3. Proposed Facilities

Master Plan vs. Corridor Planning

The recommendations in this Section represent a Master Plan level evaluation of the suitability of the proposed facilities for the existing conditions. Prior to proceeding with any of the recommendations, a corridor level assessment should be done in order to fully evaluate the feasibility and appropriateness of any roadway modification and/or proposed bicycle or pedestrian facility.

Proposed Improvements Outside the City of Novi

On some of the illustrations, improvements are proposed for areas outside of the limits of the City of Novi. These should not be construed as detailed recommendations as they have not received the same level of evaluation as those facilities within the City. Rather, they show diagrammatically how non-motorized facilities within the City may interact with non-motorized facilities in the surrounding communities.

Some illustrations also show recommendations for improvements on roadways that are not under the jurisdiction of the City of Novi. Any modifications to roads owned by the state and managed by the Michigan Department of Transportation (MDOT), roads owned by the county road commissions, or privately-owned roads, must be coordinated with and approved by the appropriate agency. See Fig 2.1H Road Jurisdiction Map for road ownership.

Topics:

3.1 –Non-Motorized Transportation Network

3.2 – Prioritization

3.3 – Specific Area Concept Plans

3.1 Non-Motorized Transportation Network

There is no such thing as a typical pedestrian or bicyclist. A single person's preferences for a walking or bicycle route may vary based on the type of trip. A person's daily commute route will likely favor directness of travel over a scenic route (but not always). An evening or weekend ride, walk or run for recreation and exercise will be based on an entirely different set of criteria. It will likely favor local roads and trails through parks and schools.

Individuals also vary greatly in their tolerance of traffic, hills, weather and numerous other factors. A child will likely choose to keep to local roadways on their way to school provided they have safe ways to cross busy streets. An adult who is just starting to bicycle again will likewise shy away from busy roadways, sticking to residential roads wherever possible. But an experienced bicyclist may choose the busy road for its directness of travel. The solution then is not one dimensional, but rather responds to the needs of the various users and trip types. By doing so the plan addresses the needs of the majority of the community's population, not simply a small interest group.

Bicycle and walking are not exclusive modes of travel either. Most bicycle trips will also include some time as pedestrian. Also, some bicycling and walking trips may be a part of a longer multi-modal journey. For example, someone may ride their bike to a bus and then walk from the bus to their final destination.

For all the reasons listed above, there needs to be a spectrum of non-motorized facilities available that gives the user the choice to choose the route that they feel most comfortable with. Off-road trails, neighborhood connector routes, sidewalks, roadside pathways and bike lanes are some of the most common facilities that make up the network.

The following illustrations demonstrate the different elements that go into creating a non-motorized network along with the proposed non-motorized transportation improvements:

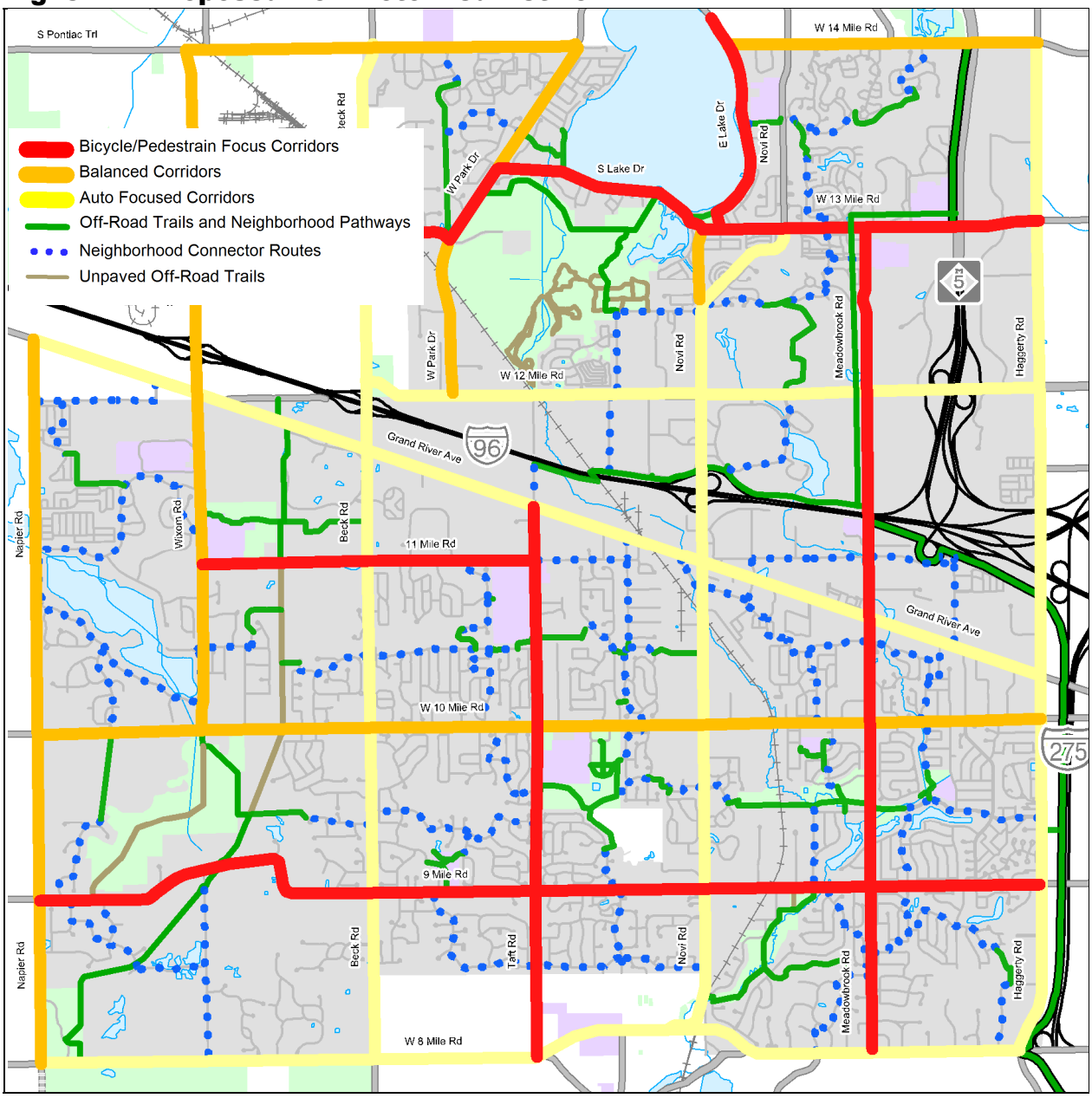
- Overview Map (this is a large fold out map that may be found in the back cover of the report)
- Fig. 3.1A. Spectrum of Non-motorized Routes
- Fig. 3.1B. Proposed Non-Motorized Network
- Fig. 3.1C. Bicycle/Pedestrian Focused Corridors
- Fig. 3.1D. Auto Focused Corridors
- Fig. 3.1E. Balanced Corridors
- Fig. 3.1F. Neighborhood Connectors
- Fig. 3.1G. Off-Road Trails
- Fig. 3.1H. Proposed Neighborhood Connectors and Trails
- Fig. 3.1I. Proposed Road Crossing Improvements
- Fig. 3.1J. Proposed Regional Trail Connections
- Fig. 3.1K. Proposed Regional Trail Connections in The City of Novi)
- Fig. 3.1L. Proposed Sidewalk/Roadside Pathway Improvements

Fig. 3.1A. Spectrum of Non-motorized Routes

A non-motorized system is made up of a variety of routes that provide options for the user to choose their most comfortable route.

PRIMARY LINKS	NEIGHBORHOOD CONNECTORS	OFF-ROAD TRAILS
		
TYPICAL FACILITY TYPES:		
Complete Streets that may include the following: • Bike Lanes & Sidewalks • Sidepaths • Paved Shoulders • Shared-use Arrows • Road Crossing Improvements	Complete Streets that may include the following: • Guided Routes • Named Routes • Bike and Pedestrian Boulevards • Neighborhood Greenways • Crossing Improvements Where Neighborhood Connectors Intersect Primary Roadways	• Foot Trails • Soft-surfaced Trails • Hard-surfaced Trails • Road Crossing Improvements Where Trails Intersect Primary Roadways
CONTEXT AREAS:		
• Urban Suburban and Rural Primary Roads (Arterials and Collectors) • Urban and Suburban roads typically have bike lanes or shared lane markings paired with sidewalks or sidepaths • Rural typically has paved shoulders	• Urban and Suburban Local and Residential Roads • Connecting Pathways Through Neighborhood Parks and Schools • Provide alternative routes to busy Primary Links	• Major Parks • Waterfronts • Abandoned Rail Corridors • Active Rail Corridors • Transmission Corridors
PRIMARY TRIP TYPES:		
• Daily Transportation to Work and Personal Business	• Mix of Daily Transportation, Safe Routes to School and Close to Home Recreation	• Use Depends on Location • Recreation Destination
TRIP CHARACTERISTCS:		
• Users Typically Segregated Into Mode Specific Facilities Such as Sidewalks and Bike Lanes • Exposure to High Speed and High Volumes of Motorized Vehicle Traffic • Just as Direct a Path of Travel as Using a Motor Vehicle	• More of a Shared Space, Sidewalks May or May Not Be Present • Moderate Exposure to Low Speed and Low Volumes of Motorized Vehicle Traffic • In Some Cases Trips Via Neighborhood Connectors May Be Longer Than the Same Trip Via Complete Streets	• Non-motorized Users Separated from Motorized Vehicle Traffic • Minimal Exposure to Motorized Traffic at Roadway Crossings • Directness of Travel Depends on the Route and What Resources It Connects

Fig. 3.1B. Proposed Non-Motorized Network



The proposed Non-Motorized Network recognizes that pedestrians and bicyclists are a diverse population and that no one solution will apply to all bicyclists or all pedestrians. Thus bike lanes and sidewalks / roadside pathways have been proposed along all the primary roads in the City. Some of these roads are more oriented to bicyclists and pedestrians than others as they carry fewer motor vehicles and will be designed such to keep motor vehicle speeds in the 30 to 35 mph range. Complementing the primary road system will be a network of neighborhood connectors and off-road trails that provide access to key destinations in the City while minimizing exposure to a large volume of high speed motor vehicles.

