



MOBILITY COMMITTEE AGENDA

CITY OF NOVI

July 18, 2024 | 6:00 PM

Council Conference Room
Novi Civic Center | 45175 Ten Mile Road
(248) 347-0445

CALL TO ORDER

ROLL CALL - Mayor Fischer, Council Member Smith, Council Member Thomas, Gary Becker, Joe Tolkacz, Jay Dooley, and Ed Roney

APPROVAL OF AGENDA

[July](#) 18, 2024 Agenda

REMARKS FROM THE CHAIRPERSON

MATTERS FOR COMMITTEE DISCUSSION

Walkable Novi (Old Business)

[Active](#) Mobility Plan Priorities

[Sidewalk](#) Maintenance Program

[Roads](#)

Transit

REVIEW OF ACTION ITEMS

PUBLIC COMMENT

ADJOURNMENT

NOTICE: *People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk (248) 347-0456 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.*



CITY OF NOVI
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STAFF LIAISON: Jeff Herczeg, Department of Public Works Director

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1. Walkable Novi old business
2. Active Mobility Plan priorities
3. Sidewalk Maintenance program
4. Roads
5. Transit

REVIEW OF ACTION ITEMS

PUBLIC COMMENT

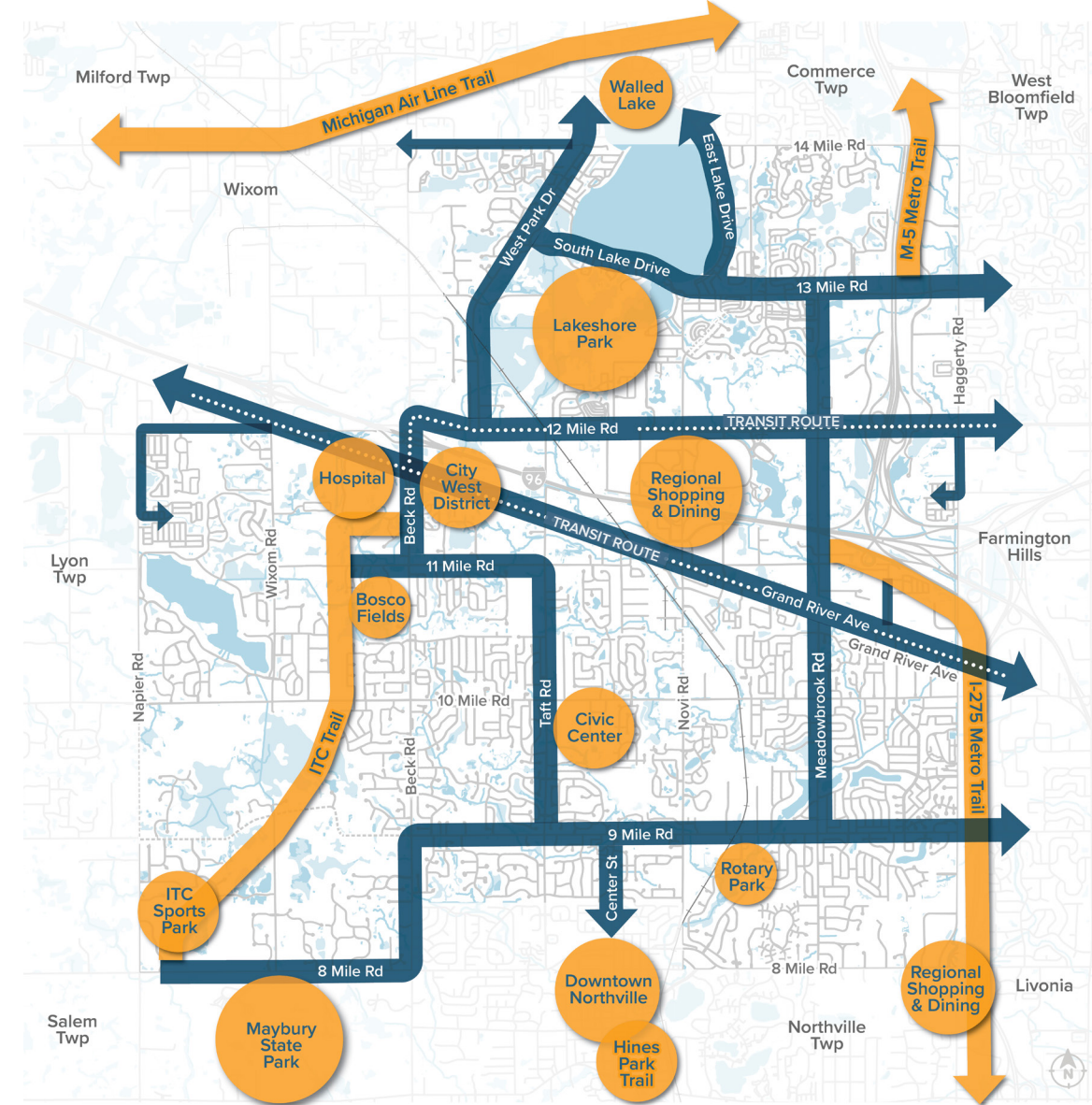
ADJOURNMENT



Active Mobility Plan 2023



Adopted March 18, 2024



Near-Term Network

The Near-Term Network is a set of projects within public areas, requiring minimal road changes, aimed at creating a continuous network for reaching key destinations and trails in the city. It emphasizes walking and biking using existing facilities and consists of three main components:



Neighborhood Greenway Network

A seamless walking and biking path with added features for a better experience.



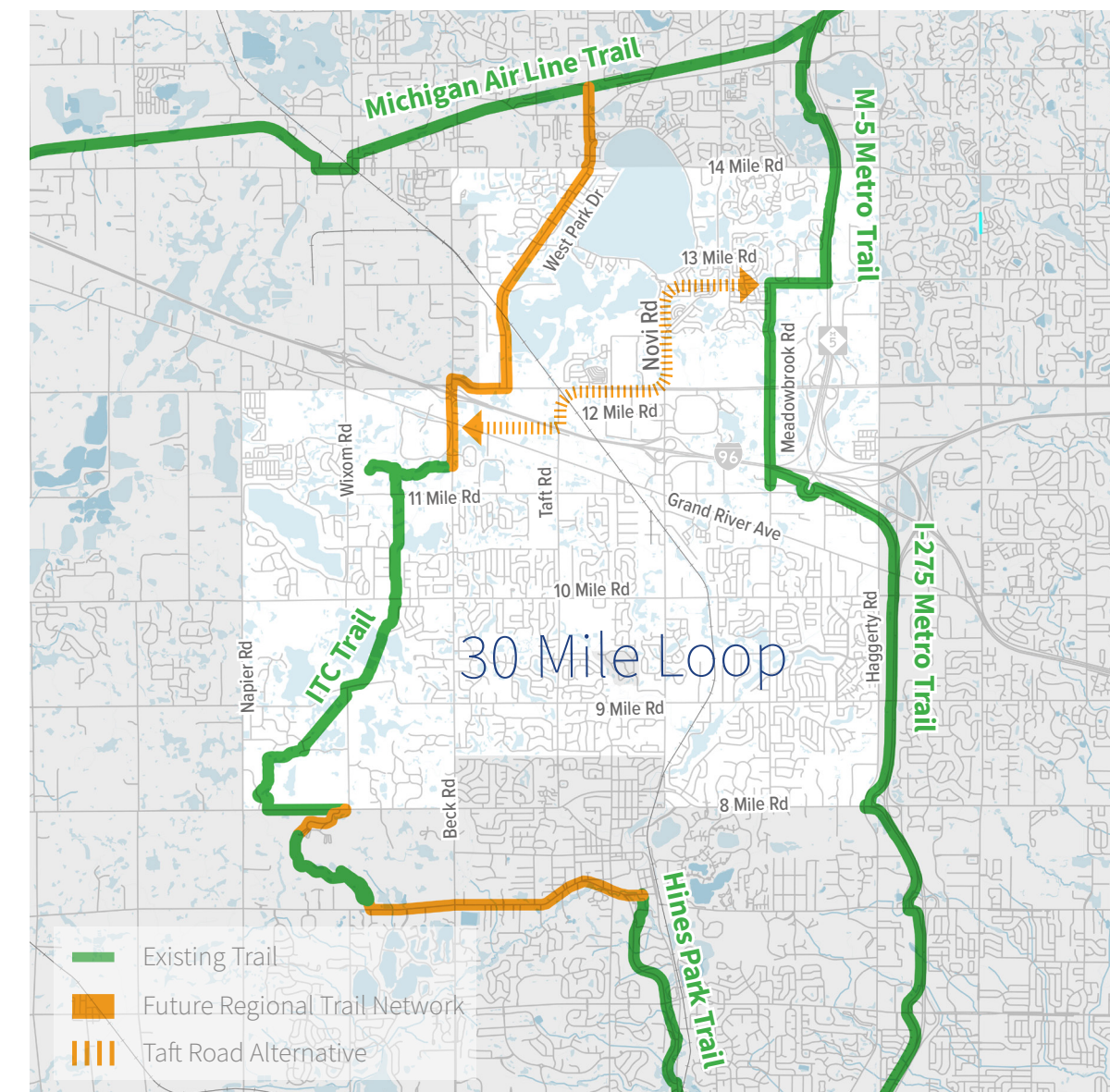
Connecting to Transit

Making it safe and easy for pedestrians and cyclists to reach new transit routes.



Improved Access to Shopping and Dining

Creating a friendly environment that lets people easily walk or bike to businesses from the street.



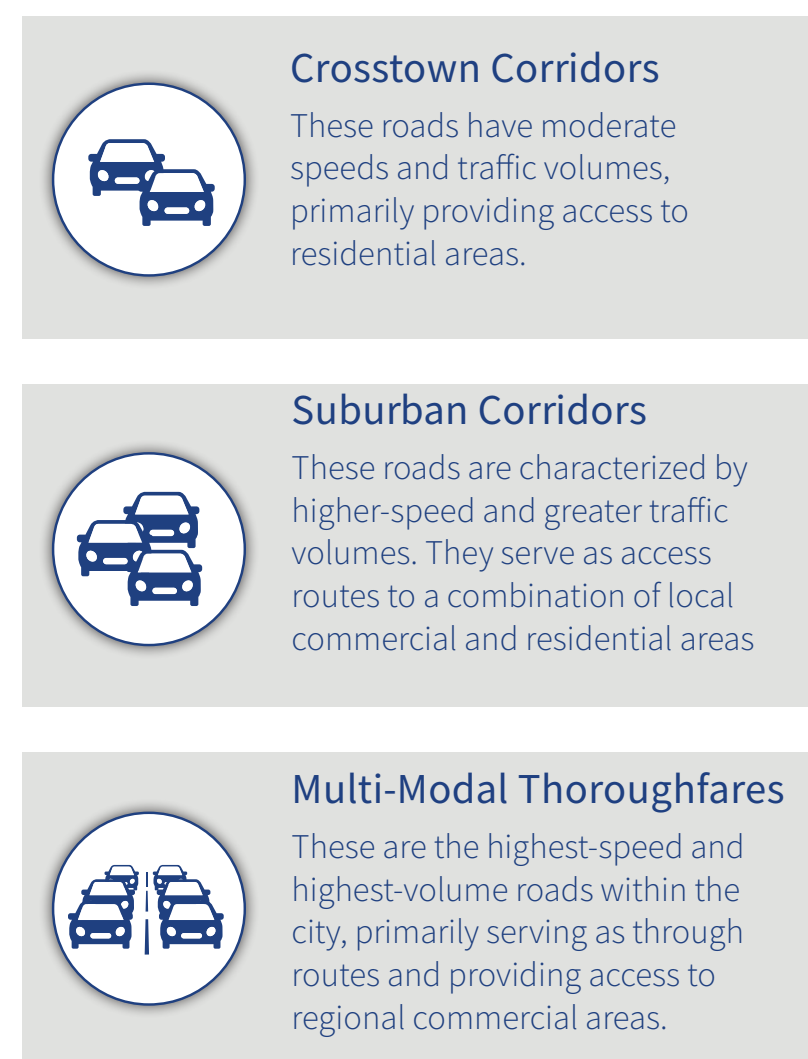
Regional Trail Network

The Active Mobility Plan aims to connect Novi to the broader regional trail network, potentially creating a 30-mile trail loop. These connections include creating a trail link across the I-96 interchange at Beck Road with Wixom, closing sidepath gaps along 12 Mile Road and West Park Drive to West Pontiac Trail, and collaborating with Walled Lake to connect to the Michigan Air Line Trail. Additionally, coordination with Maybury State Park and support for pathway connections along 7 Mile Road to Hines Park Trail are emphasized, along with actively seeking opportunities for non-motorized connections across I-96 at Taft Road with future development.



Major Corridor Classifications

Major Roadway Classifications help determine the features to enhance active mobility on different road types in Novi. They serve as a framework for applying current best practices to enhance safety and promote bicycle and pedestrian mobility. These classifications should be consulted when a road is undergoing reconstruction or widening to ensure that it operates as a complete street.



Legend:



Map Notes:

- Provide direct pathway connections between adjacent neighborhoods and school.
- Trail ends abruptly into parking lots at Deerfield Elementary and Wildlife Wood Park. Continue trail so it links into the City's pathway network.
- Explore neighborhood nature trail to ITC Trail from Woodworth Drive through community open space.
- Connect neighborhood to ITC Trail from Sandpiper Court.
- Connect neighborhood to ITC Trail from Cheltenham Drive or Heartwood Street.
- Connect adjacent neighborhoods between Galway Drive and Coldspring Drive.
- Explore options for a direct pathway connection to anticipated City West district from 11 Mile Road.
- Connect adjacent neighborhood between Arcadia Drive and Cider Mill Road.
- Formalize pathway connection between Taft Road and Kerri Court.
- Add pathway through city owned parcel between Thatcher Drive and Novi Road.
- Extend existing pathway all the way to Taft Road from Ella Mae Power Park.
- Add pathway between Fountainpark Drive and Highland Drive.
- Explore optional pathway through city owned parcel between Chattman St/ Balcombe Dr to Malott Drive.
- Explore options for a direct pathway connection between neighborhoods and the commercial area at Eight Mile Road and Haggerty Road.
- Explore options for a direct pathway connection to Twelve Mile Road from Sandstone Drive and Steinbeck Glen.
- Coordinate with Maybury State Park to provide trail connection at park entrance at 8 Mile Road.
- Add pathway connection to Lakeshore Park Mountain Bike Trails from W 12 Mile Road.
- Extend sidewalk from 12 Mile Road to Wixom Road.
- Add sidewalk connection from Meadowbrook to existing path in Village Wood Lake Park as part of upcoming CIP project.
- Collaborate with Walled Lake to provide a trail connection to the Michigan Air Line Trail from Pontiac Trail and W Park.
- Coordinate with Northville Township to provide a connection to Legacy Park on 7 Mile Road following Silver Spring Drive.
- Add pathway connection between ITC Trail and Bosco Fields.
- Establish a trail connection across the I-96 interchange at Beck Road with the City of Wixom.
- 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 City West develops.
- A traffic study is recommended for East Lake Drive and South Lake Drive to analyze traffic patterns, safety issues, and necessary infrastructure changes for bicyclists and pedestrians.
- For the south side of Nine Mile Road, some sections of the proposed sidepaths were previously deferred.

Active Mobility Plan 2023



Adopted March 18, 2024



EXECUTIVE SUMMARY

Overview & Process

The Novi Active Mobility Plan is an inclusive and comprehensive initiative aimed at improving active transportation options within the community. The plan focuses on enhancing the safety, accessibility, and connectivity for people who walk, bike and roll. By prioritizing the needs of these users, the plan aims to create a more sustainable, healthy, and vibrant community.

The development of the plan involved a collaborative process that included data analysis, public input, and expert consultation. Through community engagement and careful analysis, the plan identifies key priorities, challenges, and opportunities for enhancing the non-motorized network.

The plan was developed over the year in 2023. The Technical Advisory Committee and Walkable Novi Committee guided the process and the public was engaged throughout via community open house events, meetings, pop-up stations at local events and parks and through surveys. The Technical Advisory Committee and Walkable Novi Committee completed a final review of the Plan prior to the Plan being recommended for adoption.



Why Update the 2011 Plan?

Over the last decade, significant changes in non-motorized transportation have occurred at the national, regional, and local levels prompting a reexamination of the plan.

- ▶ Numerous new national guides for non-motorized transportation have been published by the Federal Highway Administration that reinforce the improvements that have been made, and provide guidance on new types of facilities.
- ▶ Considerable headway has been achieved in closing sidewalk and pathway gaps along major roads. The construction of the new ITC Trail, Meadowbrook pathway and the Novi Road overpass connection have been implemented, positioning the city to advance the network to the next level.
- ▶ Emerging regional trails like the M-5 Metro Trail and Air Line Trail are creating new opportunities for connections to regional trails and statewide Great-Lake-to-Lake Trail.
- ▶ SMART introduced enhanced transit in Oakland County, offering local service along key routes such as Grand River, 12 Mile, and Novi Road. New Routes servicing Novi include SMART 740, SMART 305 and SMART 805.

While some non-motorized facilities are currently in place, this plan identifies numerous opportunities to refine the system. The plan's update will concentrate on propelling the bicycle and pedestrian network to a higher level, offering recommendations for a more family-friendly system that fosters improved connections to parks and regional trails.



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.

What is in the Plan?

The Novi Active Mobility Plan builds upon the foundation set by its predecessor, the 2011 Non-motorized Plan, with the aim of further advancing the community's non-motorized transportation options. The updated plan incorporates recent best practices and sets new priorities for near-term implementation. This new approach ensures a more tailored response to the evolving needs of the community.

The document presents a comprehensive framework designed to enhance non-motorized transportation options, promote safe mobility, and encourage active lifestyles within the community. It outlines a strategic approach to improve pedestrian and bicycle infrastructure, align with existing policies, and incorporate input from various stakeholders. The plan's development process involved conducting a thorough inventory and analysis of land use, traffic patterns, and pedestrian and bicycle conditions. Throughout this process, community engagement played a vital role in ensuring that the plan accurately represents the aspirations and needs of the local residents.

Document Organization

Overview & Process

Introduces plan objectives and development process, emphasizing community and stakeholder involvement to ensure a comprehensive and inclusive plan.

