



Active Mobility Plan 2023

WalkBike.Info/Novi



PRCS Commission Meeting

October 19, 2023

7:00 pm

Introduction and Benefits

- Update of the 2011 Non-Motorized Master Plan
- New Name - Active Mobility
- Integrating physical activity into everyday transportation provides a wealth of benefits not just to the individual but the community as a whole
- The plan addresses the many advances in non-motorized transportation and micromobility in the last 12 years



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.



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



Economic Benefits
Non-motorized infrastructure can attract 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.



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.



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



Future Transportation
Non-motorized 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.

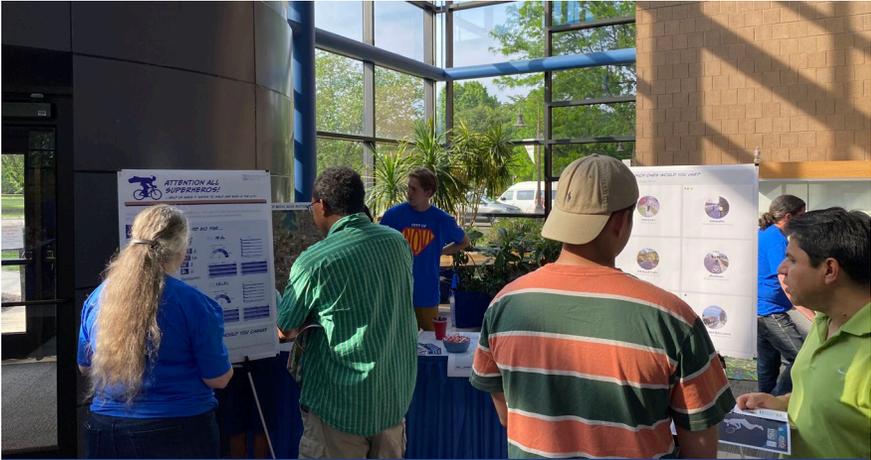
Process & Input



Surveys & Crowdsourcing Maps



Community Open House & Focus Group Meetings

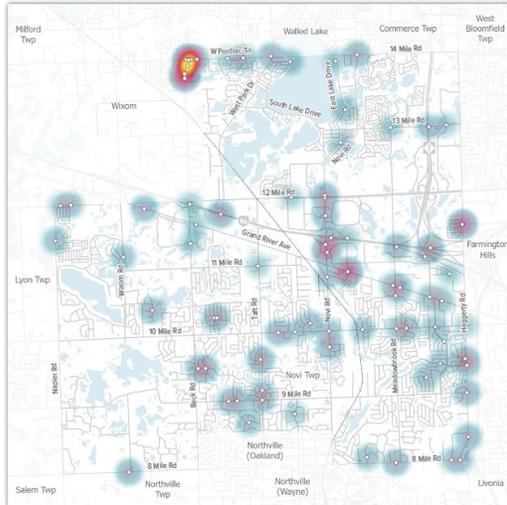
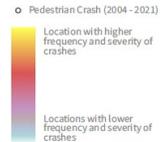


Local Events & Pop-up Displays

Inventory & Analysis

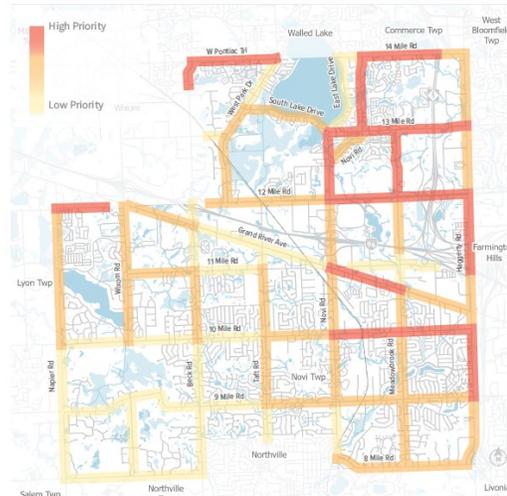
Pedestrian Crash Heat Map

This heat map serves as a visual representation of pedestrian crash data spanning an 18-year period, 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.



Priority Corridors Composite Map

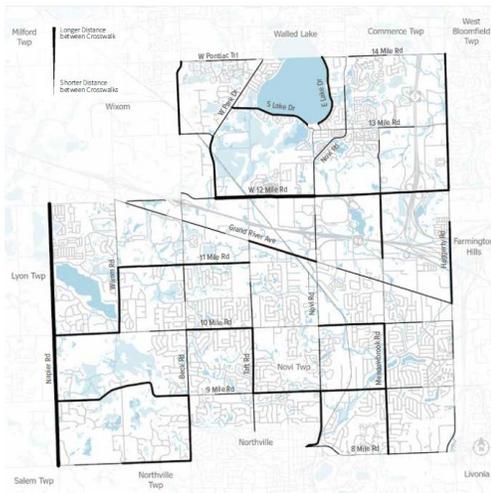
This summary map highlights priority corridors for non-motorized improvements based on equity, demand, and safety. The highest-priority corridors for these improvements are concentrated in the northeastern part of the city. The corridors that stand out as needing the most attention include sections of W Pontiac Trail, 14 Mile Road, Novi Road, 13 Mile Road, Meadowbrook Road, 12 Mile Road, Haggerty, and Grand River.



Nonmotorized Network Deficiencies

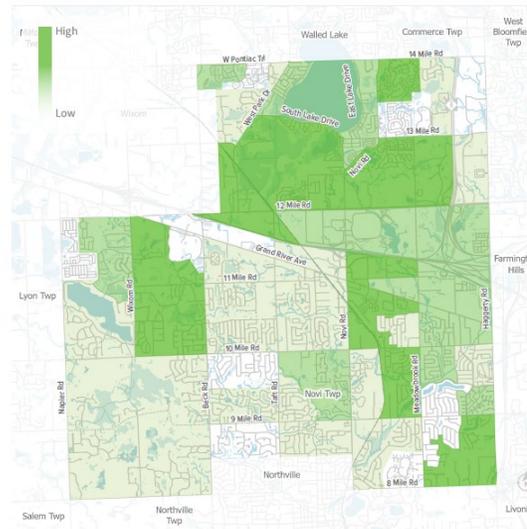
Distance between Crosswalks

This map highlights major road corridors with long distances between signalized and midblock crosswalks. Crosswalk spacing is a key factor in directness of travel. Most pedestrian trips for personal business (like walking to the store) are about 1/2 mile long. Where there is demand to cross the road and crosswalk spacing is over 1/2-mile apart, midblock crossings are likely to occur. It is important to note that although there may be an existing pedestrian crossing or signalized intersection, they do not always provide an easy and safe way to get across the street. Many times additional improvements are needed at those locations to make them accessible to everyone.



Latent Demand Composite Map

Latent demand areas estimate the potential demand for bicycle and pedestrian travel. Other factors may promote or inhibit actual non-motorized travel levels. The composite analysis is a useful tool to contrast with facility deficiencies, potential facilities and to prioritize improvements. This map uses census blocks to illustrate latent demand for non-motorized travel areas and includes the following data sets:



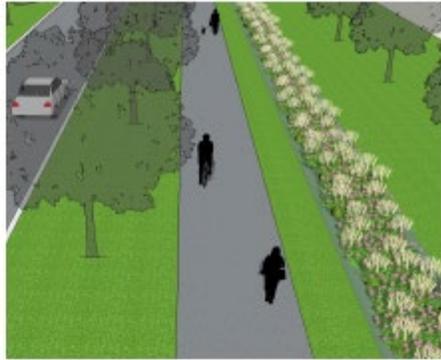
- ▶ **Traffic and Mobility:** Studying where people travel, traffic patterns and key destinations.
- ▶ **Community Demographic:** Examining diverse populations, low-income households, commuting habits, and equity.
- ▶ **Facilities and Improvements:** Assessing current paths, sidewalks, and planned enhancements.
- ▶ **Safety:** Looking into bicycle and pedestrian crashes and identifying high-risk areas.
- ▶ **Policy and Program Evaluation:** Reviewing existing non-motorized initiatives.
- ▶ **Deficiencies:** Highlighting areas with travel gaps and dependency on non-motorized transport.
- ▶ **Corridor Prioritization:** Identifying priority areas for improvements based on equity, demand, and safety.

Facility Types & Treatments



Sidewalks

Dedicated space intended for use by pedestrians. They are separated from a roadway by a curb or 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 spacious 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.



Shared Use Paths

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.



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

Pedestrians only need to cross one direction of traffic at a time which is much safer and allows for more opportunities as they only are looking for a gap in traffic from one direction. The island provides a strong visual indicator to motorists of the crosswalk. Often used in conjunction 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

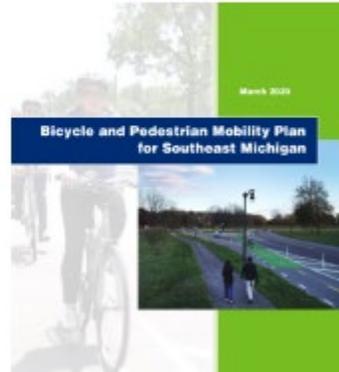
Also known as a speed table, is a traffic calming measure designed to improve pedestrian safety at intersections and mid-block crossings by raising the entire roadway surface to the level of the sidewalk while maintaining a smooth transition for vehicles. It provides the visual and physical cue to drivers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

Design Guidelines & Resources

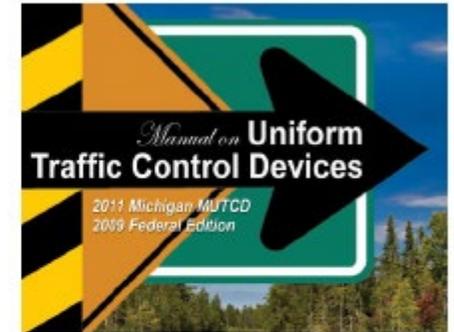
Regional Resources

- **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.
- **Website:** www.semco.org



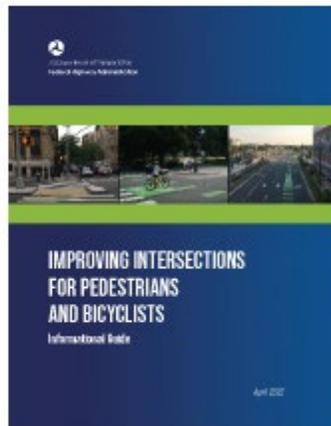
State Resources

- **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.
- **Website:** www.michigan.gov/mdot
- **Michigan Trails and Greenways Alliance (MTGA)** promotes walking, biking, and trails in Michigan, collaborating, providing resources, and supporting trail advocacy.
- **Website:** www.michigantrails.org
- **League of Michigan Bicyclists (LMB)** provide educational materials, mini-grants and host tours, races and advocacy events that support bicycle travel.
- **Website:** 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.
- **Website:** www.fhwa.dot.gov
- **National Association of City Transportation Officials (NACTO)** publications provide a vital resource for practitioners, policy-makers, academics, and advocates alike.