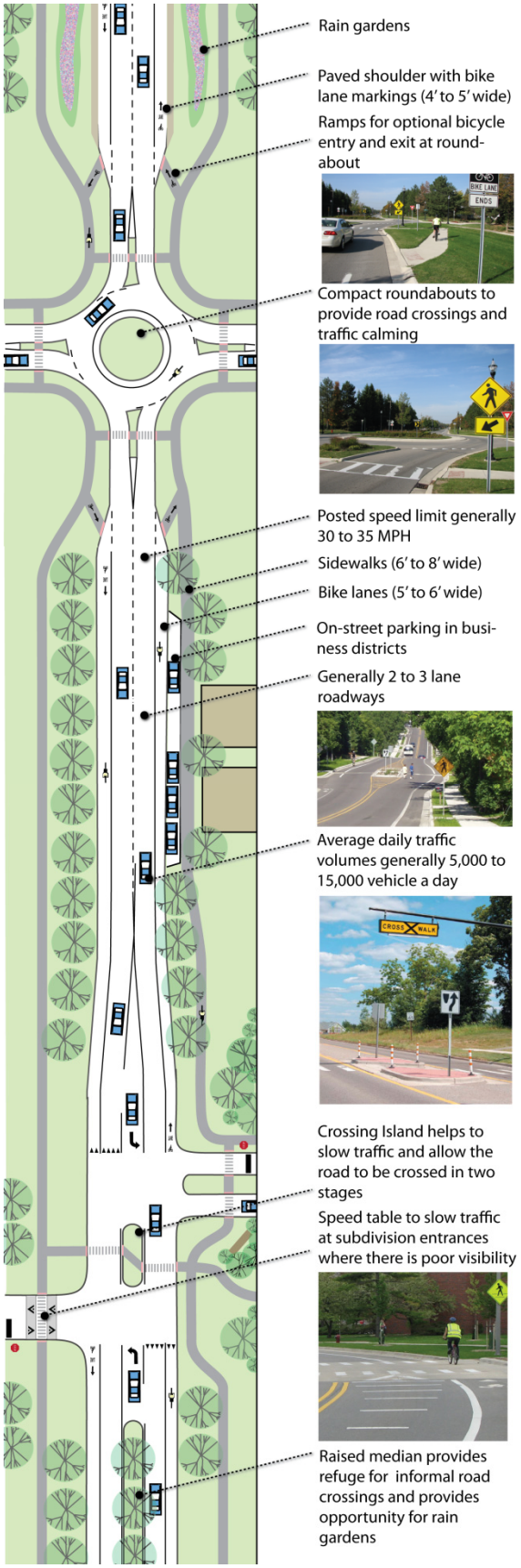


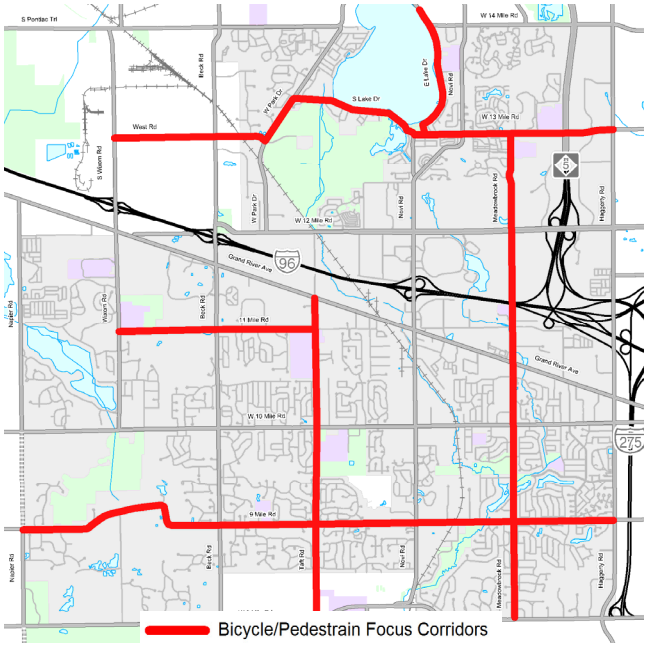
Fig. 3.1C. Bicycle/Pedestrian Focused Corridors

Bicycle/pedestrian focused corridors are roadways where an emphasis will be placed on the needs of the non-motorized user. The roadway will have design elements such as frequent mid-block crossings, mini-roundabouts, medians and street trees that will result in motorists naturally driving the roadway at 30 to 35 mph.

The result is that the road will be a much more comfortable environment to walk along and many bicyclists will be comfortable using bike lanes on these roads.

Bicycle/Pedestrian Corridors include:

- East Lake Drive
- South Lake Drive
- West 13 Mile Road
- West Park Drive (Segment)
- West Road
- Meadowbrook Road
- Taft Road
- 11 Mile Road
- W 9 Mile Road



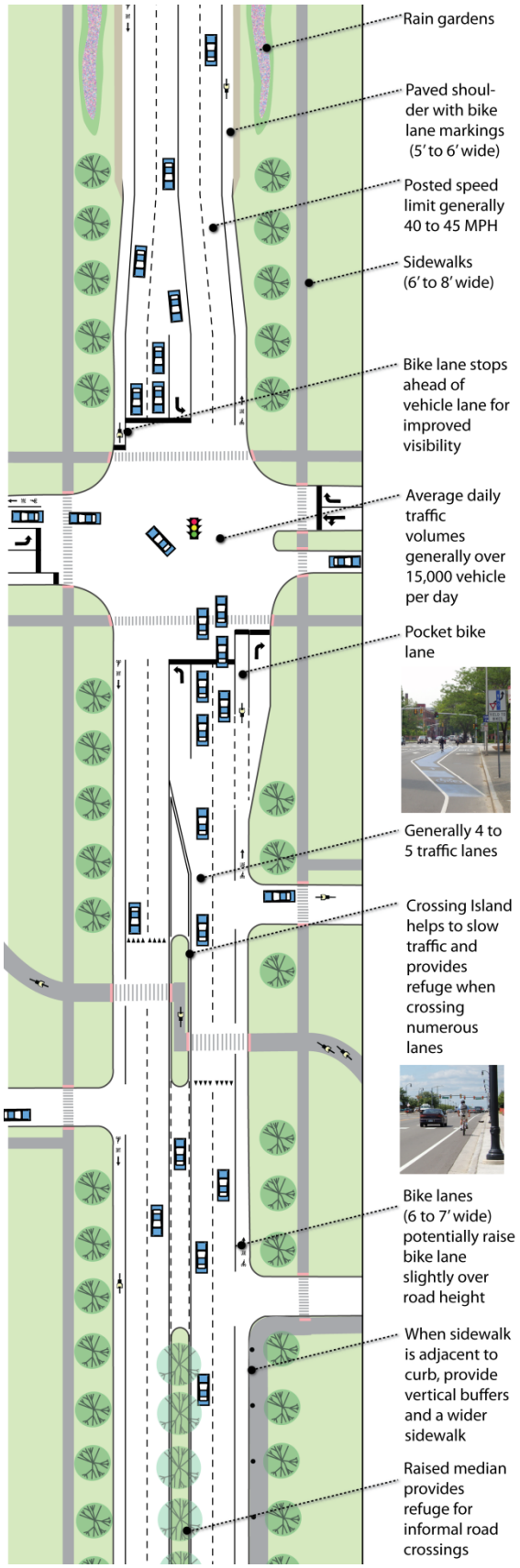


Fig. 3.1D. Auto Focused Corridors

Auto focused corridors recognize that some roads in the City need to carry large volumes of motor vehicles at higher speeds. But even for these roads, bicycle facilities will be provided for non-motorized users commuting to work. Safe road crossing will also be provided between signals where there is demand.

