive transitions between facility types—such as ramps from bike lanes to sidepaths, continuous protection through intersections, and consistent elevation to reduce vertical or lateral shifts that can create discomfort or confusion.

AASHTO Guide for the Development of Bicycle Facilities

FHWA Separated Bike Lane Planning and Design Guide

FHWA Proven Safety Countermeasures: Road Diets

NACTO Urban Bikeway Design Guide

NACTO Urban Street Design Guide

MassDOT Separated Bike Lane Planning and Design Guide

Cycling Cities and ITDP Making the Economic Case for Cycling

Design Streets to Encourage Safe Motor Vehicle Speeds

Reducing vehicle speeds is one of the most effective ways to prevent serious injuries and save lives. On high-volume major roads, simply changing the posted speed limit is rarely enough. Streets must be physically and visually designed to reinforce safe driving behavior. This means creating friction along the corridor—a sense of enclosure, narrower lanes, and visual complexity—that naturally encourages drivers to slow down. Key strategies include:

Reduce vehicle lane widths to AASHTO minimums to calm traffic and reclaim space for sidewalks, bike lanes, and landscape features.

Introduce raised, landscaped medians to manage left turns, reduce cross-traffic conflicts, and visually break up wide expanses of pavement.

Remove excess lanes where traffic volumes allow, replacing them with transit, protected bike lanes, or wider sidewalks.

Add curb extensions and tighter turning radii at intersections and driveways to slow turning speeds and shorten pedestrian crossings. Where larger vehicles need access, use mountable truck aprons to maintain safety for people walking and biking while still allowing necessary vehicle movements.

Use street trees, lighting, and vertical elements to create a sense of enclosure and improve driver attention.

Install speed tables or raised crossings at key pedestrian conflict points to elevate pedestrian visibility and reinforce slower speeds.

Apply high-visibility pavement markings and signage to clearly indicate lane shifts, crossings, and multimodal priority areas.

Implement a "green wave" signal timing strategy to encourage consistent, moderate travel speeds along the corridor. By coordinating traffic signals to reward drivers traveling at the target speed, this approach helps reduce speeding, improve traffic flow, and enhance safety for all users.

FHWA Proven Safety Countermeasures: Appropriate Speed Limits for All Road Users

NACTO Urban Street Design Guide

ITE Speed Management for Safety

FHWA Traffic Calming ePrimer

AASHTO Green Book: A Policy on Geometric Design of Highway

Make Intersections Work for Everyone

Intersections are where the most serious conflicts happen—and where safe design matters most. For both people biking and walking, these crossings are often the most stressful part of any trip. On major roads, bike lanes and sidewalks must continue through intersections—not disappear at the point of greatest risk. Design intersections as continuous parts of the walking and biking network. Maintain separation where possible, manage conflicts thoughtfully, and use clear markings and signals to prioritize the most vulnerable users. Key elements include:

Design protected intersections and continue protected bikeways through crossings using elements like corner safety islands, setback crossings, curbs, or flexible posts to maintain separation, improve visibility, and reduce turning conflicts between drivers, cyclists, and pedestrians.

Dedicated bike signals and protected phasing to separate cyclists and turning vehicles

Leading Pedestrian and Bicycle Intervals (LPI/LBI) to give vulnerable road users a head start

Corner safety islands and setback crossings for better sightlines and safer turning speeds

Green pavement and bike lane extensions to increase visibility across conflict zones

Two-stage turn boxes for safer left turns on busy corridors

Raised or buffered bike lanes at approaches to maintain comfort and slow vehicles

AASHTO Guide for the Development of Bicycle Facilities

FHWA Separated Bike Lane Planning and Design Guide

FHWA Fact Sheets: Improving Intersections for Pedestrians and Bicyclists

NACTO Urban Bikeway Design Guide

NACTO Urban Street Design Guide

MassDOT Separated Bike Lane Planning and Design Guide

For more details on near-term recommendations and guidelines, see the Crosswalk and Intersection section in this chapter.

Rethink Commercial Driveways for Safety

Major commercial driveways can be high-conflict zones where turning vehicles put people walking and biking at risk. Poorly designed access points often result in blocked sidewalks, high-speed turns, and limited visibility. To improve safety and comfort, commercial driveways must be designed as pedestrian and bike crossings first, not just vehicle entrances. Key design strategies include:

Treat driveway crossings like intersections with continuous sidewalk and bikeway materials to signal pedestrian and cyclist priority.

Use raised crossings or speed table-style driveways to slow turning vehicles and reinforce the expectation to yield.

Apply green conflict zone markings across bikeways to increase visibility and driver awareness at driveways.

Recess crossings behind sight triangles to improve visibility and allow drivers space to yield before crossing the path of pedestrians and cyclists.

Limit driveway widths to the minimum required for turning movements to reduce crossing distances.

Minimize curb cuts by consolidating access points wherever possible to reduce the number of conflict zones.

Ensure clear sightlines by prohibiting visual obstructions (signs, walls, landscaping) within driveway approaches.

Add signage and markings to remind drivers of their obligation to yield to people walking and biking

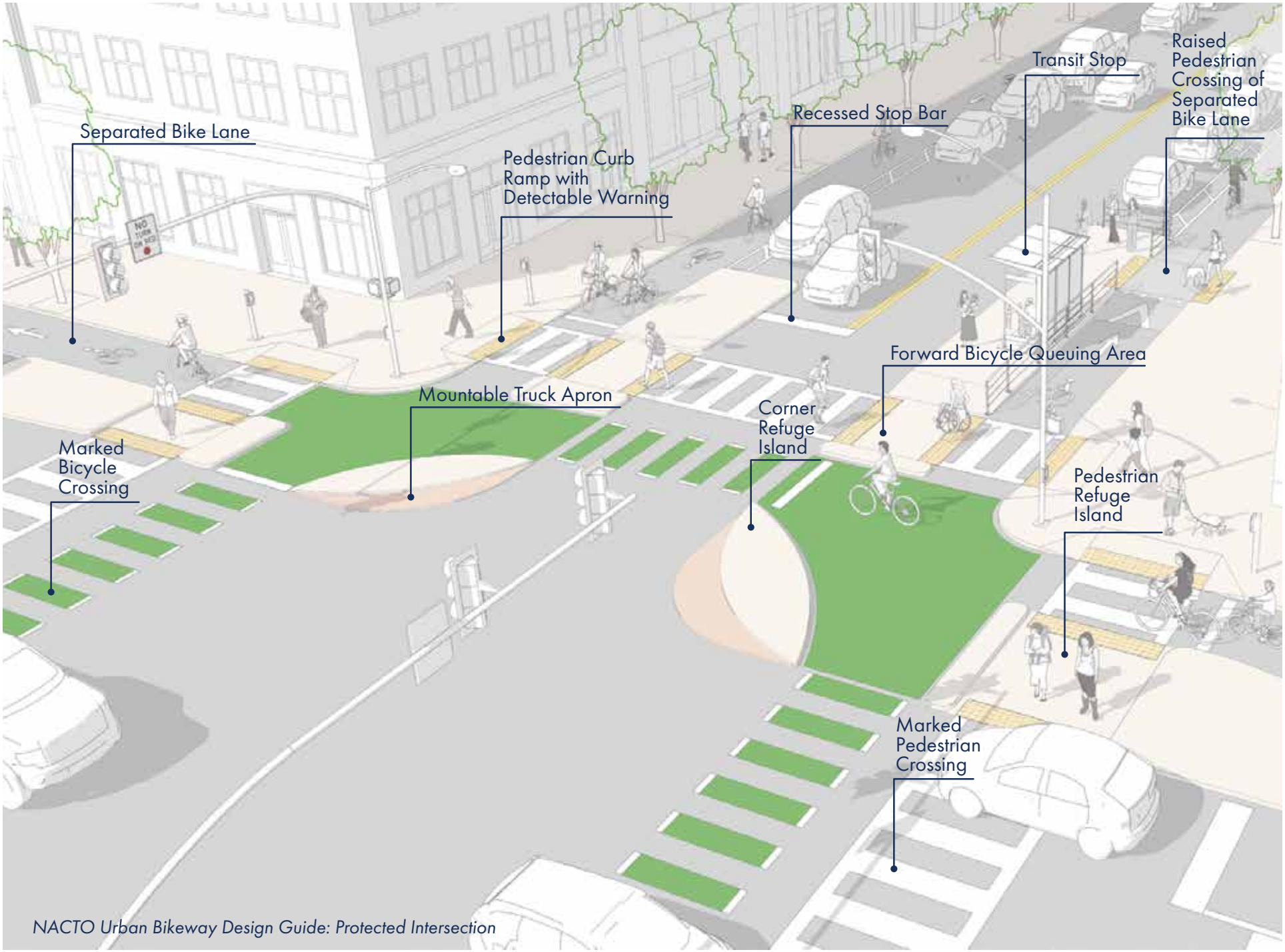
FHWA Proven Safety Countermeasure: Corridor Access Management

AASHTO Guide for the Development of Bicycle Facilities

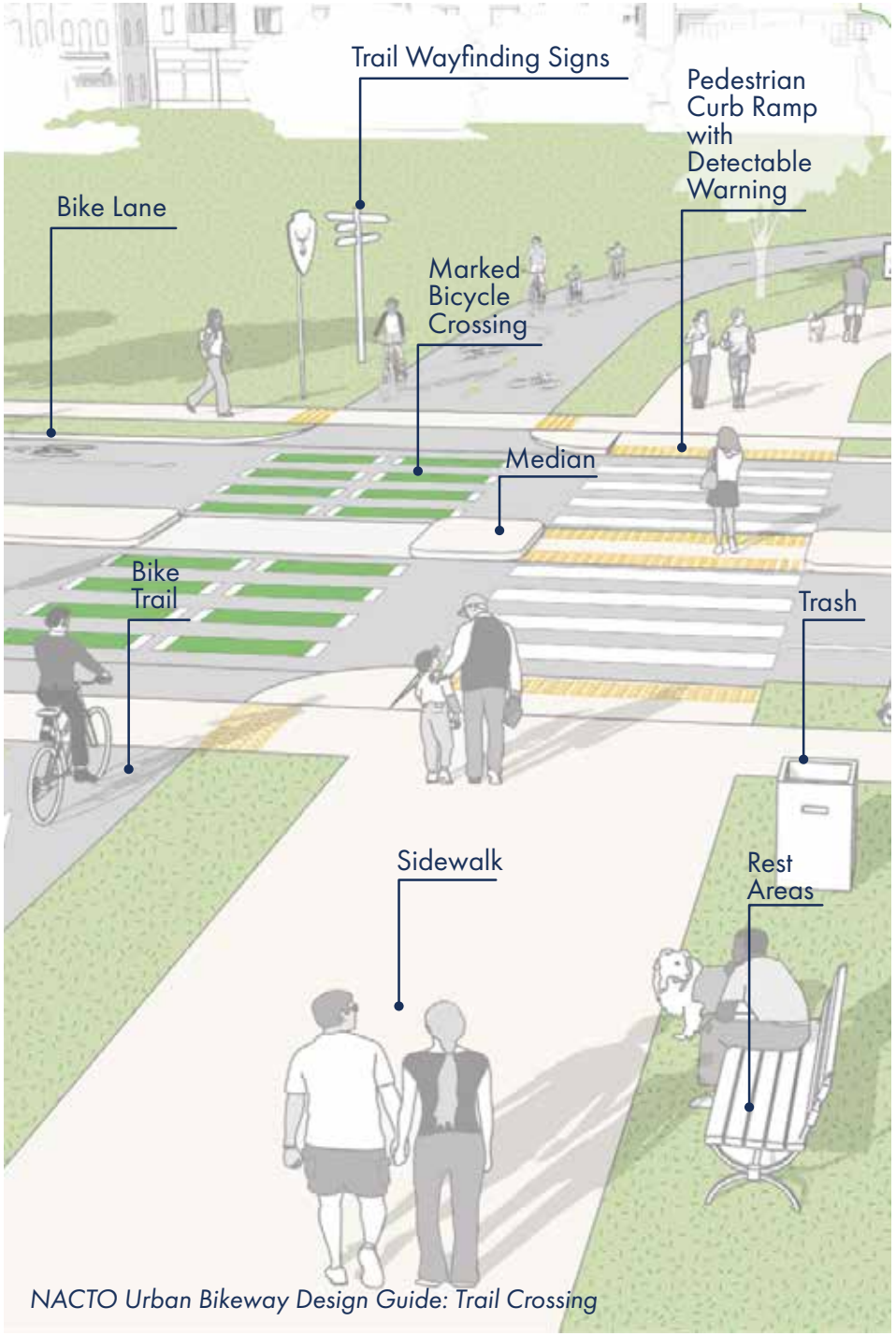
FHWA Separated Bike Lane Planning and Design Guide

NACTO Urban Bikeway Design Guide

NACTO Urban Street Design Guide



NACTO Urban Bikeway Design Guide: Protected Intersection



NACTO Urban Bikeway Design Guide: Trail Crossing

Design Major Roads to Support Neighborhood Access

Major roads should serve as spines of a connected, multimodal network—linking neighborhoods rather than separating them. Historically, many wide corridors have acted as barriers, dividing communities and limiting access. Future design must reverse this pattern by emphasizing connection, equity, and access across and along these key corridors. Strategies for connection include:

Provide frequent, accessible crossing opportunities—especially near high-density housing, schools, transit stops, and commercial centers.

Integrate neighborhood bikeways and trails that feed into major road corridors, enabling safe local-to-regional mobility.

Ensure seamless bike and pedestrian crossings at intersections, particularly along key local connections such as the Half-Mile Road bike route.

Incorporate safe mid-block crossings with pedestrian hybrid beacon and refuge islands.

Design overpasses and crossings to safely reconnect neighborhoods across barriers such as freeways, rivers, and rail lines.

FHWA Proven Safety Countermeasure: Pedestrian Hybrid Beacons

FHWA Proven Safety Countermeasure: Medians and Pedestrian Refuge Islands

NACTO Urban Bikeway Design Guide

NACTO Urban Street Design Guide

FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

FHWA Fact Sheets: Improving Intersections for Pedestrians and Bicyclists

Build Mobility Hubs, Not Just Bus Stops

Transit access is essential to a connected, multimodal network—but traditional bus stops often fall short. Future major roads should support mobility hubs: well-designed, comfortable nodes where people can easily transfer between walking, biking, transit, and shared mobility services. These hubs not only improve the transit experience but also encourage broader use of low-carbon, space-efficient travel options. Future-ready mobility hubs include:

Provide accessible, covered shelters with seating, lighting, and real-time arrival information to improve comfort and safety.

Integrate bike infrastructure by co-locating bike share stations, secure bike lockers, and connections to protected bike lanes or sidepaths.

Include charging stations for electric vehicles, e-bikes, and e-scooters to support a transition to cleaner modes.

Design with comfort and visibility in mind using trees, landscaping, and clear sightlines for safety and an improved waiting environment.

Ensure ADA accessibility with curb ramps, detectable warnings, and level boarding areas.

Include space for emerging mobility services such as ride-hailing pickup/drop-off zones and autonomous shuttle stops.

Place hubs strategically at major intersections, key destinations, or where multiple travel modes naturally converge.

FHWA Improving Safety for Pedestrians and Bicyclists Access Transit

NACTO Transit Street Design Guide

CoMoUK Mobility Hub Toolkit

CoMoUK Mobility Hub Guidance

ITDP The Bikeshare Planning Guide

NACTO Guidelines for Regulating Shared Micromobility

NACTO Bike Share Station Siting Guide

Green the Edge to Enhance Bike and Pedestrian Comfort

Major roads can be transformed from mere traffic corridors into inviting linear public spaces that prioritize comfort, safety, and environmental resilience. Adding greenery, streetscape features, and thoughtful curbside management along sidewalks and bike facilities enhances the experience for people walking and biking, while also supporting stormwater management and reducing urban heat. Key elements include:

Tree-lined medians and buffered sidewalks to provide shade, cooling, and visual separation from traffic.

Stormwater planters, bioswales, and rain gardens to manage drainage naturally and reduce runoff.

Native landscaping to support pollinators, reduce maintenance needs, and enhance biodiversity.

Public seating, shade structures, and pedestrian-scaled lighting to increase comfort, encourage use, and improve safety.

Public art and interpretive signage to create a sense of place and community pride.

Managed curb zones that clearly organize space for loading, micromobility, parking, and transit without blocking sidewalks, or bikeways.

EPA Green Infrastructure Toolkit

NACTO Urban Street Stormwater Guide

ITE Curbside Management Practitioners Guide

FHWA Proven Safety Countermeasure: Corridor Access Management

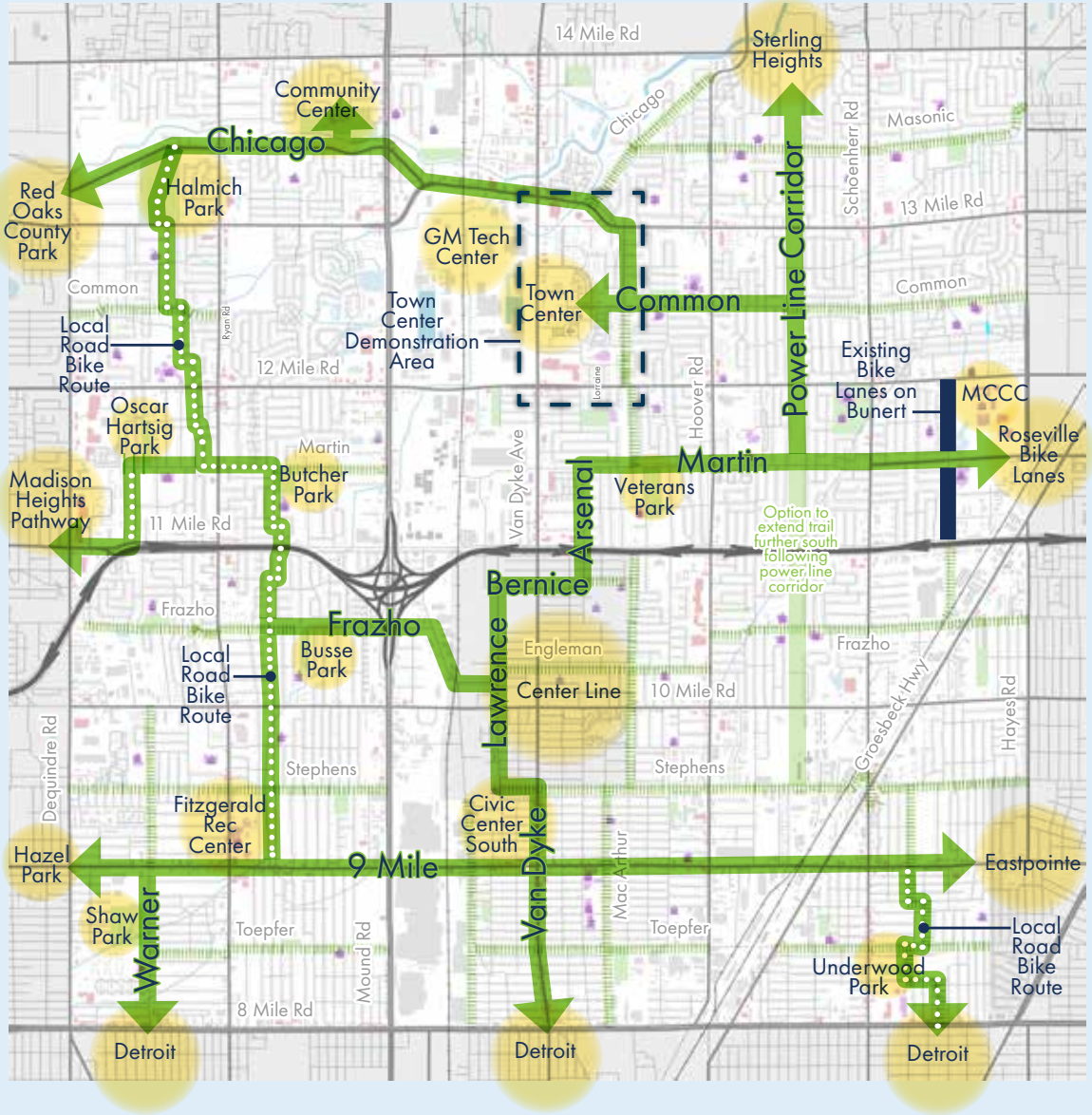
FHWA Proven Safety Countermeasure: Lighting

Core Network

The initial focus is to create an all ages and abilities core network of bikeways. This system will connect key regional routes, such as the Iron Belle Trail and the proposed 9 Mile Bikeway, along with local destinations like schools, parks, and other community hubs. The network will be organized around half-mile segments to ensure accessibility and ease of use.

The Planned Core Network includes:

- **Designated Bikeways:** Shared use pathways or bike lanes
- **Local Road Bike Routes:** On-road bike routes following low-speed, neighborhood streets
- **Half-Mile Connections:** A cost-effective opportunity to expand the core network by adding bikeways along Half-Mile Roads



What's Included

- Designated Bikeways: Shared-use paths and separated bike lanes on key roads
- Local Bike Routes: Signed routes on low-speed neighborhood streets
- Half-Mile Connections: Cost-effective bikeways on Half-Mile Roads
- Road Crossings: Marked, signalized crossings at major intersections
- Regional Links: Connections to the Iron Belle Trail, 9 Mile Bikeway, and key destinations
- Demonstration Projects: Opportunities along Martin, Common and the Town Center area where excess road capacity could support bike infrastructure and walkable development

Why It's Important

- Establishes the initial framework for a connected, safe network for people of all ages and abilities
- Improves access to schools, parks, businesses, and transit
- Ensures implementation is strategic and phased, with early wins possible through CIP alignment and low-cost routes
- Supports equity and mode shift, particularly in underserved areas with fewer transportation options
- Demonstration projects showcase near-term impact and support future mixed-use, walkable development

Who's Involved

- City of Warren
- Macomb County Department of Roads
- Michigan Department of Transportation (MDOT)
- Michigan Department of Natural Resources (DNR) – Coordination for Iron Belle Trail segments
- International Transmission Company (ITC) – For utility corridor segments and access easements
- Private developers and planning partners – Especially in the Town Center area

Funding Opportunities

- Transportation Alternatives Program (TAP) – For bikeways, shared-use paths, and signage
- Recreational Trails Program (RTP) – For multi-use trail development
- Michigan Natural Resources Trust Fund (MNRTF) – For trail connections and land acquisition
- Safe Streets and Roads for All (SS4A) Grant Program - Provides funding for planning and implementing safety improvements
- Local Capital Improvement Program (CIP) – To match grants and align with street upgrades
- Regional foundation support – From groups like the Ralph C. Wilson Jr. Foundation and the Community Foundation for Southeast Michigan
- Public-private partnerships – In redevelopment and demonstration areas

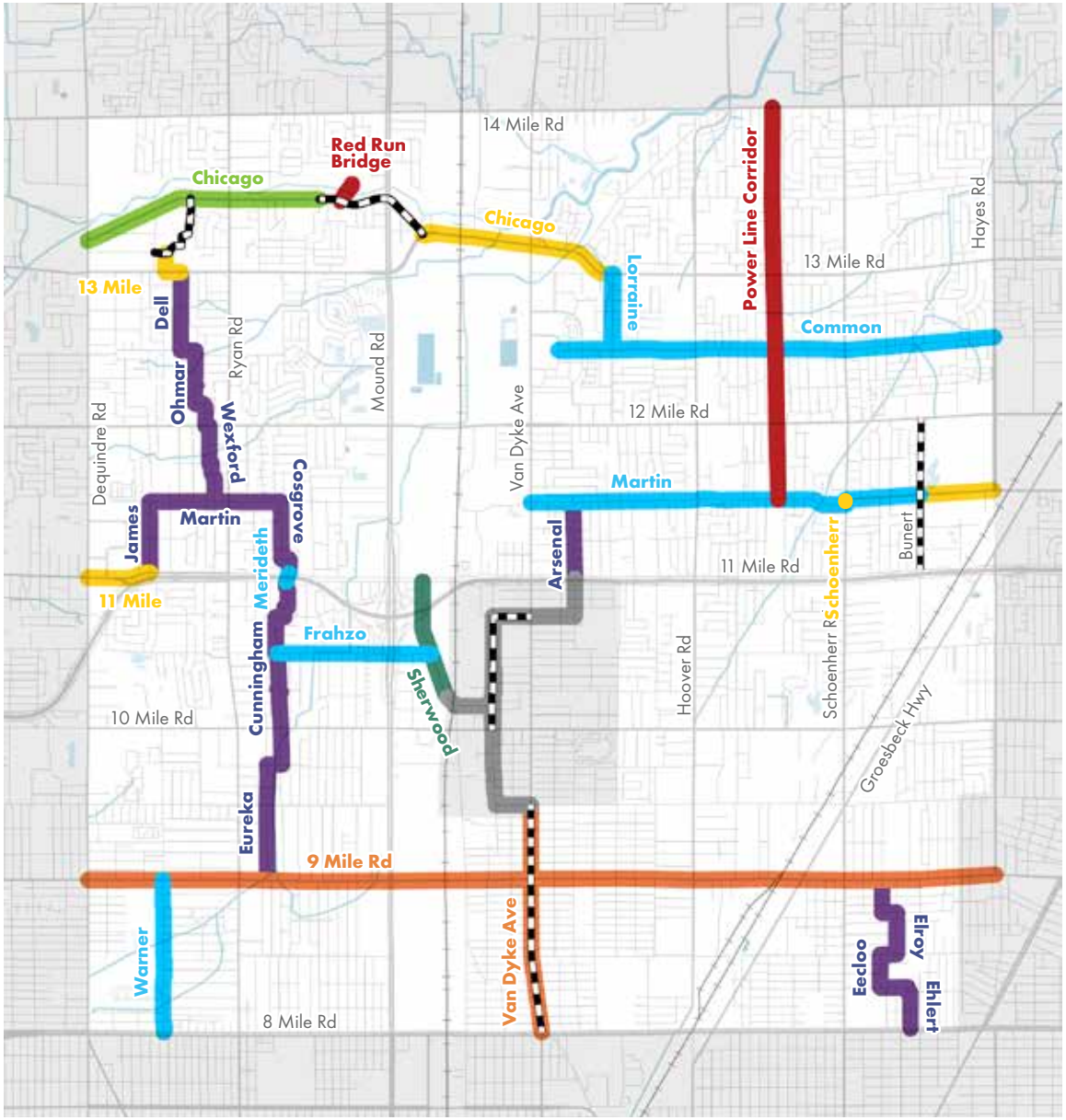
When to Expect It

- Phased implementation beginning in priority corridors
- Short- to mid-term projects could be integrated with resurfacing or utility corridor improvements
- Half-Mile Road connections present a cost-effective near-term opportunity

What It Takes to Build It

Implementing the Active Mobility Plan will require a mix of short-term actions and long-term investments. To guide progress, the Core Network has been categorized based on the relative ease of implementation and general cost range. The accompanying map highlights these categories, helping decision-makers, community members, and partners understand what can happen quickly and what will take more time, coordination, or funding. Each category on the map reflects the scale and complexity of work involved.

- Signage and Pavement Marking
- Post, Pavement Markings, and Signage
- Reconfigure Pavement Markings / Road Diet
- Paved Shoulder Within Right-of-Way
- Widen Existing Sidewalk / Shared Use Path
- Concurrent with Road Reconstruction
- Major Independent Construction Project
- Connections in Center Line
- Existing Bike Lanes / Pathway



Note: The map varies slightly from the Core Network map. For construction planning purposes, full road segments are often prioritized over isolated portions to better reflect real-world impacts—therefore, Sherwood, Common, and Martin have all been adjusted accordingly.

Signage and Pavement Marking ($)

Low-cost improvements using wayfinding signs and pavement markings. Most projects involve minimal construction with the exception of safety improvements at major road crossings.

North–South bike route parallel to Ryan Road

- Add route signs and pavement markings from 9 Mile Road to Chicago, utilizing local neighborhood roads. Route includes segments of: Warner, 13 Mile Rd, Dell, Common, Ohmer, Wexford, Martin, James, Cosgrove, Fenwick, Merideth, Bernice, Cunningham, Marcy, and Eureka
- Coordinate with crosswalk improvements at: Chicago & Warner, 12 Mile & Wexford/Ohmer, Martin & Ryan, 10 Mile & Cunningham

North–South signed bike route parallel to Schoenherr

- Add route signs and pavement markings from 9 Mile Road to 8 Mile Road, utilizing segments of: Wellington, Hendricks, Elroy, Toepfer, Eecloo, Sherman, and Ehlert

Arsenal (E 11 Mile to Martin)

- Add shared lane markings and signage for the Iron Belle Trail Route

Paved Shoulder Within Right-of-Way ($$$)

Moderate-cost shoulder paving within existing right-of-way. No major curb or drainage work.

Chicago Road (Dequindre to Lexington)

- Add wide paved shoulder with buffered bike lane pavement markings and signage west of Lexington
- Coordinate with crosswalk improvements at: Dequindre, Warner, and Cloverly

Post, Pavement Marking, and Signage ($$)

Quick-build paint-and-post (pavement markings, flexible delineators, and signage) projects that can be installed without major reconstruction.

Common Rd (Civic Center to Hayes)

- Add seperated bike lanes; this will require restricting on-street parking between Hoover and Hayes
- Coordinate with future trail crossing at the power line corridor

Martin Rd (Van Dyke to Hayes)

- Add seperated bike lanes; this will require restricting on-street parking between Hoover and Bunert to accommodate the bike lanes
- Coordinate with crosswalk improvements at Hoover and future trail crossing at the power line corridor

Frazho/Mackersie Ave (Ryan Rd to Sherwood Ave)

- Add separated bike lanes (Cunningham to Mound) and conventional lanes (Mound to Sherwood)
- Coordinate with crosswalk improvements at Sherwood Ave

Warner Ave (E 9 Mile to E 8 Mile)

- Add bike lanes
- Coordinate with crosswalk improvements at E 8 Mile Rd

Lorraine Ave (12 Mile to 13 Mile)

- Add separated bike lanes to the boulevard

Merideth Dr Bridge over I-696

- Add separated bike lanes

Reconfigure Pavement Markings / Road Diet ($$)

Restriping projects that reallocate roadway space—such as adding bike lanes or reducing travel lanes—without full roadway reconstruction. Can be implemented with resurfacing or by grinding off old markings and restriping existing pavement.

Sherwood Rd (11 Mile Rd to Braun)

- Add bike lanes with 4 to 3 lane conversion
- New mid-block crossing at Mackersie Ave
- Coordinate in continuing connection to Center Line

Widen Existing Sidewalk / Shared Use Path ($$$)

Widen existing sidewalks to meet shared-use path standards (typically 10 feet).

Chicago Rd (13 Mile / Eckstein to Lorraine / Bretz)

- Widen the sidewalk to10 feet for shared use path on the north side west of Van Dyke and then switch to the south side east of Van Dyke
- Use raised crosswalks to address conflicts, busy driveways and address safety issues at major intersections

E 11 Mile Rd (Dequindre to James)

- Widen the north-side sidewalk to 10 feet for a shared use path
- Use raised crosswalks to address conflicts at busy driveways
- Coordinate with the Madison Heights Downtown Streetscape Plan, which includes a shared use path on the north side of E 11 Mile Rd

Martin Rd / Schoehnerr Rd

- As part of the Martin Road separated bike lanes project, coordinate the addition of shared use paths along Martin Road between Bunert and Hayes, and widen the sidewalk along Schoenherr Road between Martin Road and Hayes.

E 13 Mile Rd & Halmich Park

- Widen sidewalk and fill gap with 10' shared use path on the south side of 13 Mile Rd between Dell and Halmich Park signalize crossing.
- Construct shared use path along west side of parking lot , connecting to the existing pathway south of the tennis courts.
- Use raised crosswalks to address conflicts at the park entrance and parking lot crossing

Concurrent with Road Reconstruction ($$$$)

Major capital projects that involve rebuilding roadways to include protected bike lanes, improved crossings, and other complete street elements. These projects may also be coordinated with underground utility work.