Major Corridor Classifications



Crosstown Corridors

These roads have moderate speeds and traffic volumes, primarily providing access to residential areas.



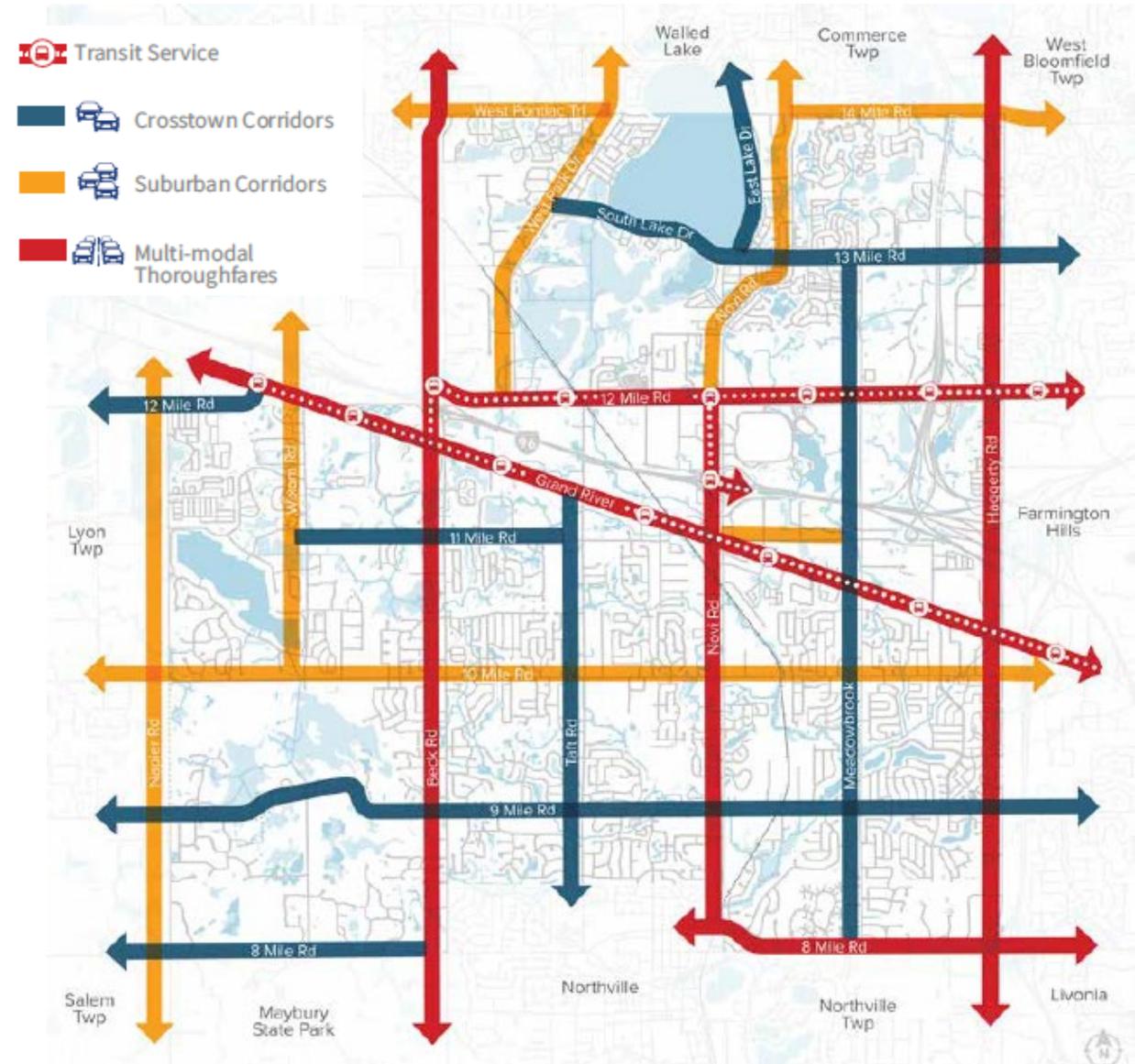
Suburban Corridors

These roads are characterized by higher-speed and greater traffic volumes. They serve as access routes to a combination of local commercial and residential areas.



Multi-Modal Thoroughfares

These are the highest-speed and highest-volume roads within the city, primarily serving as through routes and providing access to regional commercial areas.



Major Corridor Guidelines

How we want the different types of corridors to function and look

Suburban Corridor Baseline Improvements:

	In-Road	Buffer Strip	Along Road in ROW	Mid-block and Trail Crossings	Minor Road Stop	All-Way Stop	Signalized Intersection	Roundabout	Amenities
Pedestrian Facilities	—	15' min. width with Street Trees and physical barrier at bridges	8' min. Sidewalks on one side and 10' min. Sidepath on other side	Rectangular Rapid Flash Beacon with Crossing Island, High Visibility Crosswalks, and Advance Warning Signs with Beacons	Raised Crossings. High Visibility Crosswalk. Recessed Crossing where feasible	High Visibility Crosswalk	Crossing Islands, High Visibility Crosswalks, Leading Pedestrian Intervals, Pedestrian Countdown Signals, Accessible Pedestrian Signals	Rectangular Rapid Flash Beacon	Landscaped Rest Areas every 1/3 Mile, Water and Restrooms every 3-4 Miles
Bicycle and Micromobility	Separated Bike Lanes with 4' min. Separation and 6' min. lane	—	10' min. Sidepath on at least one side	Rectangular Rapid Flash Beacon with Crossing Island, Dashed Bicycle Crossing with Green Paint, and Advance Warning Signs with Beacons	Dashed Bicycle Intersection Crossings with Green Paint	Dashed Bicycle Intersection Crossing with Green Paint. Pocket Bike Lanes with Green Paint at Designated Right Turn Lanes	Protected Intersections, Bicycle Signal, and Dashed Bicycle Intersection Crossing	Bike Lane Transition / Merge Option	Charging Stations and Repair Stations every 3-4 miles
Other Key Elements	Intermittent Landscaped Medians	Rain Gardens	Pedestrian Scale Lighting	Crosswalk Lighting	Crosswalk Lighting	Intersection Lighting	Intersection Lighting	Intersection Lighting	Wayfinding Signage with Information Kiosks at key junctures



Suburban Corridors

Current Conditions

These are higher-speed and higher-volume roads than the Crosstown Corridors that provide access to a mix of local commercial and residential areas. They range from two-lane roads to four-lane roads. Many of the two-lane segments flair to three and four lanes with bypass lanes and have acceleration tapers / deceleration lanes leading to a very inconsistent road cross section. These roads are not generally sought out as recreational routes by non-motorized users, but connect residents to local commercial areas, the civic center, schools, and trails. Most of the roadways do not have curbs.



Suburban Corridors

- 10 Mile Road
- Wilcox Road
- West Park Drive
- Napier Road
- 14 Mile Road / W Pontiac Trail Drive
- 11 Mile Road (portion)
- Novi Road (portion)

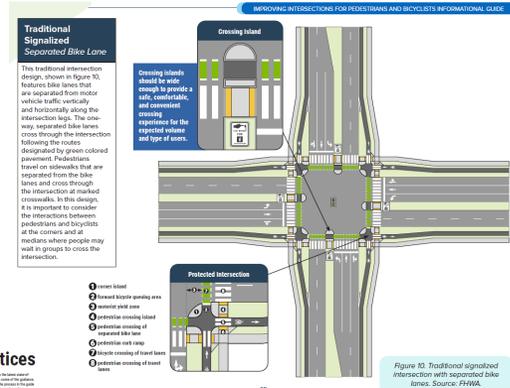
Proposed Conditions

The Suburban Corridors increase the separation between motorized and non-motorized users with a mix of separated in-road and along the road facilities for bicycles and micromobility. The roads will have a more consistent cross section that replaces all by-pass lanes and minimizes the use of the acceleration tapers and deceleration lanes. This will improve motorized traffic safety, moderate traffic speeds, and permit more direct mid-block crossings at subdivision entrances. The corridors will have trees between the sidewalks/sidepaths and the roadway. Landscaped medians will be used for traffic calming, beautification, and reducing the heat island effect. Rain gardens in the buffer will help manage storm water.

Suburban Corridor Proposed Traits

- Design speed limits of 35 mph or less
- Consistent three lane cross section with a landscaped median or crossing islands where turn lane is not necessary
- Mid-block crosswalks with Rectangular Flashing Beacons and Crossing Islands at neighborhood entrances and other key locations
- Separated in-street bicycle facilities and with the option for bicyclists to use protected intersections to reduce their exposure to the motorized traffic

Example Resource:
Federal Highway Administration (FHWA). (2022). *Improving Intersections for Pedestrians and Bicyclists. Informational Guide* (Report No. FHWA-SA-22-017). Page 25.



Sidepath Design Best Practices



Resource Example:
Michigan Department of Transportation. Sidepath

Long-Term Network

LONG-TERM NETWORK



FIVE MAIN COMPONENTS



Sidewalks and Sidepaths



Mid-block Crosswalks



Bike Lanes



Greenways



Local Road Routes

Sidewalks & Sidepaths



Ideally, all roads should feature sidewalks on both sides of the street. As work is conducted within the road rights-of-way, or as development on adjacent parcels occurs, opportunities to close gaps in the sidewalk network should be actively pursued. Sidewalks along major collector and arterial roads should maintain a minimum width of 6', incorporating a buffer zone and vertical elements such as trees between the sidewalk and the road. Furthermore, on one side of the corridor, the sidewalk should be expanded to a minimum width of 10' to accommodate shared uses, particularly in areas where on-road bike lanes are absent. The following map identifies key locations where gaps exist and should be addressed.

Sidewalks 
pathways less than 8' wide



To ensure a more user-friendly and accommodating experience for all, bicycle and pedestrian facilities should be separated. In areas with higher bicycle use or where separated bicycle facilities are not provided, a sidepath should be included.