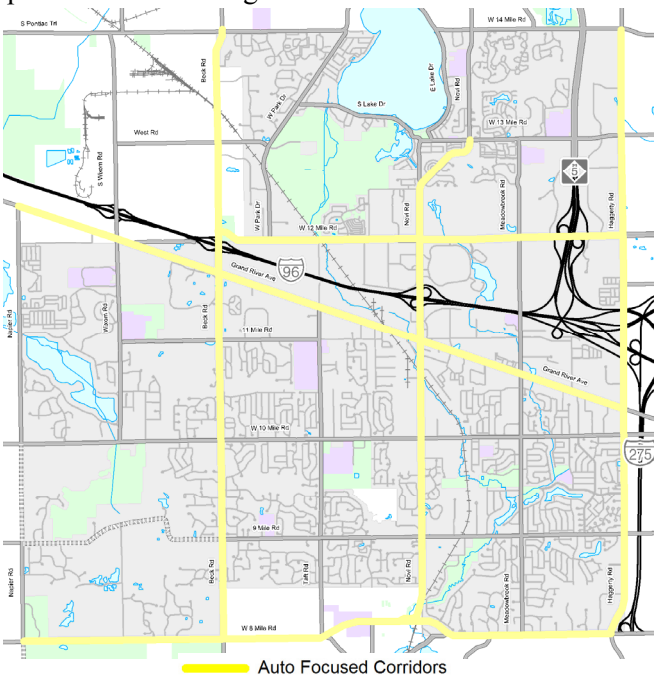
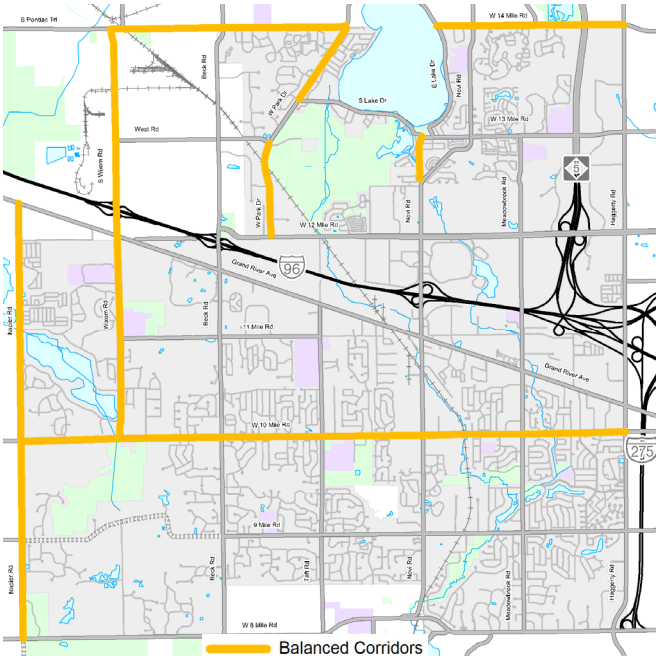


Fig. 3.1E. Balanced Corridors

Balanced corridors try to balance the needs of both non-motorized and motorized users.



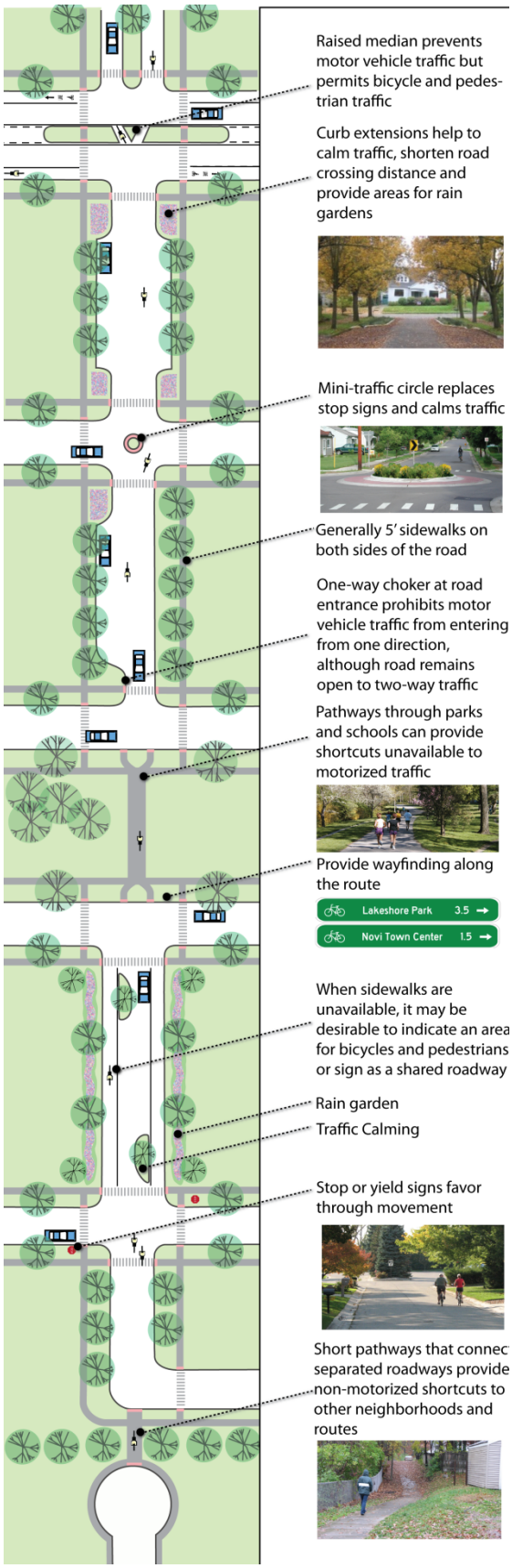


Fig. 3.1F. Neighborhood Connector

Neighborhood connector routes are primarily located on low speed, low traffic volume local roads and connecting pathways. They link neighborhoods to parks, schools and downtowns. Signs provide wayfinding by noting direction and distance to key destinations. Elements such as traffic calming, public art, rain gardens and historic features can be added to enhance the routes.

The local roads in the City of Novi provide great opportunities for neighborhood connector routes, especially for people who prefer to not be along a major arterial or collector road. By incorporating short connecting pathways through schools, parks, and between neighborhoods a tighter network is produced, making it easier for bicyclists and pedestrians to travel through the city.

The connecting pathways are the most critical links in the system, but can also be the hardest to obtain, especially if they pass through private property. It is important to work with the private land owners to obtain easements through these areas.

This plan seeks to provide alternatives and options if it is determined to be impractical to provide the precise route shown.

Fig. 3.1G. Major Off-Road Trail

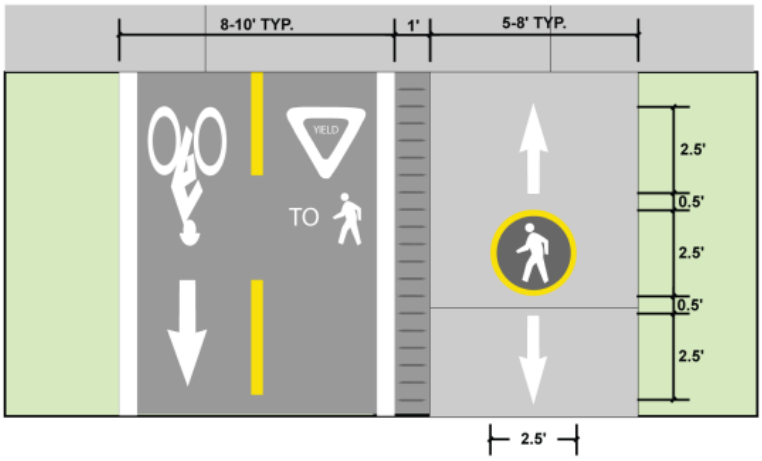
Off-road trails are generally very desirable because they are separated from motorized vehicle traffic. However, they are opportunity-based and unless there is an abandoned rail corridor, existing right-of-way or utility corridor they can be difficult to incorporate into a community.

The City currently has two existing off-road trails, the M-5 Metro Trail and the I-275 Metro Trail. The City also may have a few opportunities to develop off-road trails within the city. They include the following:

- ITC Corridor
- CSX Railroad Corridor
- I-96 Expressway Right-of-way
- City Owned Parks (e.g. Lakeshore Park, ITC Sports Center & Core Habitat Area)

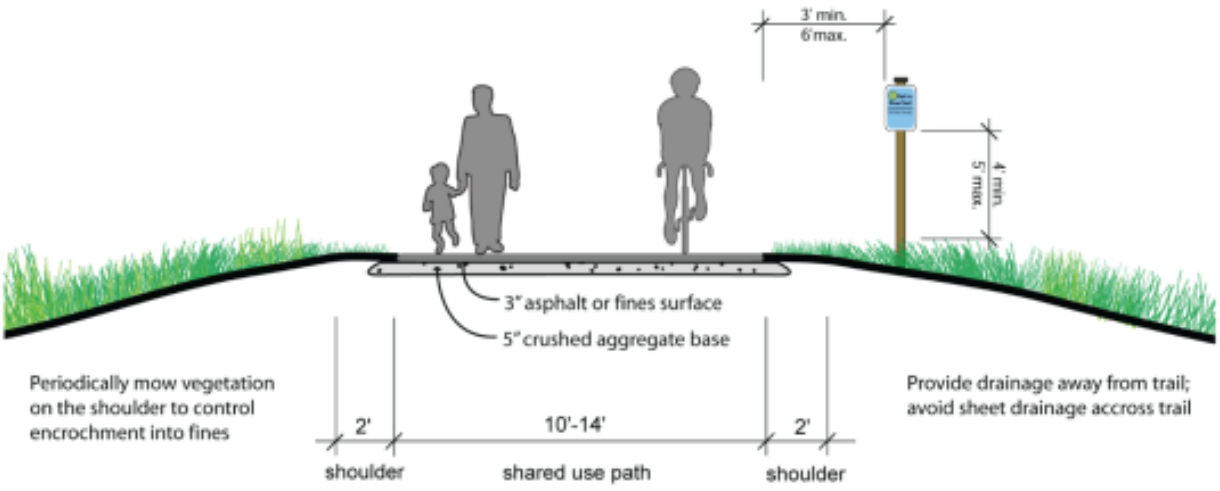
Separated-Use Pathway:

Potential application – areas with high bicycle and pedestrian traffic

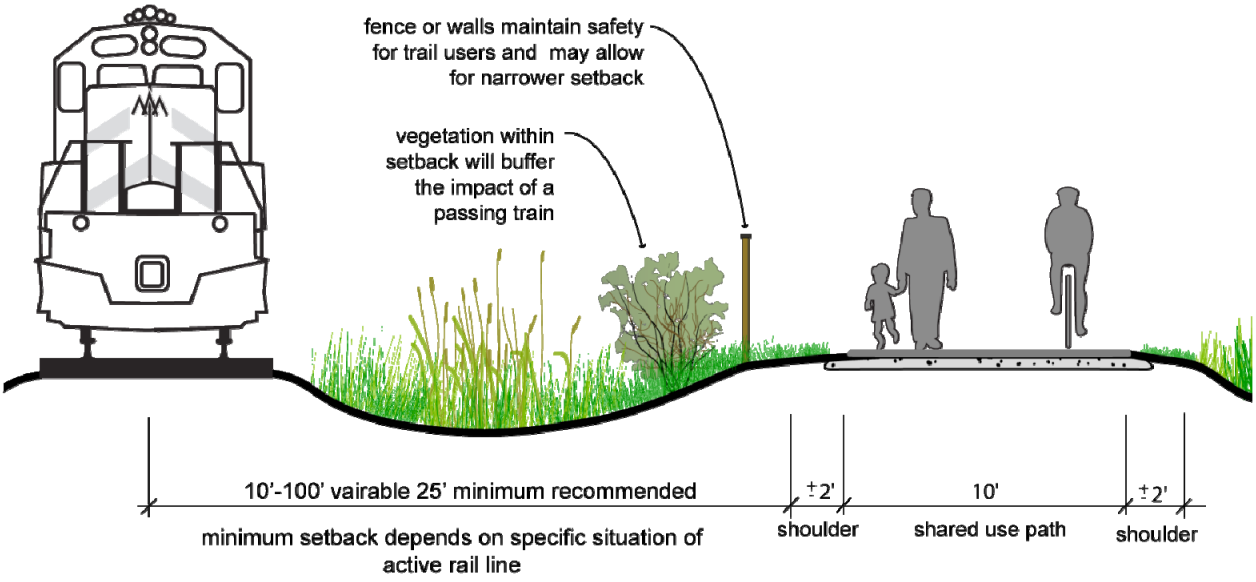


Shared-Use Pathway:

Potential application – Trail through Lakeshore Park



Rail with Trail:
Potential application – CSX Railroad



Shared-Use Pathway:
Potential application – ITC Corridor

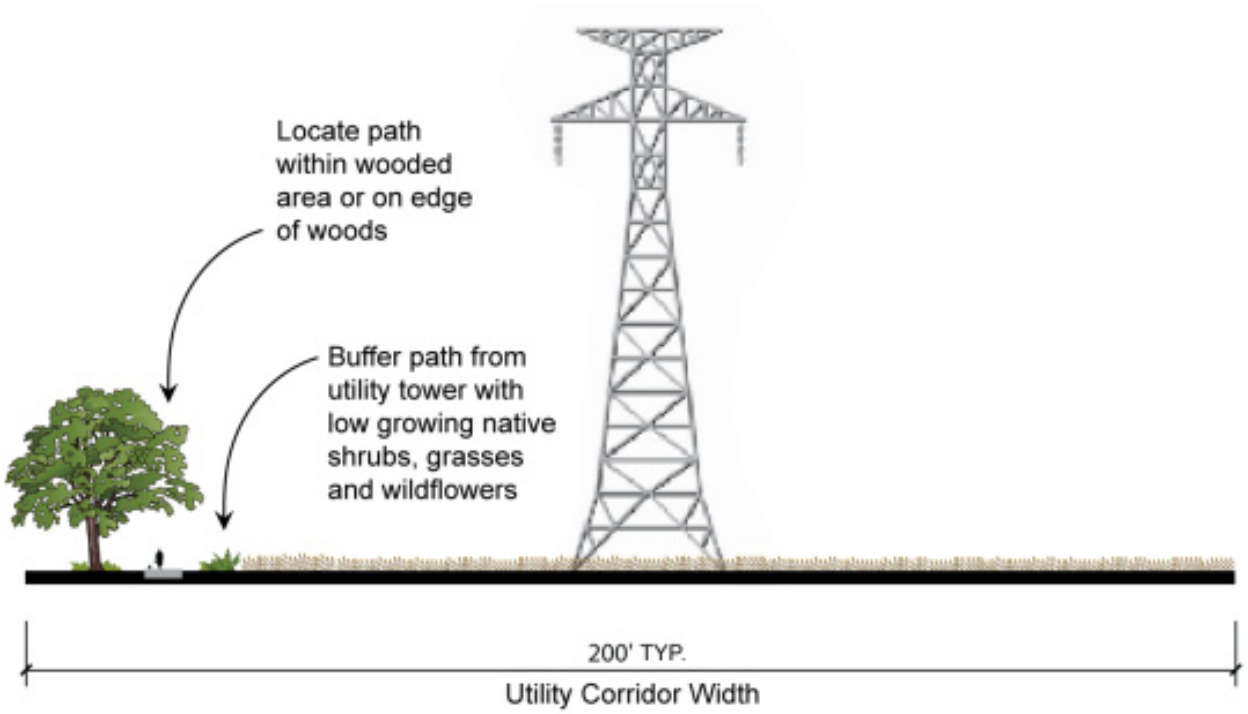
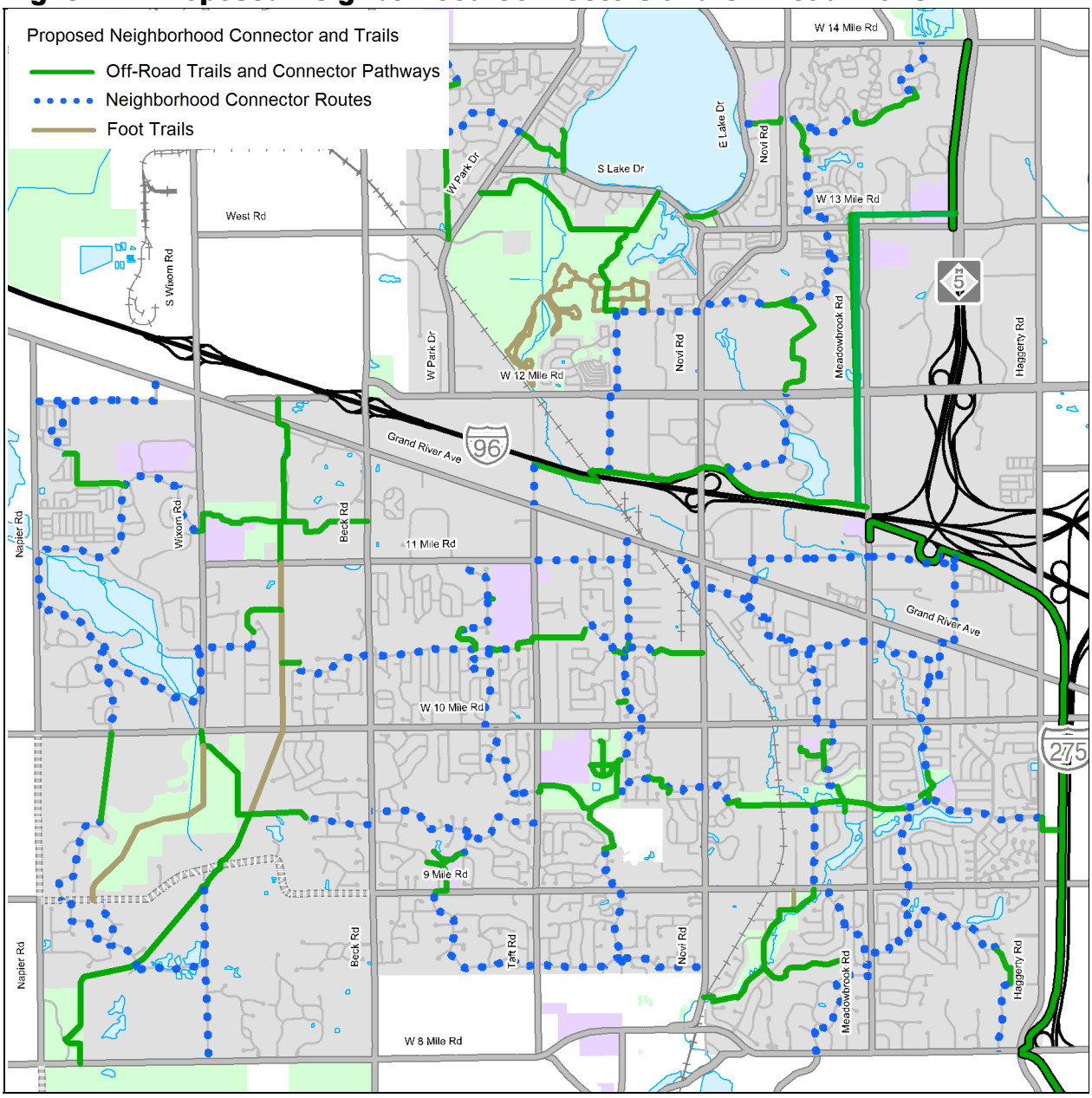