Existing Conditions

Provides a thorough assessment of current non-motorized conditions, including land use, traffic generators, and mobility patterns. Evaluates pedestrian and bicycle conditions, identifies improvement areas, coordination strategies, and potential safety enhancements.

Facility Types & Guides

Simplifies non-motorized terminology using images and explanations and promotes safety and efficiency through readily available design guidelines for new facilities.

Major Corridor Guides

Outlines the long-term vision for the major roadway network by showing how current best practices may be applied to prioritize safety and enhance bicycle and pedestrian mobility.

Long-Term Network

Outlines the city's goals for the next two decades and beyond, including sidewalks, mid-block crosswalks, bike lanes, greenways, and local road routes.

Near-Term Network

Includes three components: Neighborhood Greenway Network, Transit Connections, and Improved Access. It primarily focuses on leveraging existing facilities to create a city-wide network connecting key destinations.

Specific Areas

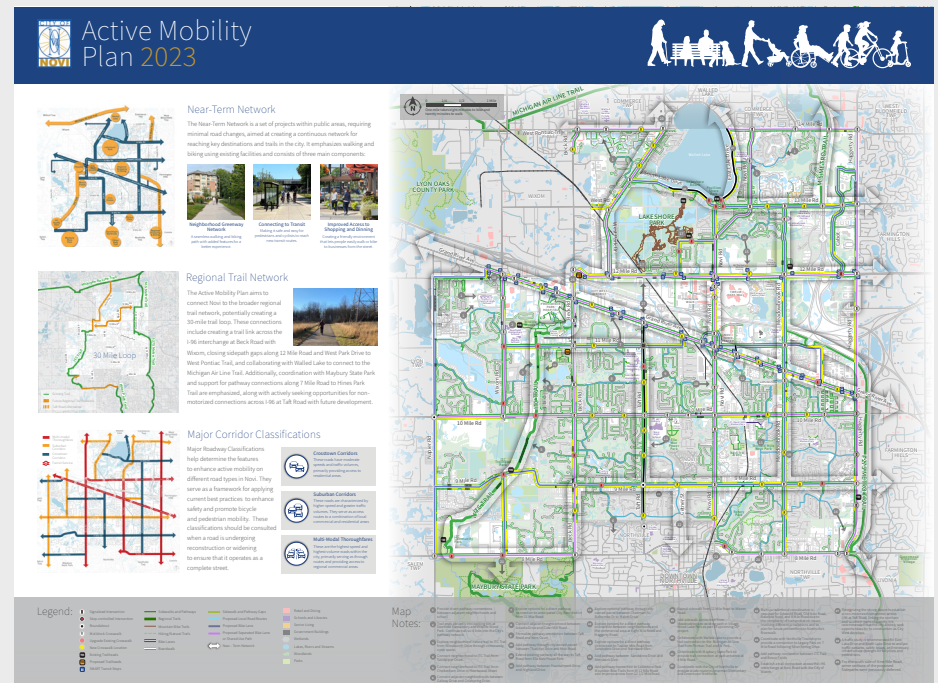
Highlights key areas that hold significant potential for transformation, emphasizing the creation of a vibrant and pedestrian-friendly community. These areas encompass East Lake Drive and South Lake Drive, City West, and Northville's Riverwalk Vision.

Implementation

Addresses the diverse avenues of funding, construction and maintenance strategies that can be harnessed to support the implementation of the plan.

Active Mobility Network Map

Supplemental to the Active Mobility Plan Report, the large format Network Map provides a comprehensive visual depiction of the plan's components.



Appendix Materials

The project website, walkbike.info/novi, hosts an extensive digital appendix containing a wealth of information regarding the development of the plan and its supporting materials.

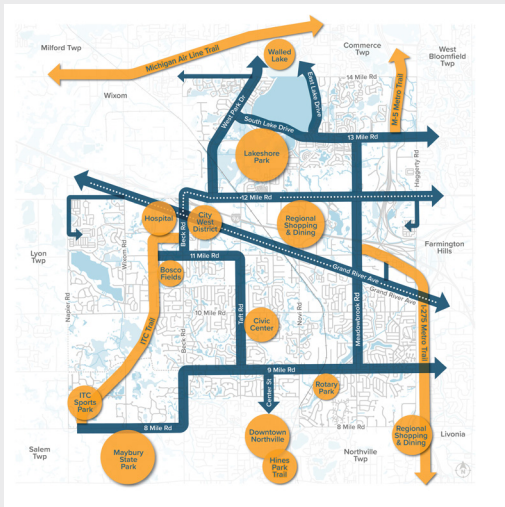
Non-motorized Recommendations

Non-motorized recommendations are categorized into three sections: Near-Term Network, Long-Term Network, and Major Corridor Guidelines. Each section outlines specific recommendations for infrastructure, policies, programs, and metrics. The Near-Term Network addresses the immediate future, the Long-Term Network presents a visionary aspiration for the city, and the Major Corridor Guidelines aid in determining elements to consider during major road construction projects. The three sections of the plan are illustrated below.

Immediate focus on stand-alone projects aimed at establishing a core network



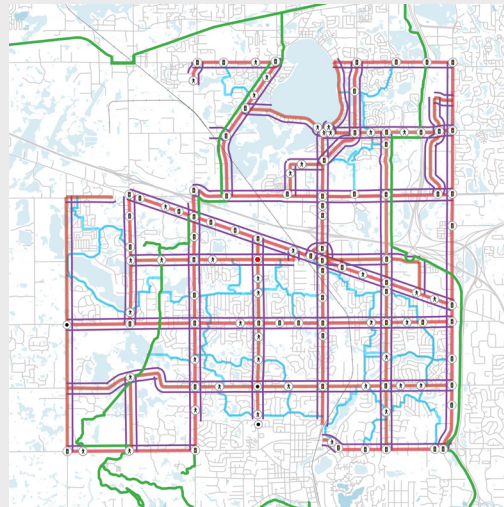
NEAR-TERM NETWORK



Long-term vision the City should aspire to achieve



LONG-TERM NETWORK



Guidelines to reference when implementing road reconstruction projects



MAJOR CORRIDOR GUIDELINES



MAJOR CORRIDOR GUIDELINES

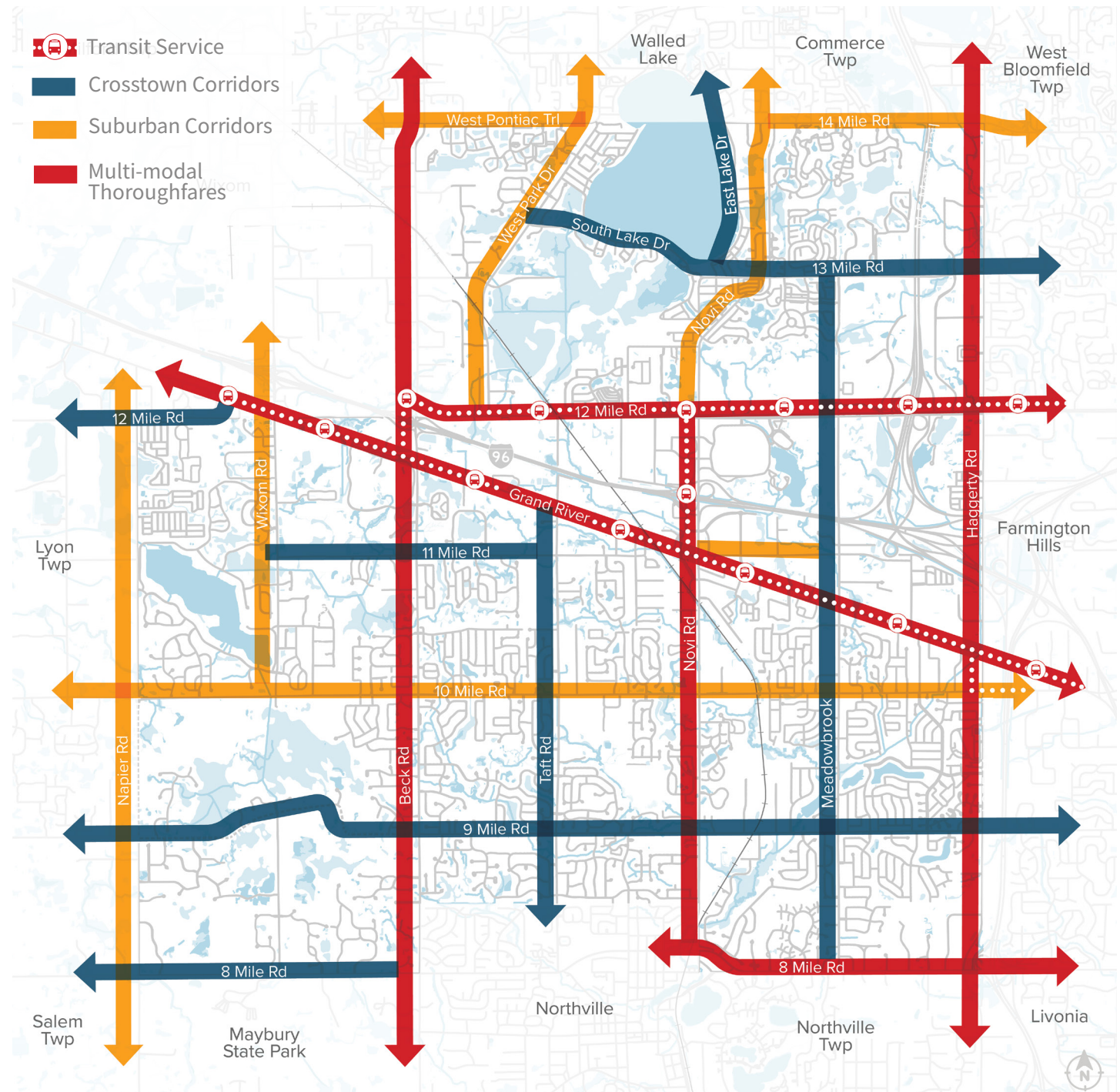
Classification

The Guidelines for Major corridors are intended to define what active mobility elements should be incorporated for the various types of roadways found in Novi. They serve as a framework for applying current best practices to enhance safety and promote bicycle and pedestrian mobility. These classifications should be consulted when a road is undergoing reconstruction or widening to ensure that it operates as a complete street.

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.

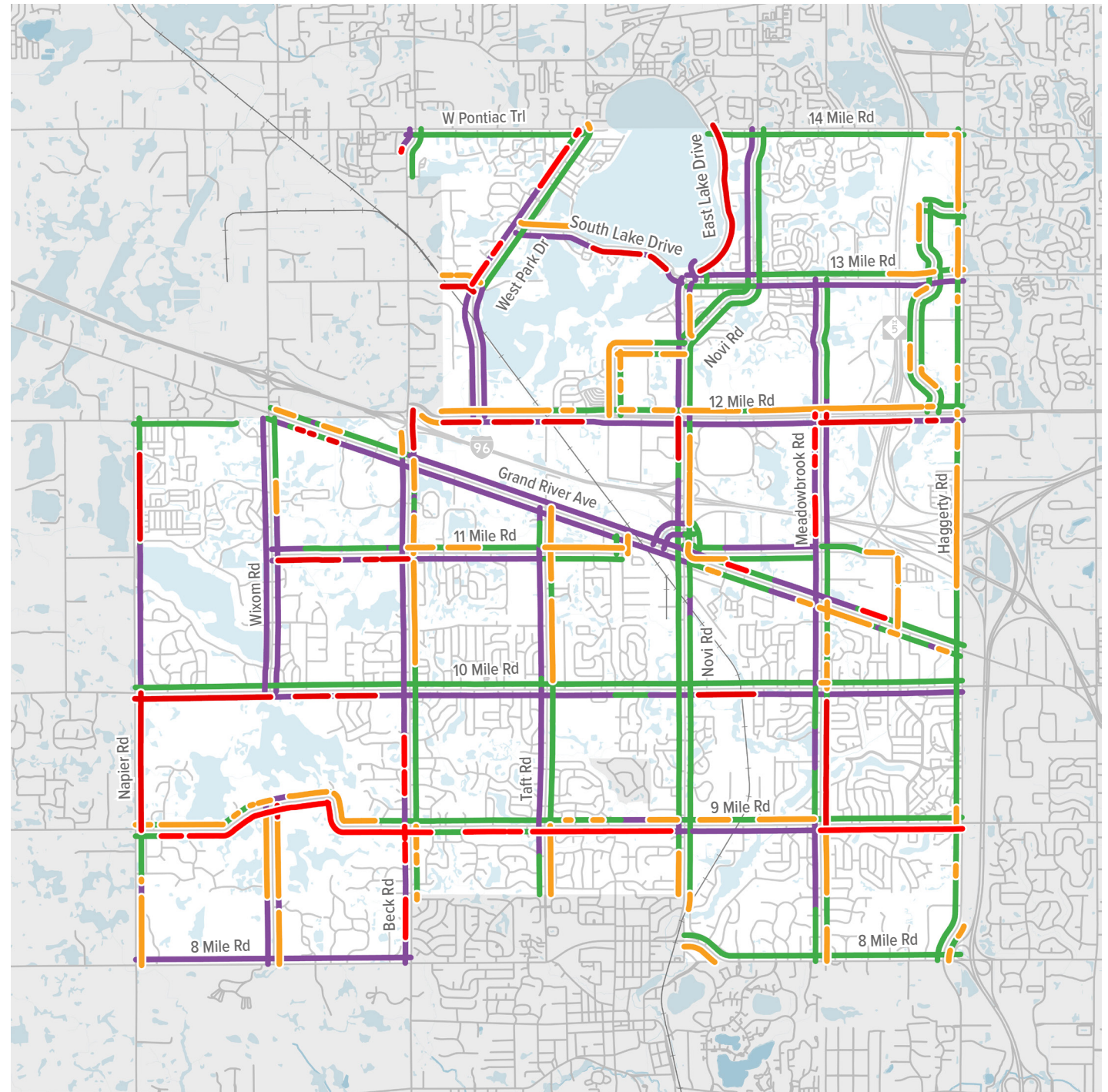


LONG-TERM NETWORK Sidewalks & Sidepaths

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 feet, with a buffer zone and vertical elements like trees between the sidewalk and the road whenever possible. Additionally, on one side of the corridor, the sidewalk should expand to a minimum 10 feet wide where feasible to accommodate shared uses on busier roads, especially where on-road bike lanes are absent. The following map identifies key locations where gaps exist and should be addressed.

- Existing Sidewalks
- Proposed Sidewalk
- Existing Sidepaths
- Proposed Sidepath

Note: For the south side of Nine Mile Road, some sections of the proposed sidepaths were previously deferred.

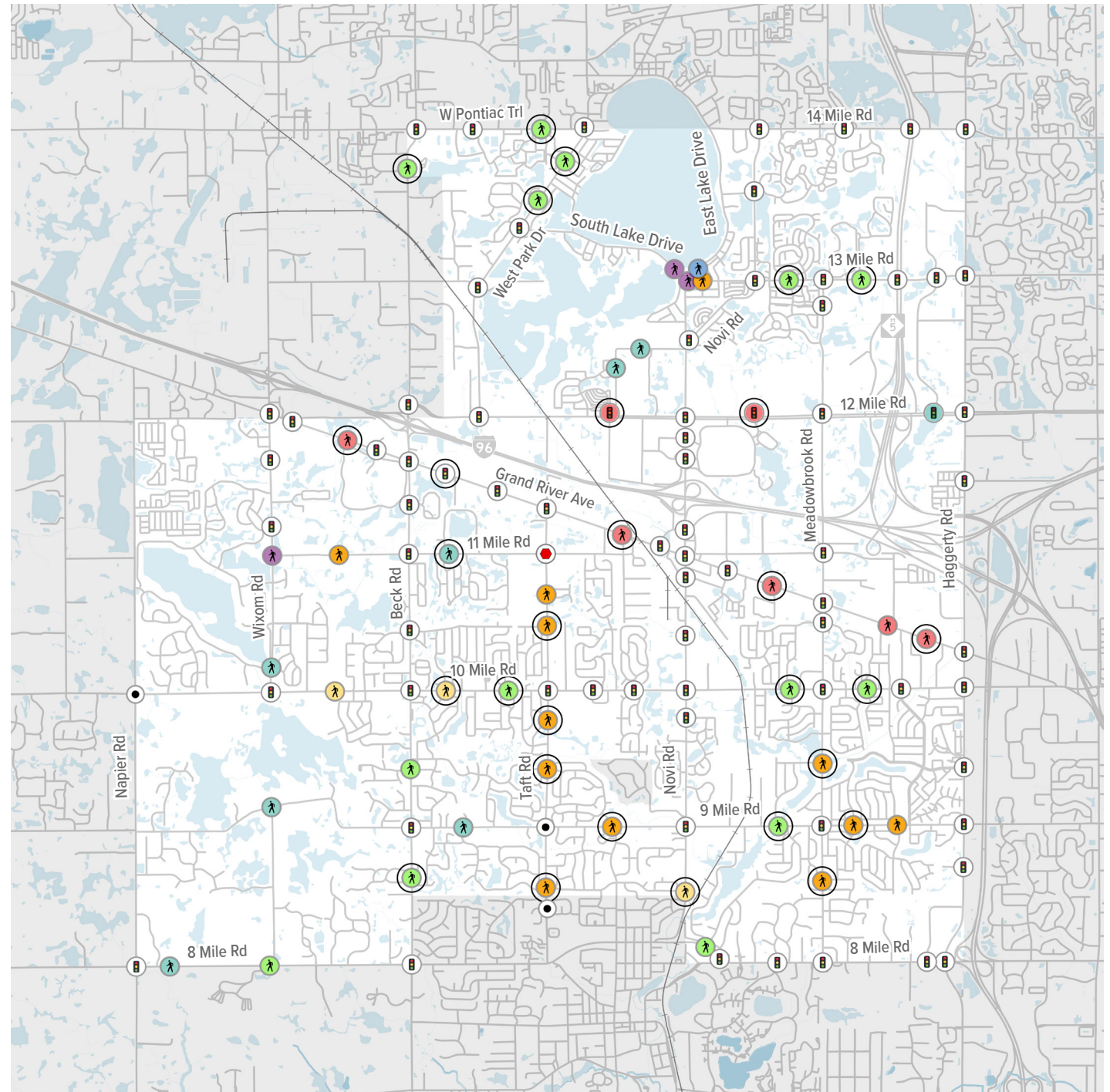


LONG-TERM NETWORK

Mid-block Crosswalk

This map showcases proposed locations for crosswalk treatments at mid-block locations. 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. The crosswalk measures shown are based on a master plan level assessment of anticipated speeds, number of lanes, and presence of a crossing island. Each crosswalk requires a separate engineering study and may necessitate a higher or lesser order of treatment based on a more detailed assessment.