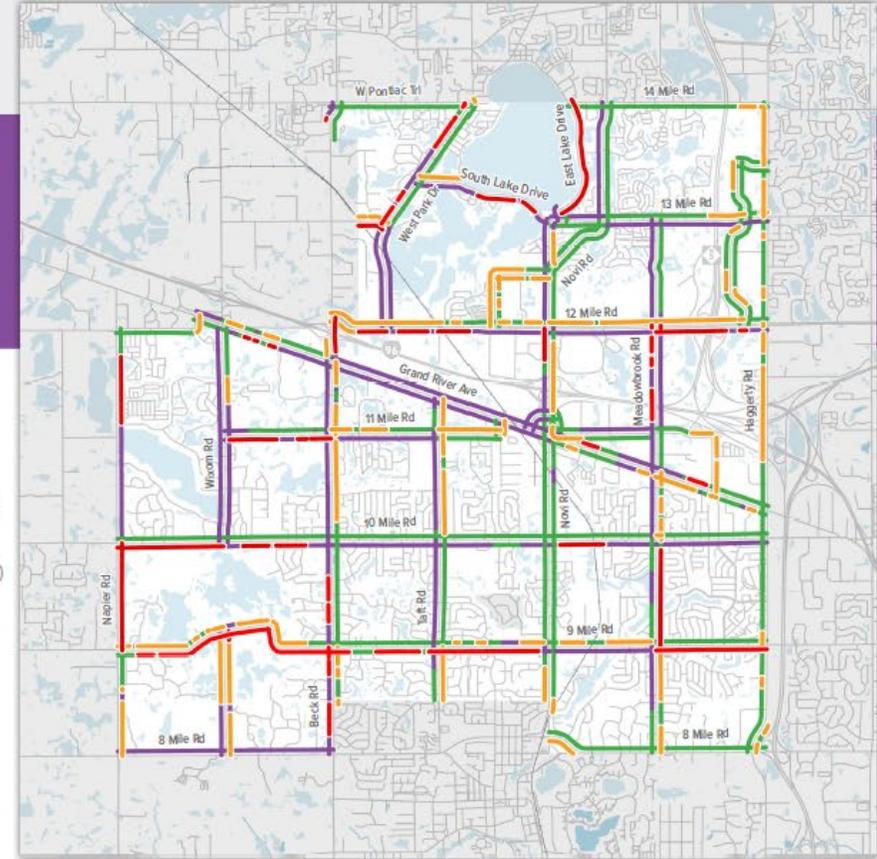
Sidepaths 
pathways 8' wide or greater



The standard for shared use paths has evolved, and it's becoming increasingly recognized that 8-foot-wide pathways are no longer sufficient for accommodating both bicycles and pedestrians comfortably and safely. To ensure a more user-friendly and accommodating experience for all, it is recommended that 10-foot-wide pathways be provided for routes shared by both bicycles and pedestrians.

Sidewalk and Sidepath Map

-  Existing Sidewalks (< 8' wide)
-  Proposed Sidewalk (< 8' wide)
-  Existing Sidepaths (≥ 8' wide)
-  Proposed Sidepath (≥ 10' wide)



Mid-block Crosswalks



This map showcases proposed locations for crosswalk treatments at mid-block locations. Through a comprehensive analysis and incorporating valuable community feedback, this map identifies treatments designed to address potential hazards and elevate the overall pedestrian experience. Many of these treatments can be implemented within the existing cross-section of roadway and should actively be pursued to improve bicycle and pedestrian safety.



High Visibility Crosswalk



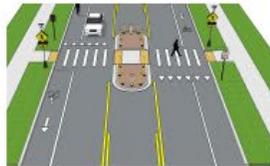
Crossing Island



Speed Table



Rectangular Rapid Flash Beacon



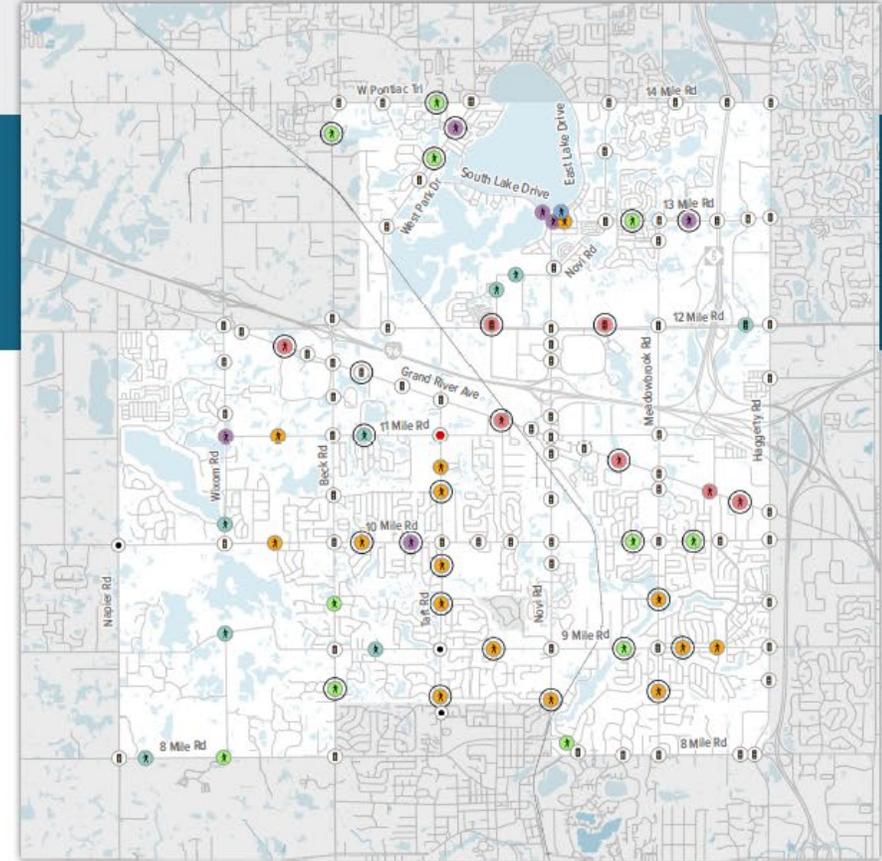
Rectangular Rapid Flash Beacon with Island



Pedestrian Hybrid Beacon with Island

Mid-block Crosswalk Map

- Signalized Intersection
- Stop-controlled Intersection
- Roundabout
- Mid-block Crosswalk
- Pedestrian Hybrid Beacon with Island
- High Visibility Crosswalk
- Crossing Island
- Rectangular Rapid Flash Beacon
- Rectangular Rapid Flash Beacon with Island
- Speed Table
- New Crosswalk Location



Bike Lanes



This map identifies the appropriate on-road bicycle facilities based on the Major Corridors Classifications outlined in this plan. To ensure the safety of bicyclists, physical buffers between bike lanes and motor vehicle lanes are recommended. As roadway speeds and volumes increase, it becomes increasingly important to provide these buffers to enhance bicycle safety and comfort. Additionally, the growing popularity of micromobility devices necessitates their consideration in future bike lane design.

Bike Lane



Where space permits, a painted buffer zone should be incorporated between the bike lane and the motor vehicle lane for added safety and separation from vehicles. Flexible posts may also be included as to increase bicyclists comfort.

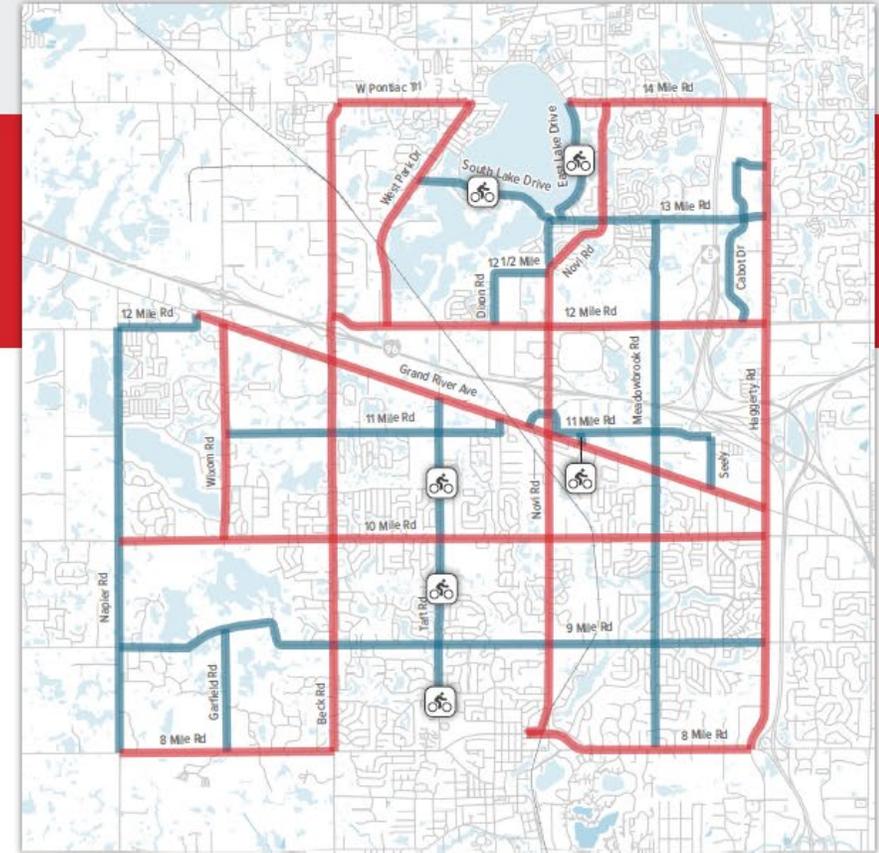
Separated Bike Lane or Sidepath



In areas with high pedestrian traffic, separated facilities for bicycles should be provided.

Bike Lane Map

- Bike Lane
- Separated Bike Lane or Sidepath
- Existing Bike Lanes



Greenways



The Active Mobility Plan is an integral part of the broader regional network. This map identifies key regional corridors that play pivotal roles in connecting Novi to the regional trail framework. There is the opportunity for a 30 mile regional trail loop through Novi if links are completed to the Michigan Airline Trail, Maybury State Park and Hines Park Bikeway through Northville.

ITC Trail to the Michigan Air Line Trail

- 1 Establish a trail connection across the I-96 interchange at Beck Road with the City of Wixom.
- 2 Complete sidepath gaps along 12 Mile and West Park to Pontiac Trail as part of the near-term network.
- 3 Collaborate with Walled Lake to provide a trail connection to the Michigan Air Line Trail from Pontiac Trail and West Park Drive.