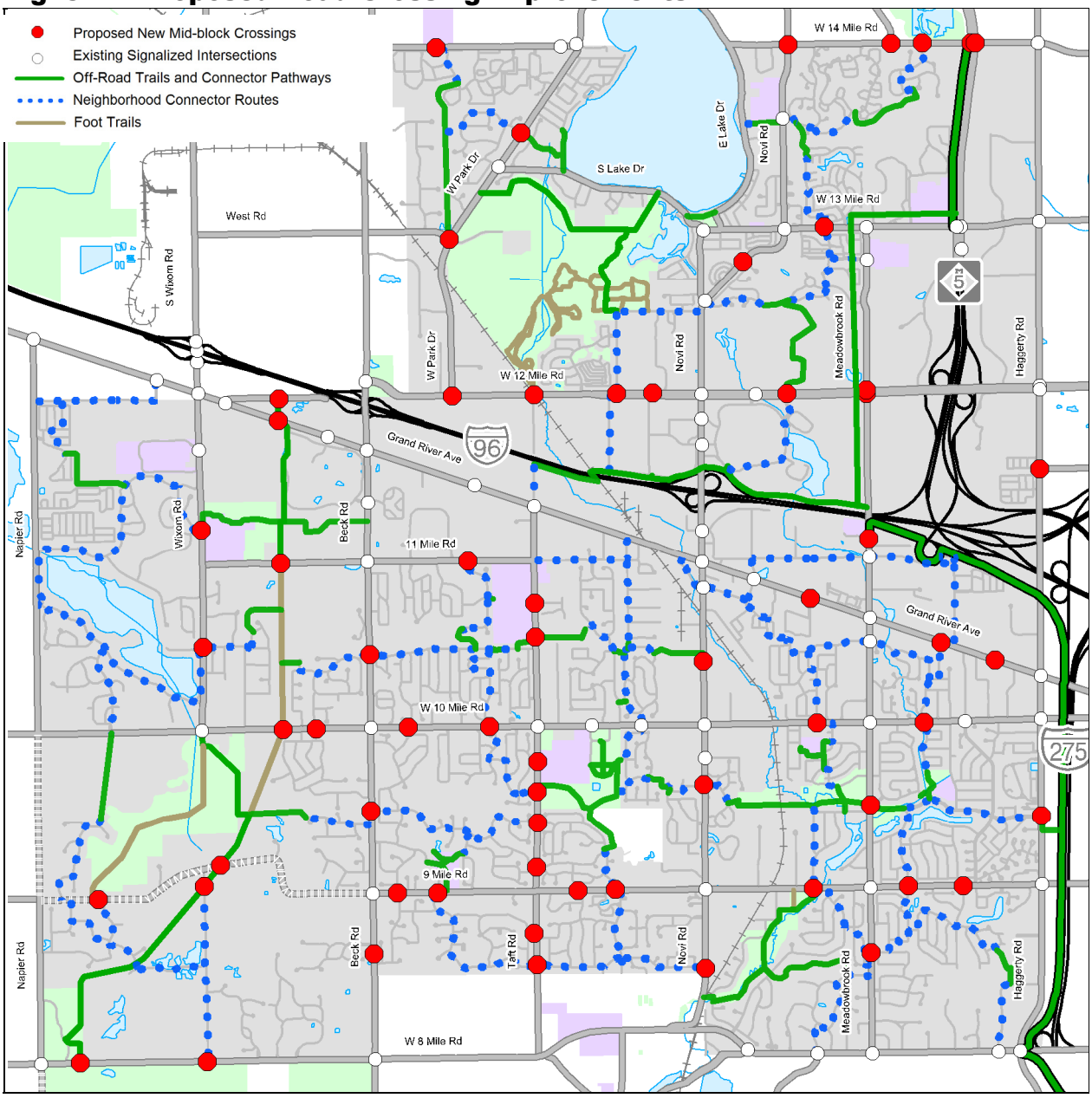
Fig. 3.1H. Proposed Neighborhood Connectors and Off-Road Trails



The neighborhood connector routes and trails provide connectivity between destinations around the city for bicyclists who would not be comfortable bicycling on the primary road system, even if bicycle lanes were present.

Please note that neighborhood connectors are not just restricted to the routes highlighted above. If desired elements of neighborhood connectors are desired, they could be used elswhere in the city as a means to calm traffic, provide non-motorized links and enhance a streetscape.

Fig. 3.1I. Proposed Road Crossing Improvements



Road Crossing Improvements are needed in areas where there is a high demand to cross. These areas occur where a bike route crosses a collector or arterial road, a major bus stop or bus shelter is present, there is a long distance between crosswalks, or there is a high demand based on land use and population density.

This map illustrates where mid-block crossing improvements are needed. Many of these crossings are addressed in the implementation plan with the neighborhood connector routes and major corriodor developments. However, if demand is present they can be implemented sooner. Please note that these are initial recommendations and they need to be studied further prior to implementation.