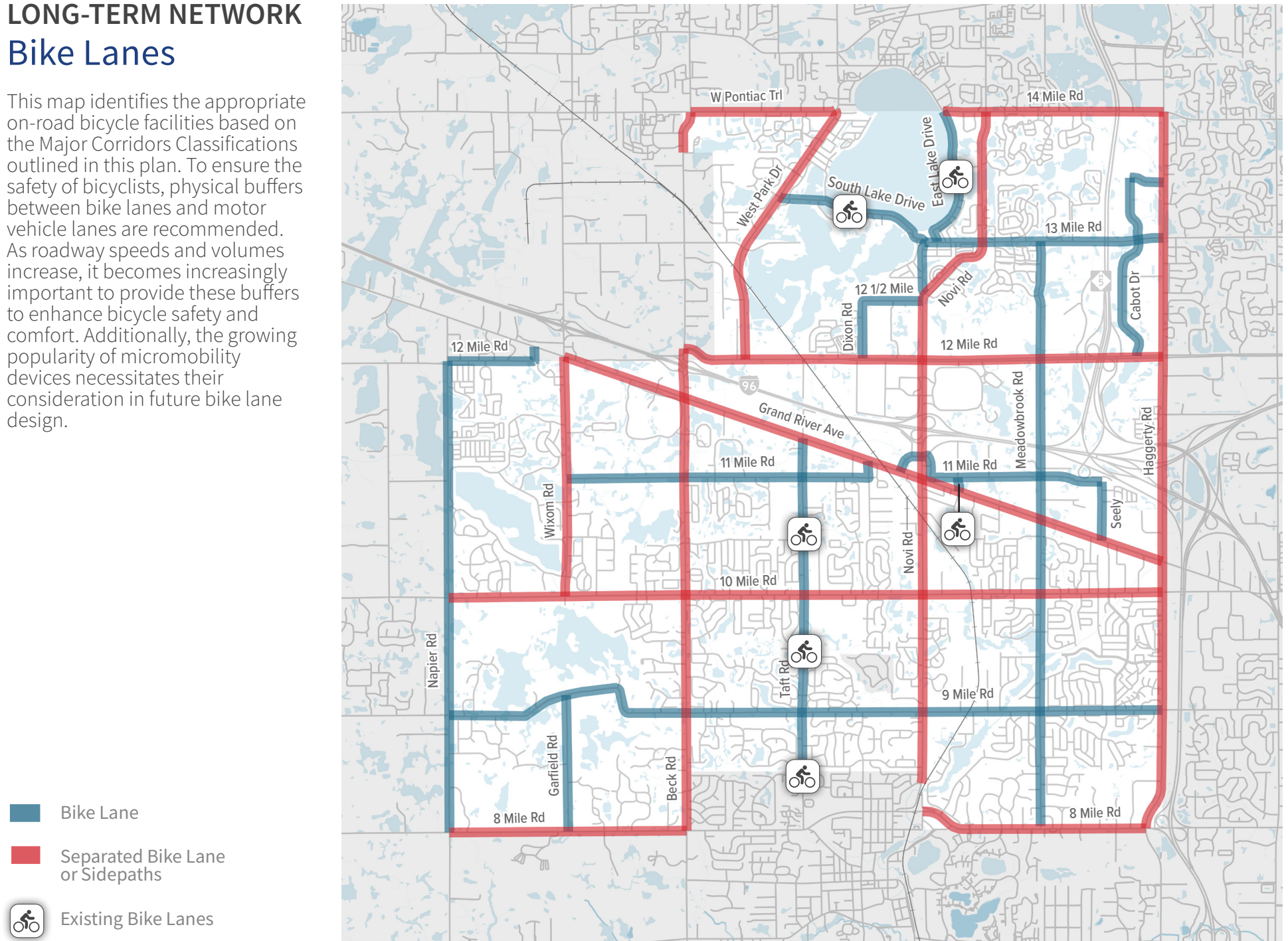
-  Signalized Intersection
-  Stop-controlled Intersection
-  Roundabout
-  Mid-block Crosswalk
-  Pedestrian Hybrid Beacon with Island
-  Pedestrian Hybrid Beacon
-  High Visibility Crosswalk
-  Crossing Island
-  Rectangular Rapid Flash Beacon
-  Rectangular Rapid Flash Beacon with Island
-  Speed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



LONG-TERM NETWORK

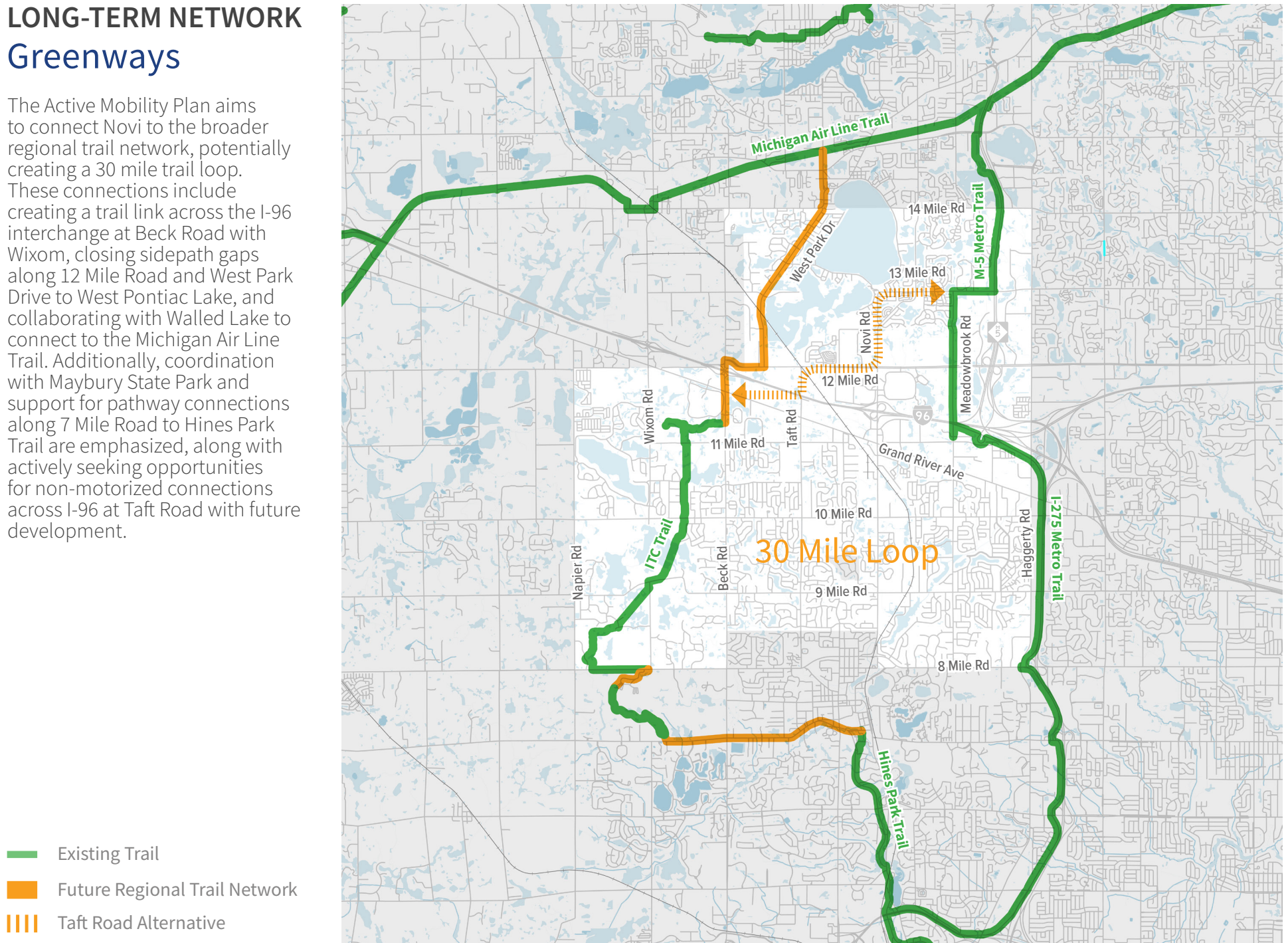
Bike Lanes

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.



LONG-TERM NETWORK Greenways

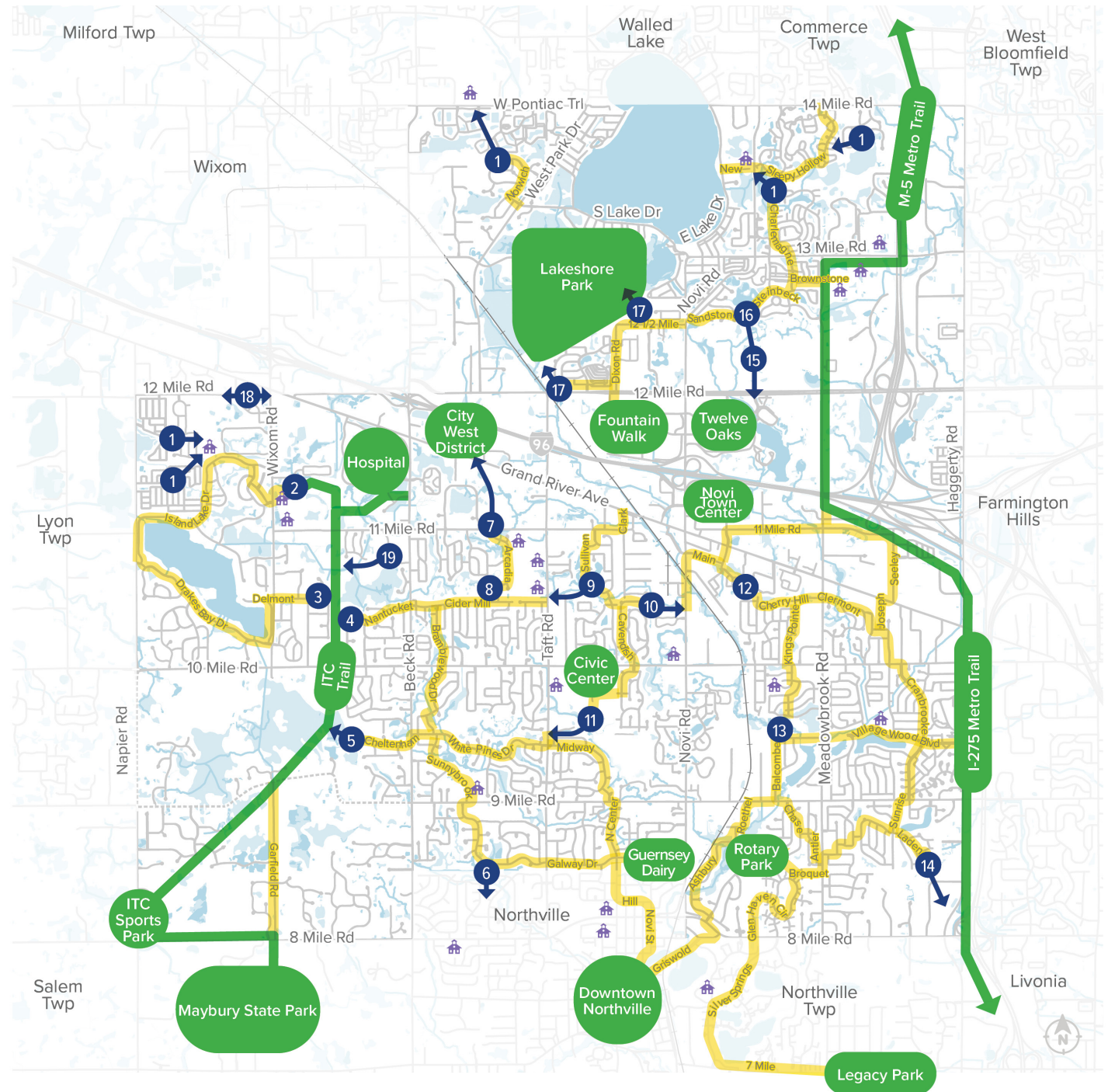
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LONG-TERM NETWORK Local Road Routes

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.

- **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 corridors. Surface may vary and easements may be required. See map notes for details.
- **Destinations and Existing Regional Trails**
-  **Schools**
- # **Map Notes (See Full Report)**



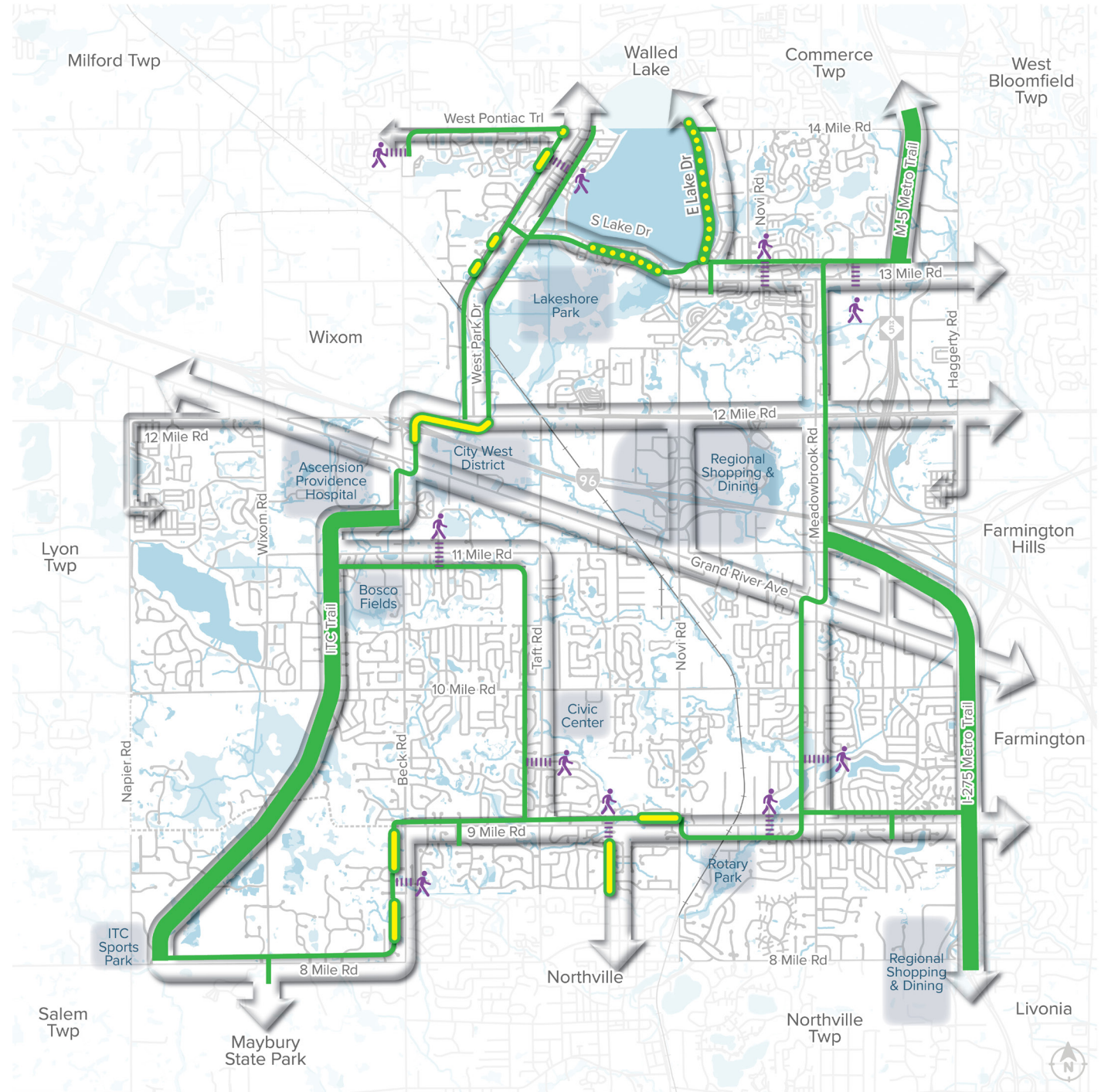
NEAR-TERM NETWORK

Neighborhood Greenway Network

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 new 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.