9 Mile Road (Dequindre to Hayes)

- Consistent three-lane cross-section
- Two-way separated bike lane with lighting; raised divider where space is limited
- Landscaped buffer with rain gardens
- Mid-block pedestrian islands and protected intersections
- Bus pull-offs with shelters
- Strategic on-street parking

Van Dyke Ave (Stephens to 8 Mile)

- Separated bike lanes with physical buffer and green conflict paint at intersections
- Mid-block crossings with refuge islands and protected intersections
- Upgraded bus stops with shelters
- Pedestrian-scale lighting and landscaped medians

Major Independent Construction Project ($$$$$)

High-cost, high-impact infrastructure requiring significant engineering, permitting, and construction resources. Projects may also require new easements or property access agreements.

Red Run Bridge (Chicago Road to the Community Rec Center)

- Build new concrete bridge over the Red Run shared-use path connections to Chicago Road and the Community Rec Center existing pathway
- Install a Rectangular Rapid Flash Beacon for safe midblock pedestrian crossing on Chicago Road
- Include a trailhead with bike parking, repair station, wayfinding signage, benches, landscaping, and lighting at the Community Center

Power Line Corridor Trail

- Coordinate final routing and design with ITC Holdings and secure necessary easement and license for trail
- Multi-Use trail along power line corridor with landscaping, lighting, wayfinding, emergency call boxes and trail amenities
- Mid-block crossing improvements at Masonic Rd, 13 Mile Rd, Common Rd, 12 Mile Rd, and Martin

Budget Considerations and Lifecycle Costs

Developing a comprehensive active mobility network requires thoughtful financial planning to ensure the successful implementation of pedestrian, bicycle, and other active mobility infrastructure. In addition to initial capital investments, ongoing expenses—such as programming, operations, and maintenance—are critical to ensuring user safety, accessibility, and the long-term sustainability of the system.

These recurring investments are essential to preserving the quality, functionality, and public value of the network over time.

Refer to **Chapter 5: Funding and Maintenance** for funding strategies, master plan-level budget estimates, and maintenance considerations.

Demonstration Projects: Piloting Active Mobility Improvements on Core Corridors

As Warren builds out its core active mobility network, demonstration projects offer **a low-cost, flexible way to test new infrastructure**, involve the community, and build support for permanent improvements. These temporary "paint-and-post" installations let the City try out designs, gather feedback, and **assess real-world performance** before making long-term investments.

Tips for Successful Demonstration Projects

Allow Enough Time — Run the project long enough for people to fully experience the changes—beyond initial reactions or assumptions. Perceptions often shift after users adapt.

Use Flexible, Temporary Materials — Choose low-cost materials like paint and posts that are easy to install, modify, or remove based on feedback or performance.

Test Full Corridors — Focus on entire road segments rather than isolated intersections to better evaluate real-world impacts on traffic flow, safety, and connectivity.

Communicate the Intent —Clearly explain that the project is a temporary pilot. Use signage, outreach, and public engagement to manage expectations and build support.

Collect Data and Feedback — Monitor usage, safety outcomes, and public input to inform future permanent designs and support funding proposals.

Safe Streets and Roads for All (SS4A) Grant Program

MNDOT Demonstration Project Implementation Guide

Quick Builds for Better Streets: A New Project Delivery Model for U.S. Cities

Tactical Urbanist's Guide

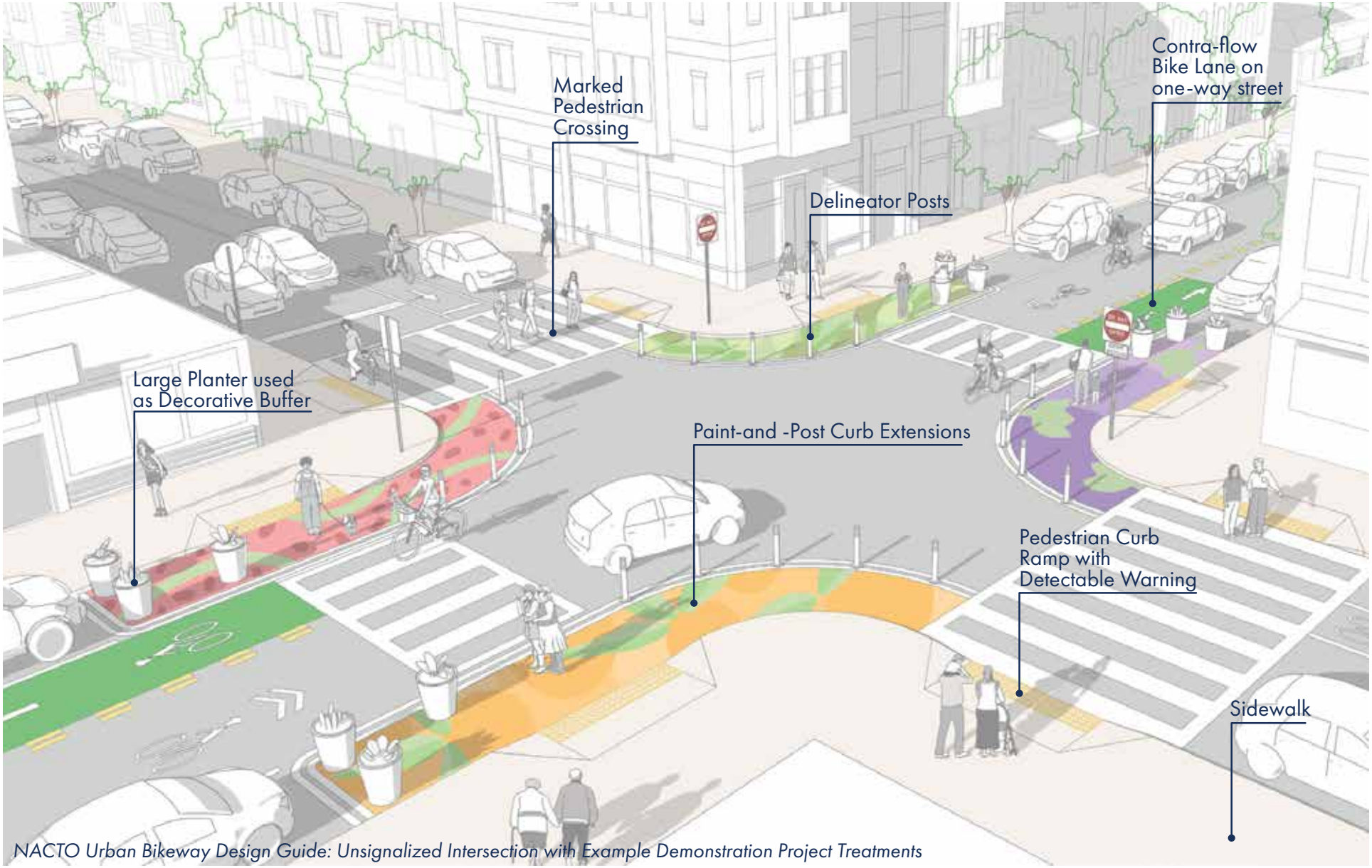
Strategic Demonstration Corridors

Common Road and Martin Road are strong candidates for active mobility demonstration projects. As key east-west half-mile collectors, both corridors have extra wide lanes, areas with restricted parking, offer high visibility and connectivity—making them ideal for showcasing how bicycle and pedestrian improvements can enhance safety and mobility.

Common Road — As a direct route to the Town Center, Common Road is a prime location for a demonstration project. Its wide cross-section and limited on-street parking make it well-suited for temporary improvements. Features like separated bike lanes, curb extensions, and enhanced crossings can be tested using paint and posts. The project could extend into the Town Center to showcase how active mobility supports placemaking and downtown vibrancy.

Martin Road — From Van Dyke Avenue to Hayes Road, Martin Road offers strong potential to connect neighborhoods, schools, and the local community college. A corridor-wide demonstration could help illustrate how a complete streets approach can improve safety and access along this key route.

Many of the existing roads in the Town Center area have excess capacity that could be re-purposed for bicycle use. In addition, a concurrent study is exploring mixed-use development options that would be within easy walking and biking distance of many area residents.



NACTO Urban Bikeway Design Guide: Unsignalized Intersection with Example Demonstration Project Treatments

CHAPTER THREE

POLICIES AND PROGRAMS FOR SUPPORTING ACTIVE MOBILITY

ESTABLISH A SUPPORT SYSTEM TO ENSURE PROGRESS AND ACCOUNTABILITY

As cities strive to create more livable and resilient environments, it is increasingly evident that promoting non-motorized travel requires a holistic approach encompassing well-designed programs, robust policies, and meaningful metrics. In this chapter, we seek to equip urban planners, policymakers, and advocates with a toolbox of options to advance active mobility through programs, policy, and metric recommendations. This is not an exhaustive list, but rather focuses on the policies, programs and metrics that should be addressed in the City of Warren over the next five to ten years.

Policies

Active mobility is a shared responsibility—one that extends beyond any single individual, department, or agency. It requires coordinated efforts and long-term commitments across sectors to create meaningful change. The policies outlined in this section are intended to lay the groundwork for the successful implementation of proposed infrastructure improvements, programs, and evaluation metrics.

While not exhaustive, these recommendations highlight the most impactful policy areas to prioritize over the next five to ten years. They reflect the community's desire to build a more accessible, sustainable, complete, and safe active transportation network, shaped by public input and oversight.

ADA Transition Plan—continue development of an ADA transition plan with an initial focus on signalized intersection ramps, detectable warning strips, and accessible signals.

Green Infrastructure—incorporate green infrastructure elements such as rain gardens in active transportation projects whenever feasible.

Active Transportation Site Plan Checklist—develop an active transportation site plan checklist based on the guide provided in this chapter and incorporate the use of the checklist in the site plan review process.

Adopt a Complete Streets Ordinance—building upon the Complete Streets Policy adopted on October 23, 2012, which recognizes the importance and value of complete streets. Prepare a more detailed ordinance that integrates best practices for active transportation planning and design into all aspects of city governance. Refer to the following pages for an example.

Active Transportation Advisory Committee—establish a committee with community representation that reviews and provides input on how best to integrate active transportation needs into all transportation related projects.

ROLES AND RESPONSIBILITIES

Planning Department—ADA Transition Plan, Active Transportation Site Plan Checklist, Complete Streets Ordinance, Vision Zero Policy, and Active Transportation Advisory Committee

Engineering Division—Active Transportation Advisory Committee

Communications Department—new facility outreach and education /enforcement programs

Commission on Disabilities—ADA Transition Plan

> "Increase emphasis on complete streets that allow for safe walking and biking."
>
> PUBLIC INPUT

EXAMPLE ORDINANCE

City of Warren Draft Complete Street Ordinance

The City of Warren should draft and adopt an ordinance that directs staff to move forward on implementing key policy changes. Below is draft language that may be used in creating the resolution.

1. Whereas, safe, comfortable, convenient and accessible transportation for all users is a priority of The City of Warren;
2. Whereas, the City of Warren does not consider any traffic fatalities or serious injuries are acceptable and considers most traffic fatalities and serious injuries are preventable.
3. Whereas, the City of Warren considers that all users of the roadway should be accommodated not only in new construction but also in reconstruction, resurfacing, restoration, rehabilitation and preventative maintenance projects to the fullest degree possible based on the scope of work.
4. Whereas, the City of Warren encourages street connectivity and aims to create a comprehensive, integrated, connected network for all modes of travel.
5. Whereas, the City of Warren desires that flexibility in the design of the roadway be employed and that the design integrates current best practices, as well as allowing for innovative design approaches to be implemented and evaluated.
6. Whereas, the City of Warren places human life and health paramount in the decision-making process and concerns regarding motorized vehicle level of service, congestion, mobility, etc. are secondary concerns.
7. Whereas, the City of Warren believes that traffic safety solutions must be addressed holistically and take into consideration social issues and human behavior.
8. Whereas, the City of Warren understands that the people using roadways in the City of Warren will make mistakes and the City's transportation system should be designed such that when mistakes happen they do not result in fatalities or serious injuries.
9. Whereas, the City of Warren's Department of Public Works, Engineering Division and Police Department in cooperation with the Michigan Department of Transportation and the Macomb County Department of Roads share responsibility with users of the roadway system in creating a transportation system that is safe for all users of the roadway and these providers and regulators must do their utmost to guarantee the safety of all citizens; cooperate with road users; and be ready to change as necessary to achieve safety.
10. Whereas, the City of Warren desires to set a framework for responsibility and exceptions to assure that Complete Streets are implemented.

Now, therefore, be it resolved, by The City Council of Warren

1. That the City of Warren adopts the Complete Streets Resolution attached hereto as Exhibit A, and made part of this Resolution.
2. That active mobility be incorporated into the Comprehensive Master Plan.

Exhibit A

A - Definitions

1. "Complete Street" means a street or roadway that allows safe and convenient travel by all of the following categories of users: pedestrians, bicyclists, e-bicyclists, scooters, micro mobility vehicles, people with disabilities, motorists, movers of commercial goods, users and operators of public transportation, seniors, children, youth, and families.
2. "Transportation Project" means any development, project, program, or practice that affects the transportation network or occurs in the public right-of-way, including any construction, reconstruction, retrofit, signalization operations, resurfacing, restriping, rehabilitation, maintenance (excluding routine maintenance that does not change the roadway geometry or operations, such as mowing, sweeping, and spot repair), operations, alteration, and repair of any public street or roadway within the City boundaries (including alleys, bridges, frontage roads, and other elements of the transportation system).

B - Complete Streets Requirements

The City of Warren shall work toward developing an integrated and connected multimodal transportation system of Complete Streets that serves all neighborhoods. Toward this end:

1. Every Transportation Project, and phase of that project (including planning, scoping, funding, design, approval, implementation, and maintenance), by the City of Warren shall provide for Complete Streets for all categories of users identified in Section A(1) of this Policy.
2. That all City departments shall routinely work in coordination with each other, any designated Complete Street Coordinator, and any relevant advisory committees, to create Complete Streets and to ensure consistency with the Warren Active Mobility Plan.
3. Wherever possible, Transportation Projects shall strive to create a network of continuous bicycle- and pedestrian-friendly routes, including routes that connect with transit and allow for convenient access to work, home, commercial areas, and schools.
4. The City of Warren shall coordinate with adjacent jurisdictions and any other relevant public agencies, including Macomb County Department of Roads, Wayne County Roads Division, Road Commission of Oakland County and the Michigan Department of Transportation to ensure that, wherever possible, the network of continuous bicycle- and pedestrian-friendly routes identified in Section B(3) extends beyond the City's boundaries into adjacent jurisdictions.
5. The City of Warren shall rely upon the current editions of street design standards and guidelines that promote and support Complete Streets including the following:
    a. Federal Highway Administration: Achieving Multimodal Networks
    b. Federal Highway Administration: Separated Bike Lane Planning and Design Guides
    c. Federal Highway Administration: Bikeway Selection Guide
    d. National Association of City Transportation Officials: Global Street Design Guide

e. National Association of City Transportation Officials: Urban Street Design Guide

f. National Association of City Transportation Officials: Urban Bikeway Design Guide

6. All Complete Streets shall reflect the context and character of the surrounding built and natural environments, and enhance the appearance of such. At the planning stage, the City shall work with local residents, business operators, neighboring jurisdictions, school districts, students, property owners, and other stakeholders who will be directly affected by a Complete Streets project to address any concerns regarding context and character.

C - Lead Department

The Planning Department shall be the lead in the implementation of this Policy. The Senior Planner shall act as the Complete Streets Coordinator.

D - Implementation

The following steps shall be taken within the 18 months of the effective date of this Policy:

1. All street design standards used in the planning, designing, and implementing phases of Transportation Projects shall be reviewed to ensure that they reflect the best available design guidelines for effectively implementing Complete Streets.

2. Amend the City's Master Plan to include the Warren Active Mobility Plan.

3. Evaluate the City's parking requirements to determine if they are excessive and may be lowered based on parking of other modes of travel and access to transit.

4. All City departments shall incorporate this Policy into relevant internal manuals, checklists, rules, and procedures.

5. The Planning Department shall assess whether any municipal and zoning codes, land use plans, or other relevant documents, including the Capital Improvement Plan, conflict with this Policy, and shall submit a report, along with a proposal for addressing any conflicts, to the Mayor's office.

6. The Planning Department shall provide training on Complete Streets and the implementation of this Policy to all relevant staff and develop a plan for providing such training for new hires.

7. The Planning Department shall identify an existing process or develop a new process that allows for public participation (including participation by bicycle, pedestrian, and Complete Streets advisory committees) in decisions concerning the design, planning, and use of streets and roadways covered by this Policy.

E - Exceptions to Policy

1. A specific category of user may be excluded from the requirements of Section B of this Policy only if one or more of the following exceptions apply:

   a. Use of the roadway is prohibited by law for the category of user (e.g., pedestrians on an interstate freeway, vehicles on a pedestrian mall). In this case, efforts shall be made to accommodate the excluded category of user on a parallel route; or

   b. There is an absence of both a current and future need to accommodate the category of user (absence of future need may be shown via demographic, school, employment, and public transportation route data that demonstrate, for example, a low likelihood of bicycle, pedestrian, or transit activity in an area over the next 20 years); or

c. The cost would be excessively disproportionate to the current need or future need over the next 20 years.

2. An exception shall be granted only if:

   a. A request for an exception is submitted in writing, with supporting documentation, and made publicly available with a minimum of [30] days allowed for public input; and

   b. The exception is approved in writing by the City Council and the written approval is made publicly available.

F - Performance Measures

In order to evaluate whether the streets and transportation network are adequately serving each category of users, the City shall collect and/or report baseline and annual data on matters relevant to this Policy. Data collection will be coordinated across multiple departments, with each responsible for specific performance measures. These include, but are not limited to:

1. Mileage of new bicycle infrastructure (e.g., bicycle lanes, paths, and designated routes)
2. Number of new and improved mid-block and signalized pedestrian crossings
3. Linear feet of new pedestrian infrastructure (e.g., sidewalks, trails, etc.)
4. Number of speed management elements
5. Number of accessible curb ramps installed
6. Number of new street trees planted
7. Bicycle and pedestrian counts
8. The number, locations, and cause of collisions, injuries, and fatalities by mode of transportation

The recommendations draw heavily from the *Model Complete Streets Resolution for Local Governments* prepared by **ChangeLab Solutions.**

These recommendations are also aligned with the goals and strategies outlined in **SEMCOG's** *Southeast Michigan Transportation Safety Plan*, which adopts both **Vision Zero** principles and the **Safe System Approach (SSA)** as foundational safety strategies. According to the **Vision Zero Network**, *"Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all." The* **SSA** *is the guiding framework for achieving the region's long-term goal of* **zero traffic-related fatalities and serious injuries.**

City of Warren Active Mobility Site Plan Draft Checklist

A site design checklist or similar tool should be provided to developers and used by the City in the review of site plans to ensure that bicycle and pedestrian issues are being adequately addressed and planned for. The following checklist was adapted with minor modifications from the *Canadian Guide to Promoting Sustainable Transportation through Site Design* by the Canadian Institute of Traffic Engineers. It is part of a larger publication that examines a variety of policies and actions related to site plan design standards that promote a sustainable transportation network.

Land Use & Urban Form Checklist

- ☐ Densities are sufficient to support transit (3 to 7 households an acre / 4 to 7 jobs an acre).
- ☐ Highest density land uses are located close to activity nodes such as transit corridors and intersections.
- ☐ Proposed use provides or adds to a diversity of land uses in the surrounding area and does not result in large tracts of similar uses.
- ☐ Proposed use is compatible with adjacent land uses and with long-term land use plans for the area.
- ☐ Adjacent street network provides for connectivity of transit, cycling, and pedestrian routes.
- ☐ Mixed uses help support non-motorized transportation.

Safety & Security Checklist

- ☐ Overall site design minimizes conflict points between vehicles, pedestrians, and cyclists.
- ☐ Sight distances are considered in site design and placement of signage and landscaping.
- ☐ Personal security for pedestrians, cyclists, and transit users is considered.
- ☐ Buildings are located close to the street, with adequate clearance for pedestrian activities.
- ☐ Where appropriate, retail, restaurants, and other pedestrian-oriented uses animate the street frontage.

Building Entrances Checklist

- ☐ Building entrances are located close to the street with direct pedestrian access.
- ☐ Potential conflict points between users arriving by different modes are minimized.

Internal Transportation Network Checklist

- ☐ Roads and paths connect to surrounding networks and ensure direct routes for cyclists and pedestrians.
- ☐ Block lengths are limited; mid-block crosswalks are provided where appropriate.
- ☐ Traffic-calming principles are applied where needed (proper site design should avoid the need to apply extensive traffic calming).
- ☐ Site allows for smooth transit flow.

Desired Pedestrian & Cyclist Routes Checklist

- ☐ Safe, continuous, and clearly defined pedestrian and cyclist routes are provided along desire lines, including connections to nearby residential areas.
- ☐ Weather protection and amenities such as trees are provided.
- ☐ Intersections are designed to facilitate pedestrian and cyclist crossings.

Transit Stops Checklist

- ☐ Walking distances to stops do not exceed 1,300 feet, and paths are safe and direct.
- ☐ Waiting areas are well-lit and attractive.

Site Grading Checklist

- ☐ Terrain along pathways is reasonably level, and ramps are provided where stairs are needed.
- ☐ Slopes along pathways are designed to avoid ponding of water and slush.

Bicycle Parking Checklist

- ☐ Short-term bicycle parking is near entrances and highly visible.
- ☐ Long-term, weather-protected, secure bicycle parking is provided, including gear storage.
- ☐ Showers, changing rooms, and lockers are available within employment centers.
- ☐ Outlets are available for e-bike charging.

Motor Vehicle Parking Configuration & Treatment Checklist

- ☐ Off-street parking is located away from the street, ideally behind buildings or underground.
- ☐ Vehicle and pedestrian access are separate. Entry/exit controls do not block pedestrian paths.
- ☐ Parking lots are small and designed to prevent speeding.
- ☐ Protected pedestrian walkways are provided through lots.

Motor Vehicle Parking Supply & Management Checklist

- ☐ Off-street parking is provided, where needed, to the sides or rear of buildings.

Loading Areas Checklist

- ☐ Loading areas are off-street and screened from public view.
- ☐ Access does not disrupt pedestrian, cyclist, or transit routes.

Passenger Pick-up & Drop-off Areas Checklist

- ☐ Areas are located to the side or rear of buildings, downstream from the entrance, and no more than 100 feet away.

Internal Road Design Checklist

- ☐ Appropriate traffic signals and compact intersection geometry control speeds and ensure cyclist safety.
- ☐ Roads are designed to cross at right angles with clear sight lines.
- ☐ Lanes accommodate both vehicles and cyclists and promote awareness of other networks on the site.
- ☐ Facilities for cyclists and other sustainable modes are integrated throughout the site.

Transit Facilities Checklist

- ☐ Stops are located near the main entrances of activity generators, with crosswalks provided at all stops.
- ☐ Stops and waiting areas are well-lit, visible, and equipped with necessary amenities (shelters, benches).
- ☐ Spacing between stops is minimized.
- ☐ Shelters and rest areas are provided at high-use locations, including for elderly and disabled users.
- ☐ Shelters and rest areas are identifiable, accessible, visible, place appropriately and comfortable.

Pedestrian Facilities Checklist

- ☐ Sidewalks follow all roads and pedestrian desire lines.
- ☐ Properly signed crossings are provided wherever a sidewalk or path crosses a road.
- ☐ Pathways are well-defined, unobstructed, and wide enough for safe use.
- ☐ Appropriate amenities such as lighting and weather protection are included.

Wayfinding Checklist

- ☐ Signage and physical markers help users identify their location, destination, and how to reach it.

Street Furniture & Amenities Checklist

- ☐ Amenities are provided to create a comfortable and attractive environment, reduce litter, and respond to user needs

Landscaping Checklist

- ☐ Landscaping design does not compromise user security or safety.
- ☐ Landscaping integrates with amenities to enhance the site experience.

Programs

Changing firmly established transportation patterns does not happen overnight. Programs introduce people to new facilities and new ways to travel.

Across all programs, one guiding principle should remain constant: treating all roadway users as fellow human beings worthy of respect, safety, and consideration. While no single program can transform transportation culture on its own, together, these efforts can create a steady drumbeat of change.

The following recommended programs are designed to address community concerns around maintenance, amenities, and safety.

Enhanced Maintenance Regiment

The desire for better maintenance of existing bicycle and pedestrian facilities was a recurring theme in both phases of public input. Under the current ordinance, property owners are responsible for sidewalk repairs. To explore a City-managed approach, such as creating a dedicated funding source or millage, the ordinance would need to be updated in coordination with City Council and the City Attorney's office. With the right support, the City can take a more active role in keeping walking and biking routes safe, clear, and accessible year-round.

Seasonal Scheduled Maintenance—using the guide in Chapter 5 as a starting point, develop, budget, fund, and implement a program for public rights-of-way and parks.

Proactive Scheduled Maintenance—using the guide in Chapter 5 as a starting point, develop, budget, fund, and implement a program for public rights-of-way and parks.

Sidewalk Evaluation—implement a program where the 20 to 25% of the city's sidewalks are evaluated in a systematic manner each year for broken pavement, uneven surfaces (1/2" or more) and areas with major ponding/icing.

New Sidewalk / Sidepath Repair Funding Approach—establish a dedicated funding source such as a millage to transfer the responsibility of paying for sidewalk repairs from the adjacent landowner to the City. This will be especially critical along major roadways where existing 5' wide sidewalks will be replaced with 8' to 12' wide pathways.

Snow Removal—establish a dedicated funding source such as a millage for snow removal from pathways, sidewalks and bicycle facilities along major roadways; transit stops and shelters; and crossing islands. This should include capital costs for specialized equipment necessary to clear snow and debris from bike lanes and cycle tracks.

ROLES AND RESPONSIBILITIES

Engineering Division—program development, evaluation and budget estimates

The Public Works Department—program development, budget estimates, and implementation

Parks and Recreation—program development, budget estimates, and implementation

Mayor and City Council—funding strategy and budgeting

Active Transportation Amenities

Residents expressed strong desire to create more inviting public rights-of-way and trails.

Rest Areas—provide benches with trash receptacles, and landscaping approximately every 1/3 mile along major roadways and more frequently along shared-use pathways in parks. Strategically locate and provide wayfinding to public water sources and public restrooms.

Bike Parking—develop design standards based on the latest version of the Association of Pedestrian and Bicycle Professionals Bicycle Parking Guide that address requirements for new commercial and housing developments, establishes a program to incentivize bike parking in existing developments, and provides parking in existing public spaces.

Transit Shelters—coordinate with SMART to provide additional transit shelters concurrent with the addition of major active transportation investments such as separated bike lanes, cycle tracks, and major mid-block crossings.

Street Trees—wherever feasible, provide street trees between the roadway and the sidewalk / sidepath to improve the quality of service for pedestrians and bicyclists, enhance the appearance of the street, and help mitigate stormwater.

Community Art—look at the feasibility of establishing both permanent and rotating art exhibits along the Iron Belle Trail.

Bicycle Repair Stands—concurrent with the implementation of major active transportation facilities, provide bicycle repair stands.

Interpretive Systems Along Trails—incorporate interpretive signage along the Iron Belle Trail and the Riverwalk that explore the city's history and natural systems.

Evaluate Feasibility of Bike Share Program—after substantial completion of the Core Active Mobility Network, evaluate the feasibility of expanding the regional bike share program in the city in collaboration with MoGo.

ROLES AND RESPONSIBILITIES

Planning Department— bike parking, transit shelters

DDA and TIFA— street trees, transit shelters, community art, and bike share programs

Sidewalk & Tree Board of Review— street trees

Beautification Commission —rest areas and community art

The Public Works Department —rest areas, bike parking, transit shelter locations and bicycle repair stands

Parks and Recreation—interpretive systems and community art

Mayor and City Council—funding strategy and budgeting

> Love seeing benches and bus stop shelters and safer street lighting on the list.
>
> PUBLIC INPUT

Safety

Concerns regarding both personal safety and traffic safety were expressed regarding both existing and proposed facilities.

Crosswalk Lighting—add street lighting that illuminates the side of the pedestrian facing oncoming traffic at all mid-block and signalized intersections.

Pathway Lighting—incorporate solar pathway lighting for all off-road paved trails.

Security Cameras and Emergency Call Boxes—incorporate in off-road sections of the Iron Belle Trail.

New Facility Outreach—when a new active transportation facility is completed, hold a ribbon cutting ceremony with city staff on hand to explain how it works paired with a social media campaign to help motorists, bicyclists, and pedestrians understand rules and responsibilities.

Paired Education and Enforcement Programs—where traffic violations are observed, set up a well-publicized education program where police issue warning citations with explanations of the law. Following a period of education, set up an enforcement action with citations and fines.

Pathway Patrols—for off-road sections of trails, provide a police presence. Ideally officers are on bicycle and/or foot patrols.

Adopt the National Association of City Transportation Officials (NACTO) Guidelines—to incorporate current best practices for active transportation facilities.

ROLES AND RESPONSIBILITIES

Police Department—pathway patrols and security camera and emergency call box monitoring

Communications Department—new facility outreach and education / enforcement programs

Engineering Division—NACTO Guidelines

The Public Works Department— new facility outreach, security cameras and emergency call boxes

Mayor and City Council—funding strategy and budgeting

> Overall I'm excited about this plan, but am concerned about the safety of walking and riding through the city.
>
> PUBLIC INPUT

Metrics

Active transportation planning is an iterative process that requires regularly revisiting policies, physical improvements, and programs—and adjusting plans accordingly. Effective methods for measuring progress are essential as the community considers how to invest in its transportation network. The recommended metrics combine quantitative data, community sentiment, and benchmarking against peer cities.

These metrics provide a foundation for mid-course corrections as the active transportation system continues to develop.

Demonstration Project Evaluation—for near-term "paint and post" type projects, evaluate use and safety prior to construction as well as after the project has been established for a while. The evaluation should include counts, audits, and community surveys.

Bike and Pedestrian Count Program—Incorporate permanent pedestrian and bicycle counters into all new major active transportation projects, such as separated bike lanes, cycle tracks, and shared-use pathways. Before implementing significant infrastructure changes on key corridors like Van Dyke Avenue and 9 Mile Road, conduct pre-project baseline counts to document existing walking and biking activity. Explore opportunities to partner with SEMCOG through their regional bicycle and pedestrian count program to support consistent and reliable data collection.

Yearly Crash Evaluation—each year evaluate crashes involving pedestrians and bicyclists that looks at citywide trends as well as new active transportation facilities and takes into consideration use.

Community Survey—every few years, survey residents on their perceptions, questions, and satisfaction with the developing active transportation system.

ROLES AND RESPONSIBILITIES:

Engineering Division—Demonstration Project Evaluation

Police Department—Crash Evaluation

Communications Department—Community Survey

Interdepartmental - Crash Program

CHAPTER FOUR

IMPLEMENTATION STRATEGIES

A PHASED APPROACH TO BUILDING WARREN'S ACTIVE MOBILITY NETWORK

Implementing Warren's Active Mobility Plan requires a thoughtful, phased approach that prioritizes improvements based on community needs, safety, and readiness. By organizing actions into **near-, mid-, and long-term strategies**, the City can maintain steady progress while setting the stage for transformative change.

This chapter outlines a roadmap to build and sustain a safe, connected, and equitable active mobility network. **Each phase builds upon the last,** creating a solid foundation that aligns with community priorities, promotes healthier lifestyles, and ensures equitable access to mobility options for all. The strategies presented here collectively support the plan's vision by **upgrading infrastructure, improving safety, advancing supportive policies and programs, and fostering a more comfortable, welcoming, and well-connected citywide network.**

To guide implementation, the chapter is organized into the following five focus area.

Complete, Repair & Maintain Existing Infrastructure

Create Safe Street Crossings

Implement Policies, Programs, and Metrics

Establish a Connectivity Framework

Create Comfortable and Inviting Public Spaces

IMPLEMENTATION STRATEGIES

Complete, Repair & Maintain Existing Infrastructure

A key pillar of Warren's Active Mobility Plan is ensuring that existing infrastructure is safe, accessible, and well-maintained. This strategy focuses on **improving access along the mile roads and strengthening connections to parks, schools, and civic centers**—places where walking and biking should be convenient and comfortable for all residents.