ITC Trail to Hines Park Trail

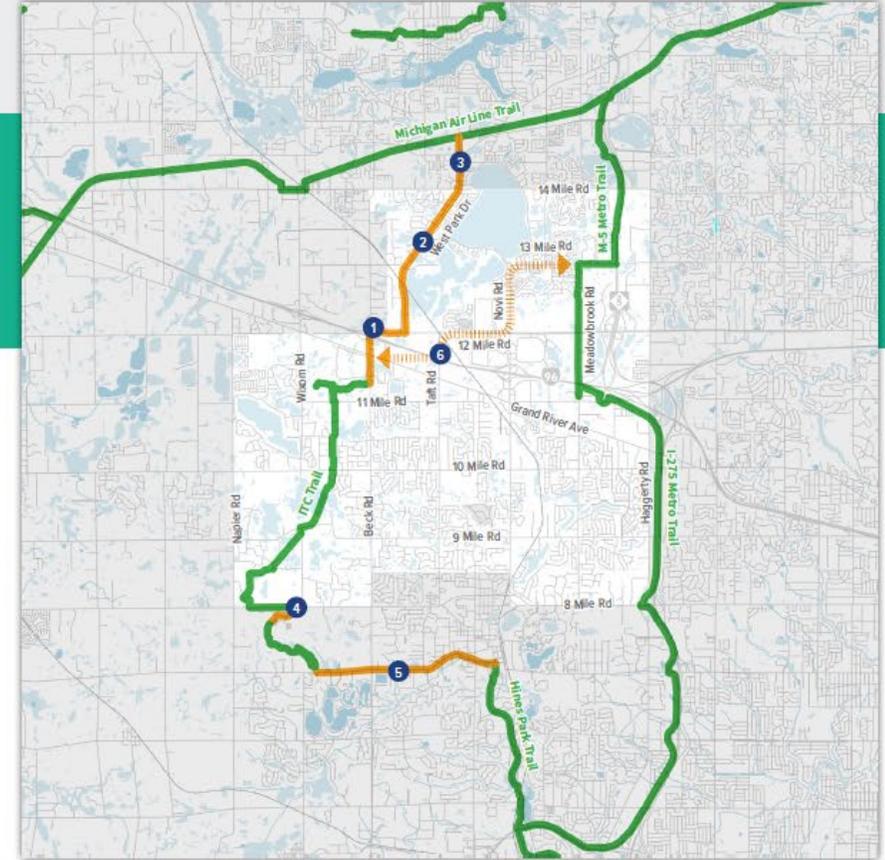
- 4 Coordinate with Maybury State Park to provide trail connection at park entrance at 8 Mile Road.
- 5 Support the City of Northville and Northville Township in their efforts to complete a pathway connection along 7 Mile Road to Hines Park Trail.

Taft Road Alternative

- 6 Recognizing the strong desire to establish a non-motorized connection across I-96 at Taft Road, linking the northern and southern parts of the city, it is recommended that the city actively seek opportunities for its construction as the anticipated City West district develops.

Greenways Map

-  Existing Trail
-  Future Regional Trail Network
-  Taft Road Alternative



Local Road Routes



The proposed connections focus on creating family-friendly routes that connect neighborhoods to each other and to local destinations such as schools, parks and trails. This network prioritizes the utilization of low-stress bike routes that traverse neighborhood roads while also emphasizing the creation of crucial sidewalk and pathway connections within subdivisions. These measures enhance mobility and strengthen connectivity to nearby destinations and trails, fostering a more accessible and cohesive urban environment. The following pages outline policies, programs and infrastructure recommendations to support this network.

Map Notes:

- 1 Provide direct pathway connections between adjacent neighborhoods and school.
- 2 Trail ends abruptly into parking lots at Deerfield Elementary and Wildlife Wood Park. Continue trail so it links into the City's pathway network.
- 3 Connect neighborhood to ITC Trail from Woodworth Drive through community open space.
- 4 Connect neighborhood to ITC Trail from Sandpiper Court.
- 5 Connect neighborhood to ITC Trail from Cheltenham Drive or Heartwood Street
- 6 Connect adjacent neighborhood between Galway Drive and Coldspring Drive.
- 7 Explore options for a direct pathway connection to the anticipated City West district from W 11 Mile Road.
- 8 Connect adjacent neighborhood between Arcadia Drive and Cider Mill Road.
- 9 Formalize pathway connection between Taft Road and Kerri Court.
- 10 Add pathway through city owned parcel between Thatcher Drive and Novi Road.
- 11 Extend existing pathway all the way to Taft Road from Ella Mae Power Park.
- 12 Add pathway between Fountainpark Drive and Highland Drive.
- 13 Explore optional pathway through city owned parcel between Chattman St/ Balcombe Dr to Malott Drive.
- 14 Explore options for a direct pathway connection between neighborhoods and the commercial area at Eight Mile Road and Haggerty Road.
- 15 Explore options for a direct pathway connection to Twelve Mile Road from Sandstone Drive and Steinbeck Glen.
- 16 Add pathway between Sandstone Drive and Steinbeck Glen.
- 17 Add pathway connection to Lakeshore Park Mountain Bike Trails from 12 Mile Road and improve access from 12 1/2 Mile Road.
- 18 Extend sidewalk from 12 Mile Road to Wixom Road.



Low-stress bicycle routes following neighborhood roads, identified on bicycle maps and reinforced with pavement markings.

These routes should be clearly identified on bicycle maps for easy reference. To further enhance safety and navigation, wayfinding signs should be strategically placed at neighborhood entrances along major road corridors, indicating the distance, direction and time to nearby destinations. Additionally, pavement markings can be employed on local roads to reinforce the designated bicycle route through the neighborhood.

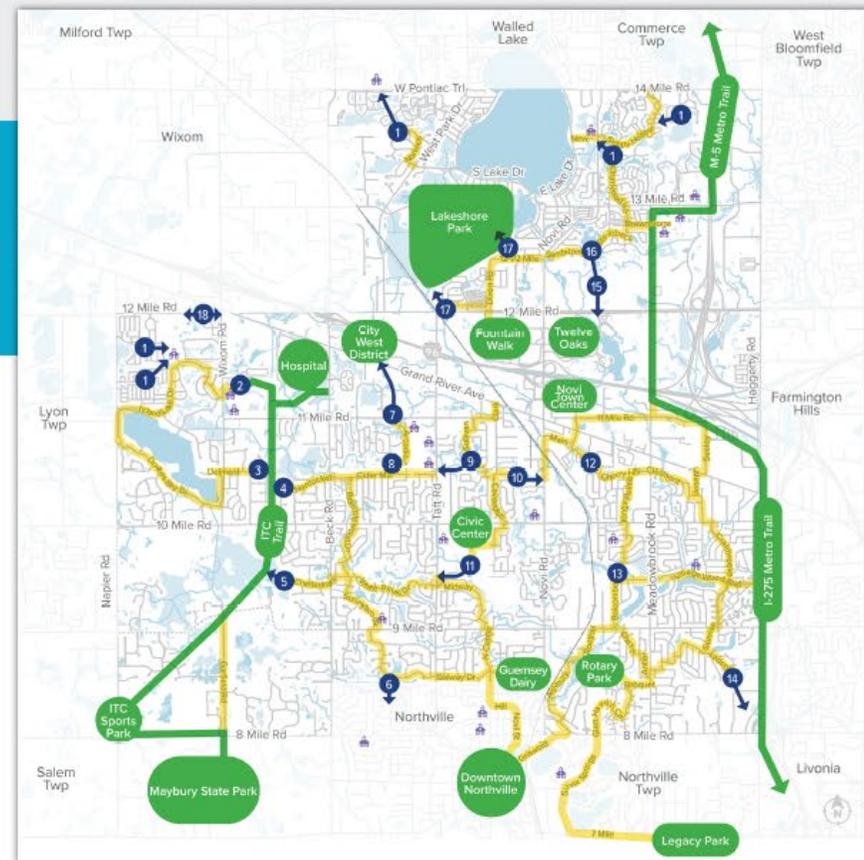


Ensure new developments provide pedestrian and bicycle links to adjacent neighborhoods and local destinations.

To promote a pedestrian and bicycle-friendly urban environment in new developments, non-motorized transportation should be integrated into urban planning by enforcing design standards and prioritizing accessibility. Encourage connectivity planning, offer incentives for exceeding infrastructure requirements, and promote mixed-use development within walking or biking distance. Engage the community for input, establish regular maintenance, collaborate with local agencies, and conduct education and outreach programs to foster active transportation as a sustainable lifestyle choice.

Local Road Routes Map

- Local Road Bike Routes
Examples of low-stress bicycle route following neighborhood roads.
- Opportunity for Short Pathway Links
Short pathway links that connect neighborhoods away from major road corridor. Surface may vary and easements may be required. See map notes for details.
- Destinations and Existing Regional Trails
- Schools
- Map Notes



Provide safe routes for walking and biking to schools from nearby neighborhoods

To establish safe routes to schools in neighborhoods without sidewalks, start by working closely with subdivision to understand their needs. Conduct safety assessments, develop a comprehensive plan, and seek funding sources for necessary infrastructure improvements, like sidewalks and crosswalks. While working on long-term solutions, consider temporary measures like speed limits and traffic calming. Prioritize high-traffic areas and engage in educational initiatives. Maintain open communication with the community throughout the process and establish regular maintenance plans. Continuously evaluate the program's effectiveness and make adjustments as needed to ensure students can safely walk and bike to school.

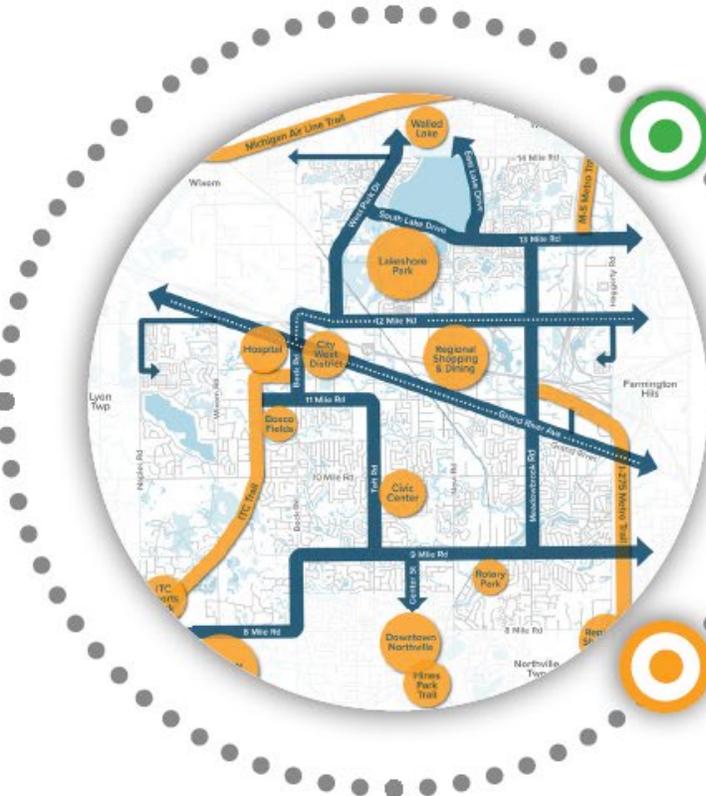


Build short pathway links that connect neighborhoods away from major road corridors (surfaces may vary and easements may be required).