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

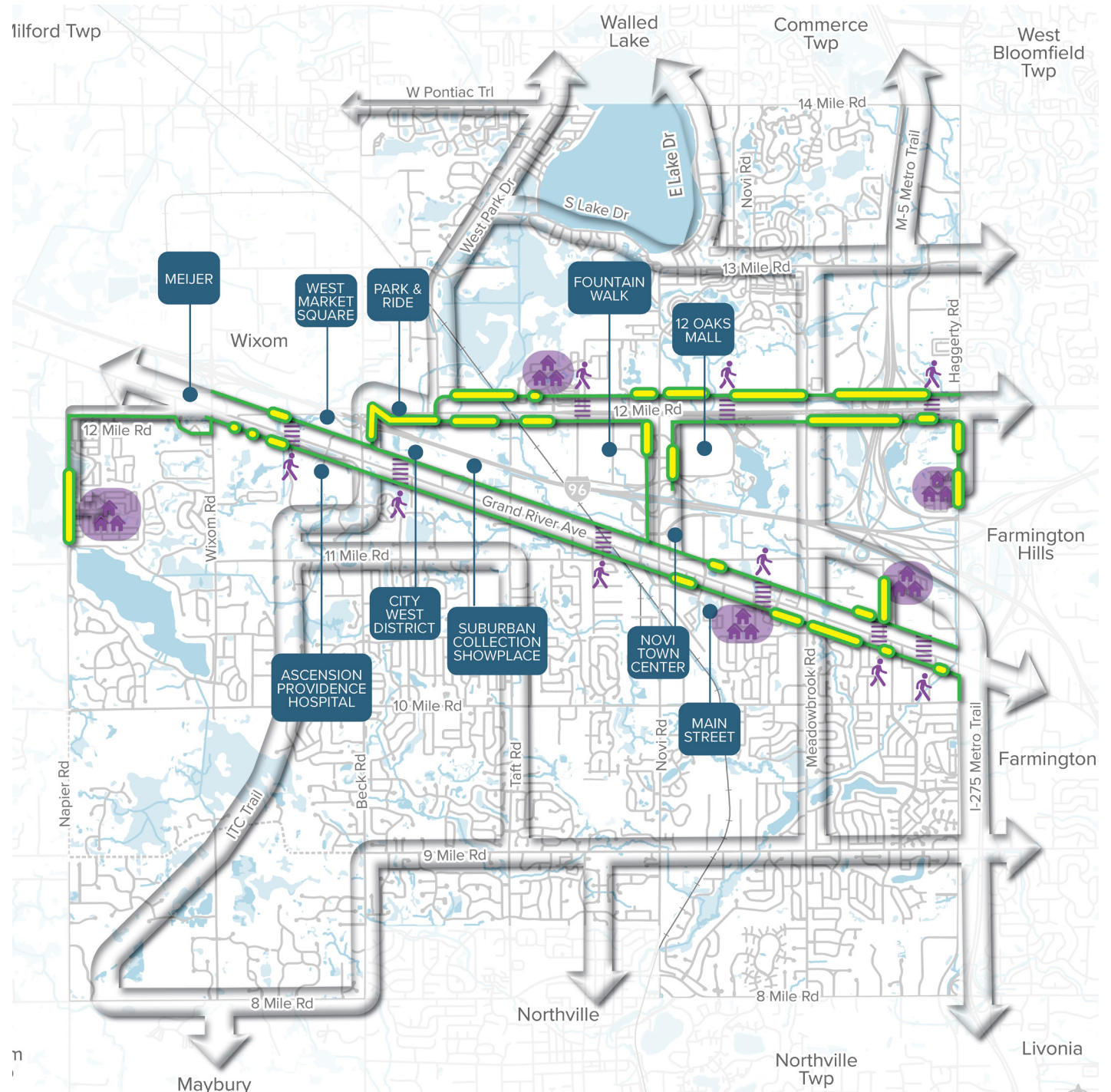


NEAR-TERM NETWORK

Preparing for 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.

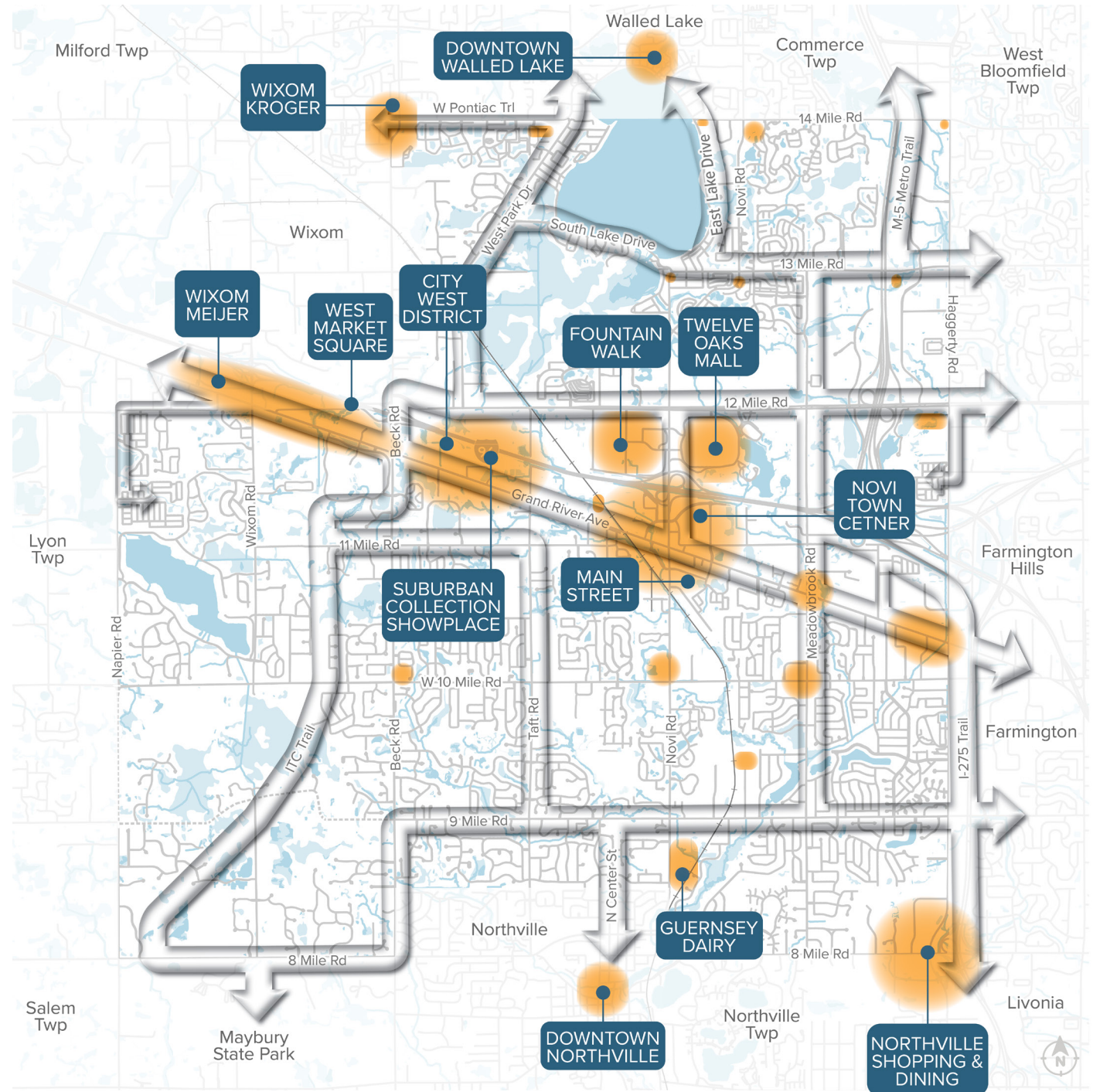
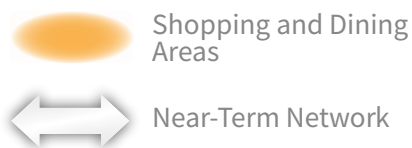
- Existing Sidewalks/Pathways
- ▬ Pathway/Sidewalk Gap
- |||| Proposed Crosswalk
- 🏠 Connect Isolated Neighborhoods to Transit
- ↕ Near-Term Network



NEAR-TERM NETWORK

Improved Access to Shopping and Dining

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.

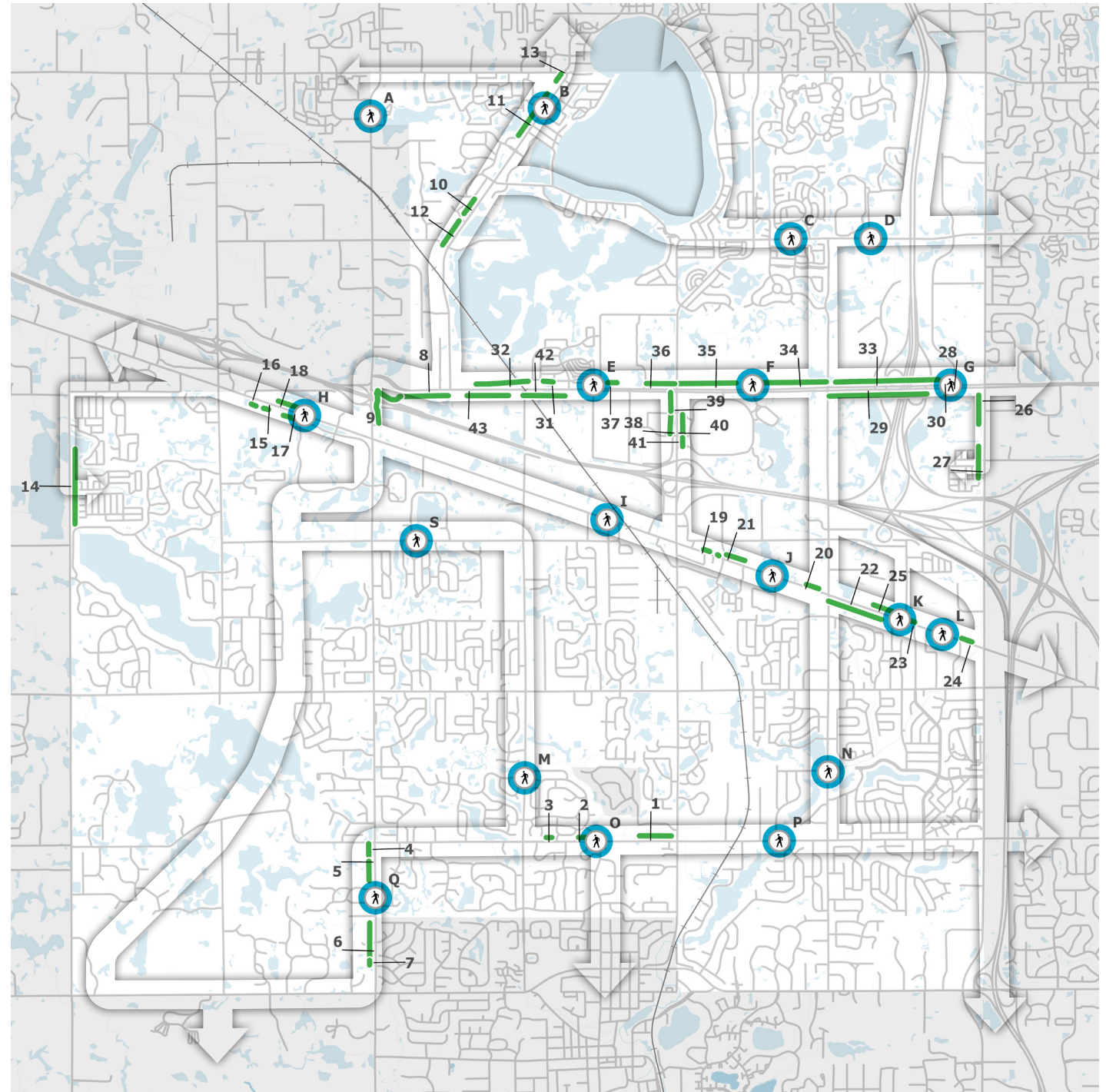


NEAR-TERM NETWORK Infrastructure Projects

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.

-  Locations for Crosswalk Improvements
-  Sidewalks and Pathways
-  Near-Term Network
- # Map Notes (See Full Report)





View the Full Plan and Visit the Project Website at **WalkBike.Info/Novi**

MEMORANDUM



TO: VICTOR CARDENAS, CITY MANAGER
THRU: BARBARA MCBETH, AICP, CITY PLANNER
FROM: LINDSAY BELL, AICP, SENIOR PLANNER
SUBJECT: SIDEWALK MAINTENANCE PROGRAMS
DATE: MARCH 6, 2024

Mayor and Council –

Please see the below summary of a recent webinar attended by staff regarding sidewalk maintenance programs here in Oakland County.

- Victor

A recent webinar in the *Planners Gathering* series offered by Oakland County was on the topic of Sidewalk System Maintenance. The presentation offered a chance to learn how two communities with extensive sidewalk networks approach the maintenance of those facilities. Royal Oak and Madison Heights have different approaches to arriving at the process they follow today and lessons that could be applied to the City of Novi.

Both Royal Oak and Madison Heights have divided their communities up into sectors (6 and 8, respectively), with each sector being the focus of maintenance for one year of their cycle. Royal Oak is in the middle of its second 6-year cycle (2021-2026). While the first cycle required an investment of approximately \$1.5 million each year, the second cycle averaged about \$500,000 each year. Both communities have found that while initial investment was high, the use of the cyclical program is resulting in less work being needed as they progress.

Royal Oak has billed the adjacent landowner for the cost of maintenance since their Right of Way Ordinance requires property owners to maintain sidewalks, with the rate determined annually based on the contractor's bid. Missing sidewalk gaps are also addressed in this program. Starting in the next 6-year cycle (beginning 2027), funding will come from a Road Millage rather than billing landowners. Royal Oak anticipates about \$1 million each year to go toward sidewalk maintenance, including a focus on ADA ramps and compliance.

Madison Heights established its first sidewalk maintenance program in 1987. The first phase was a 14-year program where work was done on an area-by-area basis, and primarily addressed extreme tripping hazards. The Phase 2 cycle began in 1990, and began to address more minor trip hazards, spalling and cracking, and filling gaps in the sidewalk network. Funding for these programs was by Special Assessment Districts billed to affected property owners, which could be paid either in a lump sum or over a 3-year period.

In 2014, the Madison Heights City Council approved a new People Powered Transportation Program (PPTP), which will continue the maintenance work and expand to include additional non-motorized facilities (including bike & ped signage, pavement markings for on-street bike routes, sidewalk ramps, and completion of sidewalk gaps). The new program will be on an 8-year cycle and eliminates the use of property-owner Special Assessment Districts for funding. The city now pays for the program through existing road and millage funds. Using a multi-year contract has also helped to reduce costs.

The full [Planners Gathering presentation](#) is available on YouTube (length about 1 hour). The video created by Madison Heights to spread the word about their [People Powered Transportation Program](#) is also available (8 minutes).

Please feel free to contact staff if you have any questions on this matter.

MEMORANDUM



TO: WALKABLE NOVI COMMITTEE
FROM: REBECCA RUNKEL, PROJECT ENGINEER
SUBJECT: MEADOWBROOK GLENS PILOT SIDEWALK PROGRAM
DATE: APRIL 20, 2023

In 2020, City Council formed a goal to establish a neighborhood sidewalk repair program that would repair or replace damaged sidewalk panels that pose a risk to public safety, in particular, trip hazards. A pilot program was initiated in 2021, with a budget of \$200,000 for sidewalk repairs and \$200,000 for tree-related expenses. The Department of Public Works estimates that as many as 50% of damaged sidewalk panels are the result of tree root growth adjacent to or under sidewalks.

The Meadowbrook Glens subdivision was selected as the pilot neighborhood due to its age, amount of damaged sidewalk and impact from large street trees. Initially, the program was set up to have the City bear 100% of the cost for repair of panels with a 2-inch deflection or greater, and to incentivize property owners to repair panels with 0.75 to 2-inch deflections by splitting the costs 50/50 with the City. Of the 475 homes in Meadowbrook Glens, 371 properties were found to have damaged sidewalks meeting the criteria for the incentive program. City staff sat down with the Homeowner's Association, held a public meeting, and mailed out letters to all Meadowbrook Glens residents. Initially, 136 property owners returned signed agreements. After meeting with HOA members a second time, utilizing social media, marking panels and leaving door hangers, a total of 211 of the eligible property owners returned signed agreements for repair. A detailed summary of the public feedback and participation can be found in the attached March 31, 2022 memo.

Ultimately, it was decided that the City would bear the costs for all sidewalk repairs on sidewalk panels with 0.75-inch or greater deflections. City Council approved a change order to a contract with Merlo Construction on April 25, 2022 for the Meadowbrook Glens Sidewalk Repair Program in the amount of \$343,778.50. Tree removals began this past winter, and sidewalk removal/replacement started this spring and is nearly complete. Restoration will follow immediately after all sidewalk repairs are done. The total cost of the pilot program thus far is approximately \$500,000, due to additional repairs and tree removals identified during construction.

Now that the pilot program is nearly complete, City staff have the following reflections on the overall program implementation:

- Meadowbrook Glens subdivision represented the 'worst-case scenario', being the largest and oldest subdivision considered for the program.

- Despite the comprehensive communication efforts made by the City (meetings, letters, notices, door hangers) hundreds of calls and emails from residents were fielded by City staff throughout the program.
- Staff encountered a general lack of understanding regarding public rights-of-ways, ownership of sidewalk, etc.
- Staff time required to implement the program was greater than anticipated.
- Additional contingency funds should be included in the project budget to cover issues that come up in the field, such as irrigation, invisible dog fence, landscaping, etc.
- Most residents were in favor of tree removals, though many of those that opted out of the program did so because they did not want a tree removed.
- Trees and sidewalks should not be marked until construction is ready to begin – the initial markings confused homeowners and actually had some residents doing their own markings.
- The program must be followed up by the City Forester to be successful (monitoring remaining trees for damage, working with residents on replacements).
- The repairs made in the subdivision to date are not a permanent solution. Sidewalks will still need to be monitored in the future for heaving due to tree roots.
- City Council's backing of the program was helpful in getting support from residents.

City staff would like the Walkable Novi Committee to provide feedback on continuation of the program. Potential candidates for the next program include Willowbrook Farm, Bristol Corners, and Chase Farm subdivisions. Alternatively, the program could shift to higher traffic sidewalks and pathways along boundaries of neighborhoods.





MEADOWBROOK GLENS SIDEWALK REPAIR PROGRAM UPDATE

January 13, 2023

CITY COUNCIL

Mayor
Bob Gatt

Mayor Pro Tem
Dave Staudt

Laura Marie Casey

Hugh Crawford

Justin Fischer

Brian Smith

Ericka Thomas

Interim City Manager
Victor Cardenas

Director of Public Works
Jeffrey Herczeg

Deputy Director of Public Works
Megan Mikus

City Engineer
Ben Croy, P.E.

Valued Resident,

In 2022, we communicated with you about the Sidewalk Repair Program in your neighborhood. Unfortunately, due to staffing and other project delays, in August we shared the project was rescheduled to this spring.

You are receiving this letter as one or more of your street trees have been identified as absolutely necessary for removal prior to sidewalk replacement. The contractor will begin removing trees later this month or in early February. Trees identified for removal will be marked with an "X."

Sidewalk replacement will begin in the spring as soon as weather allows.

Residents who have called and wanted trees removed not identified as part of the program remain on the list and those trees will be removed following sidewalk completion, under a separate contract.

Once all the sidewalk is repaired, the City will re-evaluate the neighborhood for street tree replacements with deeper root system trees which are better suited for this type of location. Restoration is anticipated later this year.

We look forward to bringing this program to Meadowbrook Glens and working with you to enhance your neighborhood. If you have any questions, please contact Community Relations at communityrelations@cityofnovi.org or 248.735.5628.

Sincerely,

Sheryl Walsh-Molloy
Director of Communications

Matt Wiktorowski
Field Operations Senior Manager

Department of Public Works
26300 Lee BeGole Drive
Novi, Michigan 48375
248.735.5640
248.735.5659 fax

cityofnovi.org



Dear Resident:

Merlo Construction has been contracted by the City of Novi to perform a sidewalk repair program in the Meadowbrook Glens Subdivision. Owen Tree Service has been hired for tree removal services as necessary to complete the sidewalk work.