NEAR-TERM

Update Policies for Sidewalk Maintenance

Planning, Engineering

Address Critical Sidewalk Gaps

Planning, Engineering, Public Works, MDOT, County

Maintain Safe and Accessible Conditions for Pedestrian and Bicycle Infrastructure, Including Surface Repairs and Vegetation Management

Public Works

MID-TERM

Develop Complete Maintenance Regiment Including Snow Removal
Planning, Public Works

Conduct Yearly Sidewalk Evaluations and Assessments
Engineering

Conduct Seasonal and Routine Maintenance of Sidewalks, Trails, Vegetation, and Public Amenities (e.g., benches, bike racks)
Public Works

Install Pedestrian-Scale Lighting in High-Use Areas Such as Commercial Corridors, Transit Stops, and Activity Centers
Planning, Engineering

LONG-TERM

Expand Pedestrian Lighting to Enhance Comfort and Safety
Planning, Engineering

Begin Dedicated Snow and Debris Removal on Active Mobility Facilities
Public Works

Establish Dedicated Funding Source for Sidewalk Repairs
Planning, Engineering

Establish Dedicated Funding Source for Snow Removal along Major Corridors, Transit Stops, and Crossing Islands
Planning, Engineering

IMPLEMENTATION STRATEGIES

Complete Safe Street Crossings

Creating safer street crossings is key to making Warren more walkable and bike-friendly. This strategy focuses on **busy intersections, mid-block crossings, and bus stops** where people often have trouble crossing safely. Improving these areas will make travel more comfortable and visible for people walking, biking, or taking transit—especially near schools, parks, and shopping areas

NEAR-TERM

Improve Critical Mid-block Crossings
Planning, Engineering

Implement Safety Improvements at Priority Intersections
Planning, Engineering

Install Crosswalk Lighting at Mid-block Locations
Planning, Engineering

Install In-Street Pedestrian Signs at Crosswalks on Half-Mile Roads and Local Roads to Address Speeding
Planning, Engineering

MID-TERM

Ensure ADA Compliant Intersections
Planning, Engineering

Install Traffic Calming Treatments on Half-mile and Local Roads to Address Speeding and Running Stop Signs
Planning, Engineering

Pursue Safe Routes to School (SRTS) initiatives with Van Dyke Public Schools for Lincoln High, Middle, and Elementary School Campus
Planning, Engineering, County, Van Dyke Public Schools

LONG-TERM

Upgrade and Widen Existing Sidewalks and Pathways
Planning, Engineering

Complete Mid-Block Crossings
Engineering, MDOT, County

Upgrade Intersections with Safety Features to Prioritize People Walking and Biking
Engineering, MDOT, County

IMPLEMENTATION STRATEGIES

Implement Policies, Programs and Metrics

Establishing strong **policies, programs, and performance metrics** is essential to supporting Warren's long-term success in active mobility. This strategy focuses on creating a system that ensures ongoing progress, accountability, and public engagement. By integrating improvements into existing processes, securing funding, and tracking outcomes, the City can make walking and biking safer and more accessible for everyone.

NEAR-TERM

Implemented Monthly Staff Coordination Meetings Between City Departments

Planning, Engineering, Parks & Rec, Police, Public Works, Communication, Mayors Office

Establish Active Transportation Advisory Committee

Planning, Engineering, Parks & Rec, Police, Public Works, Communication, Mayors Office, Local Residents

Adopt NACTO Guidelines

Planning, Engineering

Develop Active Transportation Site Plan Checklist

Planning, Engineering

Adopt Complete Street Ordinance

Planning, Planning Commission, City Council

Educate the Public About New Facilities

Planning

Apply for Grants

Planning, Engineering, Parks & Rec

MID-TERM

Pair Education with Enforcement
Planning

Develop ADA Transition Plan for Sidewalks and Crosswalks in the Public Right-of-way
Planning, Commission on Disabilities

Launch Bike Share Feasibility Study
Planning, MoGo

Pursue Safe Routes to Schools Program with Lincoln School Campus at 9Mile and MacArthur
Planning

Conduct baseline pedestrian and bicycle counts on corridors like Van Dyke and 9 Mile
Interdepartmental Coordination

Conduct Yearly Bicycle and Pedestrian Crash Evaluations
Police

LONG-TERM

Update Planning Documents
Planning

Implement Bike and Pedestrian Count Program at permanent locations
Planning

Conduct Community Surveys
Communications

Implement Proactive Education & Enforcement Campaigns
Police, Communications

Implement Bike Share Program
Planning, MoGo

IMPLEMENTATION STRATEGIES

Establish a Connectivity Framework

A **well-connected active mobility network** is the foundation for a city where people of all ages and abilities can safely and comfortably reach key destinations. This strategy focuses on building and enhancing **trails, bike facilities, and pedestrian routes** that link neighborhoods to parks, schools, civic spaces, and commercial areas.

NEAR-TERM

Finalize Design of Iron Belle Trail and Secure Easements
Planning, MDNR, ITC, County

Determine Funding For Van Dyke Corridor Plan Improvements
Planning, Engineering, MDOT

Implement Demonstration Projects on Martin & Common
Engineering, Planning

Begin Easement Coordination for Red Run
Planning, Legal

Begin Easement Coordination ITC Corridor
Planning, Legal

Build Bike/Ped Bridge over Red Run
Planning, Engineering, Parks and Rec

Implement Local Road Bike Routes
Planning, Engineering

Coordinate improvements on Half-Mile Roads with Upcoming Road Projects
Planning

Conduct Road Safety Audit on 9 Mile Road and 8 Mile Road
Engineering, County

MID-TERM

Build out the Core Network
Planning, Engineering, MDOT, County

Build the ITC Trail
Planning Department, Engineering, Parks & Rec, ITC

Begin River Walk Planning
Planning, Engineering, Parks & Rec

Implement River Walk Nature Trail & Sledding Hill
Planning, Engineering, Parks & Rec

Evaluate Demonstration Projects
Engineering

Install Town Center Bike Facilities with Redevelopment
Planning, Engineering, DDA and TIFA

Install Van Dyke Corridor Plan Improvements
Planning, Engineering, MDOT

LONG-TERM

Build the River Walk Trail
Planning, Engineering, Parks & Rec

Make Demonstration Projects Permanent
Planning, Engineering

Complete Iron Belle Trail Construction
Planning, ITC, MDNR

Implement Separated Bike Facilities and Other Major Road Improvements as Part of Road Reconstruction Projects
Engineering

Road Diet and Updates to 9 Mile Corridor
Planning, Engineering, County

IMPLEMENTATION STRATEGIES

Create Comfortable and Inviting Public Spaces

A successful active mobility network isn't just about getting from point A to B—it's also about **creating places where people want to be.** This strategy focuses on placemaking and comfort by integrating shade, rest areas, public art, lighting, and other amenities that enhance the walking and biking experience. These improvements **make streets and trails feel safer, more inviting, and more connected** to the community.

NEAR-TERM

Install Bike Parking in Public Spaces
Planning, Public Works

Incorporate Rest Areas with Benches and Trash Receptacles
Planning, Public Works, Beautification Commission

Design Wayfinding and Interpretive Signage Concepts
Planning

MID-TERM

Pilot a Bike Hub with Seating, Parking, Shade, Bicycle Repair Station and Info Boards
Planning, Engineering, SMART

Program for Installing Bike Parking in Private Developments
Planning Department

Implement Street Tree Infill Program
Planning, Public Works, Sidewalk & Tree Board of Review

Add Bus Shelters
Public Works, SMART, DDA and TIFA

Install Wayfinding and Interpretive Signage
Engineering, Public Works

Add Bicycle Repair Stations and Water Filling Stations
Planning, Parks & Rec, Public Works

LONG-TERM

Promote Pedestrian-Focused Development
Planning Department

Create Bike Hubs
Planning Department

Incorporate Community Art
Planning, DDA and TIFA, Beautification Commission

Incorporate Green Infrastructure
Planning Department, Public Works

Enhance Lighting and Safety
Planning Department

Establish Pathway Patrols for Off-road Trails
Police

Install Emergency Call Boxes and Cameras
Police, Public Works

CHAPTER FIVE

FUNDING AND MAINTENANCE

INVESTING IN THE FUTURE AND ENSURING LONGEVITY

Creating a connected, safe, and accessible active mobility network is not just about visionary planning—it's about strategic investment and long-term care. This chapter outlines how Warren can build and sustain its active mobility infrastructure by aligning funding sources, integrating improvements into existing roadway projects, and committing to ongoing maintenance.

By **leveraging roadway projects**, the City can cost-effectively implement active mobility enhancements whenever streets are resurfaced, reconstructed, or upgraded. This approach ensures that complete streets principles are consistently applied and that safety improvements are embedded into routine infrastructure work.

A variety of **funding strategies—**including federal and state grants, local funds, and partnerships—are available to support these improvements. Tapping into these resources requires aligning with current design standards, demonstrating community need, and often, providing local matching funds.

To support long-term implementation, this section includes **master plan level budget estimates** that provide a high-level understanding of future capital needs. These projections are organized by improvement type—such as new trails, bike lakes, sidewalk gap closures, mid-block crossings, lighting, and amenities. While not tied to individual project scopes, these estimates offer a realistic framework to prioritize investments, guide funding decisions, and identify potential resource gaps over time.

Finally, **maintenance** plays a crucial role in the longevity and effectiveness of the active mobility network. From pavement markings and surface repairs to signage and lighting, maintaining infrastructure ensures it remains safe, accessible, and inviting for all users.

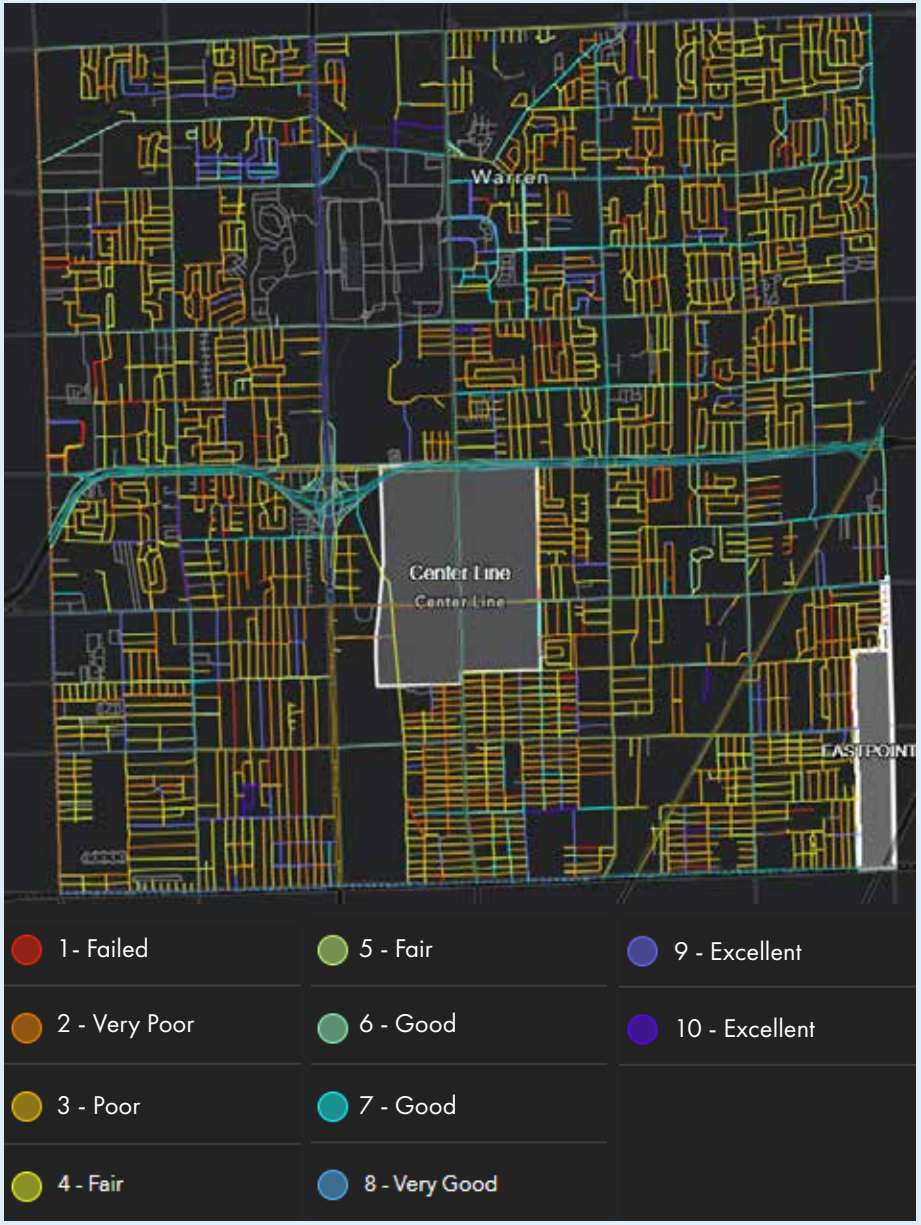
Together, these strategies form the backbone of a sustainable and equitable mobility system—one that not only meets today's needs but stands strong for future generations.

FUNDING AND MAINTENANCE

Leveraging Roadway Projects

Whenever any improvement is made to a roadway for motorized traffic, it is an opportunity to economically implement active mobility improvements. Guidelines for resurfacing, restoration, and rehabilitation projects recommend addressing safety concerns as part of the project even if it is outside of the scope of primary purpose of the improvement such as resurfacing the roadway. Given the 20-to-25-year life-span of a typical roadway reconstruction project, this is the only way to create a complete street network.

On many road segments in Warren, the most basic pedestrian and bicycle facilities and safety measures are absent. To improve or expand facilities for motorized traffic while neglecting the safety of active mobility users is unconscionable and flies in the face of complete streets policy. In general, Warren has done a good job of integrating elements such as sidewalks and sidepaths into roadway projects but there is room for improvement. The following is a measured approach to incrementally implementing the major road guidelines as part of roadway projects. This will require close coordination with the Macomb County Department of Roads and MDOT.



Pavement Surface Evaluation and Rating System (PASER) 2024—Each fall, City of Warren staff assess road conditions using the PASER system. Roads are rated from 10 (excellent) to 1 (failed) using GPS-enabled software. The results are shown on this map with color-coded segments to reflect pavement condition.

Pavement Markings

Depending on the nature of the pavement markings (paint vs. thermoplastic) these improvements are made at least once a year or at least every three years. Often pavement marking is simply a repeat of what is currently in existence. But standards have changed over time and there are markings that should be reconfigured or upgraded. For example, there are places where the bike lane is to the right of a designated right-turn lane. The first step would be to evaluate all current pavement markings to see if they comply with current best practices. Then based on that evaluation the following improvements should be incorporated into all pavement marking projects:

Source: FHWA Crosswalk Visibility Enhancements

Crosswalks

Upgrade parallel line marked crosswalks to high-visibility ladder style crosswalks with 1′ bars and 2′ spacing.

Bike Lanes and Paved Shoulders

Place bike lanes appropriately, using pocket bike lanes between through and designated right-turn lanes. Narrow travel lanes to 11′ wide to maximize the width of paved shoulders / bike lanes. Use dashed bicycle intersection crossings with green paint as per the guidelines. Add Bike Boxes and Two-Stage Turn Queue Box at intersections as per the guidelines.

Capital Improvement Plan (CIP) Projects

Standalone active mobility CIP projects should prioritize implementation of facilities identified in the Near-term Network. Other non-transportation-related CIP projects such as underground utility work that will require the removal of existing active mobility infrastructure, the active mobility infrastructure should be replaced as per the guidelines. When non-transportation related CIP utility projects clear a linear path within a road right-of-way where a Sidewalk or Sidepath is proposed, the utility project should include the construction of the sidewalk or Sidepath as per the guidelines.

CIP projects are also an appropriate place to address lighting, landscaping, amenities, and wayfinding projects.

Resurfacing, Restoration, and Rehabilitation (3R) Projects

These projects are done throughout the 20-to-25-year lifespan of a typical roadway. These projects should incorporate the most pressing safety measures. Add all safety elements within the road ROW including:

- **Bike Lanes** — In many cases some combination of narrowing the travel lanes and widening the shoulder will be necessary. Buffered bike lanes using pavement markings and delineator posts may be used as an interim measure where separated bike lanes are called for in the long-term plan. Incorporate appropriate safety and regulatory signage.
- **Completing Sidewalks and Sidepaths** — Gaps should be filled based on the guidelines but the existing facilities do not necessarily need to be brought up to current standards. If the existing sidewalk or sidepath is also in need of repair, those facilities should be upgraded as per the guidelines. Incorporate appropriate safety and regulatory signage.
- **Mid-block Crosswalks** — In most cases, this will require widening the roadway and/or removing by-pass or acceleration/deceleration lanes. The mid-block crosswalks should be constructed as per guidelines. Incorporate appropriate safety and regulatory signage, beacons, and signals.
- **Intersections** — Depending on the active mobility facilities approaching the intersection, upgrade the intersection to accommodate the intersection treatments as per the guidelines. Incorporate appropriate safety and regulatory signage.

If roadway lighting is a part of the 3R projects, address the lighting at crosswalks and intersections. Evaluate the feasibility of incorporating solar based lighting at intersections and mid-block crosswalks.

New Construction / Reconstruction (4R) Projects

All facilities and other key elements should be incorporated into the project.

Roadway Widening

All facilities and other key elements should be incorporated into the project.

Safety Projects

Any spot or corridor based motorized safety improvements should also incorporate all active mobility safety facilities within the road ROW as outlined under the 3R projects. Address lighting at crosswalks and intersections.

Funding Strategies

To be eligible for non-motorized grants, most projects must align with AASHTO guidelines, ensuring safety and design standards. Communities like Warren, which serve a higher percentage of at-risk populations, may be eligible for more favorable grant terms.

MDOT Transportation Alternatives Program (MDOT TAP)

Funds projects that improve pedestrian and bicycle facilities like sidewalks, bike lanes, and trails. It also supports streetscape enhancements, historic preservation, safe routes to school, and other initiatives promoting active transportation and community livability. Local agency safety funds may also be available through MDOT. MDOT local safety funds may also be available.

SEMCOG Transportation Alternatives Program (SEMCOG TAP)

Finances projects that enhance pedestrian and bicycle infrastructure, trails, streetscape improvements, and safe routes to school initiatives. While similar to the MDOT TAP, the SEMCOG TAP is more regionally focused and aligns with local priorities, fostering community-driven improvements that cater to the unique needs of the Southeast Michigan area.

Safe Routes 2 School (SR2S)

Focuses specifically on improving the safety and accessibility of routes that students take to school. Funding can be used for projects that enhance sidewalks, crosswalks, bike lanes, traffic calming measures, and educational initiatives to encourage walking and biking to school.

Michigan Resources Trust Fund (Trust Fund)

Supports projects that enhance outdoor recreation and natural resources, including recreation trails, trail amenities and property acquisition. Funding from this source contributes to improving pedestrian and cyclist access to natural areas and recreational facilities.

Act 51 Sec. 10k

Funding focuses on projects that enhance pedestrian and bicycle safety within transportation corridors, including planning, education and construction. This funding opportunity supports improvements like crosswalk upgrades, sidewalk enhancements, and traffic calming measures that prioritize non-motorized safety.

Ralph C. Wilson, Jr. Foundation

Provides funding to enhance parks and trails, creating vibrant spaces for community engagement. This includes investments in pedestrian and bicycle infrastructure, trail development, and amenities that promote active lifestyles and accessible outdoor spaces.

General Fund, Mileages, TIFA/DDA

General funds, special assessments, tax increment financing authorities (TIFA), and Downtown Development Authorities (DDA) can be used to fund a wide range of non-motorized elements. These funding sources may support initiatives like sidewalk improvements, bike lane installations, streetscape enhancements, and other pedestrian-friendly amenities.

Foundations & Businesses

Foundations and businesses contribute to non-motorized projects by providing grants and sponsorships for infrastructure development, community engagement, and safety initiatives. These funds can support a variety of non-motorized elements, but typically have specific criteria and special purpose funds can be created.

Master Plan Level Budget Estimates

This section provides **high-level cost estimates** for a range of active mobility infrastructure types. These figures are intended for use in preliminary planning, grant preparation, and long-range budgeting. Costs represent general ranges based on typical conditions and recent projects in Michigan and similar communities.

It's important to note that **construction costs are continually evolving** due to market fluctuations, material availability, labor rates, and inflation. In addition, **site-specific design details**—such as grading, drainage, utility conflicts, and right-of-way limitations—are not yet known at the citywide level, which can significantly impact final costs. As such, the estimates in this section are **planning-level figures** and should be refined during the design and engineering phases of individual projects.

Lifecycle Cost Considerations

Developing a comprehensive active mobility network requires thoughtful financial planning—**not only for initial capital costs, but also for long-term sustainability**. Lifecycle costs should be factored into both capital improvement planning and ongoing municipal budgets.

Key cost considerations include:

- **Planning and Design** — Includes public engagement, environmental review, and engineering, and typically accounts for 10%–20% of total project costs. This includes soft costs such as Planning and Preliminary Engineering (3%), Construction Engineering (10%), Construction Administration (5%), and allowances for Surveying, Wetland Marking, and Geotechnical Services (2%).

  Hard Costs should separately account for items such as Mobilization (5%) and a Construction Contingency (15%) to cover unforeseen conditions and cost fluctuations during implementation.

- **Operations and Maintenance** — Regular maintenance is essential for safety and infrastructure longevity. This includes snow and ice removal, vegetation management, routine inspections, and long-term repairs such as resurfacing.

- **Programming and Education** — Outreach, wayfinding, and safety education help increase network usage, build community support, and encourage behavior change.

Infrastructure Type	Unit	Unit Price	Notes
Shared Use Path 11 feet	Linear Feet	$115	Concrete/HMA - based on recent MDOT bid costs - assumes good soils in the area
Shared Use Path 15 feet	Linear Feet	$150	Concrete/HMA - based on recent MDOT bid costs - assumes good soils in the area
Solar Powered Pedestrian Scale Lighting	Each	$3,900	Includes foundation, light pole, luminaire (solar powered) - recent MDOT bid costs (pedestal, pedestal foundation, luminaire)
Emergency Call Box	Each	$15,000	Estimated average installation cost from Penn State University police department - includes infrastructure such as communication underground installation
Buffered Bike Lane	Linear Feet	$10	Range varies from $5-$20 - this includes double white lines with cross hatching, signage, durable pavement marking bike and arrow symbols in bike lane
Raised Curb and Posts for Beginning of Buffered Bike Lane or Two-Way Cycle Track	Linear Feet	$200	Similar to cost per foot for two-way cycle track
Separated Bike Lane - Quick Build	Linear Feet	$20	Similar to buffered bike lane - range varies from $5-$20 - this includes single white line, signage, durable pavement marking bike and arrow symbols in bike lane, single side of street
Separated Bike Lane - Permanent	Linear Feet	$200	Considered similar to cycle track with curbed section, single side of street
Two-Way Separated Bike Lane - Quick Build	Linear Feet	$25	Similar to buffered bike lane with markings between directions - this includes double white lines with cross hatching, signage, durable pavement marking bike and arrow symbols in bike lane
Two-Way Cycle Separated Bike Lane - Permanent	Linear Feet	$200	Considered cost of curb installation from MDOT recent bid costs
Two-Way Separated Bike Lane with Landscaped Buffer	Linear Feet	$400	Dependent on type of landscaping materials used
Protected Intersection	Each	$½ to1million	Costs vary from installed intersections around the country - quick build vs. permanent - size of intersection
Raised Crosswalk	Feet	$8,200	FHWA Countermeasure Tech Sheet (2022) average price per each - 2-3 lane roadways - $250-$340 per foot
Landscaped Median	Square Foot	$25	Considered bioswale costs (higher end)
Paint and Post Curb Extensions	Each	$5,100	Vertical delineators and paint - NHTSA Low-Cost Pedestrian Safety Zones 2023
Mini Neighborhood Roundabout	Each	$250,000	Can be as low as $50,000 if using just markings but to include raised islands and pedestrian improvements increases fees - various planning cost sources
Green Paint Marked Bicycle Crossing	Each	$10,000 to $18,000	Each intersection; $10-15 per sq ft marking; durable marking - recent MDOT project bids
High Visibility White Paint Marked Pedestrian Crossing	Linear Feet	$20	10 ft wide crosswalk - recent MDOT project bids
Pedestrian Hybrid Beacon - Pair - Mast Arm Over Two-Lanes	Each	$150,000	Commonly called a HAWK in Michigan - common planning level cost based on recent MDOT bids
Pedestrian Rectangular Rapid Flash Beacon -Pair - Side Mounted	Each	$22,000	Pair - Side Mounted, includes foundation, pole, beacon, sign for both sides of the roadway - recent MDOT bid costs
14 foot Wide Boardwalk with Railings	Linear Feet	$1,200	Recent MDOT bid prices
14 foot Wide Pedestrian Bridge	Linear Feet	$7,000	Single span prefabricated truss bridge with concrete deck and abutments
Crossing Island	Square Foot	$10	FHWA Countermeasure Tech Sheet (2022) average price per square foot

Maintenance

Maintenance of active mobility facilities is crucial to ensure the safety, accessibility, and aesthetics of public spaces. Scheduled preventative maintenance is generally more cost effective as well as easier to budget for than relying on reactionary maintenance. The City should establish a detailed maintenance plan that specifies standards, schedules, and quality control based on best practices.

To better address unscheduled maintenance needs that arise from storms, vandalism, crashes, etc., the city should expand awareness of the request assistance text program by including information about the program on signs along key non-motorized facilities.

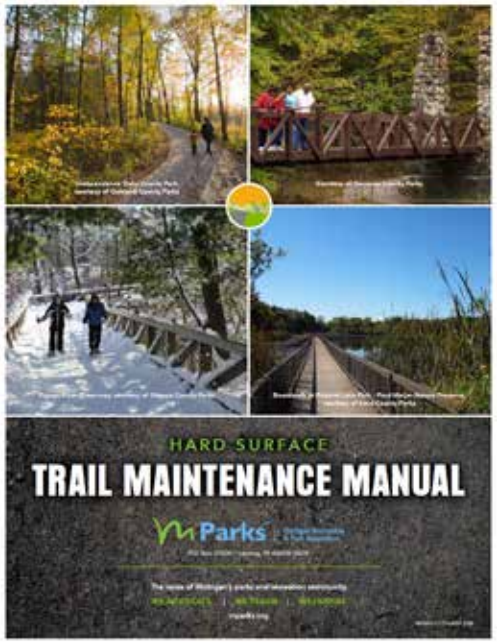
The following pages outline key yearly and proactive maintenance tasks to be performed on and along non-motorized facilities and associated amenities.

Maintenance Cost Resource

Rails-to-Trails Conservancy's Yearly Routine Rail-Trail Maintenance Costs Per Mile

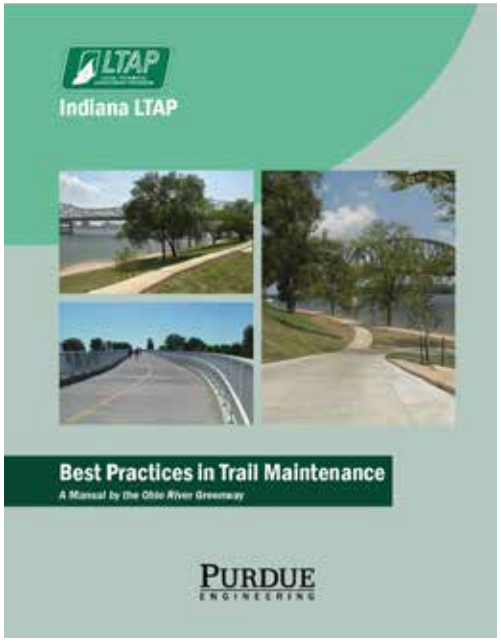
This document, typically updated yearly, provides costs per mile based on six trails in different contexts from around the country.

Trail Maintenance Resources



Michigan Recreation and Parks Association Hard Surface Trail Maintenance Manual

This Michigan specific document for trail managers is designed to help develop a detailed plan and budget for ongoing and long-term trail management.



Indiana Local Technical Assistance Program Best Practices in Trail Maintenance

This manual, prepared for the Ohio River Greenway, includes information on prioritizing maintenance needs and quick reference for commonly encountered maintenance needs.

Winter Maintenance Resource

Toole Design Resource Guide on Winter Maintenance

Information on approaches to snow and ice removal on non-motorized facilities that address environmental concerns, equipment, transit, and ADA requirements.

SEASONAL SCHEDULED MAINTENANCE

SPRING

Sidewalks and Shared Use Pathways

- Sweep pathways of all debris accumulated over the winter
- Collect trash & recyclables weekly

Boardwalks

- Sweep boardwalk of all debris accumulated over the winter
- Inspect railings and repair any winter damage

Mid-Block Crossings

- Sweep Crossing Islands of all debris accumulated over the winter

Roadways

- Scrape excess soil and vegetation from shoulders and bike lanes
- Sweep paved shoulders and bike lanes monthly
- Update painted pavement markings

Amenities

- Clear debris from seating/rest areas
- Turn on water faucets and repair any damage
- Clear out trash and debris from planting beds and rain gardens
- Mulch planting beds and plant annuals
- Refill pet waste bags every other week
- Inspect path and intersection lighting
- Replace pump gaskets and replace any missing tools in bike repair stands
- Mow grass every two weeks

SUMMER

Sidewalks and Shared Use Pathways

- Remove encroaching soil and grass/vegetation from the trail surface
- Trim overhead and adjacent vegetation
- Sweep pathways monthly

Boardwalks

- Trim encroaching overhead and adjacent vegetation

Mid-Block Crossings

- Inspect and maintain/replace signage and delineator posts as necessary

Roadways

- Sweep paved shoulders and bike lanes monthly

Amenities

- Mow as needed
- Weed planting beds and rain gardens
- Refill pet waste bags every other week
- Collect trash & recyclables weekly
- Replace any missing tools in bike repair stands
- Mow grass every two to three weeks as neccessary

FALL

Sidewalks and Shared Use Pathways

- Clear pathway of fallen leaves mid-fall and end of season

Boardwalks

- Clear boardwalks of fallen leaves mid-season and end of season

Mid-Block Crossings

- Clear mid-block crossings of debris

Roadways

- Sweep paved shoulders and bike lanes monthly

Amenities

- Weed planting beds and rain gardens
- Plant annuals
- Shut off water faucets and blow out water lines
- Refill pet waste bags every other week
- Collect trash & recyclables weekly
- Replace pump gaskets and replace any missing tools in bike repair stands
- Mow grass every two weeks

WINTER

Sidewalks and Shared Use Pathways

- Clear snow accumulations over 1/2" from all paved off-road trails, sidepaths, and sidewalks along primary roads
- Salt/sand as necessary for ice control
- Collect trash & recyclables every two weeks or as necessary

Boardwalks

- Clear all snow accumulations over 1/2"
- Sand as necessary for Ice Control (avoid salt over wetland areas and waterway crossing if possible)

Mid-Block Crossings

- Clear all snow accumulations over 1/2"
- Salt/Sand as necessary for Ice Control

Roadways

- Clear bike lanes and paved shoulders of all snow accumulations over 1/2"
- Salt/Sand as necessary for Ice Control

Amenities

- Update wayfinding signs as necessary based on new construction
- Refill pet waste bags every other week
- Clear snow from all Bus Stops

PROACTIVE SCHEDULED MAINTENANCE

EVERY TWO YEARS

Address 1/2 of the City Each Year

Sidewalks and Shared Use Pathways

- Clean out culverts and ditches
- Repair potholes and broken pavement
- Crack seal pathways
- Update thermoplastic pavement markings

Boardwalks and Bridges

- Inspect and repair any loose wood decking
- Clean wood decking of mold/mildew to assure good traction
- Inspect gaps at abutment and adjust trail grade as necessary
- Conduct structural engineering inspection and perform any neccessary critical repairs

Mid-Block Crossings

- Inspect all signs, signals, and delineator posts and repair or replace as necessary

Roadways

- Crack seal bike lanes

Amenities

- Inspect and repair site furnishings as necessary

EVERY FIVE YEARS

Address 1/5 of the City Each Year

Sidewalks and Shared Use Pathways

- Inspect and rate surface condition
- Inspect for positive drainage of surface
- Repair surface defects
- Grind uneven concrete joints
- Sealcoat asphalt pathways

Boardwalks and Bridges

- Inspect and repair wood decking and railings
- Sealcoat boardwalk decking and railings

Mid-Block Crossings

- Inspect and repair curbs and walkways

Roadways

- Sealcoat asphalt paved shoulders and bike lanes

Amenities

- Inspect and replace plantings as necessary
- Inspect and repair kiosks and interpretive signage as necessary

EVERY TEN YEARS

Address 1/10 of the City Each Year

Sidewalks and Shared Use Pathways

- Perform an ADA assessment and address any critial issues
- Resurface asphalt pathways

Boardwalks and Bridges

- Inspect and repair concrete decking
- Repaint all metal elements

Mid-Block Crossings

- Replace signs as necessary to meet reflectivity standards
- Upgrade beacons as necessary to meeting current standards

Roadways:

- Resurface asphalt shoulders and bike lanes

Amenities:

- Inspect and replace site furnishings as necessary
- Inspect and replace bike repair stations as necessary

EVERY TWENTY TO TWENTY FIVE YEARS

Sidewalks and Shared Use Pathways

- Reconstruct asphalt pathways

Boardwalks and Bridges

- Reconstruct boardwalks and bridges, repairing or replacing abutments and pilings as neccessary

Mid-Block Crossings

- Reconstruct mid-block crossing curbs and pavement

Roadways

- Reconstruct intersections

Amenities:

- Replace kiosks and interpretive signage

ACTIVE MOBILITY PLAN

APPENDIX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MACY

APPENDIX A

EXISTING CONDITIONS

EXISTING CONDITIONS

Demographics and Mobility Patterns

The City of Warren, located in Macomb County, Michigan, spans approximately 35 square miles and is home to over 139,000 residents. The city's layout features traditional residential neighborhoods bisected by major arterial roads, expressways, railroads and industrial areas. The City of Warren is surrounded by communities of Detroit, Hazel Park, Madison Heights, Troy, Sterling Heights, Fraser, Roseville, and Eastpointe with the City of Centerline located completely within the City of Warren. The following pages showcase key datasets that provide insights into resident demographics and mobility patterns. Understanding these factors is crucial for developing inclusive and effective strategies to improve accessibility, safety, and connectivity.