These pathways should be designed with flexibility, acknowledging that surface conditions may vary, and in some cases, securing easements may be necessary to facilitate these connections. These short pathways not only promote safe and convenient pedestrian and bicycle travel but also foster a sense of community, as they enable residents to easily access neighboring areas, local amenities, and recreational spaces. Investing in these linkages will enhance mobility, promote active lifestyles, and strengthen the overall connectivity of the city.

Near-Term Network

NEAR-TERM NETWORK



THREE MAIN COMPONENTS



Neighborhood Greenway Network
A continuous non-motorized network with amenities to enhance the overall experience for people who walk and bike



Connecting to Transit
Proactively addressing the needs of non-motorized users to provide safe and convenient access to transit



Improved Access to Shopping and Dining
A welcoming environment that facilitates easy access for bicyclists and pedestrians to reach businesses directly from the street

Neighborhood Greenway Network



The Neighborhood Greenway Network is a continuous non-motorized network with amenities to enhance the overall experience for people who walk and bike.

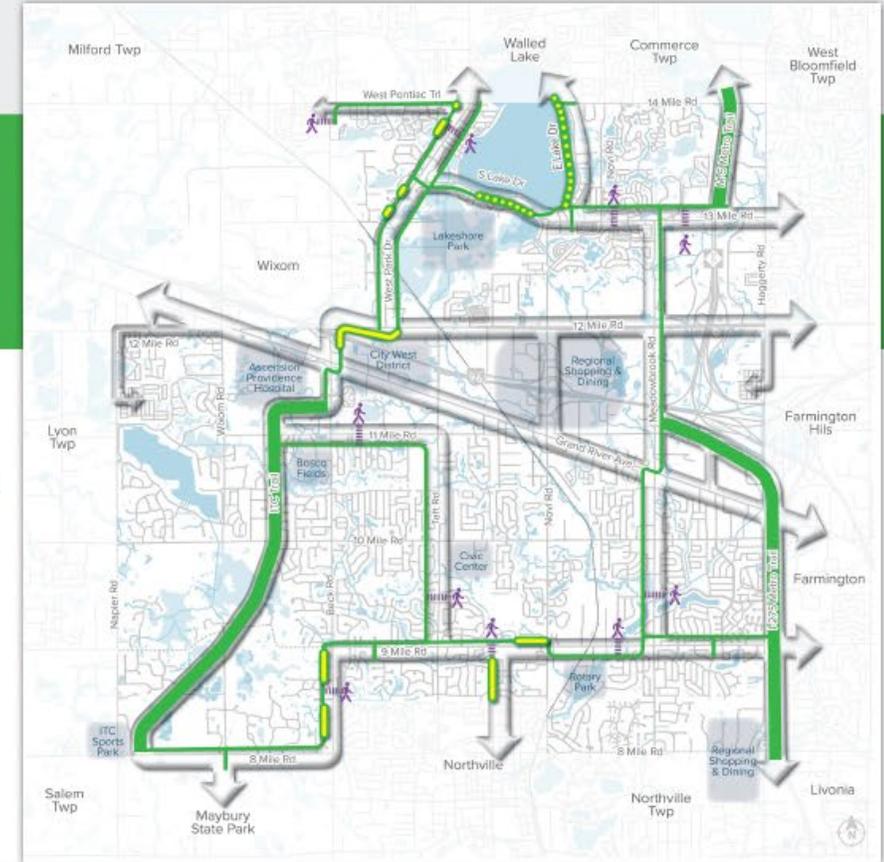
The Neighborhood Greenway Network prioritizes the implementation of modest yet highly impactful interventions, including the completion of key sidewalk gaps and crosswalks. These small-scale enhancements play a pivotal role in establishing a continuous route across the city, providing a framework for linking neighborhoods to essential destinations.

A near-term priority involves establishing a connection across the Beck Road overpass, a critical undertaking given the limited opportunities to cross the expressway. This connection assumes even greater significance in light of the anticipated City West district and forthcoming transit routes along Grand River Avenue and 12 Mile Road. Notably, the existing bridge deck provides ample width to facilitate a retrofit for a pathway connection.

East Lake Drive and South Lake Drive are well-traveled non-motorized routes along the lakeshore, connecting to two major parks and downtown Walled Lake. While there is a desire to upgrade the current facilities, a corridor study is necessary to address traffic patterns and safety concerns. Please see the *Specific Area* section for more details on East Lake Drive and South Lake Drive.

Neighborhood Greenway Map

- Existing Sidewalks/Pathways
- Off-Road Trails
- Pathway/Sidewalk Gap
- Corridor Study required before upgrading facilities
- Proposed Mid-block Crosswalk
- Near-Term Network



Supporting Policies, Programs, and Metrics

Create safe and inviting routes both on and off-road



Attractive landscapes with rain gardens

Planting trees between the sidewalk and road enhances comfort by offering shade and creating a vertical barrier from the roadway. Additionally, the integration of rain gardens establish a sustainable solution for managing stormwater runoff. The inclusion of rain gardens and attractive landscaping not only enhances the visual appeal of the routes but also plays a crucial role in promoting sustainable stormwater management. Rain gardens can elevate the ecological value of the network, providing habitats for local wildlife and enhancing water quality.



Community art and interpretive signage

Integrating community art and informative signage along the routes adds cultural and educational value to the network. It helps celebrate local culture, history, and natural features, making the routes not just transportation corridors but also destinations in themselves.



Links to parks and public buildings with water and restrooms

Seamless connections to parks and public buildings with water fountains and restroom facilities are essential for user convenience. These amenities encourage longer journeys, as users don't have to worry about basic necessities during their trips.



Periodic rest areas with benches

Establishing rest areas is essential for user comfort along a pathway. Benches and tables offer places for users to rest, take breaks, enjoy the scenery, and socialize with others. These rest stops are often located in shaded areas to provide protection from the sun. Placing trash and recycling receptacles nearby is important to promote trail cleanliness and discourage littering. These amenities contribute to a positive user experience and encourage people to utilize the non-motorized network.



Pedestrian scale lighting

Proper lighting is crucial, especially in areas with evening or low-light conditions. It enhances safety, making users feel more secure while using the routes. Additionally, well-lit pathways extend the usability of the network into evening hours, promoting 24/7 access. While the installation of lighting is desirable, it can be a significant investment. Solar-powered lights should be considered in areas with ample direct sunlight.

Evaluate the existing lighting levels on sidewalks along major roadways and existing crosswalk locations and develop a prioritization system to upgrade lighting for deficient locations. Special emphasis should be placed on providing lighting at unsignalized crosswalks to make sure that pedestrians crossing the street are visible to motorists.



Enhanced year-round maintenance

Establish a robust maintenance plan for year-round upkeep, including snow removal during the winter months. Consistent maintenance ensures that the routes remain safe and inviting in all seasons.

Please refer to the *Implementation* section for specifics.

Supporting Policies, Programs, and Metrics

Support the Community Greenway



Provide uniform wayfinding system that integrates with regional trail network and bike routes

A uniform wayfinding system is essential for user navigation and satisfaction. Consistent signage and directions ensure that users can easily find their way through the network and connect with other regional trails and bike routes.

In collaboration with adjacent communities, implement a wayfinding system for the area that includes uniform signage, information kiosks, maps, and online resources.



Promote the network through events, group rides, maps and by supporting local bike clubs

Active promotion through events, group rides, maps, and support for local bike clubs is crucial for raising awareness and encouraging usage. The outreach strategy should include hosting events like bike races, family rides, and nature walks to celebrate the network. Scheduled group rides on different routes can encourage users and create a sense of community. Creating user-friendly maps for both online and print will highlight the network's features. Collaborating with local businesses for map distribution and partnering with bike clubs for events and safety workshops could be beneficial. Additionally, offering educational programs in schools and community centers, maintaining a strong online presence, and actively gathering user feedback for network improvements based on their suggestions are all key components of this strategy.



Evaluate use through automatic counters and satisfaction through yearly surveys

Install permanent automatic counters for pedestrians, bicyclists, and micromobility vehicles along significant new facilities. Implement a program where temporary traffic counters are regularly moved to key destinations within the city on a predefined schedule. Ensure coordination with state and regional counting initiatives. Before constructing new facilities, establish baseline counts. Introduce an annual resident survey to gauge community utilization and satisfaction with the multi-modal transportation system. This survey can inform adjustments and refine community priorities as needed.

Sidepath Design Best Practices



Establish grant program to improve safety at neighborhood entrances

Create a grant program aimed at improving safety at neighborhood entrances along the non-motorized routes. Encourage communities to enhance safety measures in these critical areas.

Reference *MDOT Sidepath Reference Sheet* for more information on sidepath safety issues and design best practices.



Upgrade existing facilities to current best practices

Upgrade existing facilities to align with current best practices in non-motorized transportation to assure consistency across the roadway system. Assess near-term routes for safety, accessibility, and compliance with modern standards. Enhance safety with better crosswalks, signals, and signs. Add modern amenities like energy-efficient lighting, bike racks, benches, and wayfinding systems for user convenience. Phase upgrades to minimize disruptions, focusing on busy areas and key intersections. Stay flexible to adapt to evolving best practices and technologies, periodically reviewing facilities to ensure they meet high standards.

Please refer to the *Facility Types and Guides* section for more information on design guidelines and resources for best practices.



Adopt a greenway/rain garden/parklet

Embrace greenway development, rain garden installations, and the creation of parklets as part of the non-motorized plan. These initiatives contribute to environmental sustainability and provide attractive, functional spaces for the community to enjoy.

Supporting Policies, Programs, and Metrics

Focus on a continuous, near-term route



Establish high quality non-motorized link through the Beck Road overpass

Prioritizing the creation of a high-quality link through the Beck Road overpass demonstrates a commitment to safety and accessibility. Given the limited opportunities to cross the expressway, this connection serves as a vital link, particularly in light of the new transit developments along Grand River and 12 Mile Road. The existing bridge deck is sufficiently wide to accommodate a retrofit for a spacious pathway connection. An aesthetically pleasing overpass not only encourages usage but also fosters connectivity between different sections of the network. Ensuring that this connection is safe, accessible, and visually appealing is paramount. This improvement will require additional engineering studies and changes to signalization to assure the proper treatments are being implemented.