The work is scheduled to start in your area over the next few days and we ask that you please not park vehicles near trees that are marked for removal. These trees are identified with pink paint and an aluminum disc nailed to the tree. The tree removal process will require streets to be empty of vehicles in the area of the work to ensure a safe and efficient process.

Your tree(s) are scheduled to be removed on: _____.

Should you have any questions please do not hesitate to contact the individuals listed below.

Zach Sandwick	Merlo Construction	(248) 640-2147
---------------	--------------------	----------------

Barry Gates	(OHM Advisors (City of Novi Engineering Consultant)	(734) 466-4433
-------------	---	----------------

Novi Community Relations		(248) 735-5628
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MEMORANDUM



TO: JEFFREY HERCZEG, DIRECTOR OF PUBLIC WORKS
FROM: MATT WIKTOROWSKI, FIELD OPERATIONS SENIOR MANAGER
SUBJECT: MEADOWBROOK GLENS SIDEWALK PROGRAM
RECOMMENDATION
DATE: MARCH 31, 2022

In the fall of 2020, the Department of Public Works presented to the Walkable Novi Committee, a report on non-motorized maintenance and proposed criteria for a neighborhood sidewalk repair program, which is a 2020 City Council goal. Following those reports, guidance was summarized to the Committee. (November 17 Memorandum attached).

Meadowbrook Glens Subdivision was selected as the pilot neighborhood and the best candidate to benefit from an incentivized repair program given its age, amount of damaged sidewalk, and impact from large street trees.

On May 28, 2021, DPW and Community Relations staff met with the Meadowbrook Glens Homeowners Association President, Sue Finley, to notify her of the opportunity and to gauge the HOA's support. Following the HOA's endorsement, a public information meeting was held on August 16 at the Civic Center for all Meadowbrook Glens residents. A handout to address frequently asked questions was provided to the approximately 50 residents in attendance.

After receiving positive public input, eligibility letters, participation agreements, and the FAQ sheet (attached) were mailed at the end of August to all Meadowbrook Glens residents. This communication explained the program, the number of damaged panels, and the resident cost share to be placed on a future tax bill, following construction.

Of the 475 homes in Meadowbrook Glens, 371 properties were identified as having damage and were listed as candidates for the cost share incentive. Of those eligible, only 136 (or approximately 37%), property owners signed and returned agreement for repair. Some of the reasons cited for non-participation were as follows:

- Residents were reluctant to lose their trees;
 - Conversely, some residents indicated they wanted their tree removed despite having only minimal damage, not caused by tree roots;
- Damaged panels were not marked, making homeowners question quantities;
- Sidewalks should be the City's responsibility.

Based on feedback from limited participation in the program, it was decided a second attempt be initiated to obtain additional program support. On October 27, 2021, DPW and Community Relations staff again met with the MGHOA members to report initial results and encourage further support through neighborhood social media and simple “word of mouth.” In addition to that meeting, the City initiated enhanced communication efforts in the field by marking individual damaged panels, for quick homeowner reference, and placing doorhangers at each identified home to directly explain the program for those who were unable to attend previous informational meetings.

Following this second, more robust approach, the City received 75 additional agreements yielding an overall cost share total of 211 property owner participants (or approximately 57% of identified parcels with damage). Given the lower than anticipated acceptance totals, we estimate only 40% of the identified damaged panels would be repaired under this incentive program.

Based on participation it is estimated residents would be responsible for only \$64,000 of the overall estimated pilot program expenditure of **\$224,000 (approximately \$160,000 City cost plus \$64,000 resident cost share)**. Resident costs are based solely on existing concrete removal and replacement. An estimate received by the Merlo Construction Company was used to determine unit costs. As part of the program, it is anticipated approximately 80 mature trees will be removed. These trees, some of which have been requested be removed by homeowners, are damaging additional assets such as storm drains, sanitary sewer conveyance systems, roadway surfaces, and private sump lines. The tree removal and replacement costs account for about 25% (~\$55,000) of the total project.

Staff estimates the total cost to replace all panels, tree removal, etc. for the entire subdivision (including the resident addresses not participating) is **~\$325-350K** (under the budgeted \$400K). The unit prices are based on this overall estimate (100% of panels) and reducing the scope to 40% will likely increase the unit cost. With participation and overall cost share value nominal (compared to effort), staff recommends completing the whole project with cost share participation (if any) at the discretion of City Council.

Options are as follows with pros and cons:

Option 1 – do program with opt in only residents and shared costs

- Pros
 - Residents aggregable and willing to share costs
 - Cost savings for City of ~\$64K
- Cons
 - Only addresses 40% of all panel replacements

Option 2 – do entire program with city covering all cost

- Pros
 - Addresses all sidewalk panel replacement in the subdivision and provides a network free of hazards
 - Lower overall unit cost

- Cons
 - City covers all cost (no resident agreements)
 - Residents may oppose additional tree removals

Staff would like to execute a change order agreement with the contractor currently working on the Safe Routes to School project at the April 28th City Council Meeting. Construction on the Meadowbrook Glens project would begin later this spring or early summer.

MEMORANDUM



TO: JULIE MADAY, WALKABLE NOVI COMMITTEE CHAIRPERSON
FROM: MEGAN MIKUS, DEPUTY DIRECTOR OF PUBLIC WORKS
SUBJECT: NEIGHBORHOOD SIDEWALK REPAIR PROGRAM-
WALKABLE NOVI COMMITTEE FEEDBACK
DATE: NOVEMBER 17, 2020

On October 22, and November 5, 2020, DPW presented to the Walkable Novi Committee a report on non-motorized maintenance and proposed criteria for a neighborhood sidewalk repair program, which is a 2020 City Council goal.

The Walkable Novi Committee provided the following feedback regarding a neighborhood sidewalk repair program:

- Continue to have the City bear 100% of the costs for repair of reported sidewalk panels with a deflection of 2 inches or more.
 - o The current responsibility of sidewalk maintenance is the property owners per the [City's Code of Ordinances](#). The City addresses deflections of 2-inches or more that are reported to limit the City's liabilities under [2016 PA 419](#).
- Incentivize property owners to repair sidewalk panels with a 1-inch to 2-inch deflection by splitting the costs 50/50 with the City.
 - o DPW recommends the lower differential be 0.75-inch which is closer to ADA tolerances.

To opt for the incentive, the property owner would be required to use the City's contractor. A property owner may repair panels abutting their property at any time by obtaining a right-of-way permit through DPW; however, this incentive program would provide a less expensive repair option to property owners as there would be reduced costs due to economies of scale. The City would upfront the costs of the work on panels with deflections between 0.75 and 2 inches and 50% of the repair costs would be recuperated on the following winter tax bill.

The committee's feedback is to start a pilot program in 2021. DPW has requested in the FY 2021-22 Budget \$400K be appropriated for this pilot incentive program. Since many of the deflections are caused by city right-of-way trees, using funding in the Tree Fund to supplement the program is recommended. Once funding is appropriated by City Council, DPW would select a neighborhood with a high volume of existing deflections and introduce a program. Some subdivisions which would meet the criteria are Cedarspring Estates, Country Place Condos, Meadowbrook Glens, Westridge Downs, and Whispering Meadows.

As a comparison of the estimates provided in the July 2020 memo, DPW predicts below the costs for an incentive program in the Meadowbrook Glens Subdivision, one of the City's oldest subdivisions with a sidewalk network in poor condition:

Meadowbrook Glens				
Deflections 0.75" to 2"	# of Panels	Resident (50%)	City (50%)	Total (Estimate)
Not Impacted by Street Tree Roots	216	\$39,960	\$39,960	\$79,920
Impacted by Street Tree Roots	143	\$39,683	\$39,683	\$79,366
Deflections >=2"	# of Panels	Resident (0%)	City (100%)	Total (Estimate)
Not Impacted by Street Tree Roots	9	\$0	\$3,330	\$3,330
Impacted by Street Tree Roots	29	\$0	\$16,095	\$16,095
Contingency				
Several adjacent panels may to be repaired to level the segment	344	\$0	\$190,920	\$190,920
Grand Total (Estimate)		\$79,643	\$289,988	\$369,631

The City's cost of ~\$300K for the example above could be funded 50/50 with Tree Fund and Municipal Road Fund, leaving ~\$100K to expand the program and/or address other replacement requests for panels 2" or greater in the same fiscal year.

If the Walkable Novi Committee and City Council approve of the recommendations as presented, DPW could implement the pilot program in spring 2021 and start construction after July 1, 2021.

Sidewalk Repair Program

Meadowbrook Glens Program Participants



Map Author: Keri Blough
Date: February 2, 2022
Project: Sidewalk Repair Pilot Program
Version #: 1.1

Amended By:
Date:
Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi.
Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

- Sidewalks
- Program Participant**
- Yes (210)
- No (156)
- Repair Not Needed (113)



City of Novi

Department of Public Works
Field Operations Division
26300 Lee BeGole Drive
Novi, MI 48375
cityofnovi.org

Feet
0 70 140 280 420
1 inch = 350 feet





Monday, August 30, 2021

CITY COUNCIL

Mayor

Bob Gatt

Mayor Pro Tem

Dave Staudt

Andrew Mutch

Laura Marie Casey

Hugh Crawford

Justin Fischer

Julie Maday

City Manager

Peter E. Auger

Director of Public Works

Jeffrey Herczeg

Deputy Director of Public Works

Megan Mikus

City Engineer

Ben Croy, P.E.

Property Owner
PROPERTY OWNER STREET ADDRESS
PROPERTY OWNER CITY, STATE ZIP CODE

Neighborhood Sidewalk Repair Program Cost-Sharing Incentive

RE: {PROPERTY STREET ADDRESS}

Dear Property Owner,

The City of Novi has adopted a pilot program to incentivize property owners to repair sidewalk panels with a 0.75-inch to 2-inch deflection, extensive cracking, and/or scaling by splitting the costs 50/50 with the City. Your subdivision, Meadowbrook Glens, has been selected as the first neighborhood for the pilot program.

To opt into the incentive program, you are required to use the City's contractor. Although you may repair panels abutting your property at any time by obtaining a right-of-way permit through the Department of Public Works, the incentive program provides a less expensive repair option since costs are reduced as a result of bulk pricing. The City will initially pay the costs of the work on panels matching the criteria listed above and will collect 50% of the repair costs from you on your 2022 winter tax bill in the form of a user fee.

If you would like to participate in the cost-sharing incentive program, please sign the included agreement document and return it in the enclosed pre-stamped and addressed envelope by September 17, 2021.

The work is anticipated to be completed by June 30, 2022, pending City Council approval. Additional work such as tree root pruning, tree removals, and tree replacements will be completed throughout the subdivision as part of this program. On the back of this letter are answers to frequently asked questions about this program.

If you have any questions, please feel free to contact the Department of Public Works at 248-735-5640.

Sincerely,

Matthew T. Wiktorowski

Matthew T. Wiktorowski
Field Operations Sr. Manager

Department of Public Works

26300 Lee BeGole Drive

Novi, Michigan 48375

248.735.5640

248.735.5659 fax

cityofnovi.org



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NEIGHBORHOOD SIDEWALK REPAIR PROGRAM COST-SHARING INCENTIVE
Participation is voluntary. Please discard if you choose not to participate.

By signing below, all owners of {PROPERTY STREET ADDRESS} agree to
pay {####.##} for the repair of {#} sidewalk panels
adjacent to the property listed above.

ALL TAXPAYERS LISTED ON RECORD MUST SIGN THE AGREEMENT.

Print Name Taxpayer 1

Taxpayer 1 Signature

Date

Print Name Taxpayer 2

Taxpayer 2 Signature

Date

INSTRUCTIONS: Return this signed document in the pre-stamped and addressed envelope no later than
September 17, 2021.



Monday, August 30, 2021

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Deputy Director of Public Works

Megan Mikus

City Engineer

Ben Croy, P.E.

Property Owner

PROPERTY OWNER STREET ADDRESS

PROPERTY OWNER CITY, STATE ZIP CODE

Neighborhood Sidewalk Repair Program Cost-Sharing Incentive

Dear Property Owner,

The City of Novi has adopted a pilot program to incentivize property owners to repair sidewalk panels with a 0.75-inch to 2-inch deflection, extensive cracking, and/or scaling by splitting the costs 50/50 with the City. Your subdivision, Meadowbrook Glens, has been selected as the first neighborhood for the pilot program.

However, your address was NOT identified as a location matching the criteria above for repair. If you feel that an error has been made with our evaluation, please contact us as soon as possible at 248-735-5640.

In order to be considered for the program, the inspection of your property would need to be completed by September 15, 2021, and an acceptance agreement signed no later than September 17, 2021.

Sincerely,

Matthew T. Wiktorowski

Matthew T. Wiktorowski

Field Operations Sr. Manager

Department of Public Works

26300 Lee BeGole Drive

Novi, Michigan 48375

248.735.5640

248.735.5659 fax

cityofnovi.org

FAQs

PILOT NEIGHBORHOOD SIDEWALK REPAIR COST-SHARING PROGRAM



COSTS

What will my cost be to participate in this program?

The cost will differ for each resident based on the inspection data gathered by the third-party consulting firm. The average cost per address is estimated at \$300.

Do I have to participate in this program?

No. The program is strictly voluntary. However, the opportunity to split the cost with the City of Novi is only being offered at this time while your neighborhood sidewalks are under repair.

When will I know what I would be required to pay if I choose to participate?

You will be receiving a letter from the City of Novi that will communicate your cost and ask if you would like to opt in or opt out of the program.

How will I be billed for the program?

The City will advance the cost for all repairs and then assess the property owner 50% of the total cost for repairs on their tax bill. Repair costs will not exceed the amount communicated in your letter.

Can I spread the cost out over time?

No. If you choose to participate, you will be assessed a one-time fee.

What if multiple panels are slated for repair but I don't want to pay to fix all of them?

There is no option to pick and choose the panels to repair.

What if I want to participate but I cannot afford it at this time?

Unfortunately, this is a one-time offer. The large scope of this program has allowed the City to secure an extremely reduced price, far cheaper than what a resident would have to pay if contracting the work on their own.

TIMELINE

When will I receive the letter from the City of Novi asking if I want to opt in or out of the program?

A letter will be mailed by the end of September.

What if I didn't get a letter?

If you did not receive a letter, your sidewalk is not eligible for the program, or you were accidentally missed. Please call 248.735.5640 to confirm your status.

How long will the work take to complete?

Once started, it is anticipated to last approximately five (5) weeks.

IMPACT ON PROPERTY

What impact will this have on my property?

If you choose to participate, the contractor is required to do what is necessary to make repairs. This could include cutting tree roots, complete removal of trees, and damage to lawns or irrigation systems.

Who is responsible for restoration to the area?

The contractor is required to repair damage to any irrigation lines and lawns at the end of the program. This is included in the total cost of the program. Seed and straw will be used as the replanting method.

Why do you have to remove my tree?

If a tree located between the roadway and the sidewalk has contributed to the failure of any sidewalk panel in front of your property, it may be removed to prevent future issues. Trees that are removed will be replaced with a standard 2.5" caliper tree selected by the City at no cost to the homeowner.

What if I do not want my tree removed but I want my sidewalk repaired?

Tree removal is at the discretion of the City. You would have to choose to opt out of the program in its entirety if your tree needed to be removed to complete the work and you did not want it removed.

Will you fix my driveway too?

Only sidewalk panels contained in driveway approaches will be removed and repaired. Entire approaches are not part of this program.

GENERAL FAQs

What if something is found during construction that should have been included?

If additional repairs are needed, it will be solely at the City's discretion and the City will bear the full cost of any additional repairs.

Who is responsible for the sidewalk after repairs?

All sidewalks, walkways, stairs, driveways, parking spaces, and similar areas shall be kept in a proper state of repair and maintained free from hazardous conditions by the homeowner.

How did you decide what is being repaired?

Any panel adjacent to your parcel that encompasses one or more of the items listed below:

- Adjacent sidewalk panels with deflections $>3/4"$ – $<2"$
- Panels with extensive cracking
- Scaling panels
- The City will pay 100% of the cost for all deflections 2" or greater

Roads Committee Discoveries



February 22, 2021

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Roads Committee Discoveries

Introduction

The Novi Roads Committee was formed in December of 2019 at the direction of City Council with the goal of developing a plan to prioritize road projects to maintain safety, improve road conditions and traffic flow, and explore funding opportunities.

The committee members were appointed by Mayor Bob Gatt the committee and is composed of the following members:

- Mayor, Bob Gatt
- City Council Member/Committee Chair, Laura Marie Casey
- City Council Member, Andrew Mutch
- Citizen Representative, Brian Bartlett
- Citizen Representative, Alex Dinser
- City Manager, Pete Auger
- Director of Public Works, Jeff Herczeg
- Assistant Chief of Police, Erick Zinser
- City Planner, Barb McBeth
- CFO/Finance Director, Carl Johnson
- Community Relations Specialist, Nathan Mueller
- Consulting Engineer OHM Advisors, Tim Juidici
- Consulting Engineer AECOM, Mark Koskinen

The staff and Consulting Engineer committee members provided information and presentations to the committee which were relevant to the committee's goals and objectives. Staff participation was for guidance and facilitation only, in order to maintain unbiased and transparent results.

The committee began meeting bi-monthly in January of 2020 and continued through March of 2020. Meetings were suspended during the first wave of the COVID-19 pandemic and resumed in September of 2020. With the economic conditions brought on by the pandemic, the committee's task turned to developing a set of findings to share with Council and the community, excluding funding recommendations as had initially been intended.

The findings provided in this report focus on, but are not limited to, the time period from 2012 to present day and include projections out through 2026. This timeline corresponds to the previous road condition assessment provided by OHM Advisors in 2012 (Appendix F), the passing of the Road Millage in 2013, and the subsequent influx of additional road funds into the local road program. The committee also looked at long-term planning and megaprojects to address traffic movement and capacity. Furthermore, analysis of safety and accident mitigation and new design and technology opportunities were also presented and reviewed.

The initial committee meetings consisted of roundtable discussions and presentations on **ROADS 101** (Appendix A & B). This information provided a foundation for the committee to build on and a general direction for the group to follow.