139,387 PEOPLE

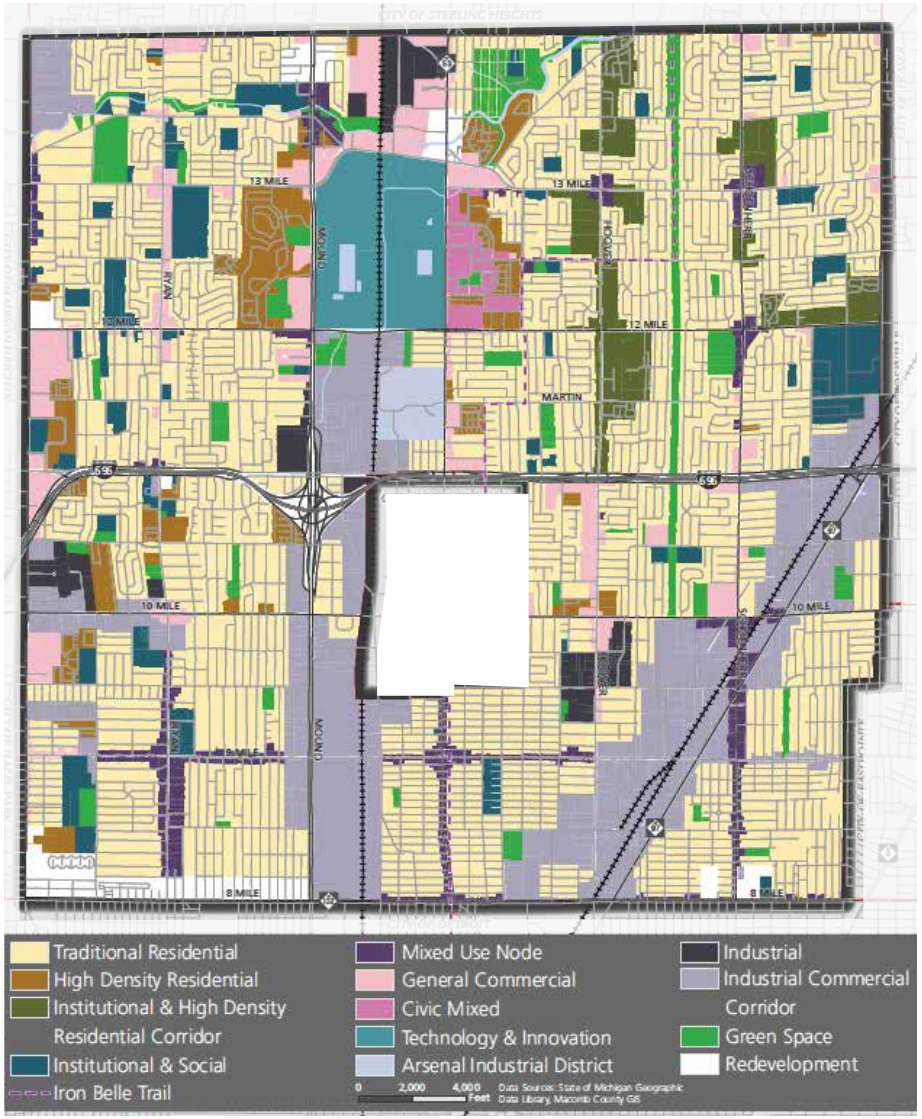
554,933 HOUSEHOLDS

34.4 SQUARE MILES

1% WALK TO WORK

1% RIDE PUBLIC TRANSIT TO WORK

0% BIKE TO WORK



FUTURE LAND USE

Source: Warren

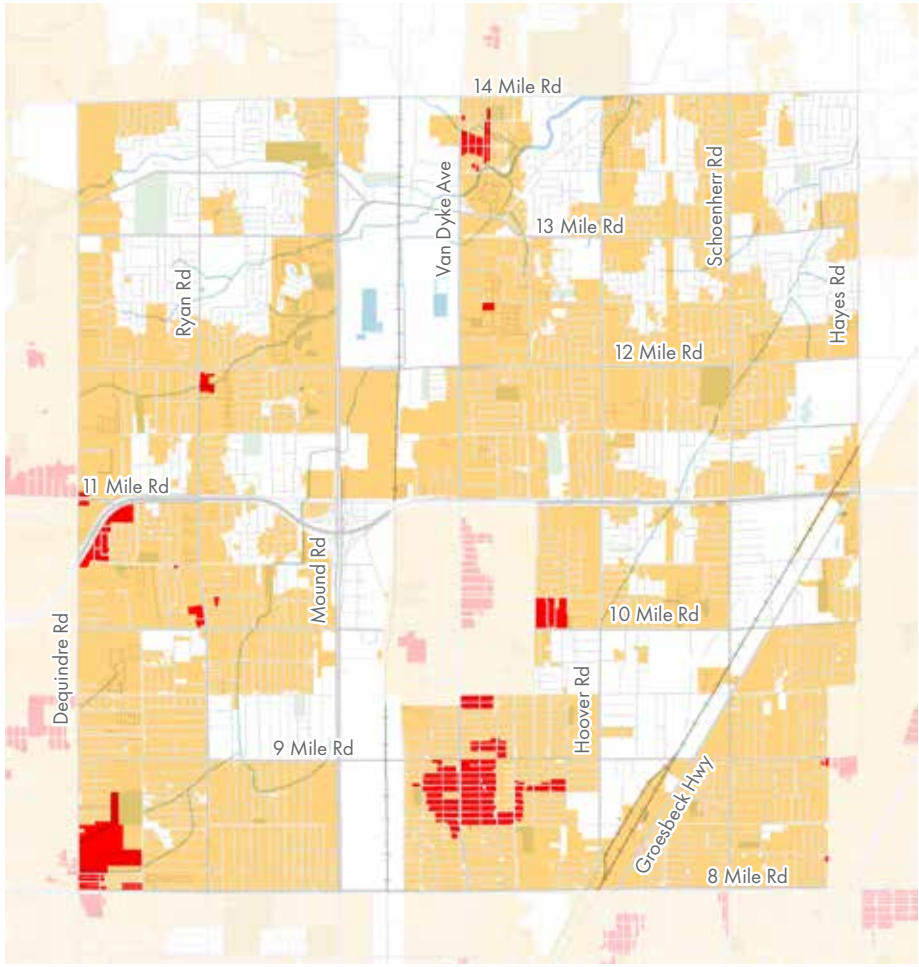
From Warren's 2021 Master Plan, the Future Land Use map outlines anticipated land use patterns and intensities. This data helps inform decisions on where to prioritize pedestrian and bicycle infrastructure.

POPULATION DENSITY

Source: SEMCOG

Low High

Population density data helps identify areas with a higher demand for walking and biking infrastructure. Higher population densities often correlate with increased pedestrian and bicyclist activity, necessitating better connectivity and safety measures. In general, the population is distributed across the city, with railroad/industrial corridors dividing residential neighborhoods.

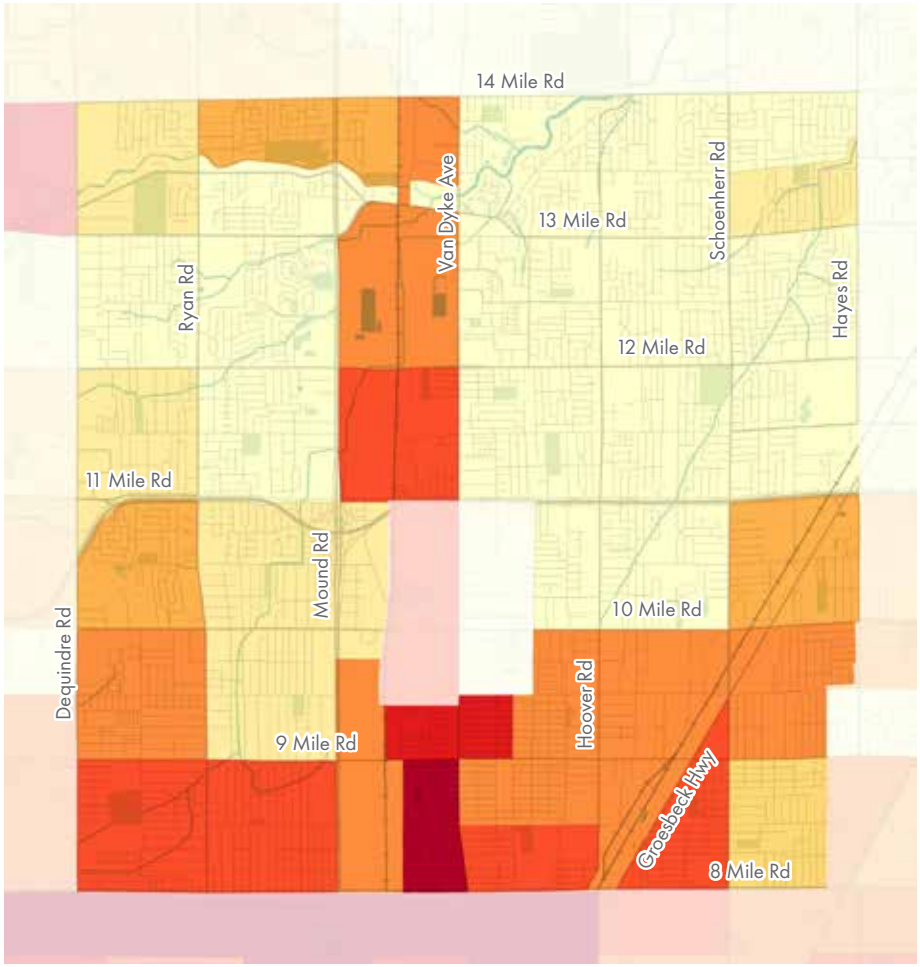


BICYCLE AND PEDESTRIAN DEMAND

Source: SEMCOG

Low High

SEMCOG's Bicycle and Pedestrian Demand analysis identifies areas with high demand for bicycle and pedestrian travel. This data helps to gauge anticipated usage levels. High Demand Areas are likely to be the most bicycle and pedestrian-friendly or have the most potential to support increased walking and biking. Most of the city has moderate demand, with residential areas and commercial development along major roads. Dark red areas on the map highlight regions with higher demand.

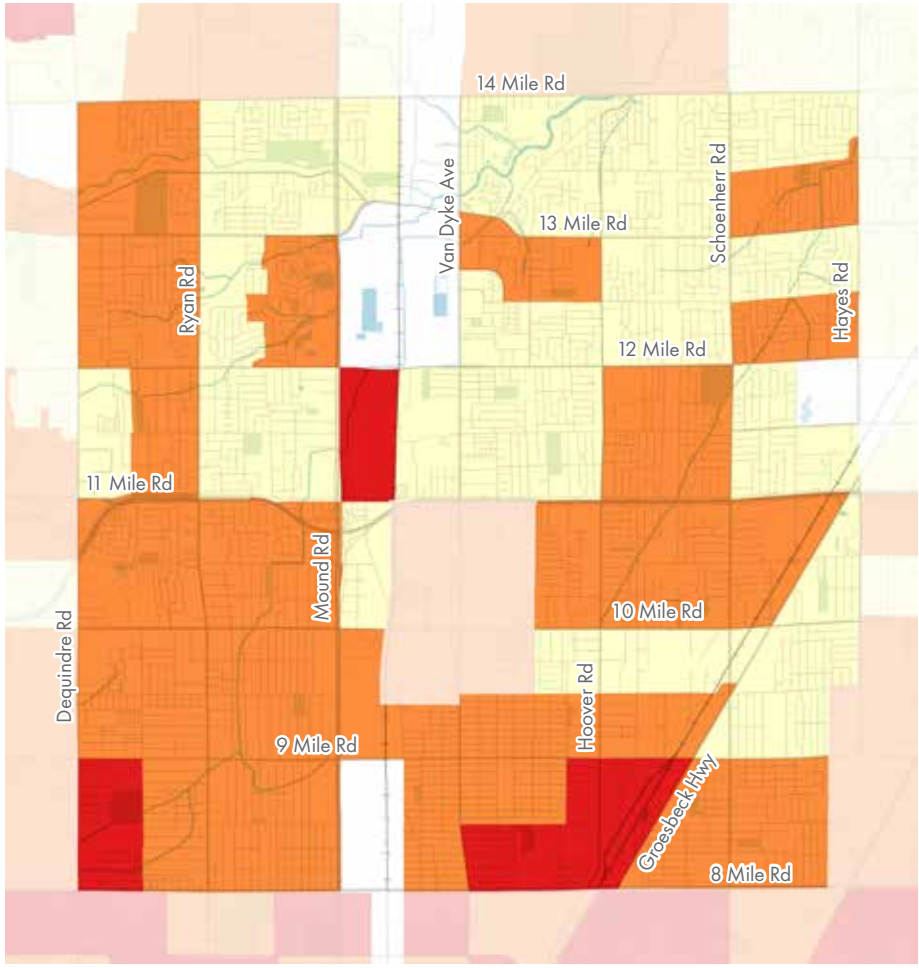


DISADVANTAGED AREAS

Source: Climate Economic Justice Screening Tool

Low High

The Census Climate and Economic Justice Screening Tool identifies disadvantaged communities nationwide using datasets that indicate burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. This tool highlights areas that are overburdened and underserved. This data can be used to prioritize investments in non-motorized infrastructure to address the needs of these disadvantaged areas, promoting equity and enhancing the quality of life for all residents.

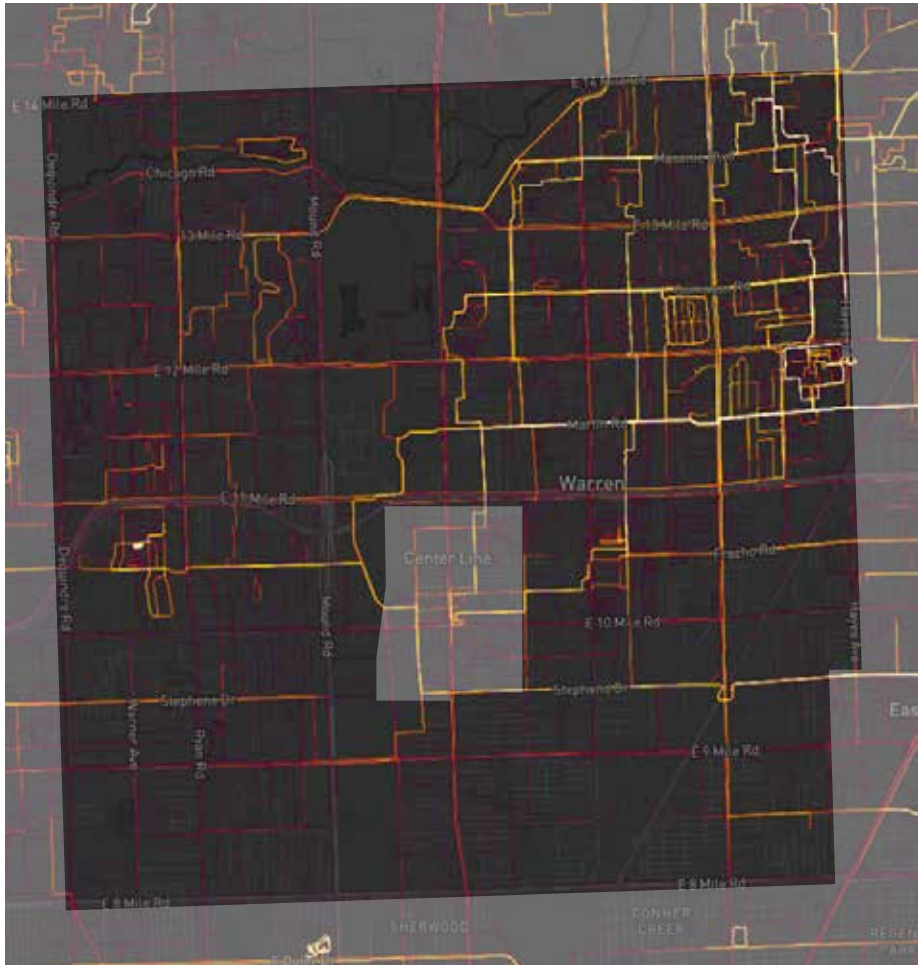


EQUITY EMPHASIS

Source: SEMCOG

Low High

This analysis, conducted by SEMCOG, identifies populations and areas of the region through an equity lens based on socioeconomic factors that may impact mobility. This includes children, low-income populations, minority populations, seniors, and transit-dependent households. Equity data is used to ensure access to all community members, regardless of socioeconomic status or demographic characteristics. This data is essential for prioritizing investments in non-motorized infrastructure to promote inclusivity and equal opportunity for all residents.

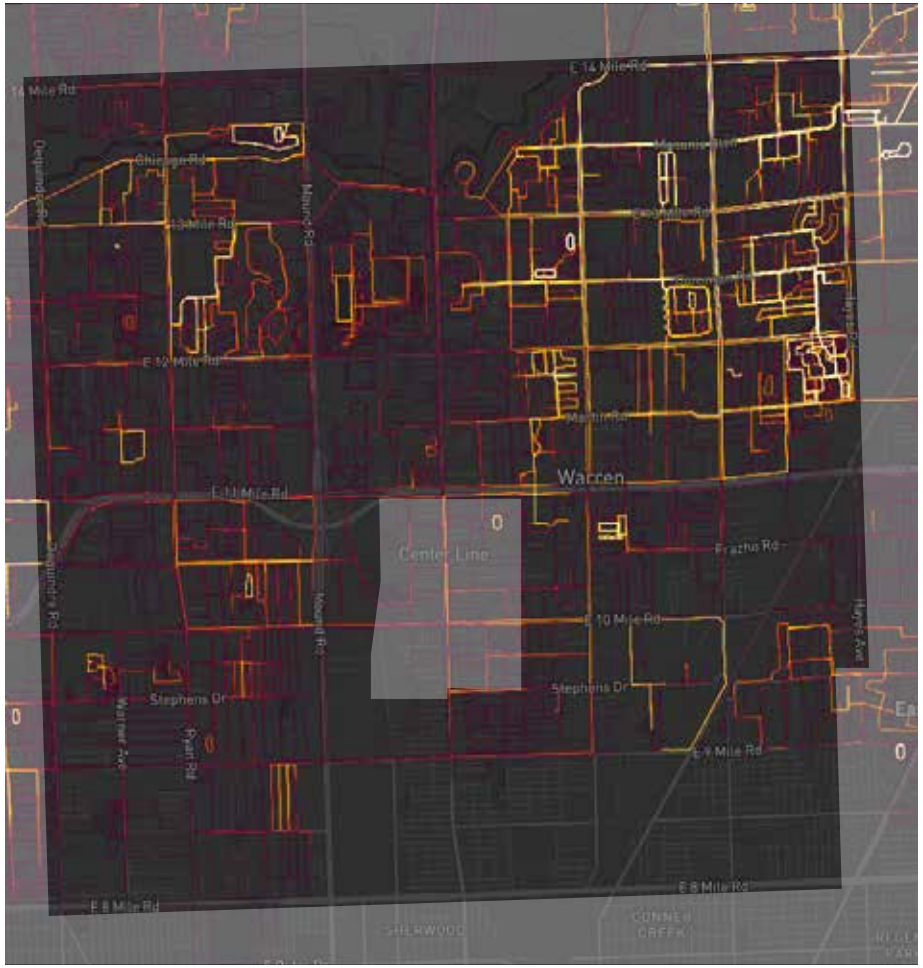


BICYCLE TRAVEL HEAT MAP

Source: Strava.com

Low High

The Strava heat map data provides insights into current non-motorized usage patterns and behaviors. This map compiles bicycle trips from the Strava app, with thicker yellow lines indicating higher trip volumes. While the data predominantly represents recreational use recorded by Strava, it still offers a valuable approximation of bicycle usage on roads and trails. The map reveals a higher level of bicycle activity in the northeast quadrant of the city.



PEDESTRIAN TRAVEL HEAT MAP

Source: Strava.com

Low High

The Strava heat map data provides insights into current non-motorized usage patterns and behaviors. The map displays popular walking and running routes, with thicker yellow lines indicating higher trip volumes. While the data predominantly represents recreational use recorded by the Strava app, it still offers a valuable approximation of pedestrian travel. The heat map reveals a higher level of activity in the northeast and northwest quadrants of the city.

EXISTING CONDITIONS

Bicycle and Pedestrian Network

The City of Warren boasts a nearly complete sidewalk network, with over 900 miles of sidewalks. This extensive network supports non-motorized travel, particularly in traditional neighborhoods where the grid system naturally facilitates easy movement. Most sidewalks are buffered by features such as trees or parked cars, significantly improving the quality of the walking experience by providing a sense of separation from traffic and enhancing pedestrian safety and comfort. However, key gaps still exist along major roads, which can hinder connectivity.

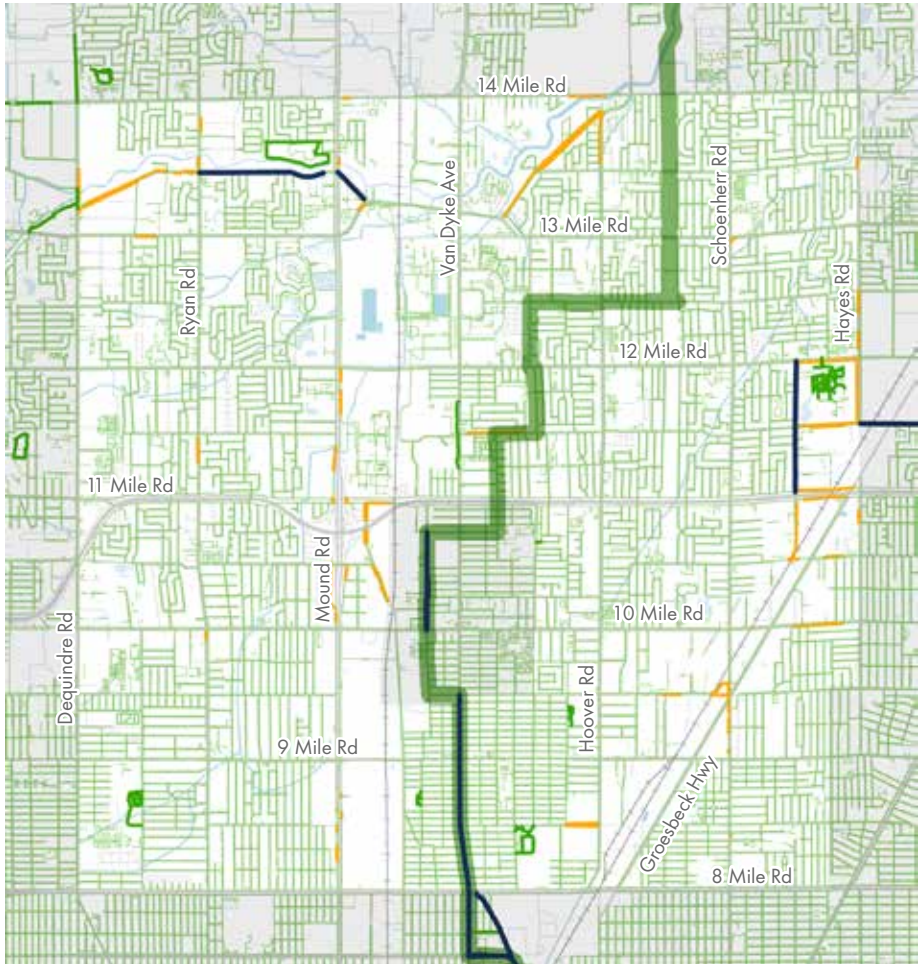
Bicycle infrastructure in Warren is currently limited, with only 3.5 miles of bike lanes and wide paved shoulders. As a result, most bicycle travel occurs on sidewalks or in the roadway. Despite this, the city's half-mile roads present opportunities for expanding bike lanes and improving bicycle infrastructure.

Regionally, the Iron Belle Trail offers a promising framework for expanding Warren's non-motorized network. By leveraging this trail, Warren can enhance its connectivity and create a more comprehensive network for both pedestrians and cyclists.

900 MILES OF SIDEWALKS

5.9 MILES OF SHARED USE PATH

3.5 MILES OF BIKE LANES/PAVED SHOULDERS

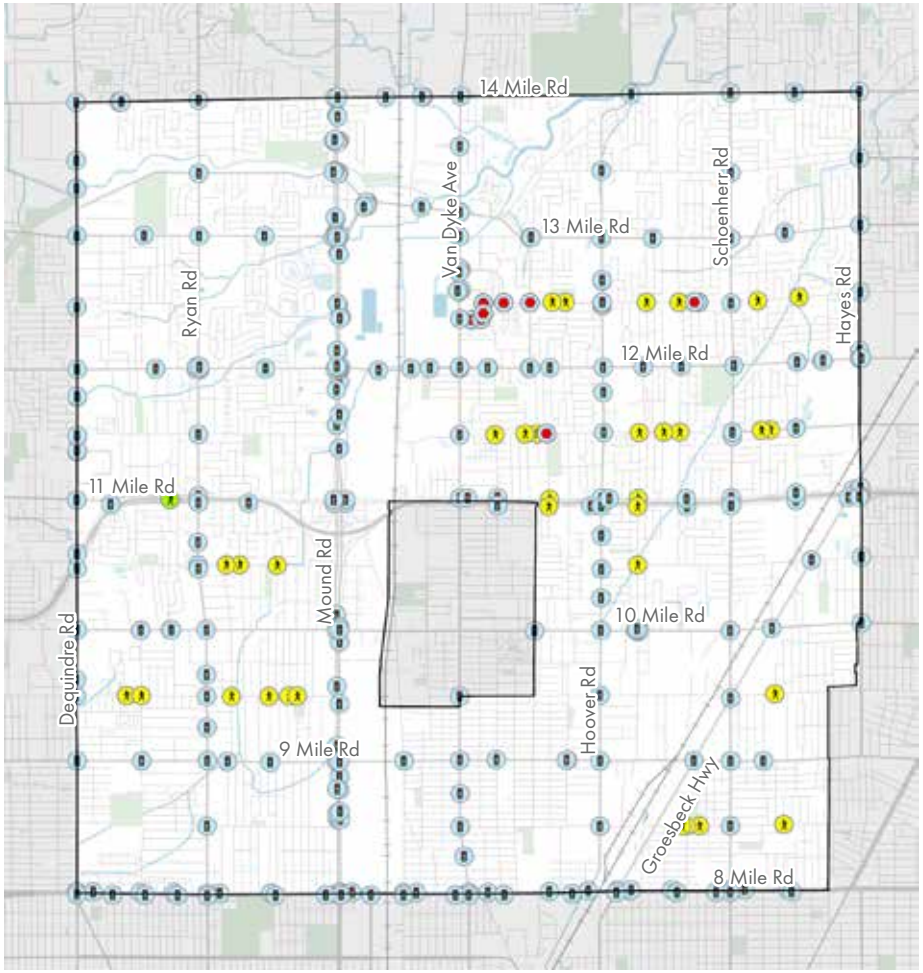


NON-MOTORIZED ROUTES

Source: SEMCOG

Sidewalks and bike lanes are essential for promoting non-motorized travel, enhancing connectivity, and ensuring safe routes for all users. The map highlights the city's extensive sidewalk network as well as the limited bicycle facilities concentrated along one of the busiest roadways. Expanding and improving these facilities is crucial for creating a more accessible and family-friendly network in Warren.

- Bike Lanes & Paved Shoulders
- Sidewalks
- Shared Use Path
- Planned Iron Belle Trail
- Major Road Sidewalk Gap



CROSSWALKS AND INTERSECTIONS ALONG MAJOR ROADWAYS

Crosswalks are essential for community walkability. Pedestrians generally won't detour more than 10% of their trip distance. When opportunities to cross busy roads are limited, it leads to poor pedestrian connectivity between neighborhoods and destinations on opposite sides of the roadway. Many divided highways have staggered signals and lack pedestrian crosswalks, further hindering safe crossing. Implementing proven safety measures can improve pedestrian crossings.

- Signal
- Stop Sign
- Mid-block Crosswalk
- Pedestrian Bridge

REGIONAL NON-MOTORIZED NETWORK

Source: SEMCOG

This map highlights regional corridors identified in SEMCOG's Bicycle and Pedestrian Mobility Plan. The Iron Belle Trail and 9 Mile Corridor are key corridors through Warren. Upon completion, the Iron Belle Trail will stretch 2,000 miles, linking the Upper Peninsula's western tip to Belle Isle in Detroit.

- Regional Bicycle and Pedestrian Corridors
- Existing Regional Pathways
- Iron Belle Trail

EXISTING CONDITIONS

Key Destinations and Connectivity Challenges

Non-motorized routes can play a critical role in facilitating daily transportation trips in Warren. Many key destinations lie within walking and biking distance of residences, fostering a community where active mobility is not only feasible but also advantageous.

With nearly thirty parks, six school districts, multiple shopping and dining options, and a prominent civic center, it is important to provide safe non-motorized options. Currently, barriers such as busy roads, railroads, and industrial areas fragment the landscape, posing challenges to connectivity. Improving connections and providing safe, family-friendly options to support daily transportation to nearby points of interest will promote a sustainable and vibrant urban environment.