Fig. 3.1J. Proposed Regional Trail Connections

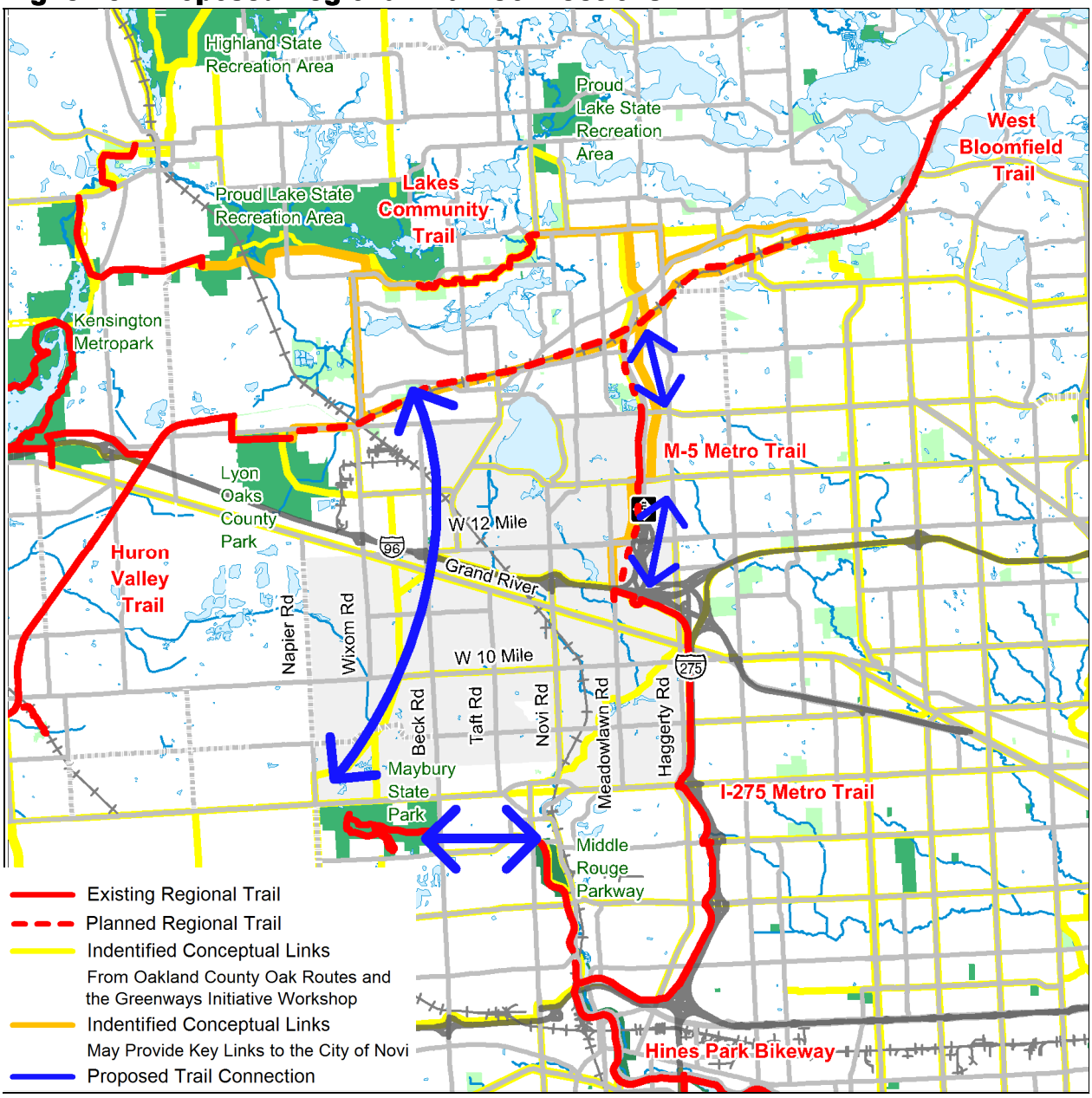
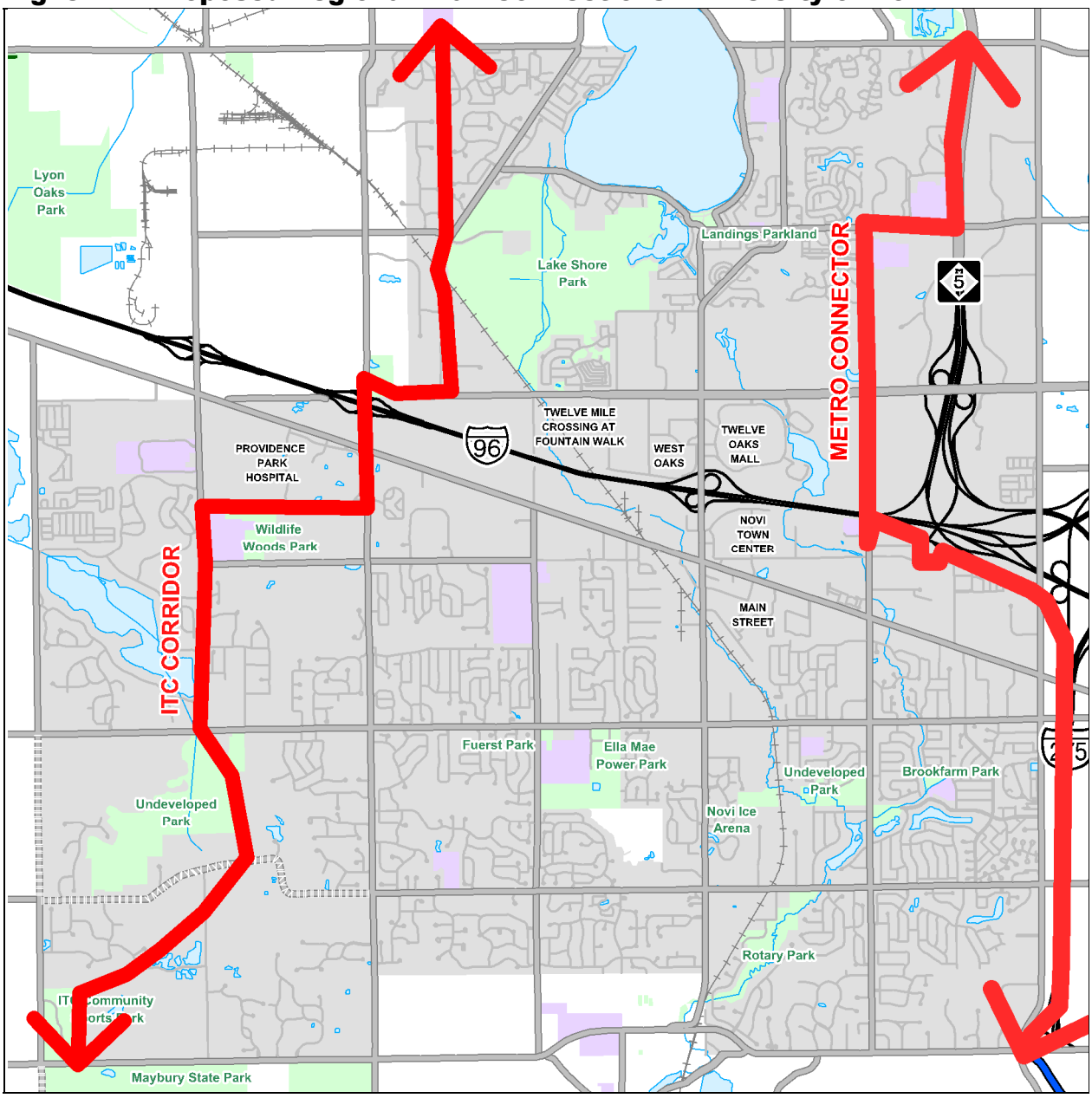
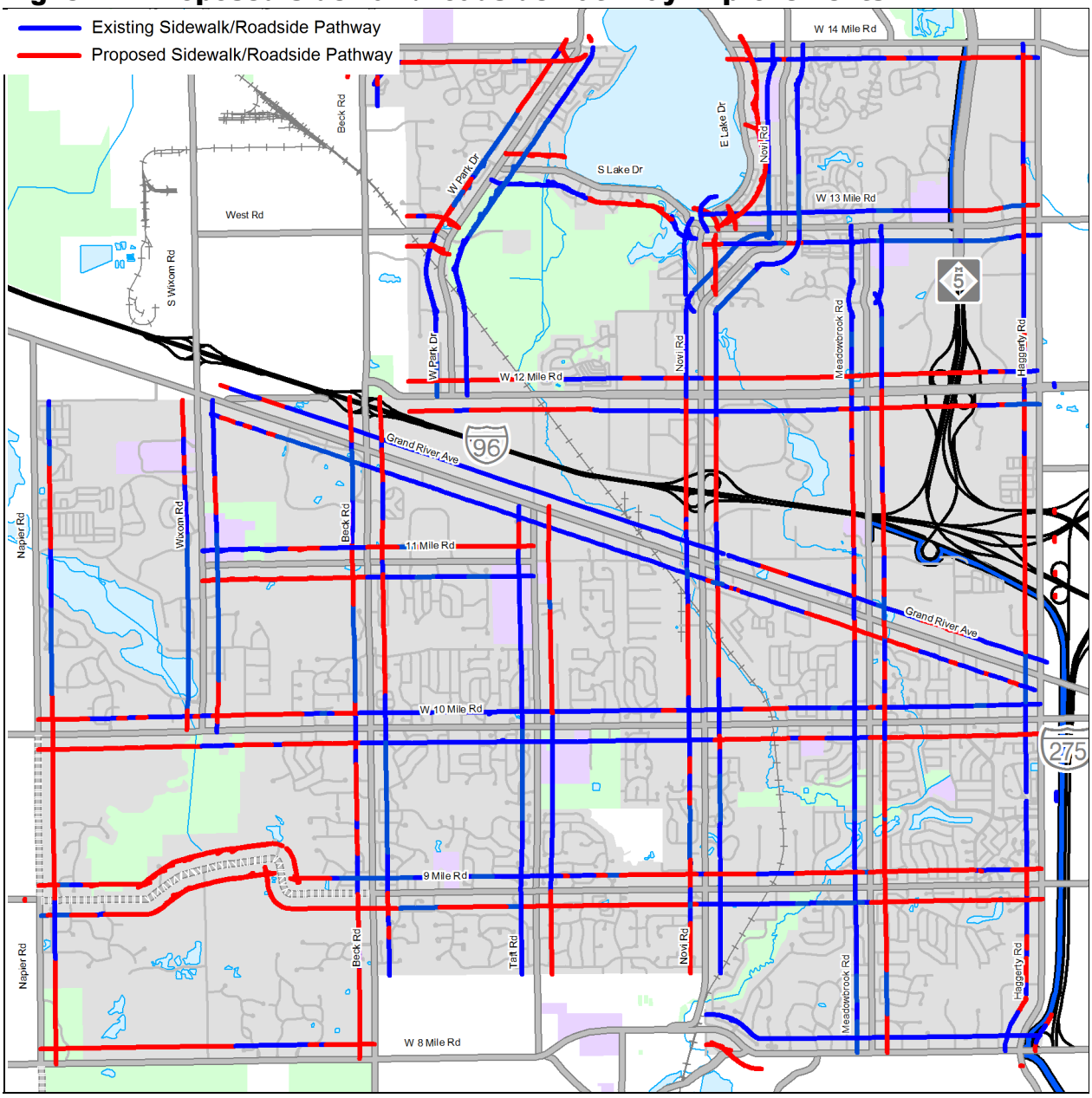


Fig. 3.1K. Proposed Regional Trail Connections in The City of Novi



The proposed ITC Corridor and Metro Connector provide two major regional connections across the City of Novi. The Metro Connector route would consist of a roadside pathway along Meadowbrook Road and 13 Mile. The ITC Corridor is a combination of off-road trails and roadside pathways.

Fig. 3.1L. Proposed Sidewalk/Roadside Pathway Improvements



Ideally, all roads should have sidewalks on both sides of the street. The city currently has 5' sidewalks and 8' roadside pathways. In the future, it would be ideal for sidewalks along major collector and arterial roads to have a minimum width of 6' with a buffer zone and vertical elements such as trees between the sidewalk and road. Please refer to Section 5.1 and 5.4 for more details.

3.2 Implementation Plan

The proposed improvements fall into five tasks. The first task is Initial Investments. This task includes projects that should be done immediately because they complete critical gaps and address safety concerns.

Initial Investments

- Mostly locally funded projects
- Addresses critical gaps in the system
- Addresses safety concerns

After the Initial Investments are completed, the following four tasks should be implemented concurrently as opportunities and funding become available. The four parallel tasks include, Major Corridor Development, Neighborhood Connectors, Sidewalk Gaps, and Construction Integration. Major Corridor Development includes systematic projects that are capital intensive and are of a regional and/or cross community/county significance. Neighborhood Connectors, and Sidewalk Gaps are projects of a local significance that may or may not be as capital intensive and may have some near-term and mid-term solutions. Construction Integration projects include projects that will probably not be done on their own, but will be integrated as part of a larger construction project.