Introductory topics included road funding, road jurisdictions, the impact of other franchise utilities, asset management, and the capital improvement planning process (see Roads 101, Appendix A & B). The most significant component to all discussions herein is funding. Below are Novi's three major road fund sources and how they are generated:

- **202–Major Roads**
 - Funded by Act 51 ~ \$4M/year
- **203–Local Roads**
 - Funded by Act 51 ~ \$1.5M/year
- **204–Municipal Roads**
 - Funded by Metro Act Revenue approx. \$185,000/year
 - Funded by Trunkline Revenue approx. \$113,000/year
 - Funded by dedicated road millage (1.5 mills), which has generated between \$4.9-\$5.3M/year to supplement 202 and 203.

In general, the City has ~\$11M of funds dedicated to roads per year. The City expends between \$2-3M for maintenance, leaving \$7-9M targeted for capital expenditures for road improvements and non-motorized projects.

Maximizing these funds is critical since the cost of road rehabilitation and reconstruction per lane mile in today's dollars is as follows:

Asphalt	Structural Improvement/Rehabilitation	\$300,000 – \$500,000
Asphalt	Reconstruction	\$800,000 – 1,250,000
Concrete	Structural Improvement/Rehabilitation	\$350,000 - \$500,000
Concrete	Reconstruction	\$1,000,000 – \$1,500,000

The City's road network is a mix of jurisdictions between the City, Michigan Department of Transportation (MDOT) and the Road Commission for Oakland County (RCOC), which presents unique circumstances for maintenance, prioritization, and project planning. The even-numbered Mile Roads and east-west borders are RCOC roads (8 Mile shared with Wayne County), and M-5 and I-96/696 are MDOT. For the rest of the city network and road designation, refer to Roadway Jurisdiction Map (Appendix 5)

The discoveries encompass the City road network that is 187 centerline miles of local and major roads. The entirety of road surface is expressed lane miles, which is centerline miles

multiplied by number of lanes per segment (length x width, one mile segment of a 4-lane road = 4 lane miles). The City's total lanes miles are 391.

Novi driver experience and satisfaction are critical, and working with other agencies to initiate, fund, and execute projects in the city has been a priority. Several projects with outside entities are currently underway or are in the planning stages. An expansion of those projects can be found later in this document under **Major Roads Projects and Traffic Improvements**.

Asset management and capital planning are essential for Novi's for budgeting purposes, and the roads program is critical within this process. In accordance with Public Act 325, the City is required to submit a Transportation Asset Management Plan (TAMP) to the Michigan Transportation Asset Management Council (TAMC). A TAMP is required for every local agency with 100 or more miles of roadway under their jurisdiction. While the City is not required to submit the TAMP until October 1, 2022, staff took a proactive approach to complete the report early. The TAMP effort also includes an additional prioritization for the road CIP program from 2020-2024, which is referred to as the **Road Report** for the purposes of this document. The TAMP document, in its own specific format, will be delivered as part of the normal Act 51 yearly reporting in 2022.

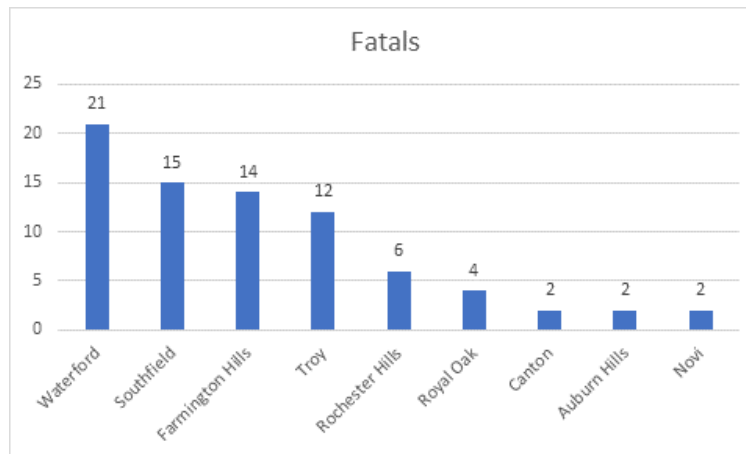
The committee was tasked with the review and endorsement of the **Road Report** (Appendix G). Over the duration of several committee meetings, staff introduced and presented the draft deliverables for feedback and discussion. The findings in the report were assembled from historical data, and updates were made through 2020. The Road Report is detailed more under the following Local Roads section of this document.

Safety

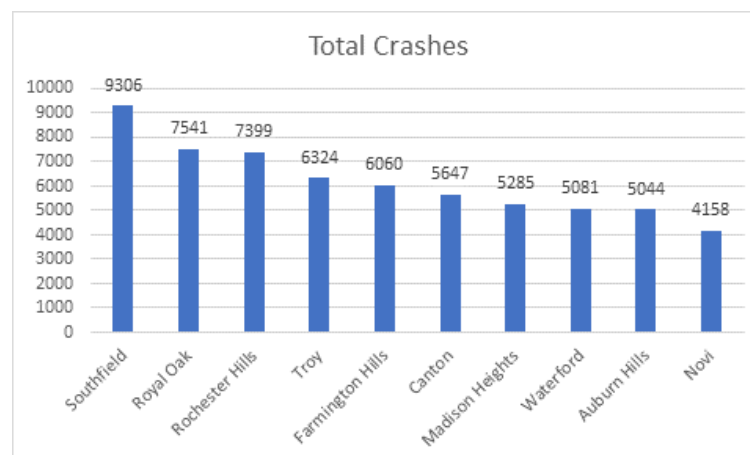
Safety for motorists living in and traveling through Novi is a priority for staff and City Council. Addressing the most dangerous intersections was a City Council goal following the Thoroughfare Master Plan update (2016, Appendix K) which identified opportunities for crash reduction by implementing countermeasures. These countermeasures included: adjusting the traffic signal timing, traffic signal modernization upgrades, and the Novi Police Department utilizing an innovative approach to reduce traffic crashes through a Data-Driven Approach to Crime and Traffic Safety (DDACTS).

The concept behind DDACTS is to analyze three to five years of data to identify where most traffic crashes are happening, both by date and time of day. Based on the data, DDACTS Zones, or "hot spots", are created. These zones become the focus of extra police presence during peak times of crime and crashes. The goal is not necessarily to issue citations, but rather initiate police contacts and have highly visible traffic enforcement. The Novi Police Department has seen significant decreases in traffic crashes in identified DDACTS Zones. The intersection of Beck Road and Grand River saw a 50% decrease in traffic crashes from 2018 to 2020. The intersection of Novi Road and I-96 saw a 34% decrease for the same period.

The Roads Committee reviewed crash results from 2012-2016 through the Top 15 Most Dangerous Intersection memo (Appendix V) and from 2018-2020 from the Public Safety Crash Analysis (Appendix E), and the findings were encouraging in both reports. A three-year analysis of traffic crashes from 2018-2020 show overall crashes are down 35.2% from the three years prior to 2018. Further, the City of Novi experienced only two fatal crashes during the same time frame; however, neither crash was on a public roadway.



The common characteristic in both the consulting traffic engineer's (AECOM) study and the police department's crash analysis are that rear-end crashes are the most common occurrence (40% of all crashes). These types of crashes are usually caused by driver distraction and are rarely severe or deadly. Countermeasures such as new roundabouts, signal modernizations, lighting, and DDACTS have been effective in reducing traffic crashes. Furthermore, weather related crashes during the same time only accounted for 8% of the total crashes reported. This leads to the conclusion that distracted driving is four times more likely to be the cause of a crash versus poor road conditions and confirms advancements in winter maintenance operations have paid off for Novi motorists. A comparison of data from 2018-2020 shows Novi has significantly fewer crashes than comparable jurisdictions.



All other crash data is included in Appendix E, along with maps of intersection improvements and countermeasures completed/planned for reference (Appendix 3).

Local Roads

Local roads, also referred to as neighborhood roads, is comprised of ~155 centerline miles and makes up around 80% of the total network. These are the subdivision streets and other roads that Novi residents use and live on, and therefore, generally draw the most attention. Since the local roads make up a significant amount of the overall network, the information and recommendations in the Road Report are critical for planning and prioritizing. Constructing the Road Report consisted of the following steps:

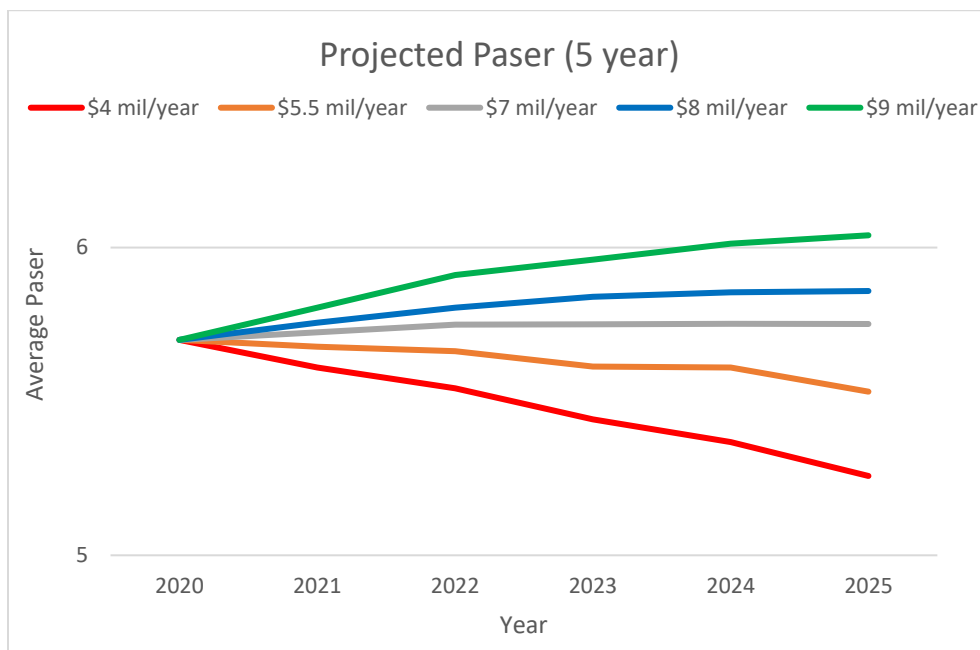
- Survey of the roads (visual, see PASER memo Appendix S)
- Update of completed projects to ensure good data.
- Update of current project costs.
- Budget/forecast data/optimize fixes and funding levels.
- Build 5-Year plan based on need and value to enhance driver/resident experience and satisfaction.

Novi has made significant investment and has improved conditions over the last several years with Neighborhood Road Programs (NRP) including Asphalt and Concrete reconstructions/rehabilitations, and a Concrete Panel Repair program (CPR). Total dollars invested in the NRP from 2014-2020 is ~\$25M. Below is the year over year costs for the local road's programs and the proposed three-year plan for the NRP. At the end of 2023, the total investment in local roads will reach almost \$40M in just over ten years' time.

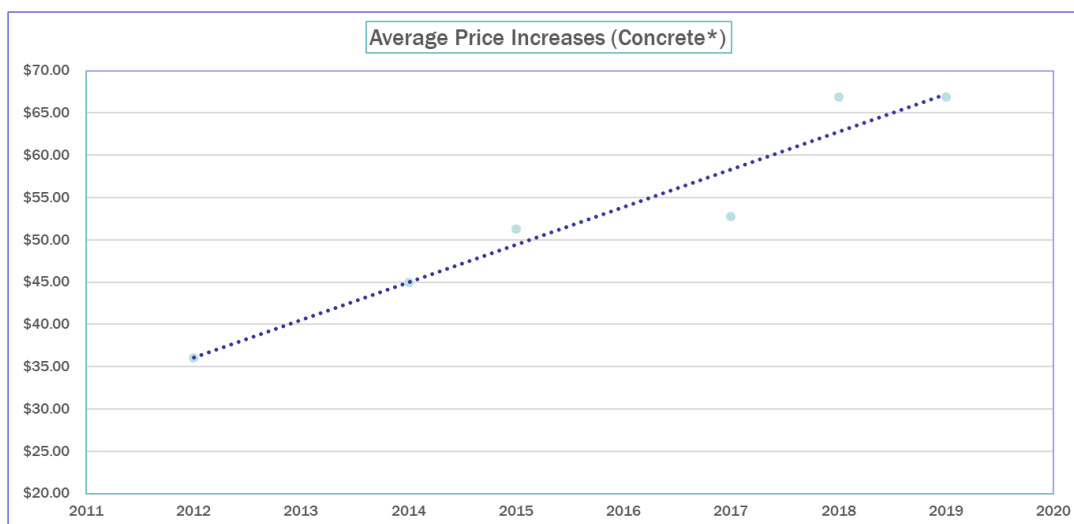
Year	NRP+CPR Costs	Program	Notes
2012	\$1,181,611.00	NRP	Additional road millage passed
2013	\$1,632,271.00	NRP	Collection of millage begins on winter tax
2014	\$1,429,864.00	NRP	Projects planned in CIP with millage collection
2015	\$4,010,101.00	NRP	Project implemented with millage funds
2016	\$2,128,387.00	NRP	
2017	\$3,236,738.00	NRP+CPR	Initiate Concrete Panel Repair Program (CPR)
2018	\$3,563,860.94	NRP+CPR	
2019	\$3,423,724.00	NRP+CPR	
2020	\$4,998,525.00	NRP+CPR	Includes Cranbrooke Phase 1
	\$25,605,081.94		Total Investment in Neighborhood Roads
	3 Year Proposed		
2021	\$5,973,069.00	NRP+CPM	Initiate Asphalt Capital Preventative Maintenance (CPM), Cranbrooke Phase 2
2022	\$3,900,000.00	NRP+CPM	
2023	\$3,700,000.00	NRP+CPM	

NRP: Neighborhood Road Programs, CPR: Concrete Panel Repair, CPM: Capital Preventative Maintenance

A graph presented in the Road Report using 2018 road data (local and major) and costs of construction (pg 7, App G) showed projected network PASER ratings related to dollars invested. Based on the most recent PASER evaluation in October 2020, the last 3 years of investment in the above programs has resulted in an overall network PASER rating increase from 5.4 (2018) to 5.8 (2020). The updated graph below projects the next five years for both local and major roads.



Although the current trend is favorable, by maintaining the existing road funding levels (\$7-\$9M), the City will see a flat or slight increase in network road condition moving forward. Construction costs since 2012 have increased ~30% per square yard of material (see below).



*concrete used as base line, but asphalt and aggregate prices have seen parallel increase

While concrete unit prices have since leveled off at an average of \$60/square yard (based on bid tabs from 2020) the reduction is likely related to COVID-19 and a drop in demand. Larger regional and state projects coming forward will likely again push price increases over the next few years. Asphalt unit prices increased from \$80/ton in 2018 to \$120/ton in 2020 and aggregate base material increased proportionately, impacting how far road dollars can be stretched. Unit prices (concrete vs. asphalt) are reviewed annually to determine cost-saving opportunities. For example, Jo Drive, part of the 2020 NRP, was designed as an asphalt reconstruction, but was changed to concrete based on program pricing. However, generally infrastructure is replaced in kind based on service life.

It is estimated an additional \$1.5M - \$2M/year of road funding spent mostly on local roads, with the right mix of fixes, would provide a comparable increase (in rating) to the overall network condition. Considerations (if any) for additional road funding should include a level of service/experience expectation for residents tempered by the economic conditions.

In the short term, the asset management plan is performing adequately. However, based on the Road Report, almost 50% of the City's road network is in the "fair" range (see below) with the majority of the mileage being asphalt.

Category	Rating					Total (centerline miles)
	Excellent (9-10)	Very Good (8)	Good (6-7)	Fair (4-5)	Poor (1-3)	
Major	5.36	1.64	4.24	18.95	2.91	33.09
Local	7.47	11.95	46.65	70.08	18.44	154.60
Total Mileage	12.8	13.6	50.9	89.0	21.3	187.7
% of network	7%	7%	27%	47%	11%	100%

The total mileage of asphalt pavement in "fair" range is approximately 59.5 miles (with an estimated cost of almost \$65 million if left untouched until reconstruction is needed).

It is possible to effectively extend the life of asphalt roads in the "fair" range less expensively through the use of surface sealers, crack filling, and minor patching, referred to as the Asphalt Capital Preventative Maintenance program (CPM). Similar to the way the CPR addressed concrete roads, this program should maintain asphalt roads in the fair/good category, and thereby, extending service life and increasing local network integrity. Therefore, implementing a CPM program is both recommended and supported by the committee.

A NRP and CPM map of work planned and performed is included in Appendixes 1 and 2 for reference.

Major Road Projects and Traffic Improvements

While Major Roads only account for 20% of the system, they are critical for traffic movement into and out of the city. Poor conditions on major roads are usually a greater concern as they carry exponentially more traffic and generally consist of more lane miles, resulting in higher cost to maintain.

The City proactively pursues alternative funding and leverages relationships to complete major projects and stretch road dollars. Since 2014, the City has been successful in obtaining ~\$4M (since 2014) of funding from federal and local road programs to supplement Novi road projects.

Advance constructing projects and partnerships to acquire federal road funds with RCOC has also been beneficial. The City has recently taken advantage of agreements to front funds and to expedite construction with RCOC on projects with obligated (or yet to be assigned) dollars in future fiscal years. These agreements benefit all entities, as well as the residents, since much needed local and regional improvements are being addressed. In 2019, Novi Road and 12 Mile Road intersection (~\$1M) was reconstructed using the advanced construct method, and in 2022, 10 Mile Road from Haggerty to Meadowbrook (~\$5M) will be rehabilitated with a continuous center left-turn lane utilizing the same type of agreement. In 2017, Novi used federal funds in a partnership with RCOC and Lyon Township to rehabilitate Napier Road from 9 Mile to 10 Mile (~\$5M) including a new roundabout.

Additionally, Great Lakes Water Authority (GLWA) is installing a 54" Transmission Main through Novi starting in 2022. Four major road segments are impacted by the route and staff negotiated the complete reconstruction of all four segments in a cost-share agreement with GLWA. By reconstructing the roads now, the City stands to save significant dollars in economies of scale and only pay for half the cost of total road replacement, since GLWA replaces the portions of all roads impacted by their pipe zone.