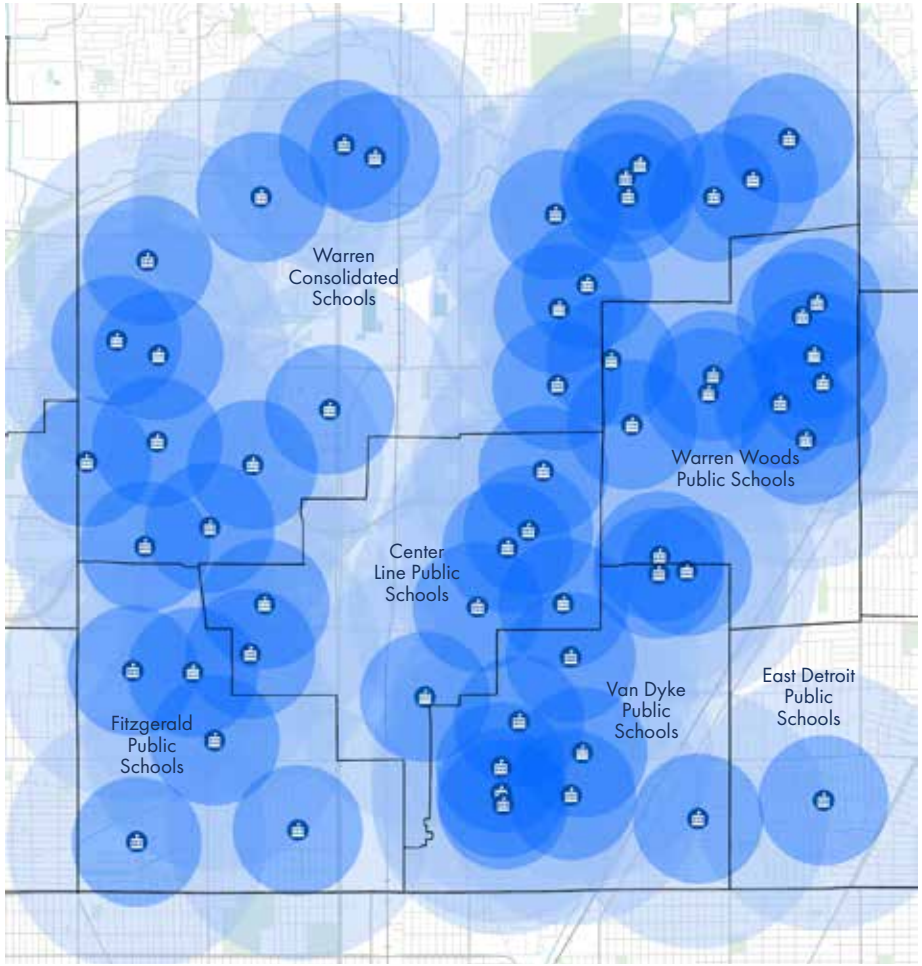
350 ACRES OF PARK LAND

6 SCHOOL DISTRICTS

4 INDOOR RECREATION CENTERS

2 LIBRARIES

1 COMMUNITY COLLEGE



ACCESS TO LOCAL SCHOOL DISTRICTS
Source: State of Michigan

Warren is served by six local school districts. Schools are key focal points for education, community connectivity, and mobility. Safe routes for students to walk or bike promote physical activity, reduce traffic congestion, and enhance neighborhood accessibility. Most residents live within one mile or a 20-minute walk of a school.

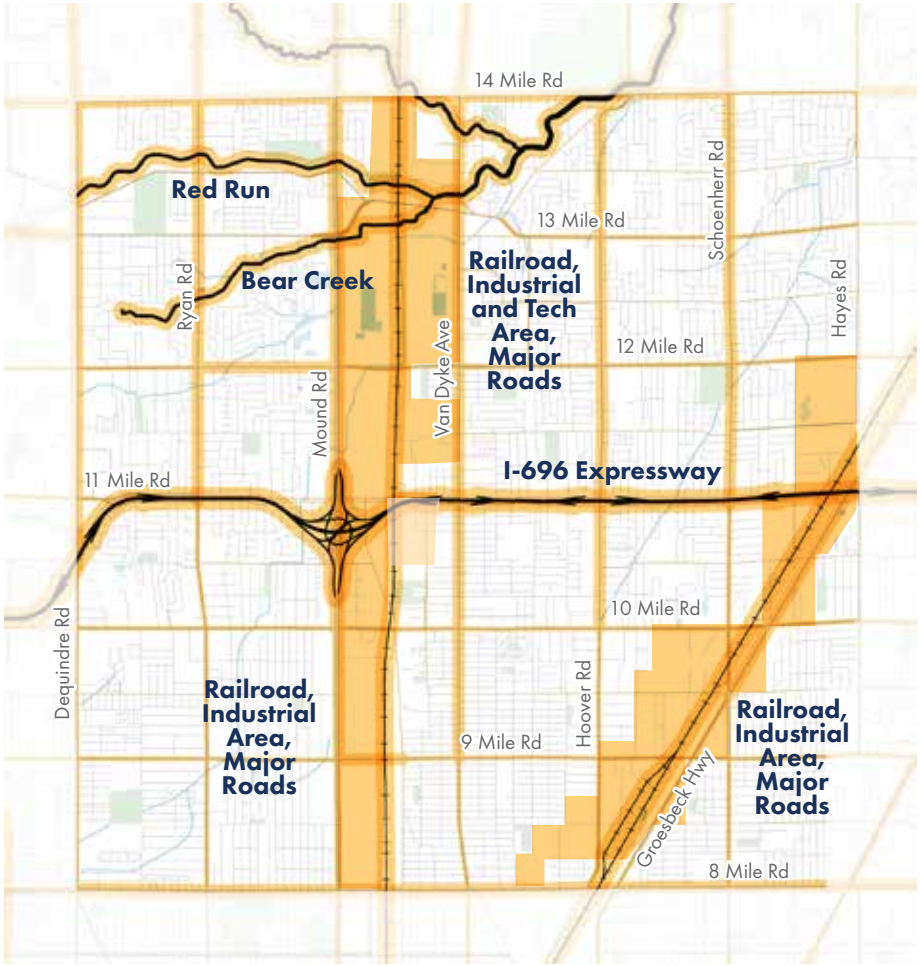
- ½ Mile Buffer
- 1 Mile Buffer
- Public School

KEY DESTINATIONS

Source: SEMCOG, City of Warren

The map highlights key destinations. Many residences are within a walkable and bikeable distance to nearby points of interest. Improving infrastructure to create safe and comfortable routes is important so that people have the option to choose walking or biking as viable modes of transportation for daily activities.

- Parks
- Schools and Libraries
- City Buildings
- Shopping and Dining
- Single Family Residential
- Multi-family Residential, Manufactured Home Park, and Condominiums



BARRIERS TO NON-MOTORIZED TRAVEL

The orange areas on the map highlight challenging zones for pedestrian and bicycle travel. Railroads and the I-696 expressway divide the city. Many of these corridors are paired with large industrial areas that create gaps in the network, forcing pedestrians and cyclists to take long detours. Busy mile roads like Van Dyke and Mound pose additional challenges due to their multiple lanes and heavy traffic, making it intimidating and difficult to cross major roads. Limited crossings over the Red Run River further impede non-motorized travel.

EXISTING CONDITIONS

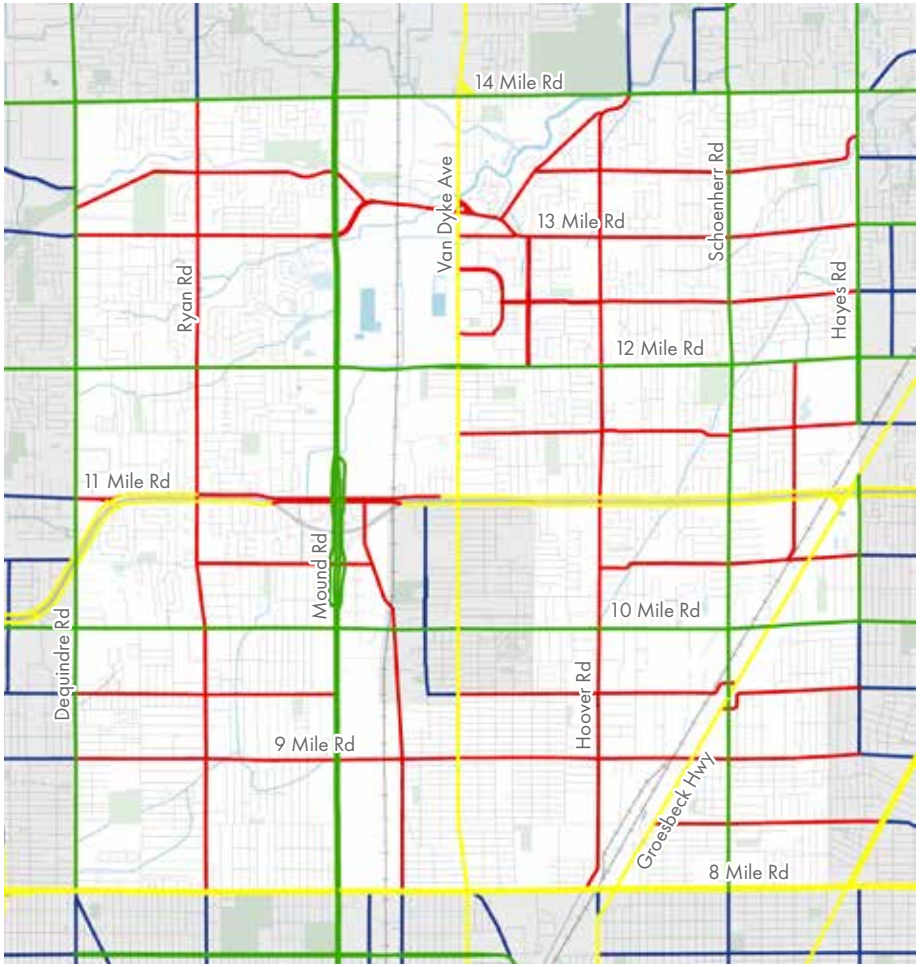
Roadway Analysis

This section offers an overview of the current transportation infrastructure, which is crucial for developing an effective non-motorized plan. Understanding roadway characteristics is essential for identifying opportunities and challenges in enhancing safety and connectivity for non-motorized users. By analyzing these factors, the plan aims to create a more integrated, accessible, and user-friendly transportation network for all.

537 MILES OF ROADWAYS

90 MILES OF MAJOR ROADS

43 MILES OF ROAD CORRIDORS WITH TRANSIT SERVICE

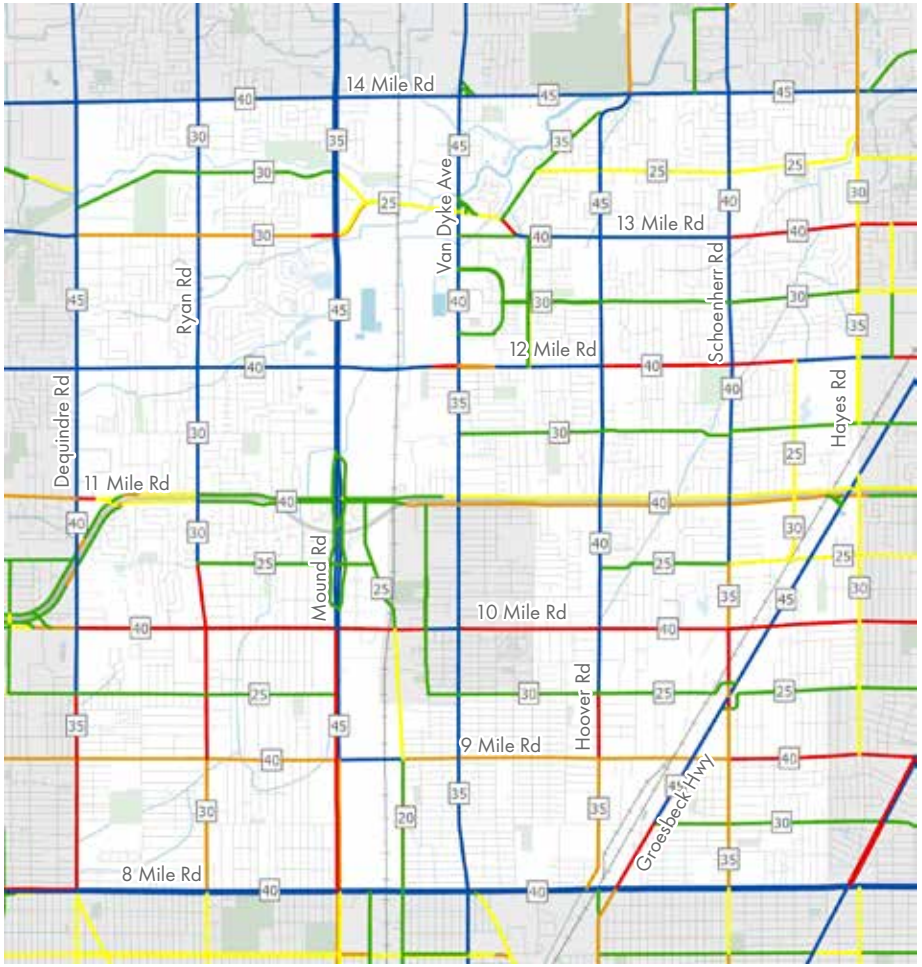


ROAD JURISDICTION

Source: SEMCOG

Road jurisdiction clarifies who is responsible for maintaining and improving a roadway corridor. Different jurisdictions have their own policies and priorities, so knowing who owns the roads helps in coordinating projects, prioritizing improvements, and advocating for necessary changes to enhance safety and accessibility for pedestrians and bicyclists.

- City of Warren
- County
- State
- Other Cities



TRAFFIC VOLUMES AND SPEEDS

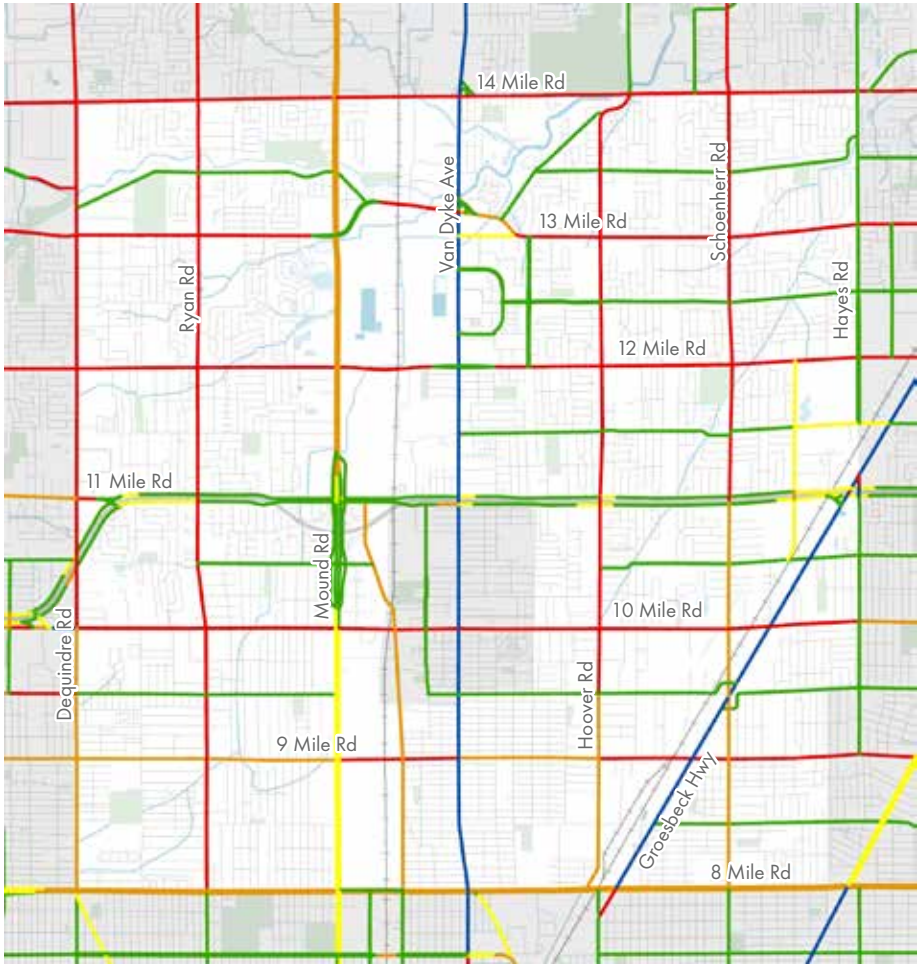
Source: SEMCOG

Data on roadway speeds and traffic volumes helps in assessing safety and accessibility considerations along proposed routes, informing decisions on route design and infrastructure to minimize potential conflicts with vehicular traffic.

Average Daily Traffic Volumes

- ≤ 5,000
- 5,000-10,000
- 10,000-15,000
- 15,000-20,000
- >20,000

[#] Posted Speed Limit



NUMBER OF LANES

Source: SEMCOG

Understanding road lane configurations directly impacts the safety and accessibility of non-motorized users. Roads with fewer lanes usually mean lower traffic speeds and shorter crossing distances, enhancing safety and appeal for non-motorized travel. This data informs decisions on infrastructure, such as adding bike lanes to improve connectivity and support active transportation.

- 2 to less
- 3
- 4
- 5
- 6 or greater

ROUTE STRESS

Source: SEMCOG data used to conduct analysis

Low High

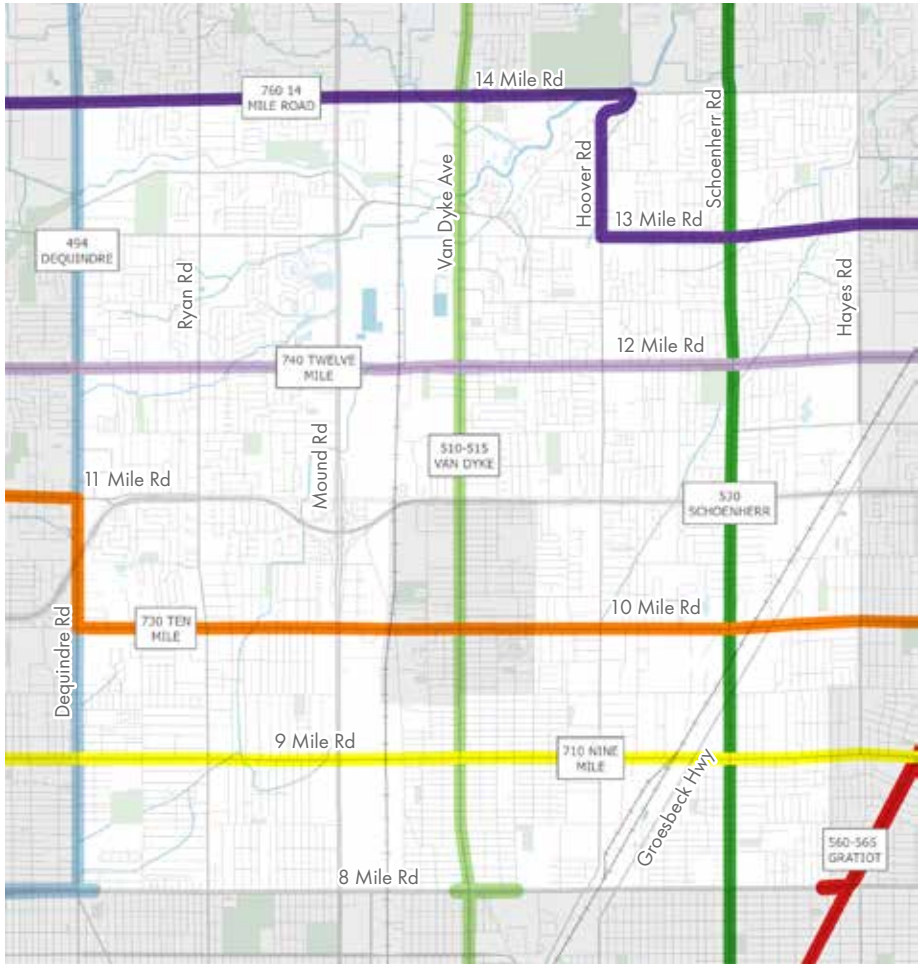
Identifying corridor stress levels shows how comfortable non-motorized users may feel traveling near traffic. Ratings are based on factors like traffic speed, volume, and the number of lanes. Low-stress roads mean more people will feel comfortable along these corridors.

ROAD DIET POTENTIAL

Source: SEMCOG data used to conduct analysis

Low High

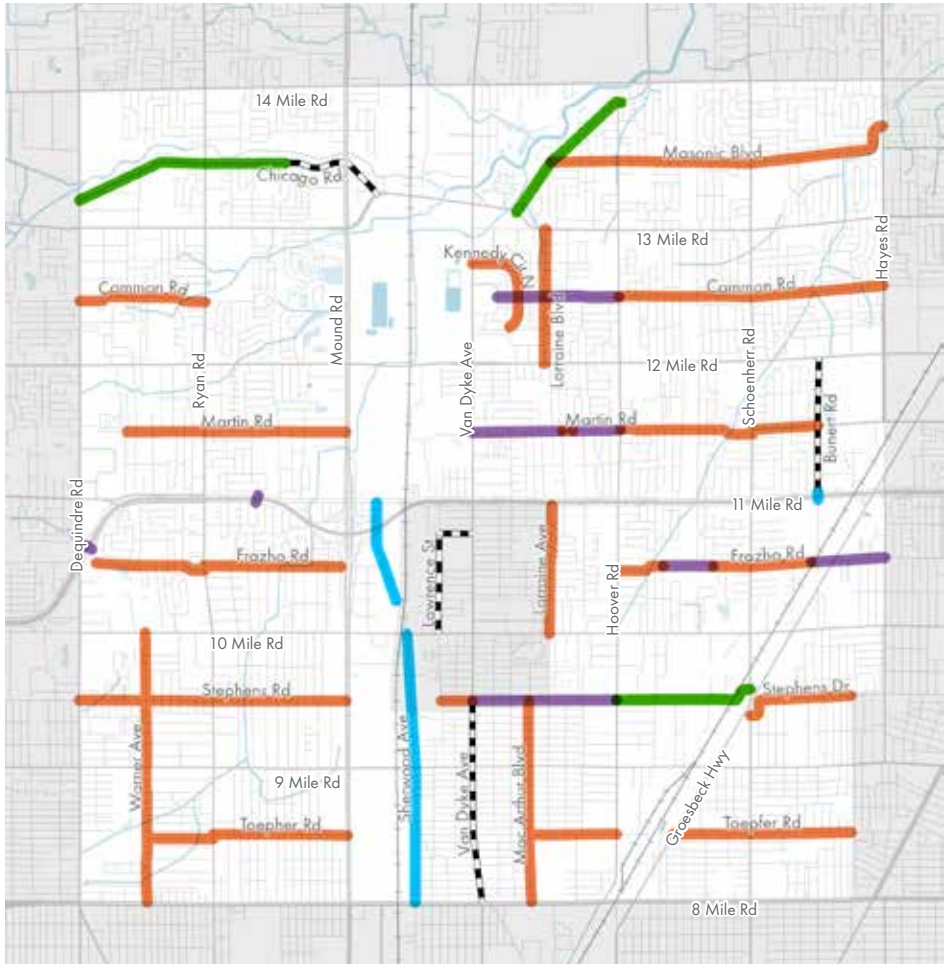
This map highlights opportunities to reduce the number of lanes to 3-lanes based on traffic volumes. Converting 4-lane roads to 3-lane roads is a federally proven safety countermeasure. Corridors with high potential should be considered for a road diet to enhance roadway safety and improve conditions for non-motorized users.



SMART BUS TRANSIT ROUTES

Source: City of Detroit

Transit routes are key for non-motorized planning as they connect different transportation modes. It is important to provide safe and convenient routes for people who walk and bike to access transit. This data supports designing infrastructure for smooth transitions between walking, biking, and transit, enhancing the overall transportation network.



OPPORTUNITIES FOR BIKE LANES ON HALF MILE ROADS

Source: SEMCOG data used to conduct analysis

This map highlights opportunities to add bike lanes on Warren's half-mile roads—low-traffic streets ideal for safer walking and biking by all ages. Focusing on these routes can help connect neighborhoods, parks, and community destinations with safer, more comfortable travel options.

- Paved shoulder
- Road Diet (4 to 3 lane conversion)
- Lane Narrowing and Restriping
- On-Street Parking Modifications
- Existing bike lane/ paved shoulder

Bicycle Crashes

An analysis of bicycle crash data spanning 19 years (2004-2022) in the City of Warren was conducted to gain comprehensive insights into bicycle safety trends and challenges. This section highlights key findings drawn from this data:

- There were 614 bicycle crashes during this period.
- Eight fatalities occurred over the 19 years.
- The majority of bicycle crashes occurred in the afternoon when daylight was present.
- Safety improvements are needed at intersections.
- High speeds at crash locations could be contributing to a higher than average number of serious injury crashes.
- The Van Dyke Corridor has a high frequency of crashes and numerous fatalities.

ECONOMIC AND SOCIETAL IMPACT OF BICYCLE CRASHES IN WARREN PER YEAR

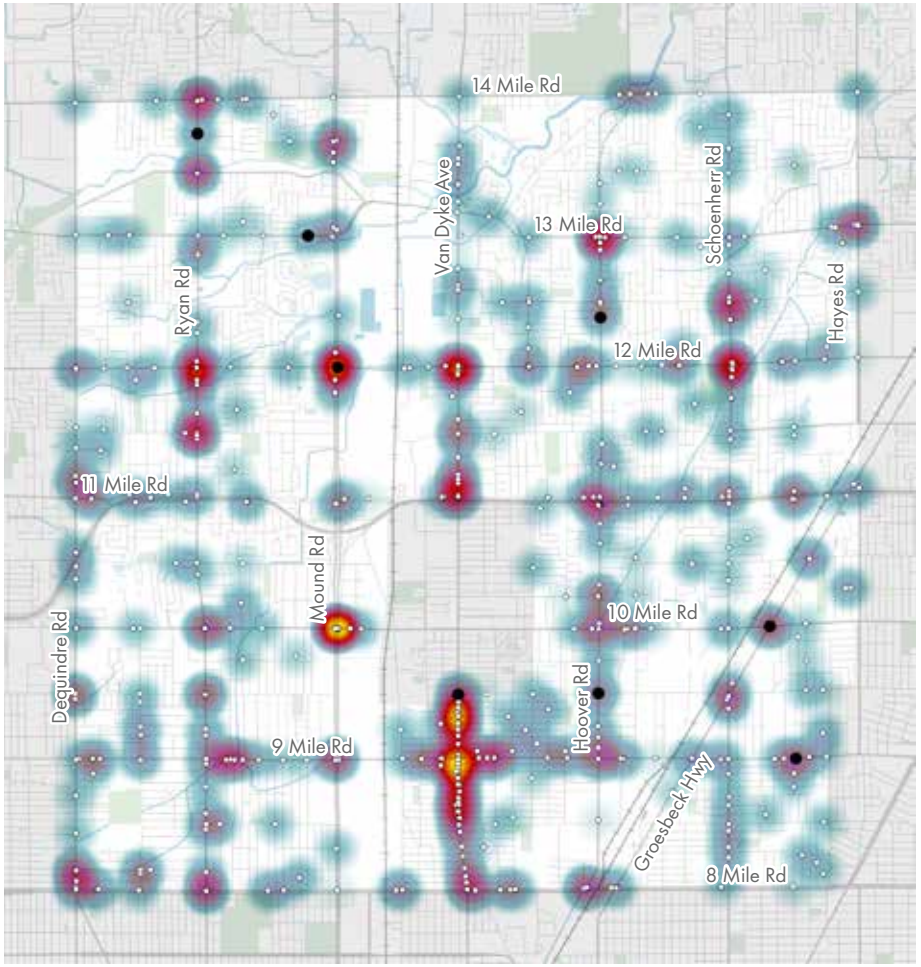
An assessment of the economic and societal impact of bicycle crashes in Warren involved deriving calculations tailored to the local context. This process was informed by the US Department of Transportation publication titled "The Economic and Societal Impact of Motor Vehicle Crashes, 2009, December 2022."

$1.9 Million per year

Economic Cost: Productivity, medical, emergency and costs to employers

$9.7 Million per year

Comprehensive Cost: Economic costs plus quality of life valuations (Amount society is willing to pay to avoid the crash)



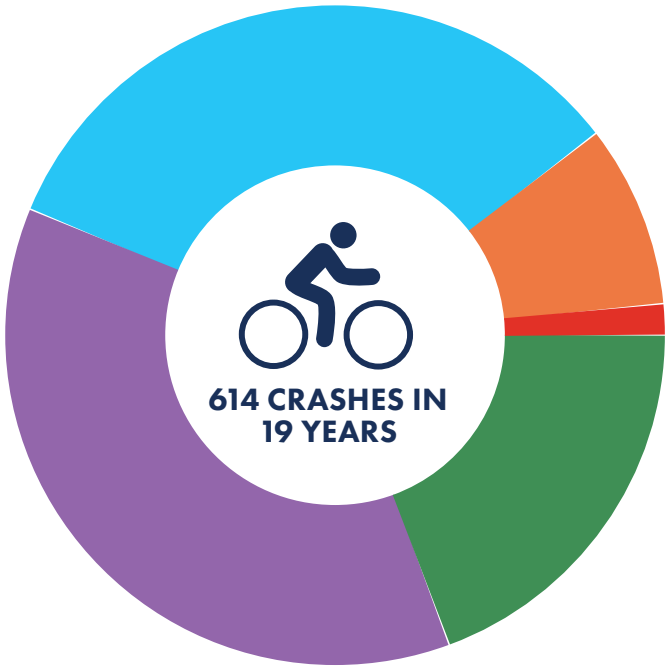
BICYCLE CRASH HEAT MAP
Source: MichiganTrafficCrashFacts.org

This heat map serves as a visual representation of bicycle crash data spanning an 19-year period, from 2004 to 2022, highlighting specific locations where bicycle accidents have occurred more frequently and with increased severity. The map offers valuable insights into areas where enhanced safety measures and infrastructure improvements may be warranted.

Low High

○ Bicycle Crash

● Fatality



FATAL INJURY 1.5%

SERIOUS INJURY 5.9%

MINOR INJURY 44.1%

POSSIBLE INJURY 29.4%

NO INJURY 19.1%

32 Average number of bicycle crashes per year

<1 Average number of fatalities per year

81%

RESULTED IN INJURY

7.4% resulted in serious injury or death

57%

AT AN INTERSECTION

1/3 of intersection crashes were located at a signal

22%

HIT-AND-RUN

3% higher than state average

78%

OCCURRED IN DAYLIGHT

<2% of crashes occurred in unlighted locations

28%

ROADS WITH 4 OR MORE LANES

Similar to state average

40%

SPEED LIMIT 40 MPH OR GREATER

12% higher than the state average

Speed is a central factor in traffic deaths. As speed limits and speeds increase, so do fatalities.

Pedestrian Crashes

An analysis of pedestrian crash data spanning 19 years (2004-2022) in Warren was conducted to gain comprehensive insights into pedestrian safety trends and challenges. This section highlights key findings drawn from this data:

- There were 650 pedestrian crashes during this period.
- Forty-seven fatalities occurred over the 19 years.
- 81% of fatalities occurred along roadways with 4 or more lanes of traffic.
- For 87% of pedestrian fatalities, no signal was present, and 76% occurred in the dark in lighted areas.
- The majority of crashes involving pedestrians resulted in injury.
- Multiple lanes to cross, combined with high-speeds at crash locations, could be contributing factors to crashes resulting in injuries.
- The Van Dyke Corridor has a high frequency of crashes and numerous fatalities.