Address the critical gaps in sidepath network to provide continuous off-road trail and sidepath system

Identifying and addressing critical gaps in the sidepath network is essential for creating a user-friendly non-motorized system. The near-term network identifies priority gaps in the network that should be addressed first.

To address existing gaps in the system install signage at key decision points, like intersections, to alert users to gaps and prevent them from inadvertently following a route that abruptly ends where the sidewalk stops. This proactive approach improves safety and navigation throughout the network.



Integrate major off-road trails into the network, such as the ITC Trail and the I-275 Metro Trail

To seamlessly integrate major off-road trails like the ITC Trail and I-275 Metro Trail into the non-motorized network, it's vital to assess potential connection points and establish guidelines for safety and usability. Collaborate closely with trail managers, implement clear wayfinding signage, prioritize safety measures at intersections, and conduct outreach campaigns to inform the community. Enhance trailheads with user-friendly amenities and determine if additional trail access points are needed. Regularly monitor trail usage and satisfaction levels to ensure a successful and well-integrated network that promotes active and sustainable transportation.

Connecting to Transit



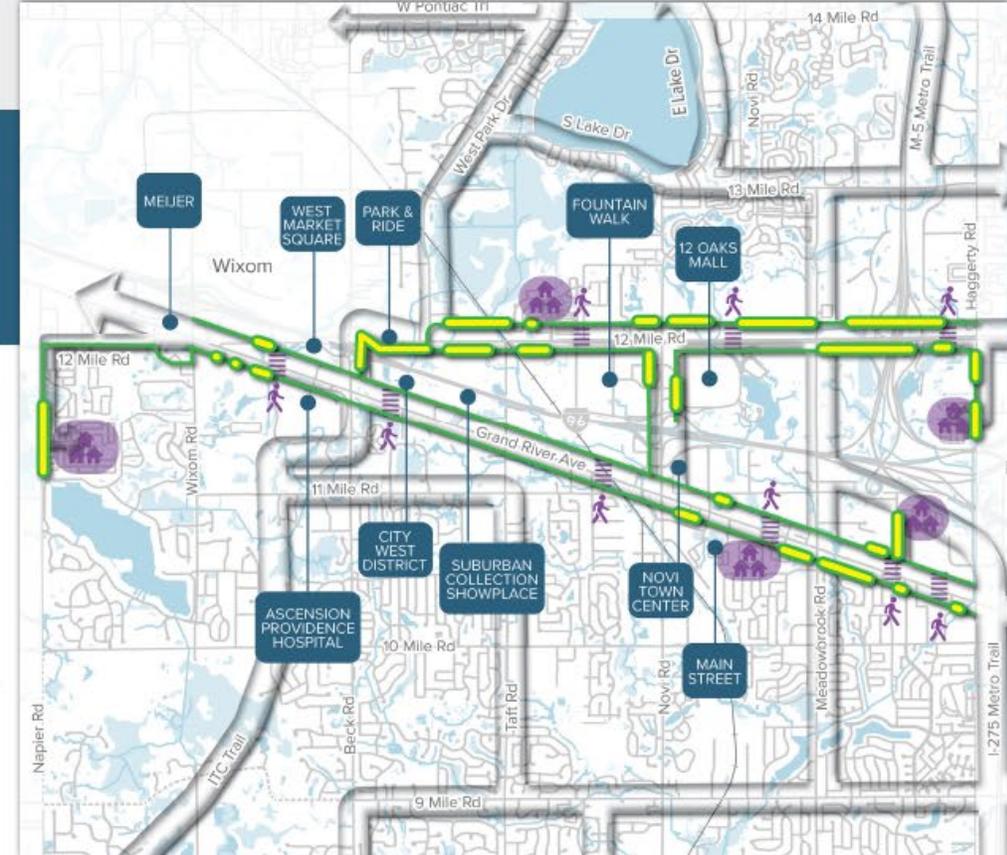
Addressing the needs of non-motorized users to provide safe and convenient access to transit.

In 2023, SMART introduced enhanced transit in Oakland County, offering local service along key routes such as Grand River, 12 Mile, and Novi Road. This section outlines strategies designed to address gaps in the pedestrian network and create a support system, ensuring the creation of safe and convenient access to the newly established transit stops.

Novi's New Transit Service:



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Connecting to Transit Map

- Existing Sidewalks/ Pathways
- Pathway/ Sidewalk Gap
- ||||| Proposed Crosswalk
- 🚶 Connect Isolated Neighborhoods to Transit
- 🏠 Near-Term Network

Novi Active Mobility Plan 2023 - DRAFT 10/10/23

Improved Access for Shopping & Dining



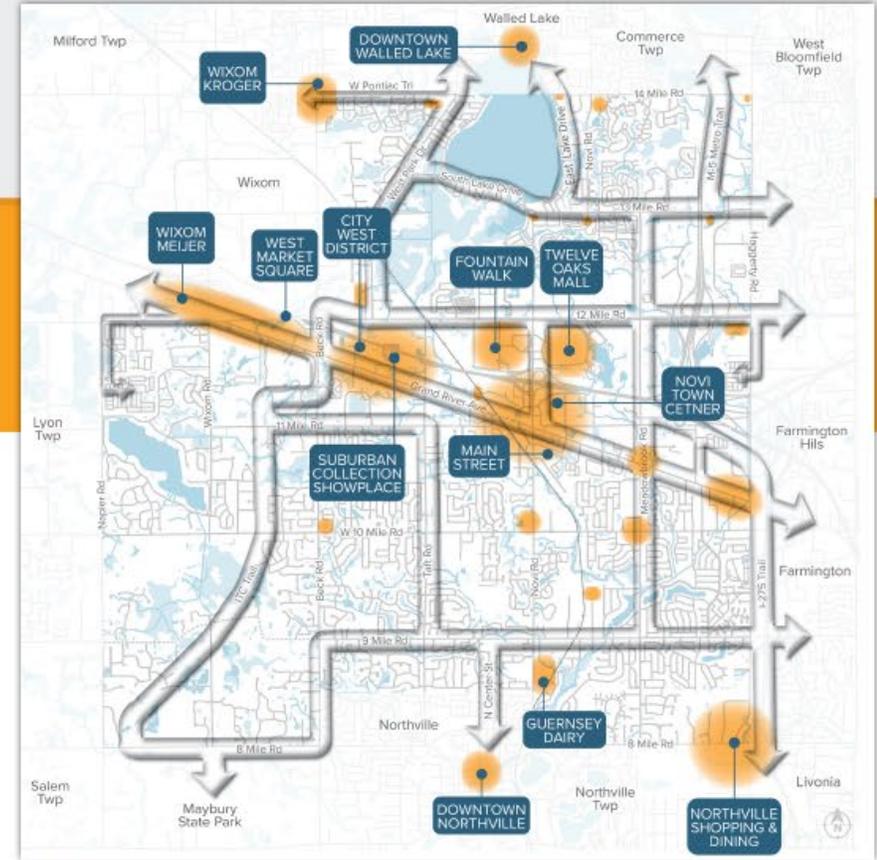
A welcoming environment that facilitates easy access for bicyclists and pedestrians to reach businesses directly from the street.

Novi has long been known for its regional shopping opportunities, but until recently, the landscape has been predominantly car-centric. The city boasts a wide range of retail destinations and dining establishments, making it an attractive hub for shoppers from across the region. However, the arrival of new transit routes to the area is poised to usher in a significant shift. With the potential for increased pedestrian traffic, there's a growing recognition of the need to transform Novi into a more welcoming environment that facilitates easy access for bicyclists and pedestrians to reach businesses directly from the street. This transformation is not only essential for the convenience and enjoyment of both visitors and residents but also aligns with the broader goal of creating a sustainable and vibrant urban landscape that embraces diverse modes of transportation.

See the *City West* section for specific details on the integration of non-motorized solutions into this new and evolving district.

Improved Access for Shopping and Dining Map

-  Shopping and Dining Areas
-  Near-Term Network



Capital Improvement Projects

UNDER CONSTRUCTION/ RECENTLY BUILT

- 1 Construct the missing sections of sidewalk near the Knightsbridge Gate (segment 178) and along the fronts of the City's future Northwest Neighborhood Park (segment 45). COMPLETE
- 2 Bike lanes would be added along Taft Road as recommended by the non-motorized master plan to improve non-motorized connectivity. A roundabout would replace the current four-way stop at the intersection of Taft and 9 Mile Roads.
- 3 Construction of 1,750 feet of 6-foot-wide sidewalk and ADA improvements along the north side of 9 Mile Road from Novi Road to CSX Railroad.
- 4 Water main project on 11 Mile and Meadowbrook
- 5 Water main project on Meadowbrook
- 6 Construction of 5,300 feet of pathway on south side of 10 Mile from Haggerty to Meadowbrook

PLANNED BIKE/PED IMPROVEMENTS

- 1 An 8-foot asphalt pathway (Segment 52a) will be added to the south side of 11 Mile Road between Wixom Road and the ITC Trail.
- 2 Construction of a 10-foot wide asphalt pathway and 14-foot wide boardwalk to serve as a connection between the ITC Trail and Bosco Fields.
- 3 ADA improvements will be included at intersections, and sidewalk will be added to the gap on the east side of Wixom Road, between the Novi Middle School driveway and Target.
- 4 Sidewalk on the north side of 11 Mile Rd between Beck Road and East Mandalay Circle
- 5 Construction of a 6-foot sidewalk on both the north and south side of Village Wood Road
- 6 This sidewalk would connect the existing path in Village Wood Lake Park to the east side of Meadowbrook Road, with a crossing over Meadowbrook Road at Chattman Drive. An 8-foot concrete sidewalk would be used from the park to the existing 5-foot sidewalk on the south side of the Meadowbrook Road bridge. A 5-foot sidewalk would be used north of the bridge to the Chattman Drive crossing. Some boardwalk would be needed over the wetlands adjacent to Village Wood Lake Park.
- 7 ADA improvements at intersections on Novi Road
- 8 The adjacent sidewalk ramps will also be upgraded to current ADA standards with 13 Mile Road rehabilitation
- 9 An 8-foot concrete sidewalk on the east side of Napier Road would connect the sidewalk along the north side of the ITC Community Sports Park entrance drive to the Villa Barr Art Park at 22600 Napier Road.
- 10 The Napier Road Connector portion of the ITC Corridor Trail would connect the southern end of the existing trail west across the northern edge of the park to Napier Road.
- 11 Widen Beck Road as 5-lane road or 4-lane boulevard. Estimate includes intersection and traffic signal modernization of Beck and 10 Mile Roads, ADA ramp upgrades and pathway gaps included.