Traffic congestion and capacity were some of the committee's most deliberated subjects. Issues with congestion, primarily during peak times (rush hour), both impact and are impacted by residents, local businesses, and traffic in the surrounding communities. However, Novi's position in the center of the mixing bowl (I-96/696, 275, M-5) creates unique circumstances and challenges (pain points identified in projects below) for traffic flow. Novi's major roads are directly affected by the regional traffic using the mixing bowl and any commuting traffic passing through the city.

The MDOT flex route project scheduled to begin in 2021 will have the most regional impact on capacity. The project includes installation of an Active Traffic Management System (Flex Lane) from Kent Lake Road to the I-275/I-696/M-5 interchange, along with a full reconstruction of all lanes and shoulders and is being proposed to alleviate congestion, reduce travel time during peak hours, improve safety, and restore pavement condition.

What else is Novi doing to mitigate traffic capacity? The following projects address capacity:

Completed Projects

- Ring Roads – create alternate movement for the Grand River and Novi Road intersection *
 - Southeast - Main Street (early 2000s)
 - Northeast - Crescent to Town Center (2017)
 - Southwest – Bond Street to Flint (2020, Phase 2 connection to Grand River pending)
 - Northwest - Crescent to Grand River (2021)
- Napier and 10 Mile roundabout (2017) – improved traffic flow and safety at this historically dangerous intersection
- Novi Road Bridge over I-96 (2020) – bridge improvements, pedestrian sidewalk, and traffic signal improvements
- Grand River and Beck – Right turn lane extension (2015), Dual left turn lane (2016)

Planned Projects

- 10 Mile Road from Haggerty to Meadowbrook (2022) – continuous turn lane and selective widening *
- Taft and 9 Mile Roundabout (2022)
- Meadowbrook and 11 Mile Road – right turn lane on southbound Meadowbrook

Projects Under Consideration

- Beck Road –regional expansion (Novi, Wixom, Northville Twp.) from 6 Mile Road to Pontiac Trail, pursuing federal funding (4-lane boulevard, potential roundabout at 10 Mile Rd). *
- 12 Mile Road from Beck Road to Cabaret Drive – expand to 4-lane boulevard, RCOC project moving into to ROW acquisition. *
- Ten Mile and Wixom Road, and 10 Mile and Taft Road –analyze cost benefit of roundabouts.
- Crescent Road connection to Lee BeGole/11 Mile – northeast Ring Road addition
- Taft Road/ I-96 Bridge – bridge over I-96 with connection to 12 Mile Road.

**committee identified pain points*

A map and detailed listing of all major road projects discussed by the committee is included in Appendix 3.

Since major road projects are both expansive and expensive, they must be considered in steps and phases to address resident and regional traffic concerns. These projects almost always include right-of-way acquisition, partnerships with other stakeholders, and funding obstacles. Most traffic challenges will not be resolved instantaneously, and the return on investment of multi-million-dollar road projects should be viewed not just locally,

but regionally. Does it make sense for the City to invest in *mega-projects* (>\$10M) that may move traffic within the city at one point but move the issue elsewhere?

Of the committee identified *mega-projects* the Taft Road bridge over I-96 to 12 Mile Road, was being considered for construction simultaneously with the MDOT Flex Route. However, ultimately the cost-benefit analysis of the project (~\$15M) and overall impact on the network was not beneficial. Conversely, Beck Road widening (~\$30M) would have significant benefits to the City and the region, therefore, the City is aggressively pursuing federal match funding to implement the project. Likewise, the RCOC 12 Mile expansion (~\$14M) would considerably improve traffic flow north of I-96 and acknowledged by the committee as a priority.

Consequently, the overall plan included herein has been thoroughly vetted by the committee with the following recommendations for major road projects:

- Verify the impact of the Flex Route project before committing to other projects.
- Continue to pursue Beck Road funding – identified as major point of pain.
 - Strong desire to complete this project with or without federal funds.
- Partner with RCOC to execute 12 Mile expansion.
 - Priority project and pain point for local traffic.
- Cost-benefit analysis on roundabouts during the design phase for 10 Mile Road projects (Taft Road and Wixom Road intersections).
- Continue partnerships with stakeholders and other entities to capitalize on high-value investments in the region.
- Consider the impact of COVID-19 on revenue and the future of commuting traffic in the region.

Design

There is no singular design prescription for road construction, and each project is unique in community context. Projects are prioritized in a consistently changing landscape of revenue/budget/funding sources, development, constructability, and are based on additional factors listed below:

- **Geotechnical surveys**
 - Soil borings and pavement cores to determine existing conditions.
- **Historical knowledge**
 - Past observations of the trend of pavement deterioration.
- **Cost of maintenance**
 - How much does the road cost us to maintain?
- **Economies of scale**
 - Combine large segments to save on mobilization costs and to get better unit prices for volume.
- **Traffic movement and interruptions**
 - How do we impact residents and commuter traffic flow and access?
- **Other capital improvement projects**

- Are there other capital improvements to align with road construction (drains, water/sewer, sidewalks/pathways, RCOC, MDOT, GLWA).

Working as a team made of transportation planners and engineers and consulting engineers, staff takes a holistic approach to design. Projects, when applicable, are designed to make the street network safer and more convenient for drivers, transit users, pedestrians, bicycles, and other non-motorized users - making the community a better place to live.

For example, connections identified in the Non-Motorized Master plan are considered when major road projects are executed. The planned 10 Mile Road enhancements (Haggerty to Meadowbrook) include the construction of a high priority pathway segment on the south side of 10 Mile. The same project will simultaneously replace aging water main infrastructure and two deteriorated culverts under 10 Mile Rd (crossings). This project demonstrates a practical use of the three factors above (historical knowledge, economies of scale, other capital projects).

When planning for road expansion projects, analyzing opportunities to enhance the driver experience and create aesthetically pleasing corridors are a priority. One way to achieve this is the implementation of boulevards, which are roads with a median splitting up the lanes of traffic. They are generally safer and more pleasing than a traditional 5 lane design and can usually be accomplished within the same footprint. The expansion projects considered for 12 Mile Road (Beck to Cabaret) and the Beck Road corridor are recommended as boulevard cross-sections, with support of the committee.

Driving in a roundabout is safer when compared to a traditional, signalized intersection. In a roundabout, the cars are traveling at a slower speed, with fewer conflict points, and the accidents, which do occur, are much less severe, typically resulting only in property damage rather than personal injury. Not only are roundabouts safer, but they allow for more traffic to move through an intersection than signalized intersections. Studies have indicated that replacing traffic signals with roundabouts can increase the capacity of a road by 30 to 50 percent. The newer roundabouts in the city have proved successful (Napier and 10 Mile, Crescent NE Ring Road) and the Roads Committee recommends investigation and design for others if applicable.

The Roads Committee discussed several advances in pavement design considered for road projects. There are numerous products that can be added to a pavement cross-section to increase pavement strength and durability, resulting in a longer useful life and a reduced cost for maintenance. Geosynthetic pavement interlayers (Town Center, 11 Mile, Meadowbrook) are used to increase strength, resist crack propagation, and essentially waterproof the pavement. Pavement additives such as fibers and modified binders (used on Cabot/Lewis and Trans-X) can be added to extend the life of pavements. Geosynthetic grids are now used in the NRP to mitigate poor soil conditions and reduce the cost of expensive excavation and/or additional stone base.

Finally, the committee recognizes rapid advancement in driver-less vehicles and electric (EV) or alternate fueled cars, and therefore recommends evaluating future design and infrastructure needs created by these emerging technologies.

Long-Term Planning

Overall, the road network has seen marked improvements in the last decade, with investment made to both improve and add to the infrastructure. While progress has been made, long-term planning is essential as the city continues to develop. Adding more local roads and addressing current and future capacity needs will be challenging. The goals outlined in the Road Report are for programs with the right mix of fixes, driven by maintenance not reconstruction. How do we plan for this **“maintenance vs. repair”** ideal? The committee recommends the following:

Benchmarking

The Road Report creates a baseline for staff and City Council to evaluate status and need of all road and related projects. The committee recommends a biannual refresh of the report to coincide with the PASER rating evaluations, and a renew of the report every 5 years to capture and include improvements and modified plans. Thereby creating a perpetual “living document” to provide direction to staff and transparency to residents, at the discretion of City Council.

Road Report Schedule

2020 – Draft Submitted to Roads Committee
2021 – Presentation to City Council
2023 – Refresh
2025 – Refresh
2026 – Renew

Partnerships

Fostering relationships and collaborative efforts with other entities will be key to future success for the city and the region. Working with MDOT, RCOC and surrounding communities to identify opportunities and execute projects by combining funding strategies should be a priority.

Recent success in obtaining funds from the Federal Aid Commission (FAC), Highway Safety Improvement Program (HSIP) and Local Road Improvement Program (LRIP) have been beneficial. Therefore, continue the practice of securing available funding resources from local, state and federal programs to supplement city investment on roads.

Evaluate City Road Funding

The aforementioned mega-projects will undoubtedly require some source of additional funding and the \$1.5-\$2M gap in recommended funding for local roads (NRP) warrants deliberation.

Options for the NRP could include a low interest bonds of \$10M over the next five years (\$2M/year) in order to accelerate the overall network integrity. The City could pledge a portion of the annual ACT 51 revenue towards the annual debt service and issue road bonds. Act 51 road bonds are limited to 10 years.

However, the City could choose the bond levy process to address the more costly mega-projects. For example, \$100 million borrowing for 30 years with an estimated interest rate of 3% has an estimated annual debt service payment (principal and interest) \$5,102,000 and an estimated annual levy 1.33 (mills) with estimated residential increases below:

Taxable Value of Home	Tax Owed
\$75,000	\$100
\$150,000	\$200
\$250,000	\$330
\$350,000	\$465
\$450,000	\$600

Voter approval is necessary to authorize the City to levy a tax to pay the principal and interest on the bond but not required if the City were to use ACT 51 or other funds to repay the debt.

Finally, the Municipal Road voted tax levy (1.4484 mills) could be increased with a ballot on a future election. Overall millage rate for City is 10.5376, and currently one of the lowest tax rates in the entire State.

Summarization of Findings to Council

The findings provided in this report focus on, but are not limited to, the time period from 2012 to present day and include projections out through 2026.

\$7-9M/year is targeted for capital expenditures for road improvements and non-motorized projects.

The discoveries encompass the City road network that is 187 centerline miles of local and major roads. The entirety of the network totals 391 lane miles, which is centerline miles multiplied by number of lanes per segment.

A Transportation Asset Management Plan (TAMP) is required for every local agency with 100 or more miles of roadway under their jurisdiction.

The committee was tasked with the review and endorsement of the **Road Report**.

Accidents are down 35.2% from the three years prior to 2018. Rear-end crashes are the most common occurrence (40% of all crashes). Weather related accounted for 8% of the total crashes reported. Conclusion, distracted driving is four times more likely to be the cause of a crash versus poor road conditions.

Local roads, also referred to as neighborhood roads, is comprised of ~155 centerline miles and makes up around 80% of the total network.

Novi has made significant investment in local roads from 2014-2020 (~\$25M).

Current asset management plan is performing adequately. However, 50% of the City's road network is in the "fair" range.

It is estimated an additional \$1.5M - \$2M/year of road funding is required to continue an upward trend in PASER condition.

Major Roads account for 20% of the system and are critical for traffic movement into and out of the city.

Traffic congestion and capacity issues, primarily during peak times (rush hour), both impacts and are impacted by residents, local businesses and traffic in the surrounding communities.

The MDOT flex route project scheduled to begin in 2021 will have the most regional impact on capacity.

There is no singular design prescription for road construction, and each project is unique in community context.

Boulevards enhance the driver experience and create aesthetic corridors.

Driving in a roundabout is safer when compared to a traditional, signalized intersection.

Technological advances in pavement design should be/are considered for road projects.

The Roads Committee endorses the Road Report and recommends the following:

- Utilize Road Report as road program benchmarking document.
- Verify the impact of the Flex Route before committing to other projects.
- Continue to pursue funding for mega-projects (Beck Road, 12 Mile).
- Continue to foster partnerships with other entities.
- Evaluate City road funding.
- Consider the impact of COVID-19 on revenue and the future of commuting traffic in the region.

MEMORANDUM



TO: VICTOR CARDENAS, CITY MANAGER
FROM: JEFFREY HERCZEG, DIRECTOR OF PUBLIC WORKS
SUBJECT: 2023 ROAD REPORT REFRESH
DATE: FEBRUARY 29, 2024

Mayor and Council –

Please see an update to the report previously provided to the Roads Committee in 2021.

- Victor

In February 2021, the **Roads Committee** submitted the **Roads Committee Discoveries** document to the City Council for review, consideration, and acceptance. The Road Report created a baseline for staff and the City Council to evaluate the status and needs of all road and related projects. The committee recommended a biannual refresh of the report to coincide with the PASER rating evaluations and a renewal of the report every 5 years to capture and include improvements and modified plans. Thereby creating a perpetual "living document" to provide direction to staff and transparency to residents, at the discretion of City Council.

Below is the schedule from the **2021 Roads Committee Discoveries**:

Road Report Schedule

2020 – Draft Submitted to Roads Committee - **complete**
2021 – Presentation to City Council - **complete**
2023 – Refresh
2025 – Refresh
2026 – Renew

The 2023 Refresh Executive summary is attached herein for consideration by City Council.

I. 2023 ROAD REPORT EXECUTIVE SUMMARY

This **2023 Road Report Review** is supplemental to the **2020-2024 Road Report** compiled by consulting engineer OHM Advisors with data up to 2020. The initial report was submitted with the **2021 Roads Committee Discoveries (RCD)** and accepted by the **City Council in 2022**. The data and recommendations in this report are based upon the road survey conducted by OHM in the fall of 2022. All public streets in the City were ranked “10” (excellent condition) through “1” (failed condition) based upon the PASER (Pavement And Surface Evaluation Rating) criteria formulated by the Wisconsin Transportation Information Center, which is widely used by municipalities and agencies throughout Michigan as is mandated by the State government (every two years 100% of the road network must be rated). PASER is performed biennially on even years in Novi. However, per the Roads Committee Discovery schedule and to reflect current conditions accurately for this review, the **2023 road construction** data is also included in this report.

Based on PASER ratings, visual inspections and assessment of the defects and potential pavement defects, staff uses road reports to generate a plan to maintain the city roads over the next 3-6 year period. While the PASER system is useful for a high-level overview of a road network, road projects must be analyzed individually for the appropriate project type to be selected. The road report is typically updated every three years (per the RCD schedule). This report parallels a state required **Transportation Asset Management Plan (TAMP)**, which is also updated every three years (completed 2022), but includes assets such as traffic signals, bridges, and culverts.

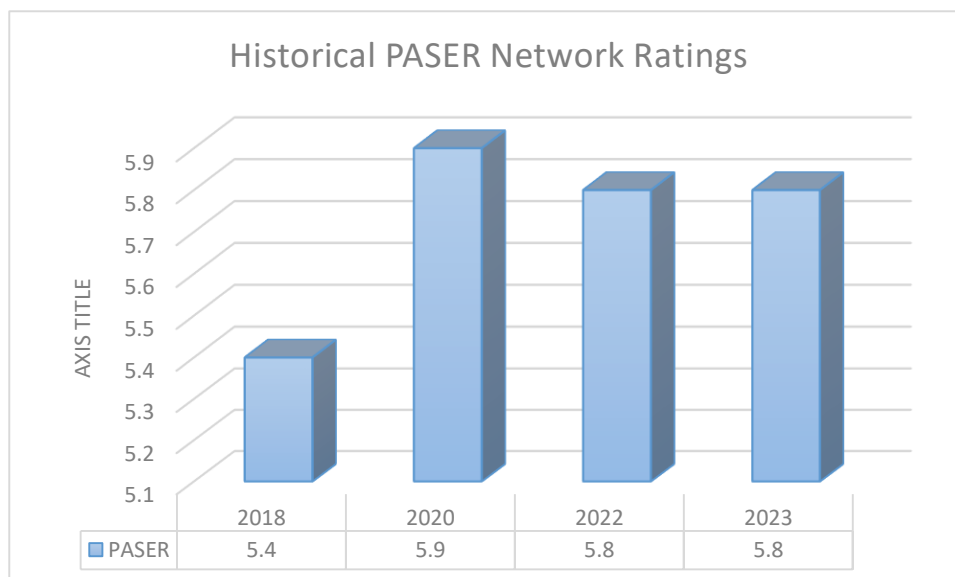
Within the City limits of Novi, approximately 193 centerline miles of roadway are owned and maintained by the City. Of these 193 miles, approximately 132 (280 lane miles*) miles are asphalt or seal coated roadways, concrete roads make up approximately 62 (124 lane miles) miles and the remaining 2.4 (5 lane miles) miles are gravel roads.