ECONOMIC AND SOCIETAL IMPACT OF PEDESTRIAN CRASHES IN WARREN PER YEAR

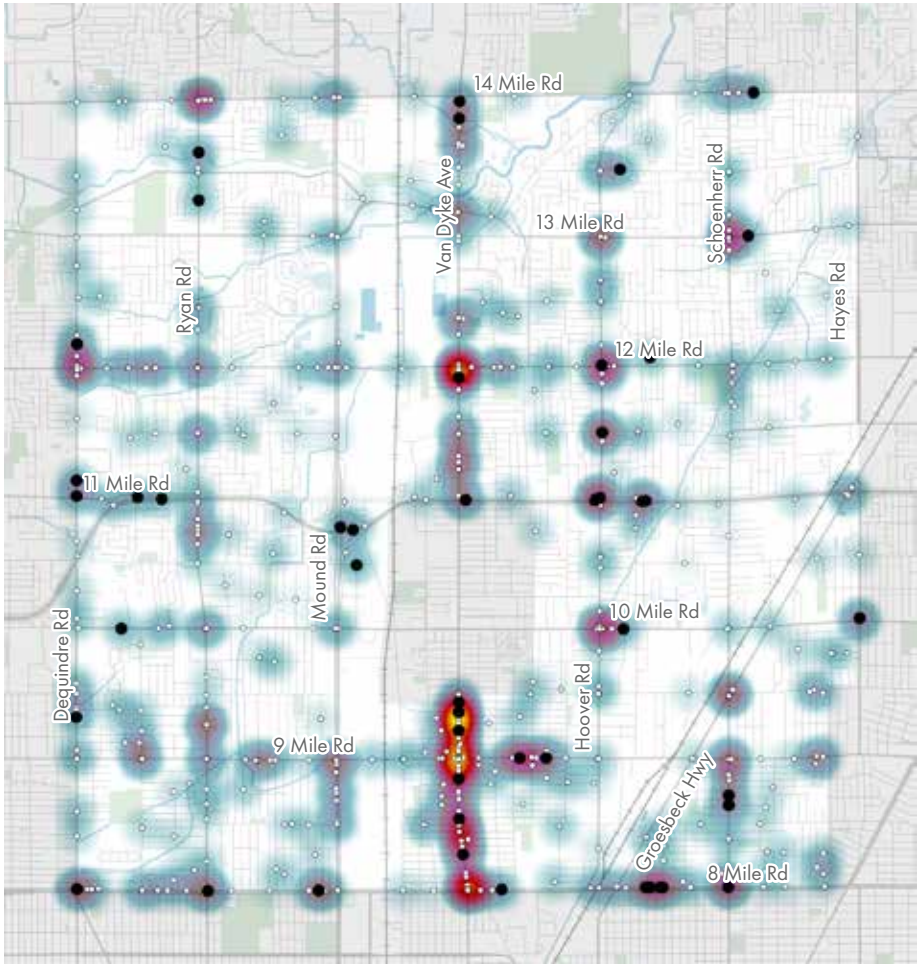
An assessment of the economic and societal impact of pedestrian crashes in Warren involved deriving calculations tailored to the local context. This process was informed by the US Department of Transportation publication titled "The Economic and Societal Impact of Motor Vehicle Crashes, 2009, December 2022."

$5.9 Million per year

Economic Cost: Productivity, medical, emergency and costs to employers

$28.3 Million per year

Comprehensive Cost: Economic costs plus quality of life valuations (Amount society is willing to pay to avoid the crash)



PEDESTRIAN CRASH HEAT MAP

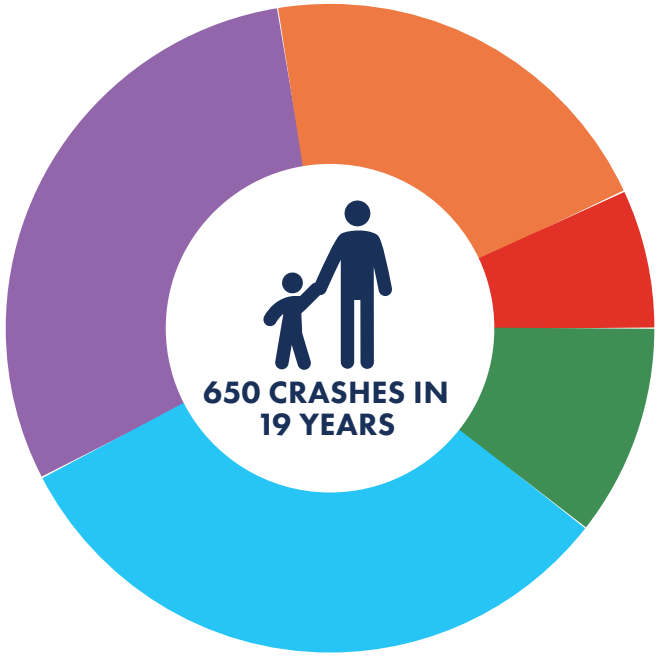
Source: MichiganTrafficCrashFacts.org

This heat map serves as a visual representation of pedestrian crash data spanning an 19-year period, from 2004 to 2022, highlighting specific locations where pedestrian accidents have occurred more frequently and with increased severity. The map offers valuable insights into areas where enhanced safety measures and infrastructure improvements may be warranted.

Low — High

○ Pedestrian Crash

● Fatality



FATAL INJURY 7.2%

SUSPECTED SERIOUS INJURY 20.6%

SUSPECTED MINOR INJURY 29.6%

POSSIBLE INJURY 31.6%

NO INJURY 10.5%

34 Average number of bicycle crashes per year

2.5 Average number of fatalities per year

90%

RESULTED IN INJURY

28% resulted in serious injury or death

35%

AT AN INTERSECTION

1/3 of intersection crashes were located at a signal

27%

HIT-AND-RUN

Similar to state average

55%

OCCURRED IN DAYLIGHT

5% of crashes occurred in unlighted locations

70%

ROADS WITH 4 OR MORE LANES

35% higher than the state average

50%

SPEED LIMIT 40 MPH OR GREATER

20% higher than the state average

Speed is a central factor in traffic deaths. As speed limits and speeds increase, so do fatalities. When struck by a vehicle at 40 MPH, a pedestrian has a 20% survival rate.

Local and Regional Plans

City of Warren Recreation Master Plan

Approved in 2021, the following list highlight key non-motorized elements from the plan:

- Improving Non-motorized Infrastructure: Community input emphasizes the need for interconnected bike paths in parks and a network linking city parks with regional ones. Promoting and upgrading the Iron Belle Trail, which passes through Warren, is also crucial for attracting visitors and boosting community engagement.
- Work With Local Agencies for Trail Connections for Warren and Throughout Southeast Michigan: As outlined in the Action Plan, there is a commitment to collaborating with local agencies to facilitate trail connections, ensuring the continuous support and development of initiatives such as the Iron Belle Trail.

City of Warren Van Dyke Corridor Plan

Adopted in 2024, the following list highlight key non-motorized elements from the plan:

- Plan Purpose: To increase consistency of the built environment along the corridor, to improve its economic return, and to facilitate non-motorized access to its business and recreation assets.
- Mobility-Focused Design Interventions: The physical design recommendations include protected bike lanes, enhanced non-motorized network connections, improved sidewalk pavement & formalized pedestrian crosswalks, expanded streetscape lighting, and pedestrian and transit stop amenities.

City of Warren Iron Belle Trail Route and Feasibility Study

Adopted in 2020, the following list outlines key elements from the plan:

- Plan Purpose: Identifies the preferred bike route alignment and associated improvements to the Iron Belle Trail through Warren, Center Line and Sterling Heights.
- Funding Strategy: The strategy takes the trail/route, intersection, wayfinding, and amenity costs from the estimates and lays out a strategy on how the hard and soft costs could be met by a variety of Federal, State, Local, and Private sources.
- Implementation Plan: Pulls the information from each segments funding strategy to present a five-year plan to fully implement the plan.

Mobilize Macomb

The county non-motorized plan was completed in 2017. The following lists action items from the plan that are relevant to the City of Warren:

- Iron Belle Trail Connector: Regional goal to engage state officials, regional parks, recreation, and natural resources providers to assess and deploy statewide strategies to develop the Iron Belle Trail..
- 9 Mile Road and 12 Mile Road: Create vibrant local links to community assets, such as parks and schools. Engage local municipalities, transportation service providers, and major institutions to prioritize local assets and links.

9 Mile Corridor Plans

A multi-community corridor vision for 9 Mile has evolved in Southeast Michigan. Two recent planning efforts are highlighted below:

- City of Eastpointe 9 Mile Strategic Corridor Plan and Modern 9: A road reconstruction and water infrastructure project will unfold over 2023-25 and will include the addition of green space, benches, bike paths, enhanced crosswalks, ADA-compliant sidewalk ramps, and other amenities to make Nine Mile Road more pedestrian and bicycle friendly. Due to community feedback and funding issues the road conversion was retracted in March of 2024.
- City of Oak Park Nine Mile Redesigned and Linear Park: This project aims to transform the Nine Mile Corridor into a walkable, vibrant public space with amenities for users of all ages and abilities. A partnership between Oakland County, Ferndale, Hazel Park, Southfield, Farmington Hills, and Farmington has enabled an ongoing multi-community vision for the corridor.

SEMCOG Bicycle and Pedestrian Mobility Plan for Southeast Michigan

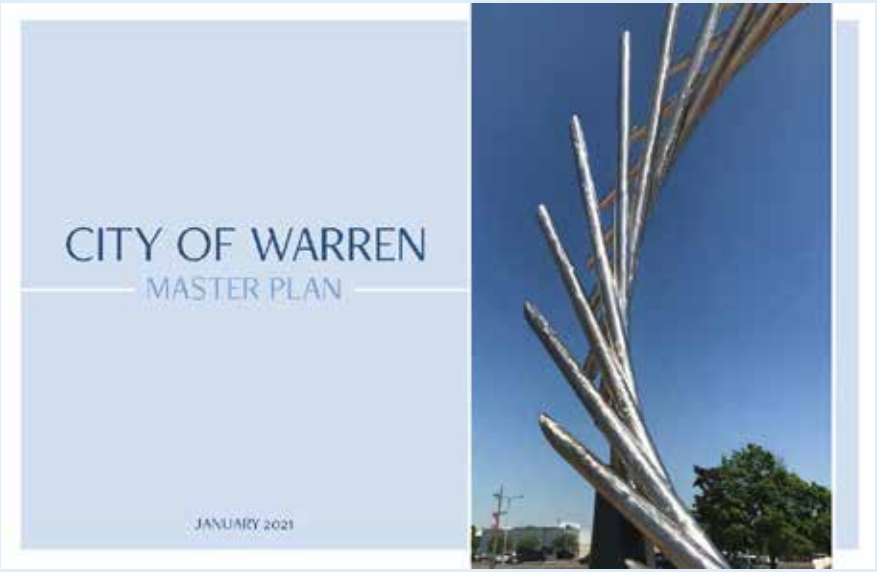
Adopted in 2020, the following list notes regional non-motorized corridors in the City of Warren:

- Van Dyke & 9 Mile Road: Identified as a regional bicycle and pedestrian corridors.
- Iron Belle Trail: Identified as a planned region trail.
- Equity Emphasis: Parts of the city were designated as equity emphasis area with limited access to bicycle infrastructure.

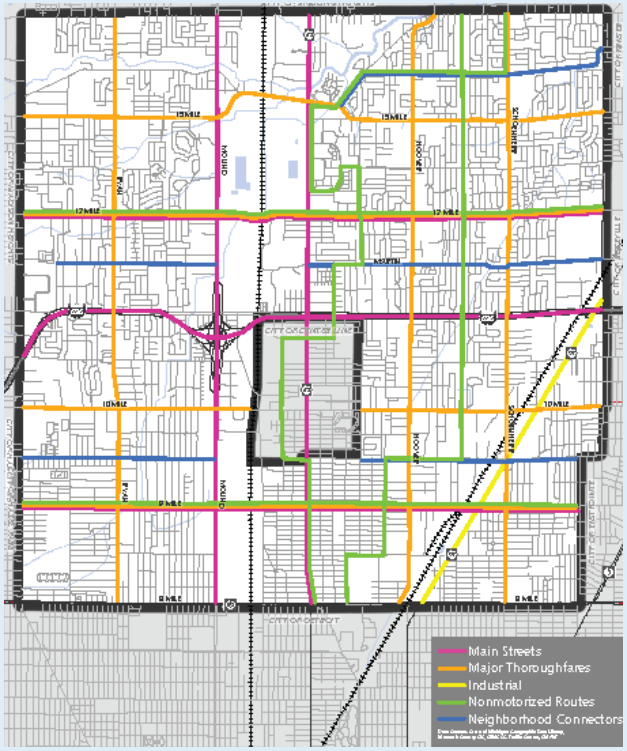
City of Warren Master Plan

The City of Warren Master Plan was adopted in 2021. The following list and maps highlight key non-motorized elements from the Master Plan:

- Complete Streets Policy Adoption: Warren adopted a Complete Streets policy in 2012 to ensure road designs accommodate pedestrians, bicyclists, motorists, and transit users of all ages and abilities. Establishing a Complete Streets Commission to review all road projects is the next step towards inclusive street design.
- Transportation Typologies: Implementing Main Streets, Major Thoroughfares, and Nonmotorized Routes to guide development of streets prioritizing non-motorized users.
- Pedestrian Safety and Infrastructure: Addressing safety issues highlighted by reports like "Dangerous by Design" with safer crossings and infrastructure enhancements, particularly on high-risk roads such as Van Dyke, Twelve Mile Road, and Nine Mile Road. Adopting a Vision Zero approach could further promote pedestrian safety awareness.
- Bicycle Infrastructure and Connectivity: Developing a comprehensive network of bike lanes and local connectors to enhance safety and encourage cycling as a transportation option. Planned bike routes throughout Warren aim to significantly increase bike-friendly infrastructure.
- Trail Planning and Expansion: Collaborating with Macomb County to expand trail networks, including connections to regional corridors like the Iron Belle Trail, promoting non-motorized travel and recreational opportunities.



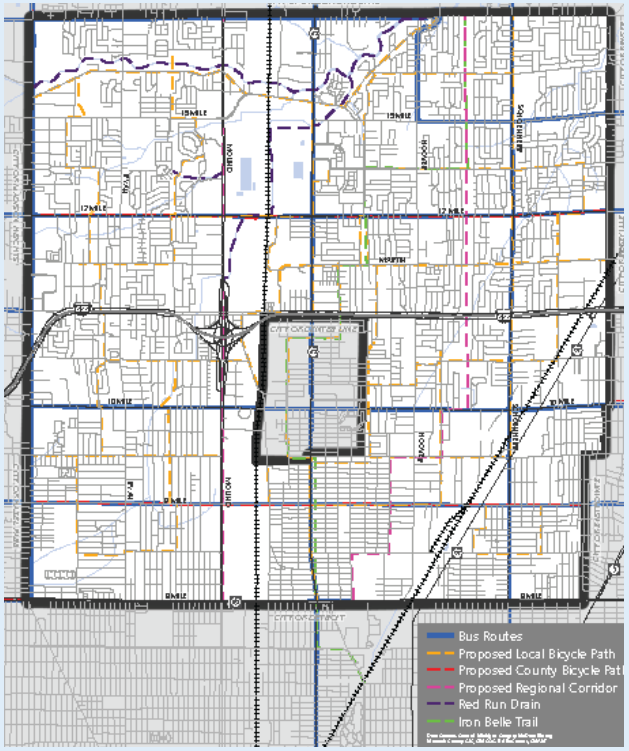
- Safe Routes to School (SRTS): Pursuing Safe Routes to School grants to improve safety for K-8 students walking or biking to school, reducing traffic congestion and pollution around schools. Warren should seek funding opportunities in collaboration with local school districts.
- Alternative Mobility Options: Prioritizing transportation investments based on multi-modal alignments to maximize impact across bus routes and nonmotorized paths. Considering how to integrate electric scooters into the Zoning Ordinance while balancing existing infrastructure and connectivity needs.



City of Warren Master Plan

TRANSPORTATION TYPOLOGIES

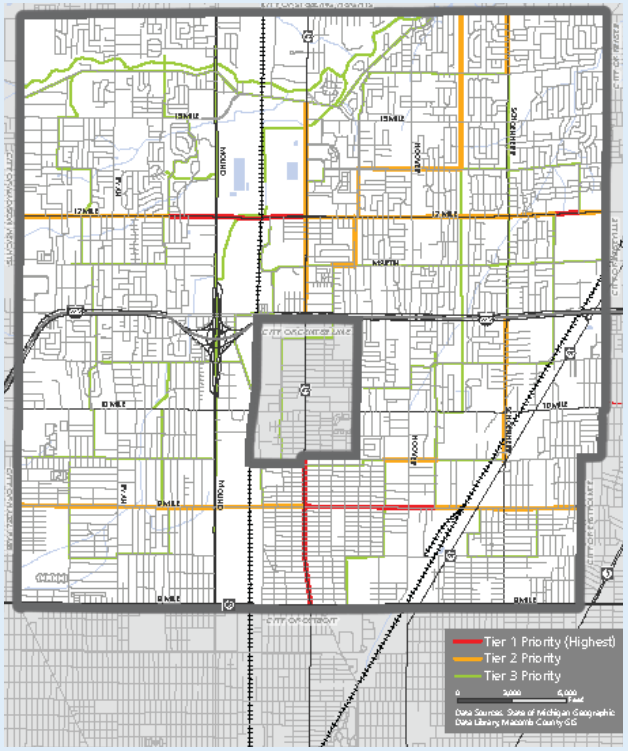
Transportation typologies classify roadways based on factors like traffic volume and intended use by different modes of transport. Categories such as Main Streets and Nonmotorized Routes help planners design infrastructure that enhances safety and accessibility for pedestrians, cyclists, motorists, and transit users.



City of Warren Master Plan

ALTERNATIVE MOBILITY ROUTES

This map highlights strategic areas for transportation investment that prioritize alternatives to traditional vehicle travel. Each dotted line represents a form of transportation that is an alternative to traditional personal vehicular travel—either a bus line or a nonmotorized path.



City of Warren Master Plan

TRANSPORTATION INVESTMENT PRIORITIES

Transportation Investment Priorities direct city investments by pinpointing key routes for maximizing transportation spending impact. Through thorough data analysis and mode inventory, it strategically identifies corridors for enhancing connectivity, safety, and accessibility across various modes of travel. This prioritization aligns infrastructure development with community needs and promotes sustainable transportation solutions.


25

APPENDIX B

COMMUNITY ENGAGEMENT SUMMARY

HOW PUBLIC FEEDBACK INFORMED PLAN DEVELOPMENT

A public engagement plan was developed to gather input from potential users and ensure representation from a diverse and representational range of the community. The initial sessions occurred in August in 2024, concentrating on addressing issues, identifying opportunities, and establishing goals. The input was used to shape the preliminary plan which was presented for feedback during the winter of 2025. The follow pages outline the process and tools used to engage the community.

Pop-up displays

Handouts, yard signs, and display boards promoting project awareness, gathering basic input, and advertising online surveys and input maps were showcased throughout the city at local events, and key locations, such as parks, community centers and the bike shop. Local events included It's Not A Park, It's An Adventure at Butcher Park and Warren's Birthday Bash.

Active Mobility Plan Workshop

A workshop was held August 29, 2024 in the first floor conference room of City Hall. During the meeting attendees engaged in various exercises to identify key aspects that make Warren special, share perspectives on walking and biking conditions, and pinpoint barriers to connectivity. The session concluded with a discussion on rethinking streets as places and outlining project hopes and aspirations.

Active Mobility Plan Open House

The open house was held December 11, 2025 at the Maybelle Burnette Library. Presentations were given at 6:00 PM and 7:00 PM, and nine interactive stations were set up around the room. These stations allowed attendees to explore recommendations and provide feedback on the Iron Belle Trail, 9 Mile Road, Half-Mile Roads, the River Walk, Sidewalk Gaps, Crosswalks and Intersections, Major Roads, the Core Network, and the four key elements of the plan.

Surveys

To gain input from as many community members as possible, online and paper surveys were developed and distributed. The surveys were colorful and easy to fill out. Surveys were hosted on the project web page, WalkBike.Info/Warren and focused on questions that would have a direct impact on the plan. Handouts and posters with the website link and QR code were distributed at the pop-up events, posted at key locations around the city, and promoted on social media.

Crowdsourcing Map

An online crowdsourcing map was established to gather location specific input, which was categorized into six groups: Add Bike Parking, Add a Bus Shelter, Fill a Sidewalk Gap, Crosswalk Needed, Bike Rental/Bike Share and Other. This map was hosted on the project web page and was promoted in conjunction with the online surveys. Additionally, input collected from in-person events was consolidated into this map.

Links to View Public Input Data

Survey Dashboard: https://www.surveymonkey.com/stories/SM-SQaeK1VnIr7GPdPPQhL9QQ_3D_3D/

Web Map Input: https://www.google.com/maps/d/edit?mid=1Sg-gveWtLjdruLPwpf1HqyLB4oifayQ&usp=sharing

Pop-up Events and Active Mobility Workshop Summaries: https://drive.google.com/drive/folders/1TCxuKaV81U6k1cXdFODBc7_ciBgB8hXr?usp=sharing

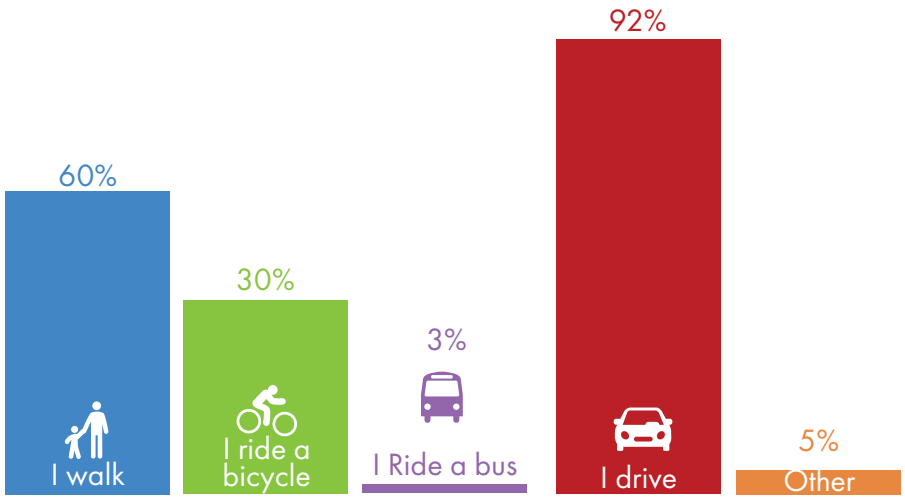
ACTIVE MOBILITY PLAN WORKSHOP- AUGUST 29, 2024

Summer 2024 Public Input Summary

Throughout the month of August 2024, public engagement for the plan was promoted through various media platforms: email groups, flyers, posters, and in-person events to reach a broad audience. The input during this period was centered on identifying issues and opportunities for non-motorized transportation. Community members participated by attending local events, completing surveys, and offering location-specific comments on a map. This valuable input was instrumental in shaping the project's goals and laying out the foundation for guiding the plans recommendations. The following pages provide a summary of the gathered input.

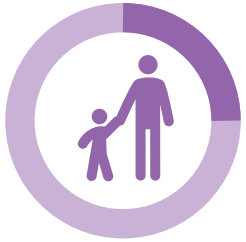
200+
Map Comments

220+
Surveys Completed



HOW DO YOU GET AROUND WARREN?

50%
I WORK IN WARREN



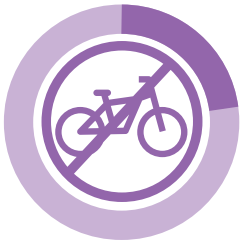
25%
I HAVE SCHOOL-AGED CHILDREN

87%
I LIVE IN WARREN

0%
ENGLISH IS MY 2ND LANGUAGE

2%
I AM UNDER THE AGE OF 16

16%
I AM RETIRED



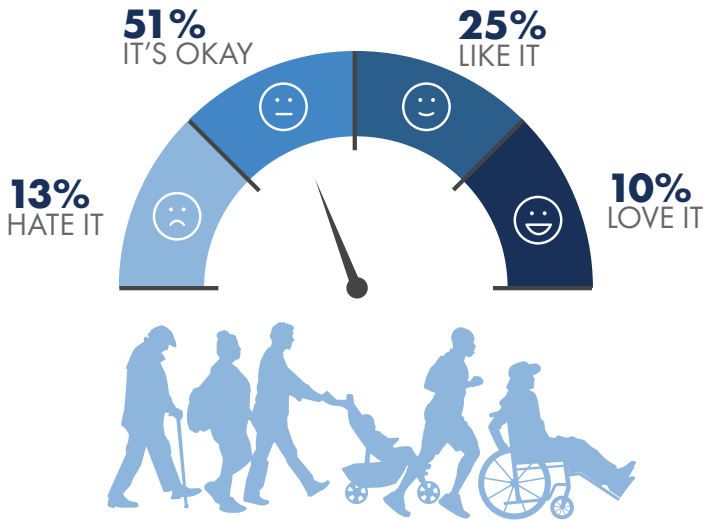
14%
I DON'T HAVE A BIKE

5%
I DON'T HAVE A CAR

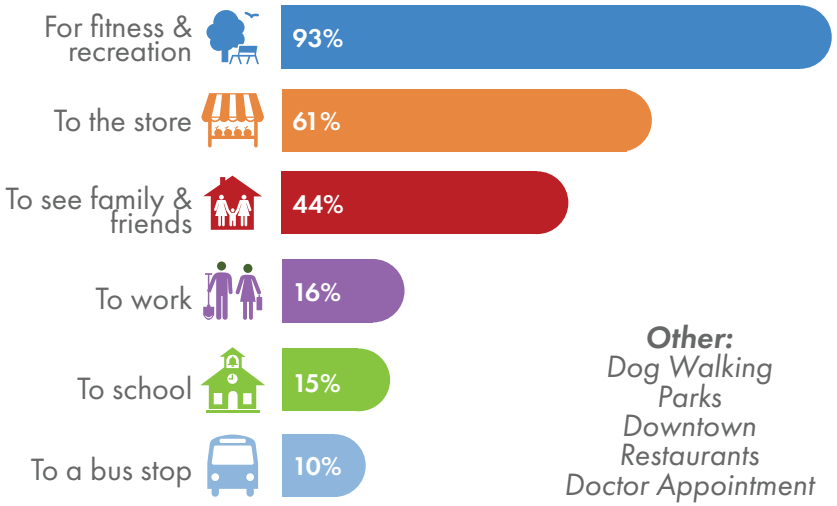
6%
I USE A MOBILITY AID (CANE, ETC)

People Walking, Running, In a Wheelchair, Pushing Strollers, Etc.

HOW WOULD YOU RATE YOUR SATISFACTION WITH WALKING IN WARREN?



I AM INTERESTED IN WALKING...



Other:
Dog Walking
Parks
Downtown
Restaurants
Doctor Appointment

IS ANYTHING PREVENTING YOU FROM WALKING TO THOSE DESTINATIONS RIGHT NOW?

TOP 5 BARRIERS PREVENTING PEOPLE FROM WALKING IN WARREN

1. **Poor Sidewalk Conditions:** Uneven, cracked, or missing sidewalks, and lack of curb cuts
2. **Personal Safety Concerns:** Fear of crime, loose pets, and aggressive drivers
3. **Lack of Infrastructure:** Missing sidewalks, few crosswalks, and poor lighting
4. **Traffic and Busy Roads:** Dangerous, high speeds, and unsafe intersections
5. **Environmental and Aesthetic Factors:** Lack of shade, limited destinations, and unattractive streets.

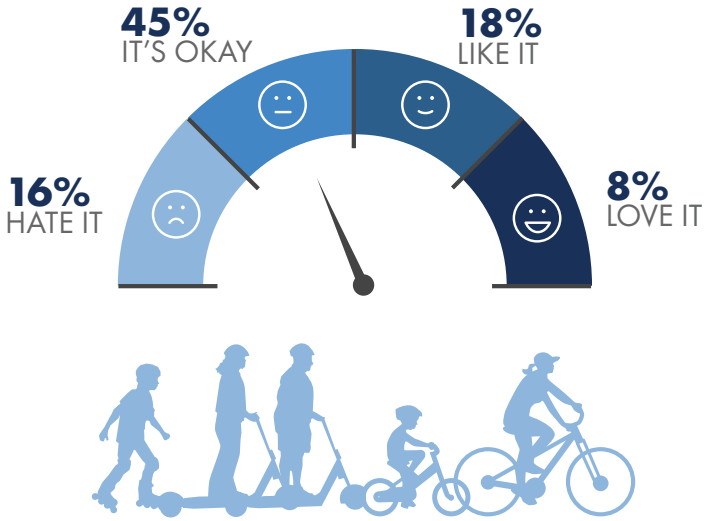
WHAT WOULD YOU LIKE TO SEE CHANGED?

TOP 5 DESIRED CHANGES FOR WALKING IN WARREN

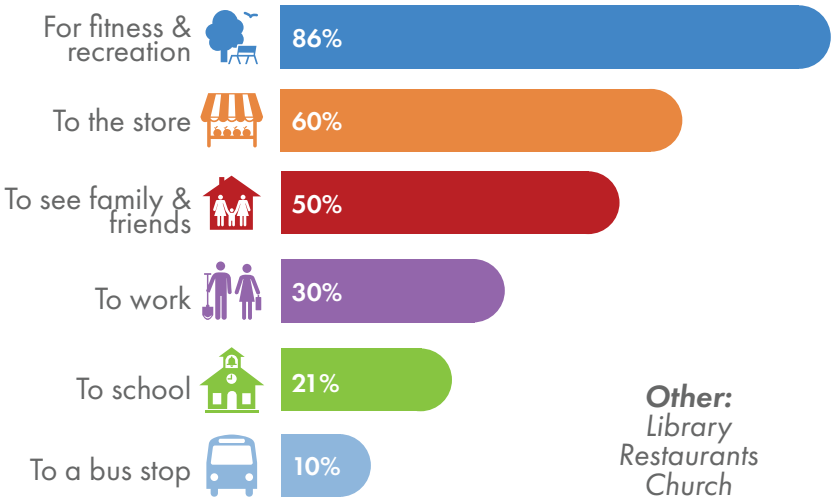
1. **Improved Conditions:** Repair uneven, cracked and missing sidewalks, add curb cuts, and expand width for safety and comfort
2. **Better Crosswalks and Traffic Safety:** More crosswalks, longer crossing times, pedestrian signals and speed control
3. **More Walkable Spaces:** Create downtown areas, add walking and nature trails, more green spaces and pedestrian-friendly routes
4. **Increased Maintenance and Cleanliness:** Snow and litter removal, enforcement, sidewalk obstructions, damaged pathways
5. **Improved Lighting and Safety:** More lighting, police presence, and creating safer places

People Biking, Riding Scooters, Skating, Etc.

HOW WOULD YOU RATE YOUR SATISFACTION WITH RIDING IN WARREN?



I AM INTERESTED IN RIDING...



Other:
Library
Restaurants
Church

IS ANYTHING PREVENTING YOU FROM RIDING TO THOSE DESTINATIONS RIGHT NOW?