Major Corridor Development

- Cross city bike/pedestrian focused corridors most of which have either regional significance or are important to neighboring communities as well
- High capital investment projects likely supported by federal and state grants
- Generally involve multiple agencies

Neighborhood Connectors

- Locally funded projects
- Low capital investment projects
- Intra-city network oriented

Sidewalk Gaps

- Locally funded projects
- Prioritized to have the most impact for the investment and to respond to public demand
- Extension of the city's current sidewalk prioritization process

Construction Integration

- Projects that can be integrated as part of a larger construction project, such as bike lanes when a road is resurfaced

Some of the improvements include relatively modest changes such as road conversions and signage and others may take longer based on opportunities and available funding. Each task may take multiple years to implement. The speed of the implementation depends on the amount of money the city dedicates to the implementation along with the success of obtaining outside funding.

These tasks were determined based on public input, existing conditions, existing sidewalk and pathway prioritization plan, regional trail plans, geographic distribution and desire to create key cross-community connections. A relative demand analysis was also done to help identify areas where there is the most potential for non-motorized activity.

Cost Estimate Introduction

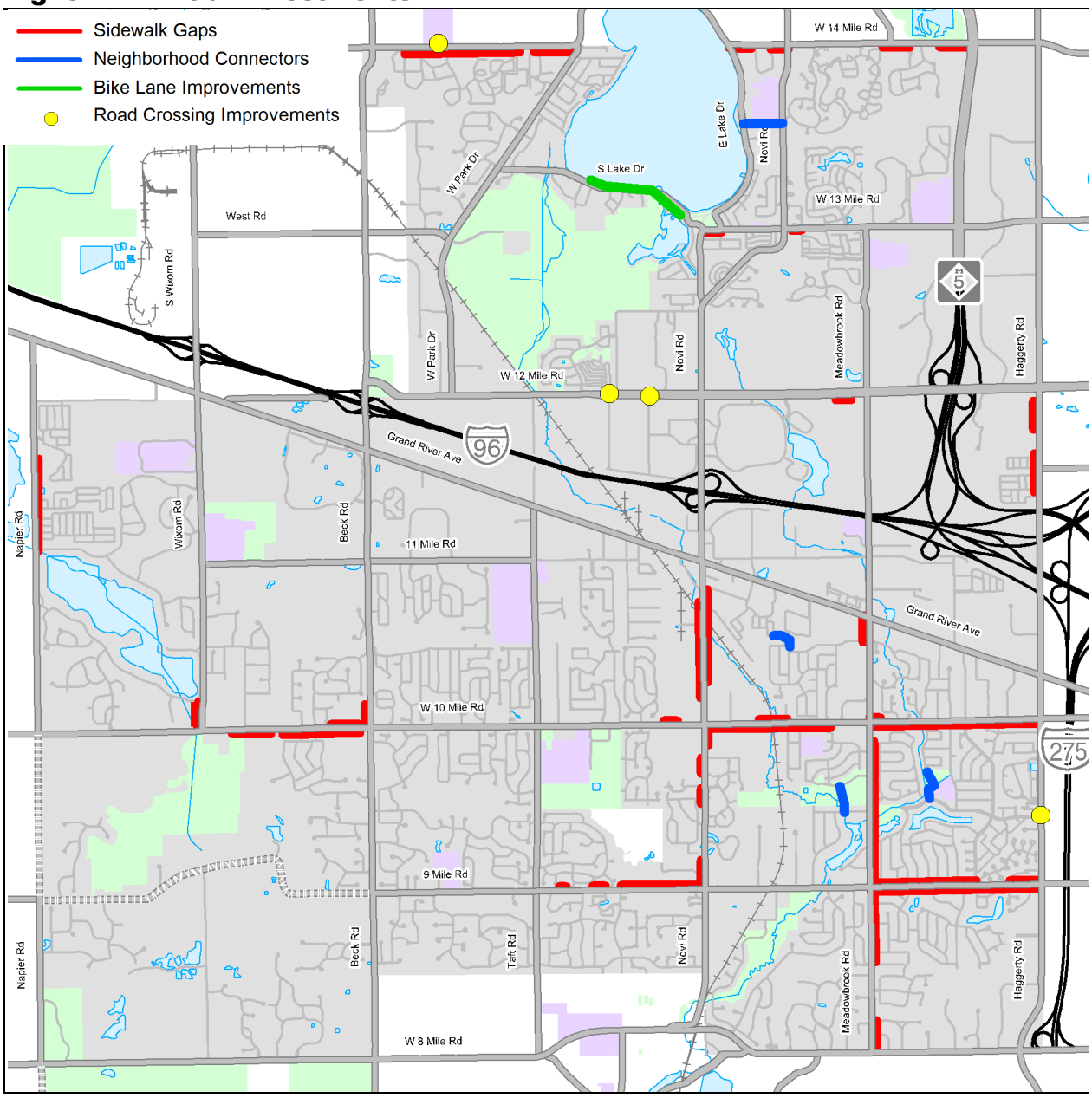
In order to illustrate magnitude of costs and begin planning and budgeting for implementation, planning level cost estimates have been completed for the improvements proposed in the Initial Improvements category as well as the top 3 Major Corridor Development projects. In addition, cost estimates for a handful of "typical" treatments have been developed so that staff can consider these treatments in other areas of the City if so desired.

It should be noted that these estimates are based on concepts only, and while they include healthy (20%) contingencies, they are not based on detailed designs. Quantities were derived from GIS data and aerial imagery. If the City moves forward with implementation, detailed design will be completed and construction cost estimates recalculated at that time.

Acquiring Right –of-Way

Please note that acquiring easements and right-of-way will add to the financial burden of implementation, and can sometimes be as much as the project cost itself. Please refer to the appendix for a detailed breakdown of the cost estimate for the initial investments and top three major corridors where easement issues are reflected.

Fig. 3.2A. Initial Investments



This task focuses on the top sidewalk and pathway gaps and other critical links and safety concerns.

Initial Investments

Complete Sidewalk Gaps
The City of Novi has an existing sidewalk and pathway prioritization process that prioritizes all of the sidewalk gaps in the city. The initial investments include the top 20 sidewalk gaps that are listed in this report.

In addition to the City's top 20 gap improvements, the following additional sidewalk gap improvements should be made to help establish long segments of sidewalk and to connect isolated neighborhoods to the system:

- 14 Mile between Novi Road and M-5 Trail
- Napier Road, build sidewalk on the east side of street between Old Dutch Farms Mobile Home Park and Island Lake
- 12 Mile on the south side of the street build missing sidewalk gap just to the west of Meadowbrook
- Wixom Road on the west side between 10 Mile Road and Island Lake
- 13 Mile on the south side of road build missing sidewalk gaps between Old Novi Road and Meadowbrook Road

Safety Concerns
Road Crossing improvements are needed where there are existing signals with no pedestrian crossing.

- The half-signals along the boulevard portion of 12 Mile Road west of Novi Road
- The intersection of Haggerty and Village Wood Drive
- South Side of Pontiac Trail at Geisler Middle School

The other safety concern that will be addressed is modifying the bicycle and pedestrian pavement markings on South Lake Drive. The existing one-way bike lane on a two-way road presents safety concerns because bicyclists tend to travel the wrong direction in the bike lane, riding against the flow of traffic. There is also a significant amount of pedestrian traffic that uses the shoulder. To address this situation, the paved shoulder will be designated for pedestrian use. Bicyclists will be encouraged to ride in the road with the flow of traffic through the use of Shared-Use Arrows and Share the Road Signage.

Critical Links
Short connecting pathways are important to help link people to nearby neighborhoods, parks and schools. The following short connector pathways should be constructed. Please note that easements may need to be obtained across school property and where conservation easements are located. Each has been labeled as Neighborhood Connector (NC) 1 through 4 to correspond with the cost estimates.

- Link through Hickory Woods Elementary between Novi Road and East Lake Drive (NC-1). Please note that this segment follows the existing right-of-way and would require access across the school property.
- Link connecting the neighborhood to the north through Brookfarm Park to Village Oaks Elementary (NC-2). Please note that this route would utilize the existing bridge over the creek between Brookfarm Park and Village Oaks Elementary and would connect to the existing walkway at Brookfarm Elementary School.
- Link through Undeveloped Park near Meadowbrook Road and Malott Drive connecting the neighborhood to the north to the neighborhood to the south (NC-3). Please note that there is a

conservation easement in this park that prohibits trail and pathway development in this park, and will require additional review to determine feasibility for a future link location.

- Link connecting subdivision to residential development west of Meadowbrook between 10 Mile Road and Grand River Avenue (NC-4). Please note that there is an existing connection between these neighborhoods, however the city would need to obtain access through the private development.