*lane miles = centerline miles times total number of lanes

Historical average PASER network rankings from previous road reports:

*2023 is projected data based on 2023 road construction and assumed deterioration

*updated PASER map attached



Below tables show side by side comparison expressed in percentages and miles:

Table – I 2018

Category	Rating					Total (centerline miles)
	Excellent (9-10)	Very Good (8)	Good (6-7)	Fair (4-5)	Poor (1-3)	
Major	6.5	1.7	5.2	23.9	7.0	44.3
Local	7.6	14.4	45.7	65.0	14.1	146.8
Total Mileage	14.1	16.0	50.9	88.9	21.1	191.1
% of network	7%	8%	27%	47%	11%	100%

Table – II 2020

Category	Rating					Total (centerline miles)
	Excellent (9-10)	Very Good (8)	Good (6-7)	Fair (4-5)	Poor (1-3)	
Major	6.3	3.9	7.6	23.8	3.3	44.9
Local	16.7	12.5	54.7	53.2	10.9	148.0
Total Mileage	23.0	16.4	62.4	76.9	14.1	192.9
% of network	12%	9%	32%	40%	7%	100%

Table – III 2023

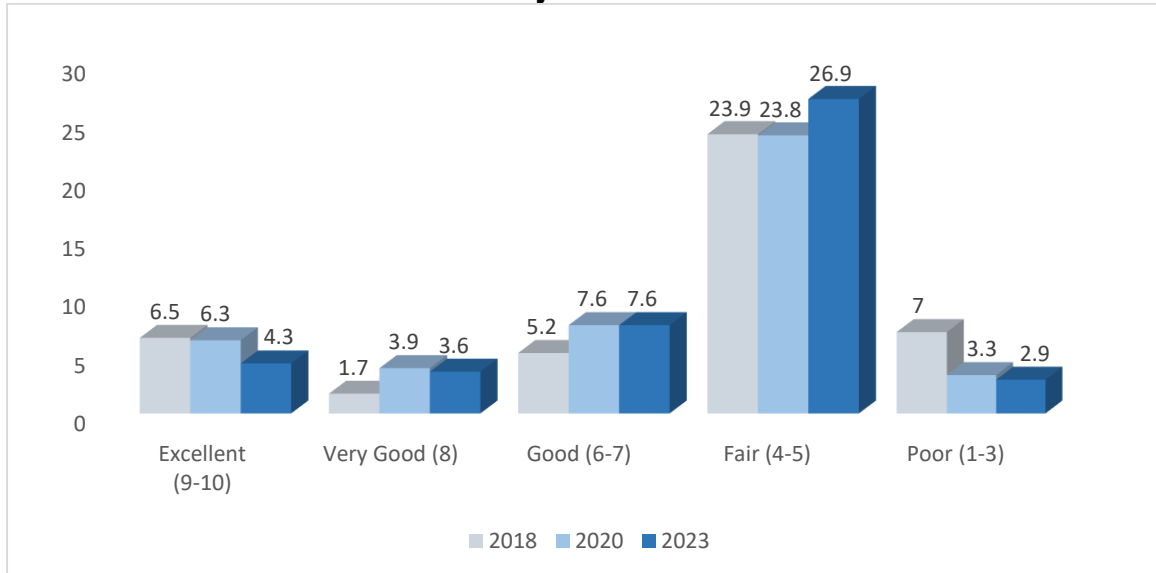
Category	Rating					Total (centerline miles)
	Excellent (9-10)	Very Good (8)	Good (6-7)	Fair (4-5)	Poor (1-3)	
Major	4.3	3.6	7.6	26.9	2.9	45.3
Local	18.5	10.5	46.0	57.8	15.0	147.8
Total Mileage	22.7	14.1	53.6	84.8	17.9	193.1
% of network	12%	7%	28%	44%	9%	100%

*table from 2022

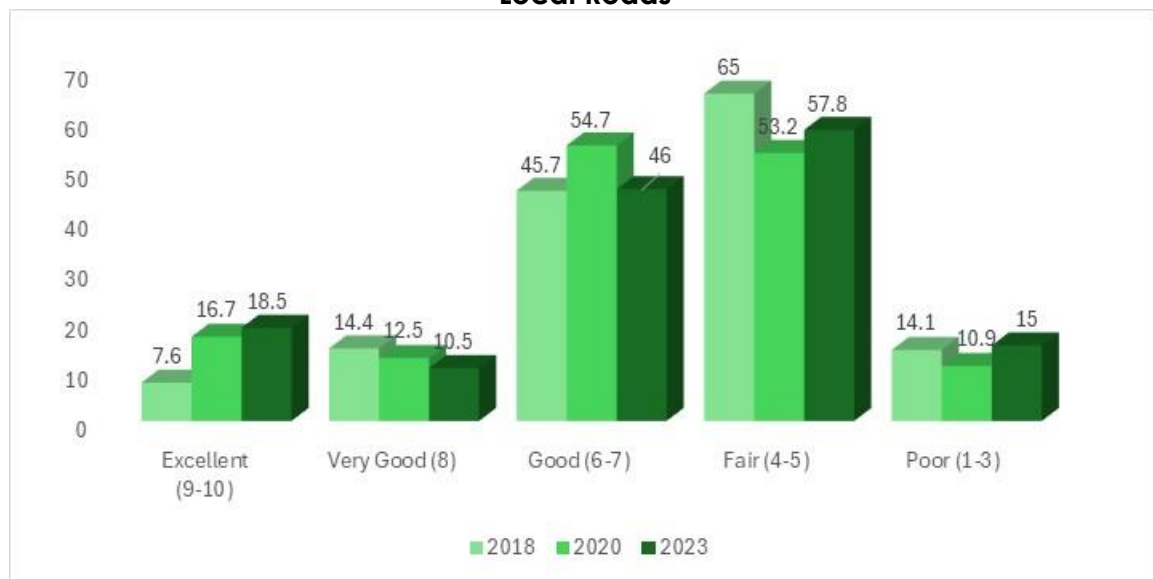
As evidenced by the percentages listed above, the city is currently maintaining approximately 47% of its road network at a “good” quality or above. This is an improvement of 5% from 2018, but a decrease of 6% from 2020. The continued goal of an asset management program **is not** to have all City roads in “excellent” and “good” condition, but rather a successful program focused on allocating the available funds in such a way to create a consistent attainable budget from year to year. There is no

“defectless road network” and function (does the road operate?) should always prevail over aesthetic in terms of investment.

Major Roads



Local Roads



As shown in Table III, a portion of the City's road network (9% - which is 2% more than 2020, but 2% less than 2018) has already degraded to a point where there is no option but to reconstruct those roads. Once a road has fallen into this category there is no lasting cost-effective repair for these roads other than to be completely reconstructed. Temporary fixes can be done to make the road traversable, however they will not perform and will continue to be difficult to maintain until reconstructed. The total mileage of concrete in this portion is approximately 1 mile (at an estimated cost of \$2 million). The remaining 13 miles are asphalt (at a cost of \$25 million). The city has made significant progress on the "poor" category specifically since the introduction of the Municipal Road tax levy (1.5 mills subject to Headlee rollback). The **Neighborhood Road Program (NRP)** has invested ~\$41M since 2014 in local road rehabilitation and reconstruction below:

Table - VI

Year	NRP+CPR Costs	Program	Notes
2012	\$1,181,611.00	NRP	Additional road millage passed
2013	\$1,632,271.00	NRP	Collection of millage begins on winter tax
2014	\$1,429,864.00	NRP	Projects planned in CIP with millage collection
2015	\$4,010,101.00	NRP	Project implemented with millage funds
2016	\$2,128,387.00	NRP	
2017	\$3,236,738.00	NRP+CPR	Initiate Concrete Panel Repair Program (CPR)
2018	\$3,563,860.94	NRP+CPR	
2019	\$3,423,724.00	NRP+CPR	
2020	\$4,998,525.00	NRP+CPR	Includes Cranbrooke Phase 1
2021	\$7,961,140.00	NRP	CPM deferred to NRP (COVID, 30% unit price increase) Includes Cranbrooke Phase 2
2022	\$3,922,463.00	NRP	CPM deferred to NRP (continued inflation and higher unit costs)
2023	\$4,025,633.00	NRP+CPM	CPM initiated ~\$1M
	\$41,514,318.00		
2024	\$5,500,000.00	NRP+CPM	Recommend increase in NRP, CPM to include chip seal roads only
2025	\$5,000,000.00	NRP+CPM	Recommend increase in NRP
2026	\$5,050,000.00	NRP+CPM	

NRP: Neighborhood Road Program, CPR : Concrete Panel Repair, CPM: Capital Preventative Maintenance

Just above the roads that are currently considered "failing", almost 40% of the City's road network is in the "fair" range with much of the mileage being asphalt. The total centerline mileage of asphalt pavement in the "fair" range is approximately 54.5 miles (with an estimated cost of almost \$130 million if left untouched until reconstruction is needed). The concrete roads in the "fair" range are 24 miles long (approximately \$48 million dollars). Table II data creates a reasonable curve weighted towards "fair" indicating investment

should be concentrated on moving the 40% of “fair” to “very good and good”.

Roads typically remain in “fair” range for 3-8 years, depending on surface type, drainage, and routine maintenance. It is important to note that no two roads will deteriorate at the same rate. Asphalt roads tend to age more quickly than concrete, but even two asphalt roads with the same cross section will degrade at different speeds. Traffic, drainage, and underlying soil conditions are only some of the factors that impact this. Because of this, a road that may have been a great candidate for a low cost, life extending treatment one year may fall out of that category the next.

The 2020 road report provided an analysis of funding levels, and the anticipated impact those different funding levels would have on the average PASER rating. The anticipated rating was based upon an assumption that a mix of fixes would be used, from routine capital preventative maintenance, to rehabilitation, and finally reconstruction. Since 2018 the City has been spending ~\$3M on maintenance activities performed in-house by DPW or by contracted services (excluding winter maintenance). In addition to the maintenance spending, another \$6M to \$8M per year since 2018 has been spent on heavy rehabilitation and reconstruction, with the **funds primarily being weighted towards reconstruction**. The level of funding is consistent with the City's steady increase in PASER average network rating from 2018 (5.4) to 2020 (5.8).

Table – V History of Capital Outlay/Operating Expense Projects

Fund	2018/19	2019/20	2020/2021	2021/2022	2022/23
202 Majors Recon	2,180,675.83	1,577,284.99	372,739.15	341,638.30	1,555,915.16
202 Majors Maintenance	1,512,219.13	1,321,016.97	1,325,751.84	1,431,444.16	1,582,608.70
203 Locals Recon	3,953,906.14	5,241,331.41	8,475,042.66	7,328,412.15	6,151,907.32
203 Locals Maintenance	1,631,317.03	1,183,134.49	1,276,486.69	1,397,659.26	1,823,377.89
Totals (Majors & Locals)	9,278,118.13	9,322,767.86	11,450,020.34	10,499,153.87	11,113,809.07

However, the focus of the 2020 report highlighted the need for a **~\$1M** annual program of **Capital Preventative Maintenance (CPM)** in tandem with an **increase of \$1.5-\$2M** in funding for annual rehabilitation and reconstruction projects. Due to COVID and inflation over the past 4 years, the funds budgeted for the preventative maintenance were instead used to complete the streets already committed in the annual Neighborhood Road Program due to increased costs (Table VI). The CPM was finally initiated in the 2023 construction season, three years after the intended recommendation of an additional **~\$1M/year**.

Further complicating the network needs are funding the major road projects. These are some of the lowest rated roads (approximately 66% of majors are rated fair or poor), the most expensive to recon/rehab, and are tied to federal dollars with specific fiscal years of obligation (see below). The estimates for federal aid projects are done 3-5 years in

advance and almost always change in scope during design to leverage the funding. This means that projects cost more by the time they are constructed.

Table – V Major Road Projects Federal Funding

Project	Year	Limits	Federal Share	Novi Share
Taft Rd/RAB	2022	South City limits to 10 Mile Rd	\$ 3M	\$ 900K
Wixom Road	2023	790' S of Grand River Ave to Ten Mile	\$1.5M	\$ 2.9M
Meadowbrook Road*	2024	10 Mile Rd to 11 Mile Rd	\$ 900K	\$ 900K
9 Mile Road*	2024	Meadowbrook to Haggerty	\$ 1M	\$ 2.2M
13 Mile Rd**	2025	M-5 to Haggerty Rd	\$ 500K	\$ 500K
West Park Dr**	2025	12 Mile Rd to West Rd	\$ 600K	\$ 600K
West Park Dr**	2025	West Rd to Pontiac Trail	\$1.2M	\$ 600K
		Total	\$8.7M	\$8.6M

*estimated costs, bid this year

**not yet designed estimates subject to change

Overall, it is important to note the amount spent per year and the corresponding change in ratings is based upon an ideal mix of fixes from preventive maintenance to rehabilitations to reconstructions. For example, if the City were to spend solely \$8 million annually on reconstructions with no money spent on maintenance, the average condition of the roads would decrease. **Due to the cost of reconstructions, it is critical to perform maintenance periodically on the roads prior to the asset degrading to the point that a more costly fix is required.**

While the continued upward trajectory of the overall network rating is not sustainable with the current funding analyzed herein, the current average condition rating of **5.8 is maintainable**. Even with no additional funding, the current major road projects in the queue and a combination of fixes in NRP/CPM would result in little change of the average network rating. Maintaining a level between **2018 (5.4)** and current rating of **5.8 (2023)** is still performing above or on par with regional comparable community's road networks.

The City of Farmington Hills is the only comparable community staff is aware of, that has an average PASER rating significantly higher than Novi's (approaching a **7**). This is a direct result of their current level of investment, which exceeds **\$24M annually (with 2 active road millages totaling 4.75 mills, 2 mills sunset in 2025)**. This equates to an almost 2:1 funding allotment compared to Novi when accounting for the difference in lane miles.

The City of Troy has been in a steady decline in ratings of almost a full point over the last 8 to 10 years (fell from **5.6** in 2014 to **5.0** in 2023). Their annual budget is approximately \$6.5 million (\$3M to majors, \$3.5M to locals split between concrete panel replacement and HMA overlays).

The City of Southfield has seen a steady increase in their rating over the last decade due to the implementation and expenditure of their **2014 Road Bond (approximately \$100M)** above and beyond their normal expenditures, which has now been depleted. Based on

their current TAMP and CIP, they have previously been budgeting \$8-\$10M annually, which will leave a significant funding gap. Maintaining their current rating of **6.0** (majors 6.2, locals 5.9) without additional funding of \$4-6 million is not likely.

Recommendation

The **Roads Committee or other TBD Committee** should reconvene as directed by the City Council. The **Committee** will review the information presented in this report (and previous reports) and provide a recommendation for consideration by the City Council in 2024.

Glossary

Definition of terms repeated throughout this report:

Maintenance, or **Capital Preventative Maintenance (CPM)**: encompasses a wide variety of work including crack sealing, surface sealers, micro-surfacing, minor patching, etc.

Reconstruction: entails complete removal and replacement of the existing pavement surface and aggregate base.

Rehabilitation encompasses crush and shapes, mill and fills and other similar fixes, where the existing base is typically left along with some of the existing pavement, and this is then added onto with new pavement for an increased cross section of greater strength.

Neighborhood Road Program (NRP): program focusing on reconstruction and rehabilitation of local residential streets

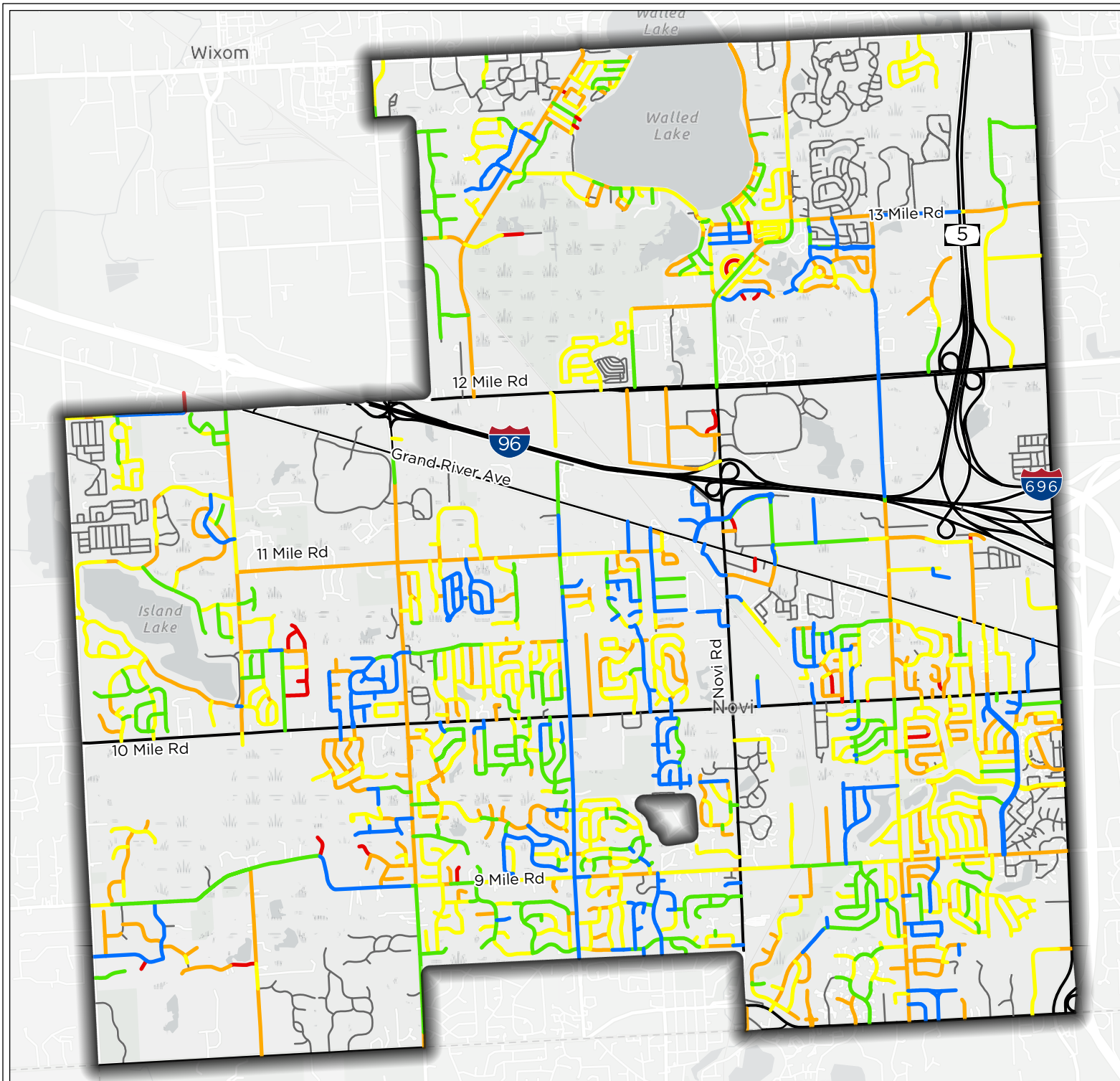
Roads Committee Discoveries (RCD): 2021 report submitted to City Council on condition, etc.

Road Report: data driven report used for asset management and TAMC requirements

Transportation Asset Management Plan: required by Public Act 325 for agencies with road networks over 100 miles

Centerline Miles: a way to describe the length of a road measured along the center, regardless of lanes (for example, Meadowbrook Road from 9 Mile to 10 Mile is 1 centerline mile)

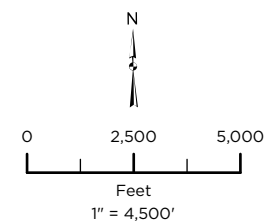
Lane Miles: a way to describe the length of a road accounting for varying road widths (for example, Meadowbrook Road from 9 Mile to 10 Mile is 2 lane miles)



2023 Paser Ratings

LAST RATING

- 0-2
- 3-4
- 5-6
- 7-8
- 9-10



Source: Data provided by State of Michigan, SEMCOG, and Roadsoft. OHM Advisors does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Map Published: February 2, 2024