TOP 5 BARRIERS PREVENTING PEOPLE FROM RIDING IN WARREN

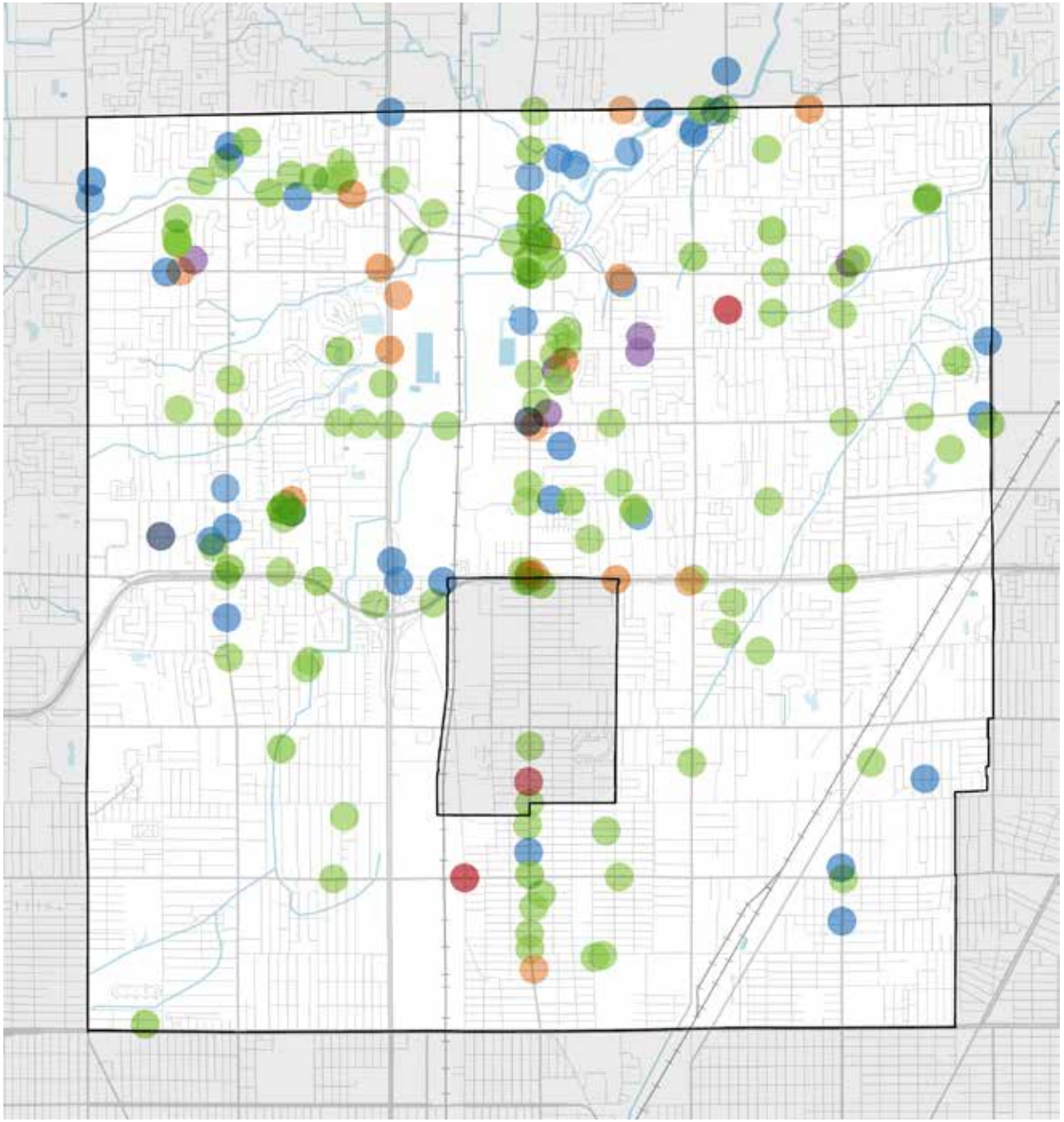
1. **Lack of Infrastructure:** Few bike lanes, trails, and paths, making biking difficult and unsafe, share the road policies are insufficient
2. **Traffic Safety Concerns:** High-speed traffic, busy roads, dangerous intersections, and aggressive drivers
3. **Poor Road and Sidewalk Conditions:** Potholes, uneven surfaces, broken pavement and inadequate maintenance
4. **Inadequate Bike Parking:** Lack of safe and secure places to park bikes at public spaces and businesses
5. **General Safety and Comfort:** Poor lighting, overgrown vegetation, and unsafe crossings

WHAT WOULD YOU LIKE TO SEE CHANGED?

TOP 5 DESIRED CHANGES FOR RIDING IN WARREN

1. **More Bike Lanes and Trails:** Increased bike lanes, designated bike paths, and safe, shaded trails throughout the city
2. **Improved Safety and Infrastructure:** Safer intersections and crosswalks, protected bike lanes, and smoother roads/sidewalks
3. **Better Bike Parking:** More accessible and secure bike parking, including bike racks and lockers at public spaces and businesses
4. **Traffic Enforcement:** Stricter enforcement to keep vehicles out of bike lanes and ensure safer speeds
5. **Connectivity:** Create a connected network of bike paths linking key areas and nearby communities, including the Iron Belle Trail

Specific Places



An online crowdsourcing map and surveys were used to collect 200 comments on specific places. Overall, the input highlighted a strong demand for improved bike and pedestrian infrastructure, safer and more connected sidewalks, and better maintenance of public spaces. The input data is very specific to individual places and should be referenced as specific area and as corridor plans are developed. The following page highlights major themes based on the comment categories.

Comment Categories

- Fill a Sidewalk Gap
- Crosswalk Needed
- Add Bike Parking
- Add a Bus Shelter
- Bike Rental/Bike Share
- Other

Sidewalks:

- **Condition and Maintenance:** Many sidewalks are in poor condition, with issues such as raised cracks, gaps, and crumbling pavement. There are repeated calls for repairs and maintenance.
- **Coverage and Connectivity:** Significant gaps in sidewalks force pedestrians to walk on roads or grass, highlighting a need for improved coverage and connectivity.
- **Safety Concerns:** Narrow, obstructed, or poorly maintained sidewalks create safety hazards. Specific concerns include visibility issues, dangerous ramps, and debris accumulation.

Crosswalks:

- **Need for More Crosswalks:** Calls for additional or improved crosswalks in various locations, including better marking and visibility.
- **Safety and Visibility:** Address dangerous crossings and inadequate pedestrian signals at busy intersections.
- **Connectivity:** There's a need to address gaps in crosswalks to ensure safe and convenient pedestrian access across major roads and intersections.

Bike Parking:

- **Availability and Coverage:** There is a strong demand for bike parking at all parks and retail businesses. Specific requests include bike racks at every park and secure bike lockers at retail locations with larger parking areas.
- **Security:** Current bike parking lacks protection against theft, with calls for secure bike lockers to address this issue.

Public Transit and Shelters:

- **Bus Shelters:** Requests for additional bus shelters, particularly at key intersections like Van Dyke and Nine Mile, to improve comfort and accessibility for transit users.
- **General Transit Improvements:** Improve bus routes and consider more frequent service, and mention of general needs for improved transit infrastructure.

Bike Rental/Bike Share:

- **Accessibility:** There is a call for the introduction of bike and scooter share programs in centralized locations across Warren to increase access to alternative transportation options.

Other:

- **Trail Expansion:** Interest in expanding and improving walking and biking trails, including along Red Run and ITC corridor.
- **Park Amenities and Upgrades:** Complaints about locked restrooms at parks and the need for improved maintenance and facilities. Calls for better maintenance and facilities in parks, such as new walking paths, better restroom access, improved playground equipment and removal of dead trees.
- **General Infrastructure and Beautification:** Enhance the appearance and safety of major roads and pedestrian areas by improving sidewalk and bike lane maintenance, addressing cleanliness and road repair issues, and tackling problems related to trash, encampments, and overall aesthetics.
- **Traffic and Safety:** Concerns about traffic enforcement and intersections that cause accidents or have poor visibility. Calls for better traffic management and infrastructure improvements in various locations.

Summary of Preliminary Plan Feedback

The public engagement process for the Preliminary Plan, conducted throughout the winter months of 2024-2025, aimed to gather community perspectives on the proposed plan. Community outreach included various media platforms, including email groups, flyer's, posters, TV ads, and a public open house. The Preliminary Plan was made available on the project website, providing residents with the opportunity to review and submit feedback online. Additionally, a public open house at the Maybelle Burnette Library offered a space for in-person engagement and discussion. The following pages summarize the feedback received on the Preliminary Plan.

4 Key Elements of the Plan Feedback

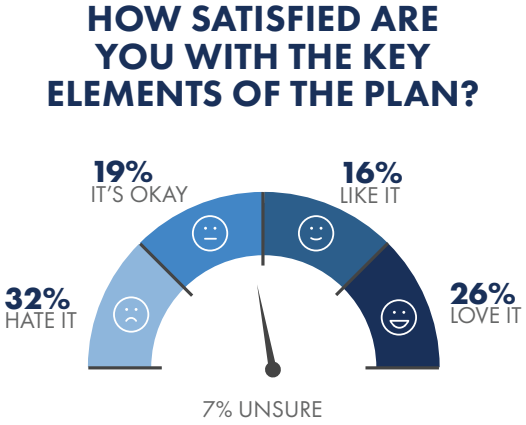
Like / Want to See More Of:

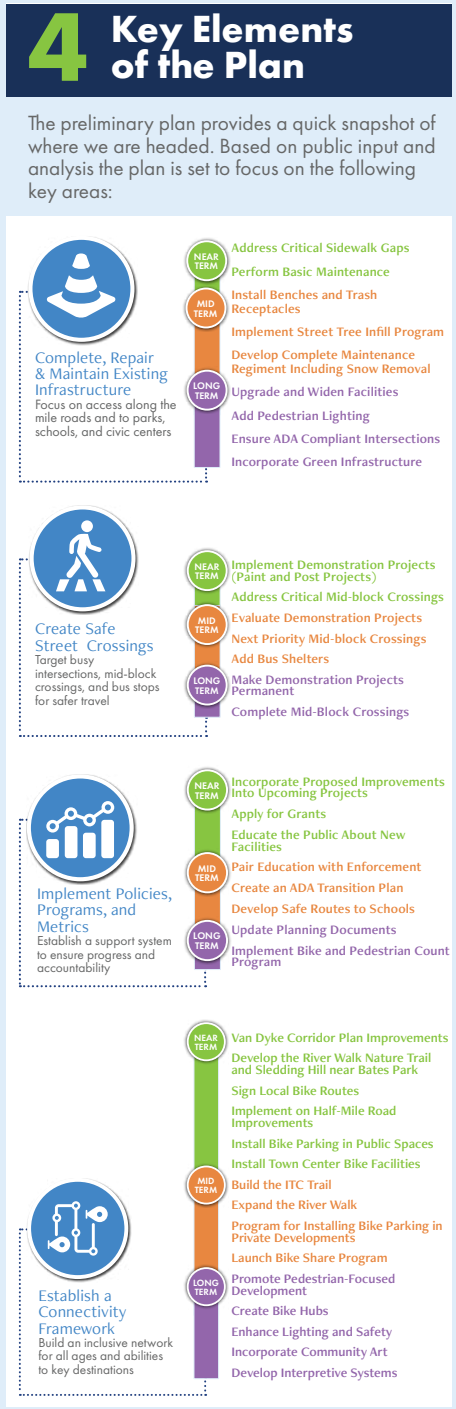
- **Amenities** such as water fountains, air pumps for bikes, benches, bus stop shelters, and safer street lighting.
- **Prioritize snow removal and complete streets** for safe walking and biking.
- Urgency in developing **ITC Trail** and **River Walk** for community use, especially for kids.
- **ADA-compliant crosswalks**

Dislike / Concerns:

- **Safety Concerns:** There are concerns about the safe use of battery-powered bicycles and scooters, particularly with young riders. Mid-block crossings at night are also a safety risk, as pedestrians are harder to see. Personal safety concerns near Van Dyke and 12 Mile due to theft.
- **Concerns with Bike Facilities:** Bike routes on busy roads like Van Dyke are considered dangerous due to high speeds. There is skepticism about bike lanes, with complaints about poor signage and accidents. Some feel bike lanes are underused and a waste of money, especially with Michigan's short biking season. Priority should be given to fixing roads and sewer lines. There are also concerns about streets deteriorating quickly and high sidewalk repair fees.
- **Maintenance and Upkeep:** Tree roots are damaging concrete, and there is a suggestion to plant shrubs where shade isn't needed.

Note: The sidebar showcases a reduced image of the information presented on the website and at the open house.



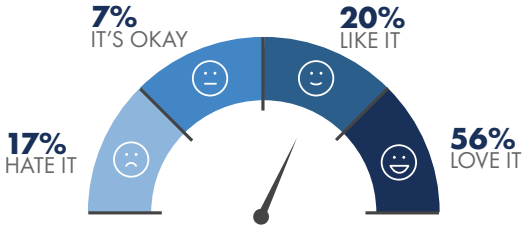


Iron Belle Trail Feedback

Like / Want to See More Of:

- **Positive feedback on utilizing the power line corridor for biking**, as it avoids private property and car traffic. Some are enthusiastic about completing the Iron Belle Trail connection in Warren through this corridor, viewing it as an excellent use of underutilized land. Support is also expressed for creating pleasant public spaces along the corridor.

HOW SATISFIED ARE YOU WITH THE IRON BELLE TRAIL RECOMMENDATIONS?



- **Consideration of extending crosswalks and paths**, such as on Common west of Lorraine, to better connect to city destinations and add fully separated bike lanes on half-mile roads to enhance safety.
- **Support for curbs separating bike and car lanes**, but with a note to ensure reliable snow removal in winter.
- **Interest in connecting local trails with Detroit's trail system** and extending walking/running paths for a circular route in Warren.

Dislike / Concerns:

- **Bike Lanes:** Van Dyke is considered too busy for bike lanes, with complaints of accidents and improper lane usage, and concerns about taking away car lanes for bike lanes in a car-centric city like Warren, where bike lanes are perceived as rarely used.
- **Concerns about Parking:** Concerns that creating bike lanes may eliminate on-street parking in certain areas.
- **Opposition to Prioritizing Bike Paths:** Concerns about prioritizing bike paths over fixing infrastructure issues like sewer lines and deteriorating roads, with a request to focus on essential city repairs first.

Note: The sidebar showcases a reduced image of the information presented on the website and at the open house.

REGIONAL CONNECTION

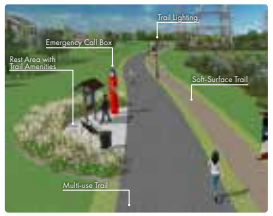
Iron Belle Trail

The planned Iron Belle Trail **spans the State of Michigan**, connecting Belle Isle in Detroit to Ironwood at the western tip of the Upper Peninsula. The City of Warren provides a key connection for the bike route through Southeast Michigan.

Planned Route Would Include:

Separated bike lanes and safety Improvements specified in the Iron Belle Route and Feasibility Study and the Van Dyke Corridor Plan.

Buffered bike lanes on Martin, Lorraine, and Common specified in the Iron Belle Plan.



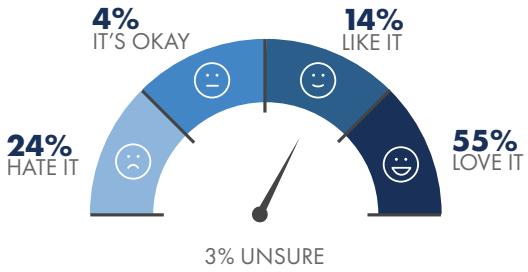
Multi-use Trail along the Utility Corridor would provide a park-like setting featuring landscaping, benches, lighting, art installations, community gathering spaces, and emergency call boxes, creating a welcoming and safe environment for all users. If desired, the trail could be extended further south following power line corridor between 14 Mile Road and 10 Mile Road.

9 Mile Road Feedback

Like / Want to See More Of:

- **Excitement for a road diet and cycle track** on 9 Mile, with a desire for immediate implementation.
- **Add playgrounds along 9 Mile**, similar to what was done along 9 Mile in Oak Park.
- **Enthusiasm for more roads being redesigned** with similar setups.

HOW SATISFIED ARE YOU WITH THE 9 MILE ROAD RECOMMENDATIONS?



- **Support for expanding the plan to neighboring areas** like Hazel Park and Eastpointe, and making 9 Mile a major bicycle corridor from Southfield to Jefferson

Dislike / Concerns:

- **Traffic Flow Concerns:** Concerns that bike lanes would impede traffic and hurt businesses.
- **Bike Lanes:** Opposition to bike lanes, with a belief that infrastructure issues like sewer lines should be prioritized. Also, concerns that the road diet is unnecessary due to low usage of bike lanes, as the density and trip distances don't justify the change.
- **Low Priority:** Some believe that 9 Mile recommendations should be a lower priority, as they don't see themselves using the 9 Mile corridor often enough to offer useful input. Preference for repaving the road and addressing potholes instead of adding bike lanes.

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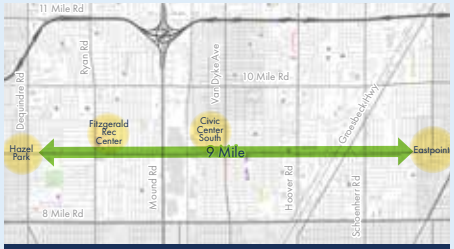


REGIONAL CONNECTION

9 Mile Road

The Nine Mile corridor has been identified as a **key regional corridor for bicycle and pedestrian travel** by the Southeast Michigan Council of Governments, with plans to transform its streetscape across communities in Macomb and Oakland counties.

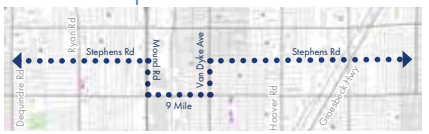
Planned Route Would Include:

A consistent three-lane cross-section to improve traffic safety:

- A two-way cycle track separated from the roadway with lighting
- Landscaping and rain gardens between the cycle track and roadway
- Mid-block crossing islands
- Bus pull-off bays with transit shelters
- On-street parking in strategic locations where space allows

Where space is limited, the two-way cycle track will be separated from the motor vehicle traffic by a raised divider.

Near-term Option:



Transforming Nine Mile into a regional bicycle and pedestrian corridor could take some time. In the near-term, Stephens Road could be used as a temporary cross-town connection with basic signage, pavement markings, and crosswalk upgrades. See Half-Mile Roads recommendations for more details on how Stephens Road could be updated.

Half-Mile Roads Feedback

Opinions on half-mile road options were mixed. Option A, with shared roadways and traffic calming, was seen as less safe due to the lack of dedicated bike lanes. Option B, with on-street bike lanes, was favored but raised concerns about losing parking and safety risks with cars. Option C, a two-way cycle track on one side, was favored. Many felt it was the safest option, offering a good balance of biking, driving, and parking, though concerns about parking loss and needing more barriers were noted.

LOCAL NETWORK

Half-Mile Roads

The half-mile roads provide low-stress alternatives to busy major roads, making them ideal for a bikeway network in Warren. They connect neighborhoods to schools, parks, and recreation areas. This plan explores **three options to upgrade the half-mile roads** and improve bicycle and pedestrian travel—and we **need your input!**

OVERCOMING BARRIERS

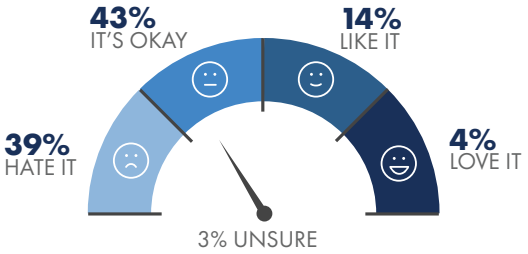
Connecting the Gaps along the Half-Mile Roads

The orange areas on the map highlight challenging zones for pedestrian and bicycle travel. Barriers such as the river, freeways, and industrial areas create obstacles and disconnections along the half-mile roads. These connections will only be effective if pathways are provided along major roads that pass through these barriers to help overcome these challenges.

OPTION A

Shared Roadway with Traffic Calming

- (+) Reduces vehicle speeds and cut-through traffic.
- (+) Maintains existing parking.
- (-) May not provide enough separation between cyclists and cars.
- (-) Potential for conflicts between different road users.
- (-) May require adjustments to traffic flow and infrastructure.



HOW SATISFIED ARE YOU WITH OPTION A?

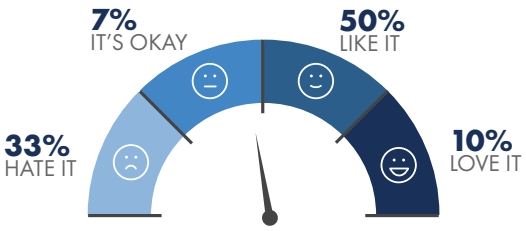
- Concerns about safety and drivers ignoring stop signs.
- Support for traffic calming, like mini buttons, to slow traffic.
- Some feel shared roads aren't safe for bikers and prefer separated lanes.
- Worries about maintenance costs and snow plowing challenges.
- Some think shared roads may work on less busy streets, but most want protected bike lanes.

OPTION B

Designated On-street Bike Lanes

- ⊕ Provides dedicated space for cyclists.
- ⊕ Easy and cost-effective to implement with road striping.
- ⊕ Narrower lanes reduce vehicle speeds.
- ⊖ Removes on-street parking.
- ⊖ Requires ongoing enforcement and education to assure motor vehicles are not parking in the bike lanes.

Would like to see this on Stephen's Road, Martin Road, Lorraine Road, Common Road, Kennedy Square, Chicago Road

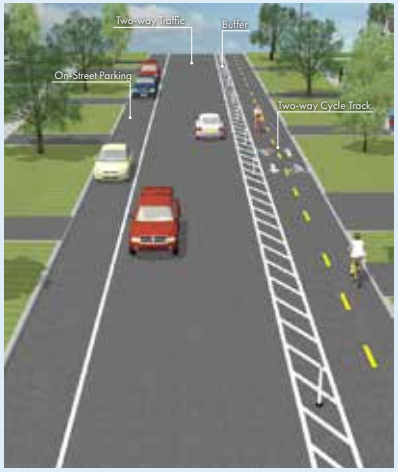


HOW SATISFIED ARE YOU WITH OPTION B?

- Stronger approval for this option over Option A, but still concerns about parking and safety.
- Preference for fully separated bike lanes for safety, with a suggestion to include bike lanes on all half-mile roads along with sidewalks.
- Concerns about removing on-street parking and driveway space
- Some feel bike lanes are unsafe or confusing, and collisions with parked cars or driveway exits are a risk
- Support for bike lanes if enforced and separated, with bollards for protection.

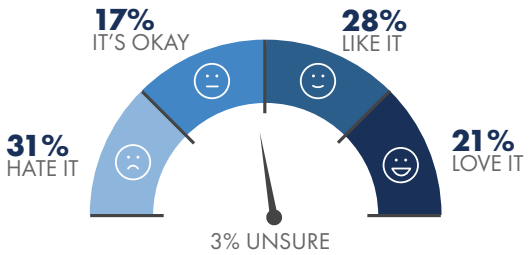
OPTION C

Two-way Cycle Track on One Side of Street



- ⊕ Provides dedicated space for bicyclists.
- ⊕ Maintains on-street parking on one side of street.
- ⊕ Narrower lanes reduce vehicle speeds.
- ⊖ Requires ongoing enforcement and education to assure motor vehicles are not parking in the bike lanes.
- ⊖ Additional safety features required at intersections and when transitioning to a conventional bike lane.

Would like to see this on Common Road, Lorraine Road, Kennedy Square, Chicago Road



HOW SATISFIED ARE YOU WITH OPTION C?

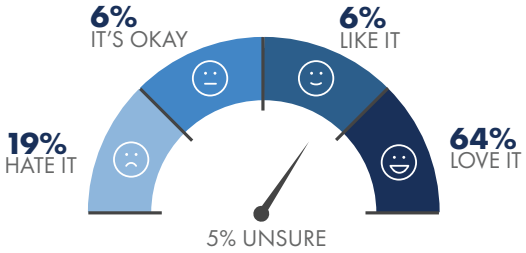
- Stronger approval for this option over Option A, but some feel the idea isn't necessary or needed in the area.
- This option is favored by those who like the idea of keeping cyclists together on one side, but some are concerned about parking loss and its impact.
- Preference for more separation (e.g., bollards) for safety.
- Support for dedicated bike lanes, with concerns about needing help to widen driveways or create additional parking.
- Some find this option confusing or risky, but others believe it's the safest and most balanced, as it accommodates biking, driving, and parking.

River Walk Feedback

Like / Want to See More Of:

- **Nature Trail Appeal:** Support for the idea of a nature trail along Red Run, with excitement about the potential for the area to be beautiful if planned correctly.
- **Connection to Key Areas:** Enthusiasm for connections to key local areas, such as Halmich Park, Downtown Old Warren, Van Dyke corridor, and the Lorraine area, as well as the Iron Belle Trail.

HOW SATISFIED ARE YOU WITH THE RIVER WALK RECOMMENDATIONS?

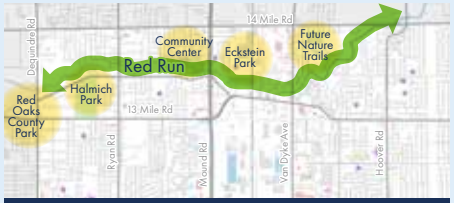


- **Biking Trail for Safety:** Desire for a biking trail to reduce collisions with pedestrians, if bikes are allowed on the nature trail.
- **River Walk and Bates Park Proposal:** Positive feedback for the River Walk proposal, particularly due to the potential for utilizing unused land, and appreciation for the Bates Park proposal.
- **Resident Support:** Some residents, particularly near Red Run, are open to the idea and willing to champion the project.

Dislike / Concerns:

- **Privacy and Property Issues:** Concerns from homeowners near the proposed trail who fear losing privacy and the safety of their property, especially with increased traffic, potential disruptions to wildlife, and public access to their yards. Concerns about private property rights and the potential for legal challenges related to the trail's construction.
- **Maintenance and Security:** Questions about the city's ability to maintain the trail and ensure safety, with concerns about whether the city will provide adequate cleaning and police patrols.
- **Environmental Impact:** Worries about disrupting wildlife habitats and the river's potential to affect the trail during high water levels.
- **Low Priority:** Some believe the trail is not a priority compared to other projects, questioning its value and return on investment.

Note: The sidebar showcases a reduced image of the information presented on the website and at the open house.



LOCAL NETWORK

River Walk

Warren's proposed River Walk would offer a **soft surface trail designed to provide a peaceful, natural corridor along the Red Run.** While the vision for this trail has been in place for some time, significant challenges, such as securing property easements, stand in the way of making it a reality. The trail would connect key parks and recreation areas, offering a safe, scenic route with a focus on sustainability. Despite the obstacles, the project aims to enhance access to natural spaces and provide a tranquil escape for residents.

Planned Route Would Include:

Soft surface nature trails that offer a scenic route along the Red Run. Key amenities could include rest areas with benches and picnic tables, trash receptacles, wayfinding and interpretive signage, and landscaping to enhance the natural beauty of the area.

Proposed nature trails and sledding hill near Bates Park

Sidewalk Gaps Feedback

Priority Gaps:

- **Chicago**
- **Macomb Community College**
- **Halmich Park Area**
- **Community Center**
- **Others -** Hoover north of Masonic, Hayes Road, Mound, 12 Mile Road along Tech Center, Ryan Between 11 Mile and Martin, fix all of them!

Additional Comments:

- **Sidewalk Maintenance:** There are widespread sidewalk issues, and the city should already have a plan in place for addressing them, rather than relying on residents to prioritize.
- **Prioritizing Areas:** While there are important gaps marked on the map, Mound should be given lower priority as it is already difficult for pedestrians. More frequent areas like those near schools, libraries, parks, and mile roads should be prioritized.
- **River Trail Benefit:** If the River Trail is prioritized, it will help address sidewalk gaps in the northwest part of the city between the Community Center and Halmich Park.
- **Halmich Park:** The sidewalk around Halmich Park needs resurfacing.
- **Fix Existing Sidewalks First:** Emphasis on fixing existing sidewalks before adding new projects.

Note: The sidebar showcases a reduced image of the information presented on the website and at the open house.

SAFETY IMPROVEMENTS

Sidewalk Gaps

Warren has a robust sidewalk network, but there are **a few key gaps**—particularly along the Mile Roads—that need attention. This map highlights critical areas where sidewalk connections are missing along major roads. These gaps should be addressed to improve pedestrian safety, accessibility, and transit access.

Sidewalk Gaps along Major Roads

Critical Gaps to Complete First

SIDEWALK MAINTENANCE

Ensuring Accessibility for All

Maintaining Warren's sidewalk network is key to keeping it safe and easy to use. Regular upkeep helps prevent hazards, makes walking easier, and ensures that everyone—no matter their ability—can get around the city. A first step in this process is creating an ADA Transition Plan to enhance accessibility and ensure that people with mobility challenges can easily navigate around the city.

Crosswalks & Intersections Feedback

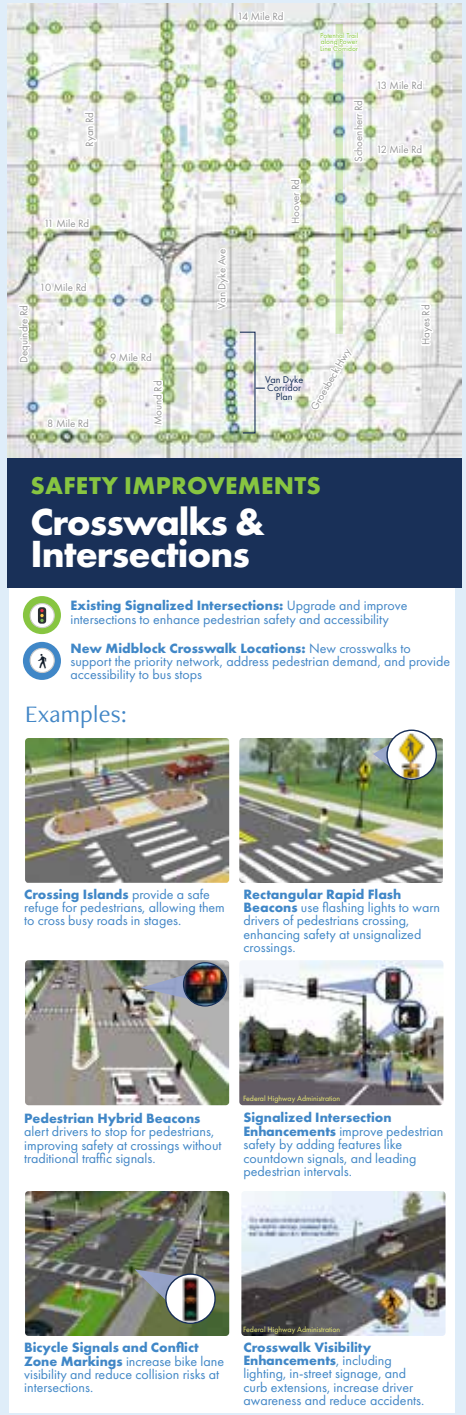
Priority Crosswalk Locations:

- **Van Dyke -** At all crosswalks south of Center Line, at Martin, and at Chicago
- **13 Mile -** at Hoover, Lorraine, and Schoenherr
- **Chicago at Van Dyke -** at 13 Mile and at Van Dyke
- **10 Mile -** at Cunningham, at Curie and at Firwood
- **12 Mile -** between Van Dyke and Lorraine
- **Ryan Road -** at 8 1/2 Mile and 11 1/2 Mile
- **9 Mile Road**
- **Masonic and Schoenherr**
- **Access to Schools, Parks and SMART Bus Routes**
- **Half-Mile Roads -** by the power lines
- **Crossing Islands**

Additional Comments:

- **ADA Compliance:** Emphasis on the need for ADA-compliant crosswalks and detectable warning signs when new crosswalks are built. Additionally, align detectable warnings at street crosswalks.
- **Pedestrian Crossing Features:** Support for curb extensions and crossing islands, but skepticism about the effectiveness of hybrid pedestrian beacons and rapid flash beacons. Opposition to the Hybrid Beacon due to confusion and safety risks, preferring better crosswalk visibility.
- **Infrastructure Priorities:** Concerns about infrastructure issues like sewer lines and roads taking priority over bike paths or crosswalks, as well as people no longer crossing at traffic lights.
- **Impact to Major Roads:** Concerns about adding traffic lights or features like islands that may block lanes on major roads
- **Residential Speed Hump Program:** Suggestion for a residential speed hump program, similar to Detroit's, to slow traffic in neighborhoods.

Note: The sidebar showcases a reduced image of the information presented on the website and at the open house.

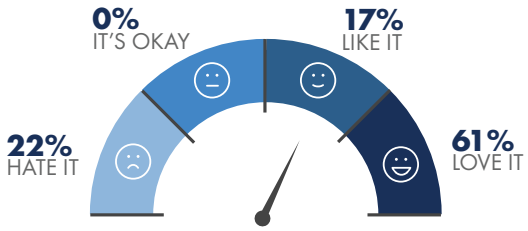


Major Roads Feedback

Like / Want to See More Of:

- **Safety Improvements:** Speeding was a major concern, with participants requesting measures to slow traffic and prevent accidents. Suggestions included physical road changes and bike patrols for added security.
- **Improved Connectivity:** Support was voiced for bus stop improvements and the addition of bike and scooter options throughout the city.

HOW SATISFIED ARE YOU WITH THE MAJOR ROAD RECOMMENDATIONS?



- **Long-Term Maintenance:** Respondents requested a plan to maintain the new infrastructure over time.
- **Education:** Concerns were raised about confusion with new traffic signals and bike facilities, with calls for educational efforts to help drivers understand them
- **8 Mile:** A request was made for more focus on improving commercial areas along 8 Mile.