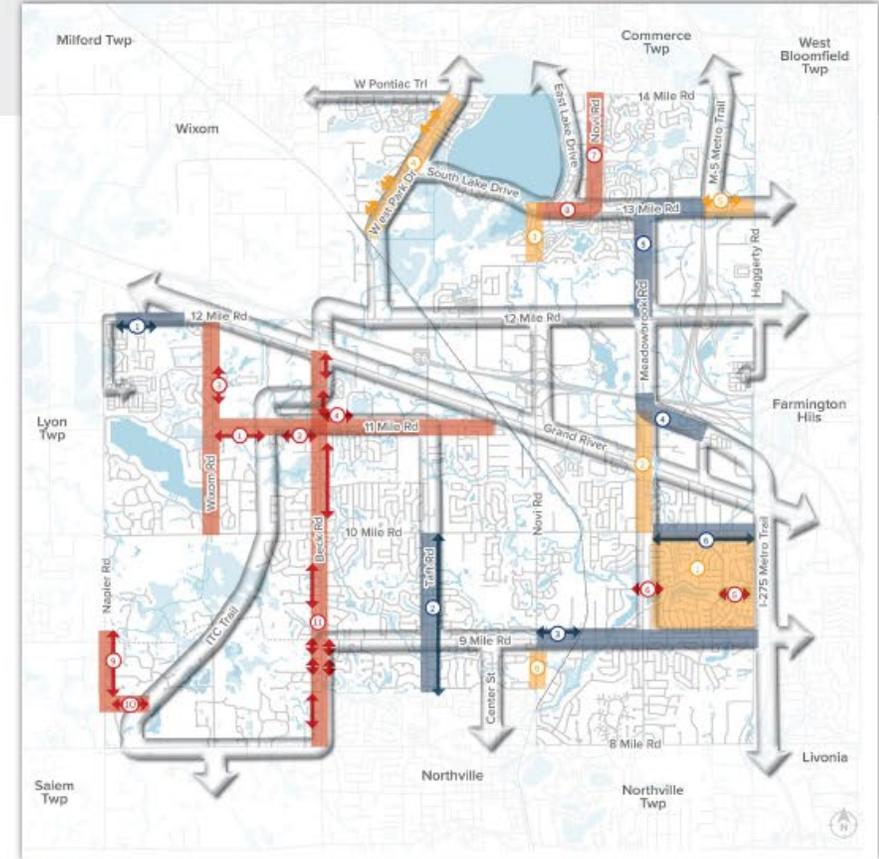
OTHER PROJECTS AND OPPORTUNITIES

- 1 Option to add sidewalks to neighborhoods when ditches are enclosed
- 2 Road rehabilitation on Meadowbrook
- 3 Any bicycle or pedestrian improvements included with road rehabilitation on Old Novi Road
- 4 Road rehabilitation and signal modernization on West Park Dr - Option to complete sidewalk gaps on west side of road or provide mid-block crosswalks at apartment complexes to access existing sidewalks along corridor
- 5 13 Mile Road rehabilitation - Option to complete sidewalk gaps on north side of corridor
- 6 According to SECMOG TIP and RTP, Oakland County plans to rehab Novi Road from 8 Mile Rd to 9 Mile Rd in 2025. No sidewalks are planned as part of the project. Option to reconfigure lanes to a consistent 3-lane road and add crossing island near Galway Drive

Coordination with Capital Improvement Projects

Integrating non-motorized improvements with upcoming construction projects present a compelling opportunity to realize both economic and community benefits. The preceding page outlines upcoming capital improvement projects that included non-motorized elements.

-  Under Construction/ Recently Built
-  Planned Bike/Ped Improvements
-  Other Projects and Opportunities
-  Near-Term Network



Based on Novi's Capital Improvement Program - Adopted by City Council on May 8, 2023

Near-Term Infrastructure Projects

The Near-Term Plan illustrates projects that can generally be implemented without changing the curb lines and are, for the most part, within the public right-of-way or public lands. Inventory and analysis, along with public input, helped identify the near-term infrastructure projects. These projects focus on completing key gaps in the sidewalk and pathway network, identifying priority crosswalk locations, and featuring a new expressway crossing at Beck Road.

The selection of priority projects was influenced by their capacity to provide access to transit, shopping and dining districts, and their role in connecting residential neighborhoods with essential destinations. Equity, demand, and safety considerations were pivotal factors in the selection process. For further insights into the inventory and analysis process that guided the project selection, as well as the Priority Corridors Composite Map that steered the decision-making process, please refer to the Existing Condition Section.



3.1
Miles of Sidewalk



5.3
Miles of Shared Use Pathways



17
Crosswalk Improvements

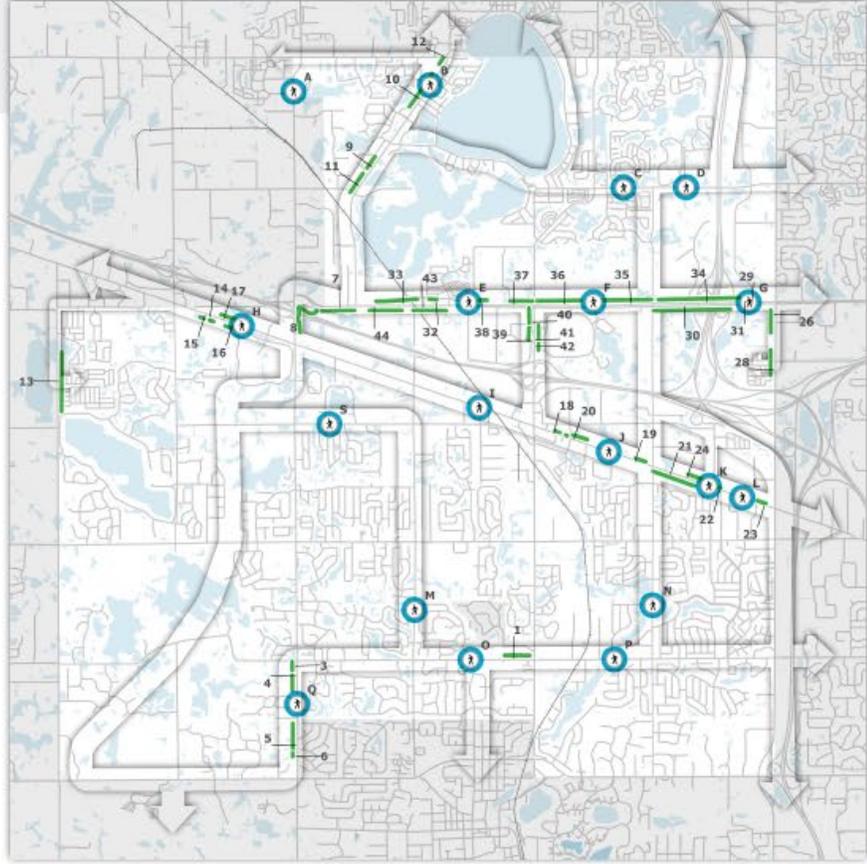
The prioritization of these projects represents a notable shift in the city's approach to near-term sidewalk and pathway initiatives, effectively supplanting the previous biannual report system. Furthermore, this revised approach incorporates crosswalk enhancements, which play a crucial role in bridging gaps within the sidewalk and pathway network and may offer a more cost-effective near-term solution while addressing more challenging segments is deferred.

While these represent near-term priorities, bicycle and pedestrian improvements should also be incorporated whenever roadways are reconstructed or widened. In such cases, it is advisable to reference the *Major Corridor Guidelines* section.

The following pages list the specific near-term infrastructure projects outlined in the plan.

Near-term Infrastructure Projects
The following map uses the Map ID to reference projects listed in the spreadsheet.

-  Locations for Crosswalk improvements
-  Sidewalks and Pathways
-  Near-Term Network



Specific Areas

East Lake Drive & South Lake Drive

East Lake Drive and South Lake Drive, tracing the southern and eastern shores of Walled Lake, serve as crucial routes for both bicyclists and pedestrians. East Lake Drive features two lanes with bike lanes in both directions, while South Lake Drive consists of two lanes with a segment of pathway connected by a narrow one-way bike lane. Unfortunately, neither road consistently provides sidewalks for pedestrians, leading to pedestrians walking in the bike lane and on the roadway. Major challenges include a highly variable right-of-way and physical constraints.

To address the safety concerns of bicyclists and pedestrians along this corridor, alternative solutions for incorporating dedicated bike and pedestrian facilities were initially presented in the preliminary plan. Feedback from the community underscored the primary issue of excessive speeding and high traffic volume along this route. In response, the community is willing to explore potential remedies, including the implementation of one-way traffic flow or diverters.

It is important to recognize the contrasting perceptions of what this corridor represents. From a planning perspective, it is classified as a Major Collector Road, which ties adherence to specific standards to eligibility for Surface Transportation Program funds. Conversely, residents view it as a local road and seek measures to reduce speeds and traffic volumes.

Solving the details of this corridor are beyond the scope of this project. A comprehensive traffic study is recommended to thoroughly examine this corridor. Such a study will yield insights into traffic patterns, safety concerns, and the required infrastructure adjustments to effectively meet the needs of bicyclists and pedestrians. Additionally, the study should investigate the feasibility of transforming these roads into one-way routes, with East Lake Drive becoming northbound and South Lake Drive becoming westbound, while reallocating any available right-of-way to benefit dedicated bicycle and pedestrian facilities.

The following pages showcase the feedback collected on the alternatives presented during the preliminary planning phase.

Preliminary Plan Existing Conditions Map

- 66' Right-of-way
- 35' Right-of-way
- 50' Right-of-way
- Existing Sidewalks and Pathways



City West

The anticipated City West district, located southeast of I- 96 and Beck Road intersection along Grand River Avenue, holds immense potential as a vibrant, mixed-use urban area. The City West Design Guide, introduced in 2023, emphasizes the creation of a high-density, walkable environment with a strong focus on pedestrian-friendly spaces, building orientation, and outdoor amenities, all aligned with design guidelines. To fully realize this vision, the seamless integration of bicycle and pedestrian infrastructure is imperative. This integration becomes particularly crucial as it supports the implementation of new transit routes along Grand River Avenue and ensures convenient access for all residents and visitors.

In light of the area's layout, frequent pedestrian road crossings will be essential to provide safe non-motorized access to the site. To address this, the incorporation of pedestrian hybrid beacons with crossing islands at mid-block locations emerge as key safety measures. While pedestrian bridges are an option, it's important to acknowledge that they pose challenges, including a large footprint to accommodate ADA ramps and that many individuals will be hesitant to use the ramps and cross at street level. A more successful approach involves integrating such pedestrian facilities with buildings, making them more accessible and appealing to users.