Dislike / Concerns:

- **Traffic Flow Concerns:** Some worried that reallocating road space for active mobility could cause traffic congestion and delays.
- **Multi-Modal Hub Features:** Some felt the inclusion of features like bike share programs and self-driving car discussions were unnecessary.
- **Low Priority:** Several respondents argued that fixing existing infrastructure, such as roads and sewer lines, should take priority over bike lanes and active mobility features.

Note: The sidebar showcases a reduced image of the information presented on the website and at the open house.

FUTURE CROSS SECTIONS

Major Roads

What Will the Future Look Like?

The proposed cross sections demonstrate how the major roads can be redesigned during future road reconstruction projects to accommodate all users safely, with pathways separated from the road and enhanced crossings to make travel through Warren easier and safer for everyone.

Traffic Safety Enhancements: Improve safety with enhanced visibility at crosswalks by pulling back stop bars and installing speed tables at intersection driveways, as well as equipping midblock crossings with pedestrian islands and signalized beacons.

Separated Facilities and Micromobility: Prioritize vulnerable users by providing pathways separated from vehicle traffic. Accommodate micromobility options, such as e-bikes and scooters, with dedicated spaces to ensure safety and accessibility.

Multimodal Hubs: Embrace the future of transportation by integrating features like bus stops, EV chargers, and bike share stations to support diverse options, including autonomous vehicles and micromobility.

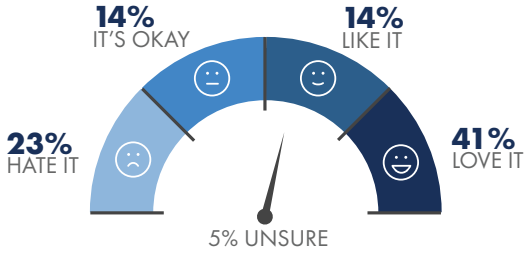
Enhanced Amenities: Incorporate benches, landscaping, shade, public art, and rain gardens to enhance comfort, accessibility, and environmental sustainability.

Core Network Feedback

Top Priorities:

- **Separated and Designated Bike Lanes -** Creating safe, dedicated bike lanes throughout the city away from car traffic for safety.
- **Half-Mile and Local Road Bike Routes -** Expanding local bike routes and ensuring access throughout the community.
- **Power Line Corridor -** Developing a trail along the power line corridor.

HOW SATISFIED ARE YOU WITH THE CORE NETWORK RECOMMENDATIONS?

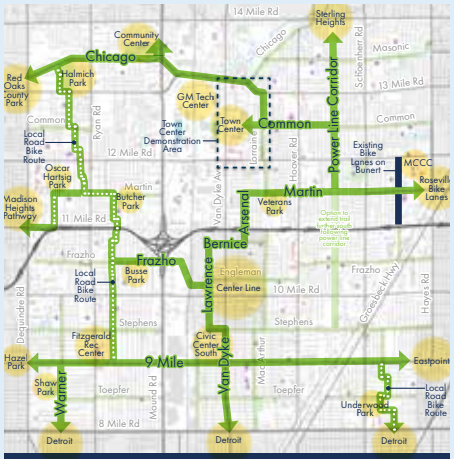


- **Chicago Road -** Providing connectivity between key destinations such as the Community Center and Halmich Park.
- **Town Center Areas -** Demonstration areas and connections within the Town Center for better access.
- **Common Road -** Enhancing bike lanes and designated bikeways.
- **Others -** Red Run, 9 Mile, Road Crossing Opportunities, Martin, Lighting, Macomb Community College to Civic Center, and Connecting the Civic Center to South Warren.

Additional Comments:

- **Walkability and Bikability:** Interest in developing the Town Center and creating other walkable nodes in the city, with support for complete streets to encourage walkability and bikeability.
- **Existing Sidewalks and Bike Lanes:** Some feel that existing sidewalks are sufficient for both walking and biking, especially in areas with low traffic, and argue that bike lanes are unnecessary.
- **Power Line Corridor:** Concerns about safety in the power line corridor.

Note: The sidebar showcases a reduced image of the information presented on the website and at the open house.



INITIAL FOCUS FOR DEVELOPMENT

Core Network

The initial focus is to create an **all ages and abilities core network of bikeways.** This system will connect key regional routes, such as the Iron Belle Trail and the proposed 9 Mile Cycle Track, along with local destinations like schools, parks, and other community hubs. The network will be organized around half-mile segments to ensure accessibility and ease of use.

Planned Core Network Would Include:

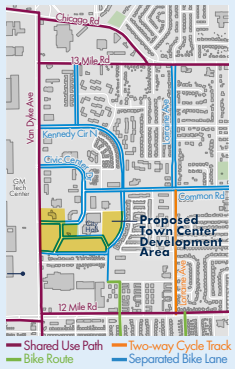
Designated Bikeways: Shared use pathways or bike lanes

Local Road Bike Routes: On-road bike routes following low-speed, neighborhood streets

Half-Mile Connections: A cost-effective opportunity to expand the core network by adding bikeways along Half-Mile Roads

Town Center Demonstration Area

Many of the existing roads in the Town Center area have excess capacity that could be repurposed for bicycle use. In addition, a concurrent study is exploring mixed-use development options that would be within easy walking and biking distance of many area residents.



APPENDIX C

FACILITY TYPES AND TREATMENTS

FACILITIES FOR BUILDING AN ACTIVE MOBILITY NETWORK

In recent years, there has been a growing recognition of the critical role that active mobility plays in creating sustainable, inclusive, and vibrant communities. As Warren continues to grow and evolve, the need for **safe, accessible, and comfortable non-motorized infrastructure** becomes increasingly important.

This section explores a diverse range of **facility types and design treatments**—such as bike lanes, intersection enhancements, and mid-block crossings—that support walking, biking, and rolling throughout the city. It includes **imagery and terminology** to help demystify the non-motorized transportation terminology that is referenced throughout this plan.

While many of these facility types are referenced throughout the plan, a few key examples are presented here. Some treatments can begin as low-cost, short-term improvements using materials like paint and posts, and evolve into more permanent solutions as part of larger infrastructure projects—such as full street reconstructions. When implemented in coordination, these improvements help create complete corridors that support multi-modal travel and enhance safety for all users.

SIDEWALKS

Dedicated space intended for use by pedestrians. They are separated from a roadway by a curb and/or an unpaved buffer space and typically constructed of concrete. Sidewalks should be set back from the roadway at least five feet from the back of curb. A preferred sidewalk width of six feet or more allows for a more comfortable walking environment. Additionally, integrating street parking or bike lanes along sidewalks provides a barrier between pedestrians and moving vehicles, creating a safer and more enjoyable pedestrian experience. Street trees in the buffer further contribute to the aesthetics and shade, enhancing the overall sidewalk environment.

This is a FHWA Proven Safety Countermeasure.

SHARED USE PATHS

These are pathways that are physically separated from the roadway and are shared by people who walk and bike going both directions. These are wider than standard sidewalks (at least 10′ wide with 2′ clear zone on each side) and typically constructed of asphalt or carefully jointed concrete for smooth bicycling. When located adjacent to a roadway the facility may be referred to as a sidepath. For pathways seeking federal funding, adherence to the American Association of State Highway and Transportation Officials (AASHTO) guidelines is crucial to ensure eligibility and compliance with established safety standards.

UNPAVED TRAILS & FOOT PATHS

Unpaved trails have a natural or a compacted gravel surface and typically quite narrow. They are usually more recreational in nature than a paved pathway. They can be designed for specific activities like hiking or mountain biking.

SIGNED BIKE ROUTES

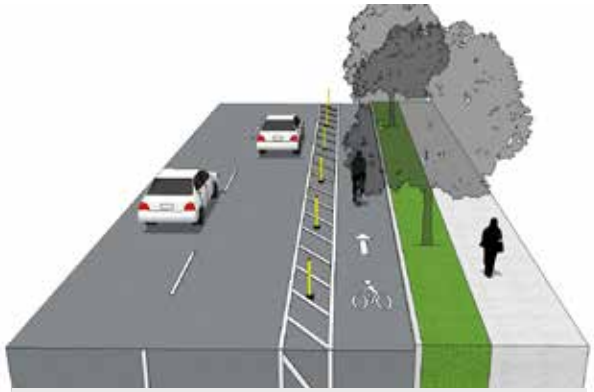
These are selected local roads that provide low-stress connections to destinations around the City for people who would prefer to avoid the busy main roads. These routes utilize clear and easily recognizable signage and/or pavement markings to direct cyclists onto roads that are considered safer and more accommodating for bike travel. Signed bike routes typically do not have dedicated cycling infrastructure but the traffic speeds and volume are low enough for bicyclists and motorists to safely share the road. Crosswalk improvements may be needed where these routes cross major roadways.

Minimal

BASIC BIKE LANES

Used on lower speed and lower volume roadways where space is limited. They provide an exclusive space for bicyclists located adjacent to vehicular travel lanes. They assist in facilitating predictable behavior and movements between bicyclists and motorists. Key cost variables include the number of intersections that require special pavement markings and changes to existing lane configuration.

This is a FHWA Proven Safety Countermeasure. For more information visit https://highways.dot.gov/safety/proven-safety-countermeasures



Enhanced

BUFFERED BIKE LANES

Often implemented with a road re-striping or resurfacing project. A basic bike lane is paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. This provides greater distance between motor vehicles and bicyclists and appeals to a wider cross-section of bicycle users.

Separation may be enhanced with the addition of delineator posts. These may be placed every 30' - 40' along the entire distance or used more sparingly at intersections. Key cost variables includes the spacing of the delineator posts.

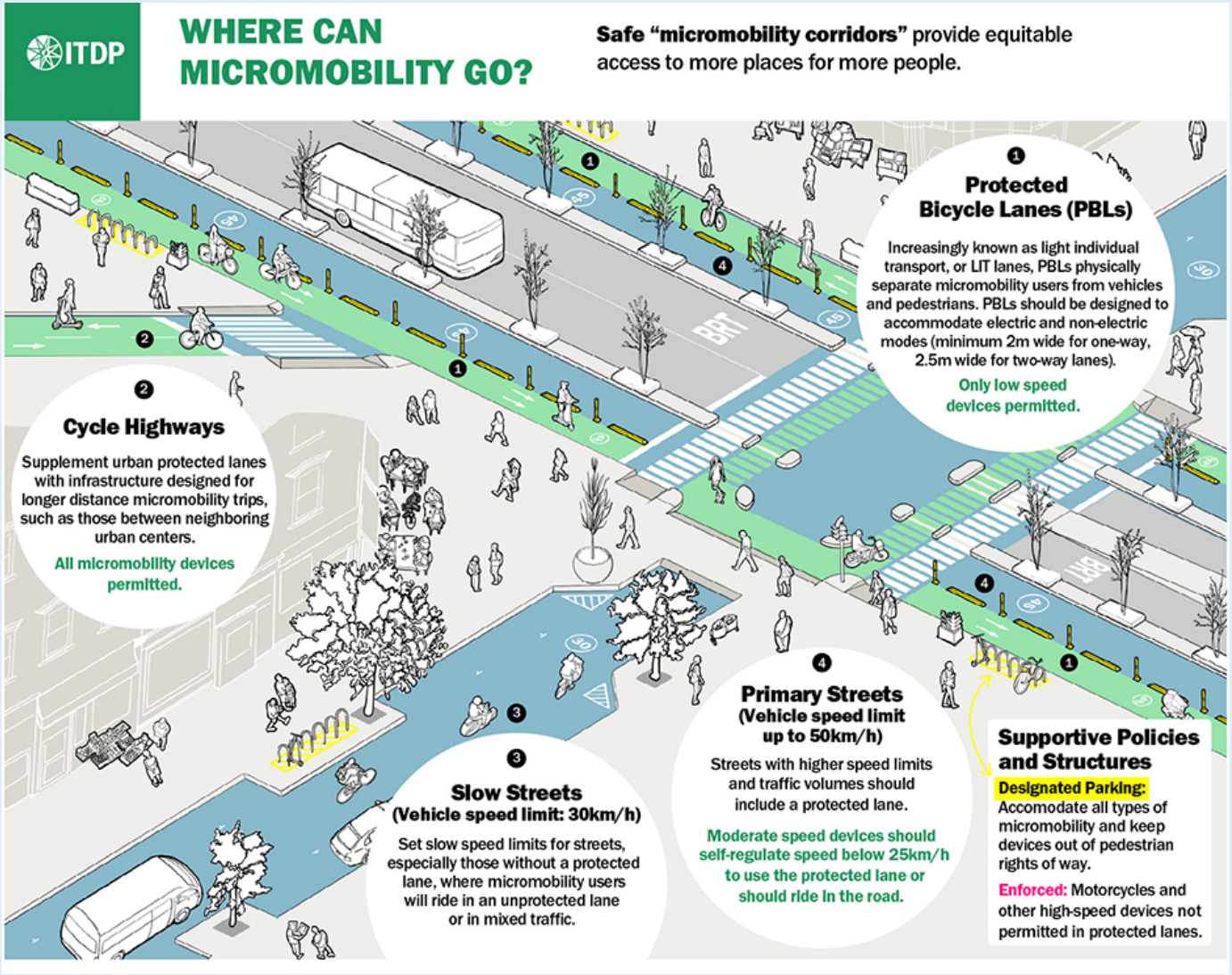
Optimal

SEPARATED BIKE LANES

Typically implemented as part of a road reconstruction project but can also be accomplished through the temporary use of planters, movable curbs, or barriers. The lane may be placed at the street level, sidewalk level, or somewhere in-between. May be combined with a parking lane or other barrier between the separated bike lane and the motor vehicle travel lane. Protects space for bicyclists in order to improve perceived comfort and safety. Intersections must be carefully designed to minimize conflicts with motorized vehicles due to reduced visibility of the lanes. Key cost variables include curb construction and drainage.

MICROMOBILITY

Bike Lanes, also known as Micromobility Lanes, are portions of the road that have been designated through striping, signage, and pavement markings for the use of bicyclists, e-bikes, scooters, etc. Many times the lanes can be added to existing roads through lane narrowing or reducing number of vehicular travel lanes without effecting the existing curb. They typically run in the same direction as vehicular traffic. Facilities described on the previous page could become basic bike/ micromobility lanes, buffered bike/ micromobility lanes and separated bike/micromobility lanes.



Source: Institute for Transportation & Development Policy

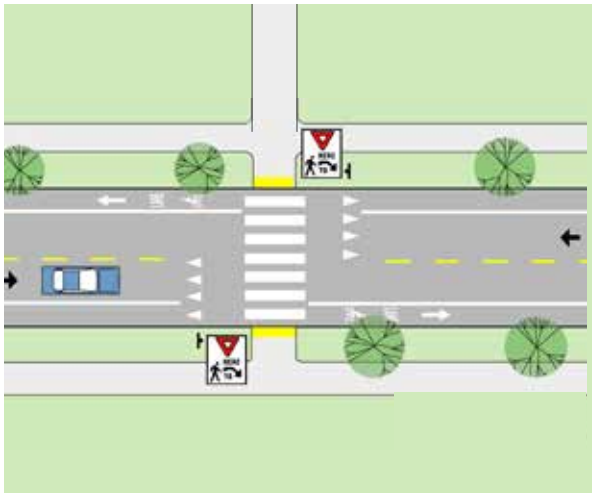
Road Crossing Treatments to Enhance Safety and Accessibility

While safely moving various modes through and along corridors is important, getting vulnerable modes, including pedestrians and bicyclists, safely across corridors is essential. The examples here illustrate various ways to get people across corridors. Specific design treatments vary based on distance, speeds, volumes, etc.

These treatments can be combined with each other and/or with corridor upgrades. For example, a raised crosswalk can be combined with a pedestrian crossing island and/or a rectangular rapid flash beacon. The associated cost would generally be the sum of the parts. However, some savings would be realized in the overlap in design, construction, and other "soft" costs.

CROSSWALKS AT INTERSECTIONS

Crosswalks at intersections are integrated into the junctions of roads, enabling pedestrians to traverse roadways while interacting with turning and oncoming vehicles. By employing strategies such as leading pedestrian intervals, advanced stop bars, and clear signage, crosswalks at intersections can create harmonious interactions between pedestrians and vehicles.



MID-BLOCK CROSSWALKS

Strategically positioned between intersections, these road crossings offer pedestrians more convenient access to destinations and shorten walking distances. To enhance safety, various design elements are employed, such as high visibility crosswalks, pedestrian-activated signals, and traffic calming measures. Crossings within roundabouts are often managed similarly to mid-block crossings.

Road crossings are pivotal points where pedestrians interact with vehicular traffic, and their design significantly impacts the overall pedestrian experience. One fundamental distinction in road crossings lies between mid-block crosswalks and crosswalks at intersections. While mid-block crosswalks focus on providing efficient and direct access, crosswalks at intersections demand careful coordination between pedestrian and vehicular movements. In both cases, providing a dedicated identifiable crossing that heightens driver awareness of pedestrian presence is key to enhancing safety.

HIGH VISIBILITY CROSSWALK

High visibility marked crosswalks indicate optimal or preferred locations for pedestrians to cross a road and help designate right-of-way for motorists to yield to pedestrians. High-visibility crosswalks use patterns (i.e., bar pairs, continental, ladder) that are visible to both the driver and pedestrian from farther away compared to traditional transverse line crosswalks. They should be considered at all mid-block pedestrian crossings and uncontrolled intersections.

This is a FHWA Proven Safety Countermeasure. For more information visit https://highways.dot.gov/safety/proven-safety-countermeasures

CROSSING ISLANDS

With crossing islands, pedestrians only need to cross one direction of traffic at a time. This allows for more crossing opportunities as they only need a gap in traffic from one direction. The island provides a strong visual indicator to motorists of the crosswalk. They are often used in tandem with rectangular rapid flash beacons.

Crossing islands should be employed whenever pedestrians need to cross more than two lanes of traffic, when the speed limit exceeds 35 mph, or when the gaps in traffic are insufficient.

This is a FHWA Proven Safety Countermeasure.

RAISED CROSSWALK

Also known as a speed table crosswalk, this is a traffic calming measure designed to improve pedestrian safety at intersections and mid-block crossings by raising the entire roadway surface to the level of the sidewalk while maintaining a smooth transition for vehicles. It provides a visual and physical cue to drivers to reduce their speed and expect pedestrians.

Raised crosswalks should be exclusively employed on streets with speed limits of 25 mph or less. In the case of three and four-way intersections, it's possible to raise the entire intersection for enhanced pedestrian safety.

GATEWAY TREATMENT

Gateway treatments take many forms but typically consist of an R1-6 sign installed on the roadway centerline and R1-6 signs or delineator posts on the edge line. R1-6 signs have yellow-green reflective material and read "Yield To (or Stop For) Pedestrians Within Crosswalk." On multi-lane roads, flexible delineators with reflective markings may be installed on the lane markings. With bike lanes, delineator posts my be used between the travel lane and bike lane. The effect is to visually narrow the lane slowing traffic and draw attention to the crosswalk.

RECTANGULAR RAPID FLASH BEACON

High-visibility strobe lights are placed below a crosswalk sign and activated by pedestrians to alert motorists that a pedestrian is about to or is currently in the process of crossing the roadway. These are typically used at mid-block crossing locations and are most effective on roads with speed limits less than 40-mile per hour. They are often used in conjunction with crossing islands on roads with more than two lanes.

This is a FHWA Proven Safety Countermeasure.

PEDESTRIAN HYBRID BEACONS

These devices bring motor vehicles to a complete stop to help pedestrians safely cross busy and high speed roadways mid-block. Motorized traffic is permitted to proceed through the intersection after stopping if a pedestrian or bicycle has cleared the crosswalk when the beacon enters a flashing red phase.

Pedestrian Hybrid Beacons should be used whenever the speed limit is greater than 35 mph, three or more lanes must be crossed, or where average daily traffic volumes are above 9,000.

This is a FHWA Proven Safety Countermeasure.

BICYCLE CONFLICT ZONES

Bike Boxes are areas painted green at intersections just past the stop bar. These allow cyclists to position themselves in front of vehicles during red signals. This improves visibility and helps cyclists make left turns and helps reduce right-hook crashes.

Colored Bike Lanes highlight conflict zones with vehicles with green pavement markings. They draw attention to areas where interactions between bikes and vehicles are common, such as pocket bike lanes, bus stops, and traffic merging points. These visual cues increase awareness and safety for both bicyclists and motorists.

SIGNALIZED INTERSECTION ENHANCEMENTS

No Right Turn on Red is a traffic regulation that prohibits vehicles from making right turns on red signals at specific intersections. This enhances pedestrian and bicyclist safety by minimizing conflicts with turning vehicles and improving intersection safety.

Leading Pedestrian Intervals (LPI) give pedestrians a head start at intersections before vehicles can turn, enhancing safety by reducing conflicts between pedestrians and turning vehicles, particularly at intersections with high turning volumes. This is a FHWA Proven Safety Countermeasures.

Protected Left Turn Phase is a signal feature that allows left-turning vehicles, including bicycles, to safely make turns without conflicting with oncoming traffic, thus eliminating conflicts between left-turning vehicles and pedestrians in the crosswalk.

TRAFFIC CALMING

Neighborhood traffic circles lower speeds at minor intersection crossings and are ideal treatments for uncontrolled intersections. They have been shown to increase safety at intersections by reducing traffic speeds and requiring motorists to move with caution through conflict areas.

Medians create a pinch point for traffic in the center of the roadway and can reduce pedestrian crossing distances at intersections.

Curb extensions, also known as bumpouts, extend the sidewalk into the roadway and increase pedestrian safety by reducing crossing distances, enhancing pedestrian viability, and encouraging cautious driver behavior.

APPENDIX D

DESIGN GUIDELINES AND RESOURCES

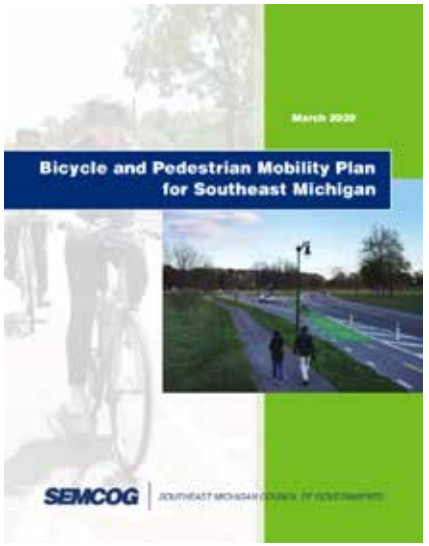
KEY RESOURCES FOR BUILDING A SAFE AND CONNECTED ACTIVE MOBILITY NETWORK

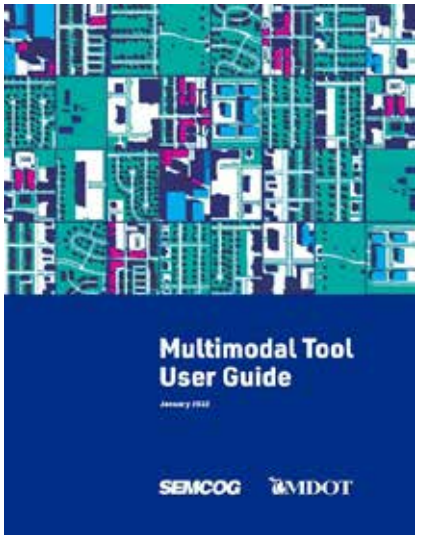
Numerous readily available design guidelines offer comprehensive details on implementing new facilities and integrating best practices into non-motorized network development. This section provides a snapshot of established manuals and publications from state, federal, local, and global organizations. It's important to note that this is just a glimpse of the resources available. For additional information on bicycle and pedestrian mobility, please visit the websites of these organizations.

Regional Resources

The Southeast Michigan Council of Governments (SEMCOG) offers a range of resources and support for bicycle and pedestrian mobility including maps, educational materials, bicycle and pedestrian count programs, funding opportunities and grants, bicycle and pedestrian data and tools to assist users in planning trips and finding amenities. Coordinating planning efforts with SEMCOG is important in obtaining funding for plan implementation.

www.semcog.org



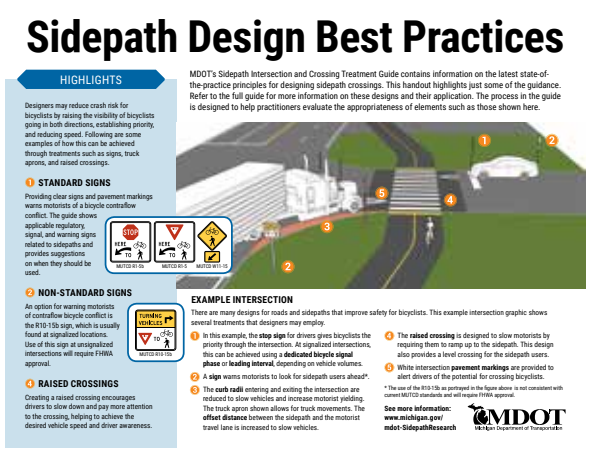


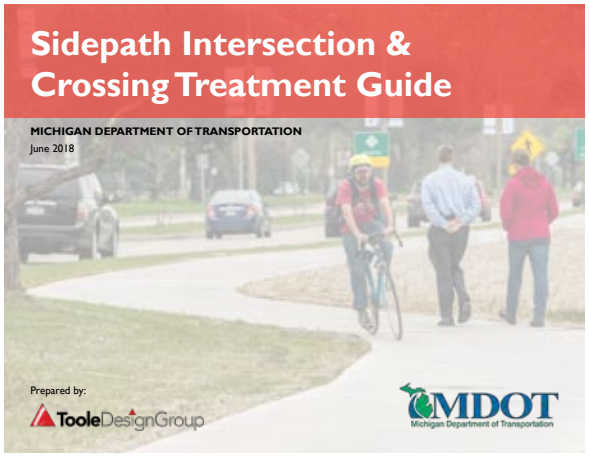
State Resources

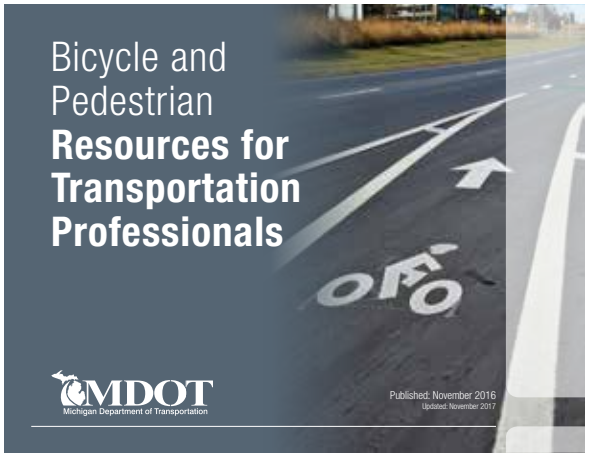
Michigan Department of Transportation (MDOT) is vital for non-motorized planning in Michigan, allocating funds, implementing policies, and collaborating with communities. They collect data, conduct outreach, and integrate non-motorized plans into statewide transportation for safer pedestrian and bicycle infrastructure.
www.michigan.gov/mdot

Michigan Trails and Greenways Alliance(MTGA) promotes walking, biking, and trails in Michigan, collaborating, providing resources, and supporting trail advocacy.
www.michigantrails.org

League of Michigan Bicyclists (LMB) provide educational materials, mini-grants and host tours, races and advocacy events that support bicycle travel.
www.lmb.org







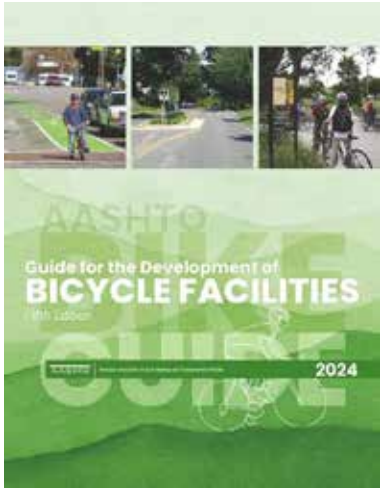
Federal and National Resources

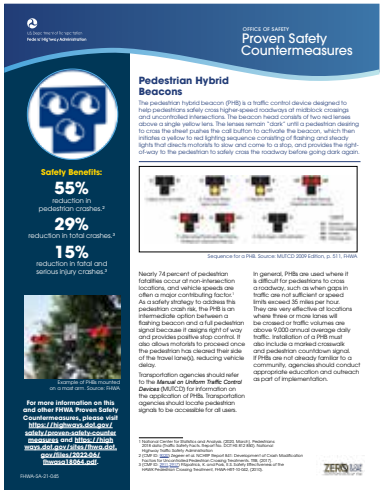
Federal Highway Administration (FHWA) publish manuals, guidelines, and research studies on non-motorized transportation best practices, providing valuable resources for city planners and engineers. They also support non-motorized planning in cities through funding, technical guidance, resources.
www.fhwa.dot.gov

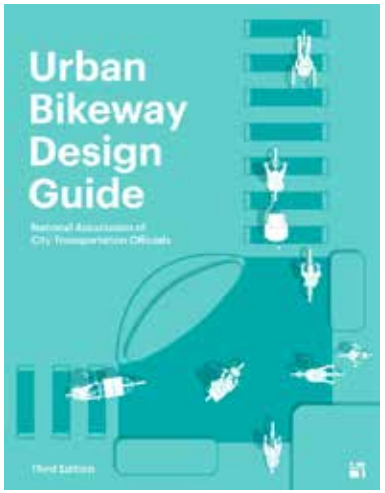
National Association of City Transportation Officials (NACTO) publications provide a vital resource for practitioners, policy-makers, academics, and advocates alike.
www.nacto.org

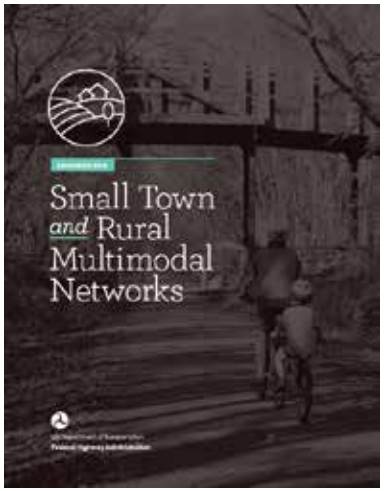
American Association of State Highway and Transportation Officials (AASHTO) offers design guidelines and technical standards that assist state and local agencies in creating pedestrian and bicycle-friendly infrastructure.
www.transportation.org

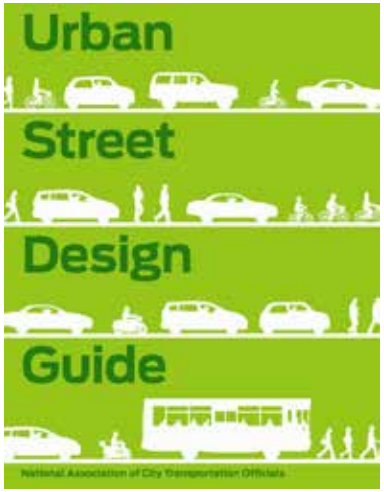
Institute of Transportation Engineers (ITE) provides guidelines, technical publications, and best practices related to non-motorized transportation.
www.ite.org

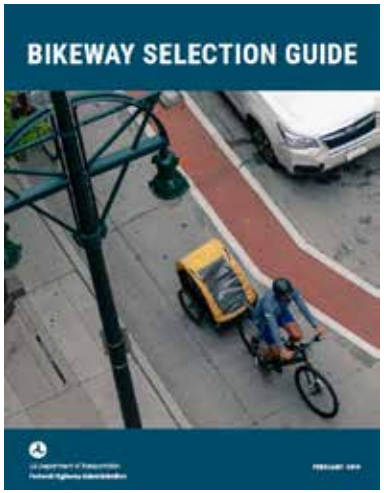












Other Resources

Collaborative Mobility UK (CoMoUK) publishes resources that support the development of shared modes, such as bike share, e-scooters and mobility hubs.
www.como.org

Global Designing Cities Initiative Designing Global Cities offers guides that redefine the role of streets around the world.
www.globaldesigningcities.org