City West Design Guide Recommendations

Pedestrian Circulation:

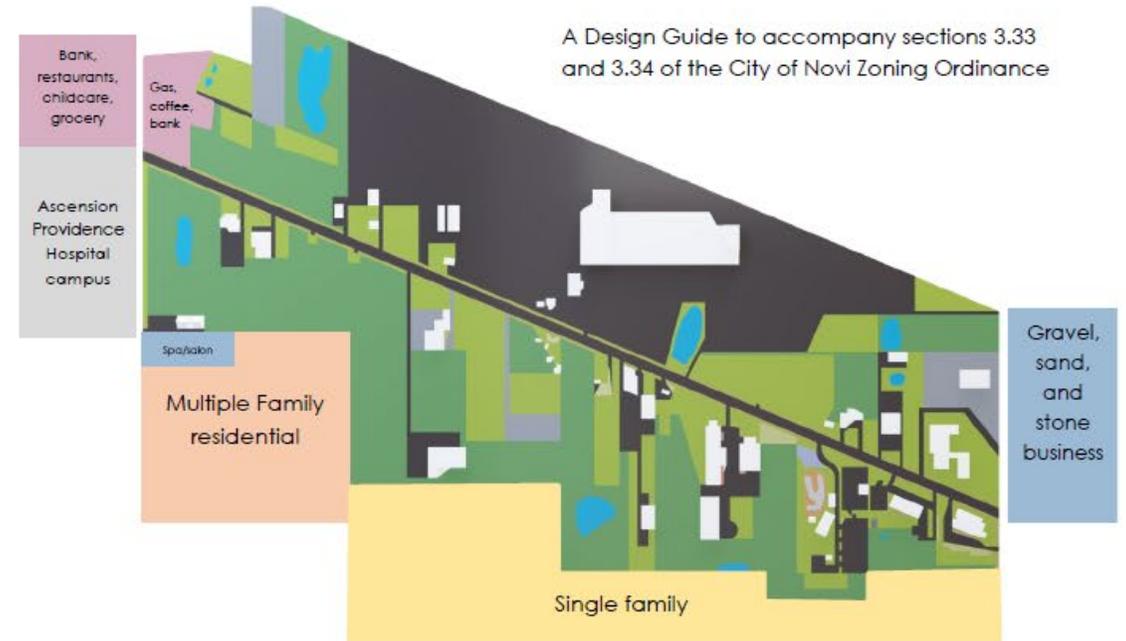
- ▶ Create pedestrian-friendly spaces with outdoor amenities.
- ▶ Place parking to the side or rear of buildings.
- ▶ Consolidate driveways on major streets.
- ▶ Allow on-street parking on secondary streets.
- ▶ Align buildings parallel to pedestrian streets.
- ▶ Use attractive colors and materials for entrance doors.
- ▶ Add plazas, seating, lighting, and other amenities.
- ▶ Use clear signage for pedestrian routes.

Bicycle Amenities:

- ▶ Provide bicycle parking meeting or exceeding standards.
- ▶ Consider adding bicycle fix-it stations.

City West Design Guide

A Design Guide to accompany sections 3.33 and 3.34 of the City of Novi Zoning Ordinance



Northville's Riverwalk Vision

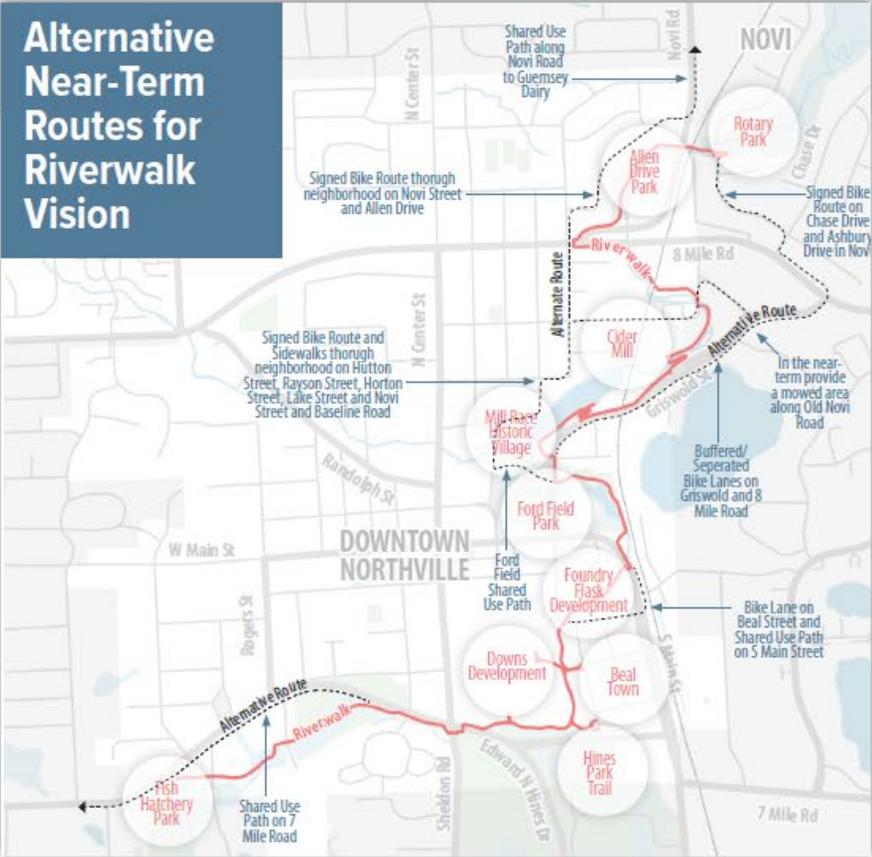
Northville's Riverwalk Vision is a long-term project aimed at connecting parks and destinations within the community by tracing segments along the Middle Rouge River. One of the primary objectives is to establish a connection between the City of Northville and Rotary Park in Novi. However, this route presents several challenges, including issues related to available rights-of-way, infrastructure costs, environmental considerations, and the necessity for coordination with external organizations.

Recognizing that some parts of the Riverwalk Vision will take several years to implement, alternative near-term routes have been identified in the Northville Non-motorized Plan 2023 Update. These routes also fulfill the purpose of addressing everyday non-motorized mobility.

Successful realization of the Riverwalk Vision will require collaboration with multiple entities, including the Oakland County Road Commission, Wayne County Road Commission, City of Northville, City of Novi, and Northville Township. Coordinating actions and planning on Griswold Road, Old Novi Road, Baseline Road and 8 Mile Road is essential due to the complexity of transportation issues involving these various jurisdictions.



While there is a strong desire for a pedestrian connection along Old Novi Road to the Cider Mill Area, the challenging terrain, including steep grades, tight curves, and truck traffic, currently limits viable options. Additionally, the Living and Learning Enrichment Center offers an opportunity for non-motorized access. In the short term, it is recommended to establish a cleared/mowed area alongside the road to facilitate access. A long-term bike-ped connection between Old Novi Road, Baseline Road and Griswold Road should be actively pursued.



Refer to the **Northville Non-motorized Plan 2023 Update** for details on the Riverwalk Vision and specific corridor recommendations for Griswold Street and 8 Mile Road.

Implementation, Funding Strategies, & Maintenance

Implementation Framework

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 Novi, 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, Novi has done a good job of integrating elements such as sidewalks and side-paths 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 Road Commission for Oakland County, Wayne County Road Commission and MODT.



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Pavement Marking

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:

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



Source: PHW Crosswalk Visibility Enhancements

Funding Strategies

To be eligible for non-motorized grants, most projects must align with AASHTO guidelines, ensuring safety and design standards. Wealthier communities, like Novi, are often expected to provide an over match in funding due to their higher socioeconomic status and lower percentage of at-risk populations. This entails a more substantial contribution to projects.

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.

SEMOG Transportation Alternatives Program (SEMOG 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 SEMOG 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 can be used to support initiatives like sidewalk improvements, bike lane installations, streetscape enhancements, and other pedestrian-friendly amenities.

Foundations & Business:

- 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.

Maintenance

Maintenance of non-motorized facilities is crucial to ensure the safety, accessibility, and aesthetics of public spaces. Proactive and regular maintenance is the key to maintaining non-motorized facilities in good condition and ensuring the safety and satisfaction of all users.

The City should establish a maintenance policy and plan that specify maintenance standards, schedules, and quality control based on best practices.

The following pages outline strategies for maintaining non-motorized facilities.

Street Sweeping Schedule:

- Establish a regular street sweeping schedule to remove dirt, debris, and leaves from paths, sidewalks, and bike lanes.
- Consider seasonal variations and high-foot traffic times when planning the schedule.

Trash Debris and Pet Cleanup:

- Implement a routine schedule for cleaning up litter, trash, and pet waste to maintain a clean environment.
- Place trash bins and pet waste stations strategically along the paths.

Vegetation Trimming:

- Regularly trim bushes, trees, and other vegetation to prevent overgrowth that might obstruct pathways and reduce visibility.

Pavement Surface:

- Regularly inspect and maintain the pavement surface to address cracks, potholes, and uneven surfaces that could pose safety hazards.
- Schedule routine resurfacing or repairs to extend the lifespan of the pavement.

Drainage/Erosion Minimization:

- Regularly clean and maintain drainage systems to prevent water accumulation and erosion that could damage pathways.
- Install erosion control measures where necessary to minimize the impact of heavy rain.

Signage and Lighting Repairs/Replacement:

- Inspect and maintain signage to ensure proper wayfinding and safety instructions.
- Regularly check lighting along pathways, replacing bulbs and fixing any issues promptly to enhance visibility during nighttime.

Pavement Markings (Bike Lanes, Crosswalks, etc.):

- Repaint pavement markings regularly to maintain clear delineation of bike lanes, crosswalks, and other designated areas.

ADA Requirements:

- Regularly inspect ramps, curb cuts, and other accessibility features to ensure they comply with ADA standards.
- Address any issues promptly to maintain accessibility for people with disabilities.

Reporting System:

- Establish a user-friendly reporting system for residents to notify authorities about maintenance issues or safety concerns.
- Assign a team to review and respond to these reports promptly.

Snow and Ice Removal:

- Develop a plan for snow and ice removal during winter months to ensure safe passage for pedestrians and cyclists.
- Use appropriate de-icing methods that are safe for the environment and infrastructure.

Quality Control and Standards:

- Establish clear maintenance standards based on best practices and industry guidelines.
- Conduct regular quality control checks to ensure that maintenance activities meet the established standards.

Regular Training and Skill Enhancement:

- Provide training to maintenance staff regarding proper techniques, safety protocols, and new technologies for effective facility maintenance.

Volunteers and Sponsorships:

- Engaging volunteers and seeking sponsorships can help with tasks such as cleaning and patrolling public trails and facilities, enhancing community involvement and support.