Initial Investments Costs Estimates

Planning level cost estimates for the "Initial Investments" category are summarized in the following table. Details of each estimate can be found in the appendices. Costs are associated with each Segment ID (previously assigned by the City). These are estimates that primarily focus on sidewalk gaps as well as 4 neighborhood connectors identified as priorities during the planning process. Each estimate includes:

- 5% for mobilization
- 20% contingency
- 25% professional fees (design, legal, construction administration)
- For those segments where easements are anticipated in order to construct, an approximate easement size, in square feet, is estimated (included in the appendices). The cost associated with easements will likely differ in each case but must be considered as it will impact the final cost.

As is depicted in Figure 3.2B., there are 25 sidewalk/path segments included in the Initial Investment Phase with an estimated design and construction cost of $4.88 million. In addition, there are 4 Neighborhood Connector segments proposed in the Initial Investment phase with an estimated design and construction cost of $260,000.

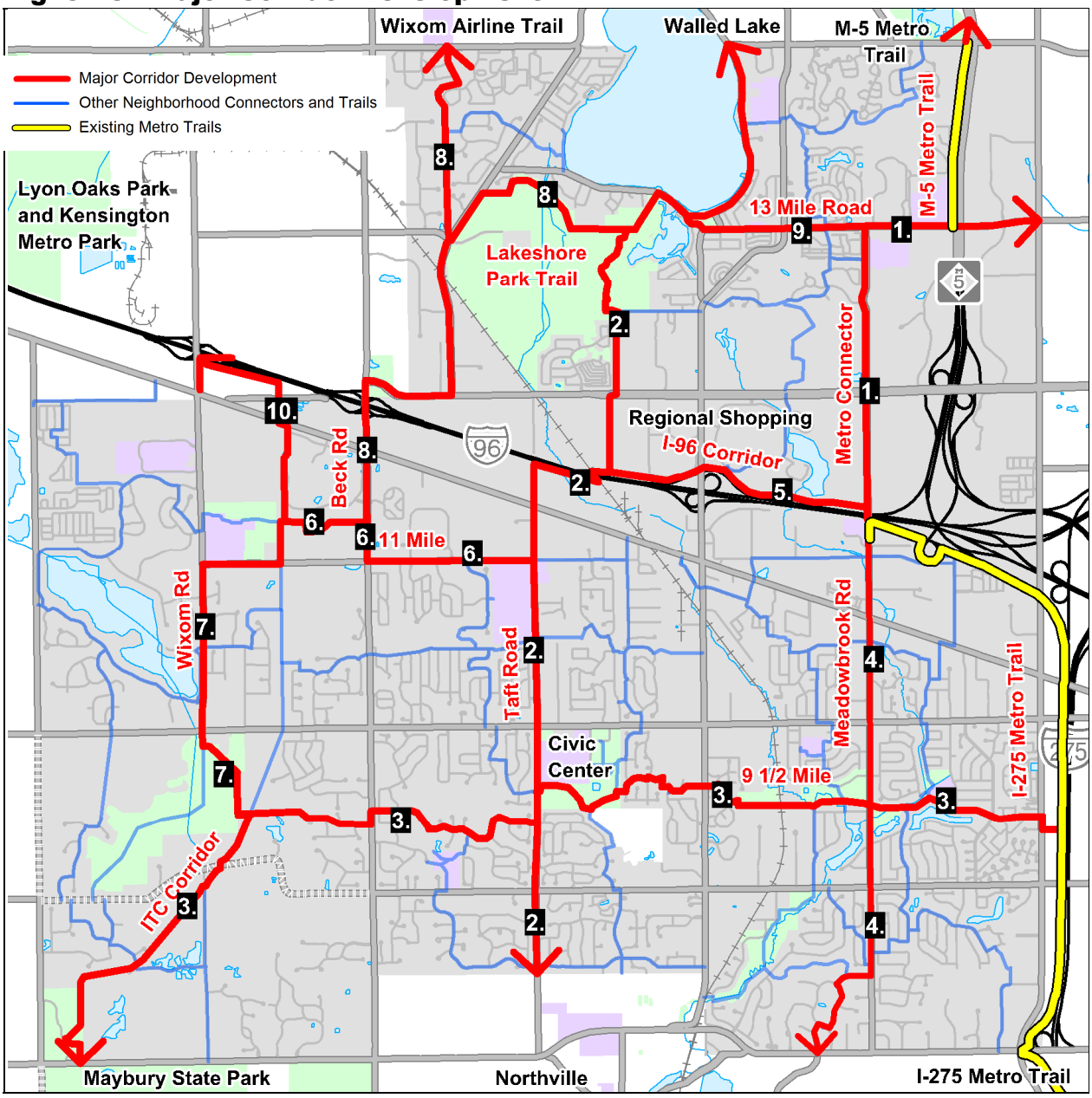
TOTAL INITIAL INVESTMENTS COST ESTIMATE = $5.14 million in addition to the cost of easements

Fig. 3.2B. Initial Investments Cost Estimate Summary

Segment	Priority	Location Description	Cost Estimate
Neighborhood Connectors			
	NC 1	East Lake Dr to Novi Rd	$68,667.97
	NC 2	Brookfarm Park	$30,214.84
	NC 3	West of Meadowbrook between Nine Mile and Ten Mile	$111,816.02
	NC 4	West of Meadowbrook between 10 Mile and Grand River	$49,321.88
		TOTAL NEIGHBORHOOD CONNECTORS	**$260,020.70**
Road Crossing Improvements			
	#1	12 Mile at Caberet Dr.	$197,459.38
	#6	12 Mile at Carlton Way	$306,709.38
		Haggerty at Village Wood Drive	$72,656.25
		Pontiac Trail at Geisler Middle School	$23,765.63
		TOTAL ROAD CROSSINGS	**$600,590.64**

Segment	Priority	Location Description			Cost Estimate
Sidewalk/Path Gaps					
121	19	Nine Mile	South	Between Haggerty and Meadowbrook	$340,755.86
119	13	Meadowbrook	East	Between Eight Mile and Nine Mile	$274,638.28
83	1	Nine Mile	North	Between Haggerty and Meadowbrook	$301,787.50
84	20	Meadowbrook	East	Between Nine and Ten Mile	$604,261.72
81	6	Ten Mile	South	Between Haggerty and Meadowbrook	$625,854.30
80B	10	Ten Mile	North	East of Meadowbrook	$13,681.64
90	8	Ten Mile	South	Between Meadowbrook and Novi Rd	$450,487.11
89	11	Novi Rd	East	Between Ten Mile and Ice Arena	$139,187.50
92	5	Novi Rd	West	Between Nine and Ten Mile	$238,716.80
93	12	Nine Mile	North	Between Novi and Taft	$173,249.22
62	14	Ten Mile	North	Between Novi and Taft	$83,462.89
25	90	Haggerty Rd	West	Between Twelve Mile and I-696	$149,022.66
129	50	Fourteen Mile	South	Between two subdivisions	$101,885.94
1b	71	Fourteen Mile	South	Just west of M-5	$73,396.88
4	39	Fourteen Mile	South	Just west of Novi Rd	$15,052.73
5	54	Fourteen Mile	South	Just east of East Lake Dr	$37,841.80
9	9	Pontiac Trail	South	West of West Park Dr	$302,424.61
55	15	Beck Rd	West	Just north of Ten Mile	$66,323.83
54	15	Ten Mile	North	Just west of Beck	$92,660.16
99	17	Ten Mile	South	Between Beck and Wixom Rd	$304,843.36
44	78	Napier Rd	East	Between Twelve Mile and Island Lake Dr	$379,062.11
29		Twelve Mile Rd	South	Between Meadowbrook and Twelve Oaks Mall	$29,084.38
15		13 Mile Rd	South	Between Old Novi Rd and Martin Avenue	$20,009.77
16b		13 Mile Rd	South	Between Novi Rd and Holmes Rd	$22,010.55
48		Wixom Rd	West	Between Ten Mile and Island Lake	$37,585.55
144		Meadowbrook	West	Between Grand River and Ten Mile Rd	$56,835.94
				TOTAL SIDEWALK/PATH GAPS	**$4,934,123.08**
				TOTAL INITIAL INVESTMENTS	**$5,794,734.43**

Fig. 3.2C. Major Corridor Development



Major regional, city and countywide connections across the city that provide a backbone to the non-mototrized system.

Major Corridor Development

The following improvements are listed in order of implementation. The order of implementation was developed based on public input, near-term opportunities, demand and where the majority of the population would be served. These are large multi-year projects that may be implemented in pieces based on opportunities and funding. Overall, they will provide the framework for the non-motorized system. If opportunities arise for projects lower on the list those projects should be completed first.

1) Metro Connector (See Figure 3.2C.)

Provide connection between the existing I-275 Metro Trail and existing M-5 Trail.

- Extend I-275 Metro Trail south (using 10' wide asphalt) to Bridge Street and provide crossing island on Meadowbrook Road
- Construct 10' wide asphalt path along the west side of Meadowbrook Road between 11 Mile Road and 13 Mile Road.
- Construct 10' wide asphalt path along the north side of 13 Mile Road between Meadowbrook and the M-5 Metro Trail
- Narrow the travel lanes to 11', pave 5-6' shoulder, and strip for bike lanes on Meadowbrook Road between 11 and 12 Mile Roads
- Add temporary shared lane markings and shared the road signs to Meadowbrook Road between 12 Mile Road and 13 Mile Road until road is reconstructed and bike lanes are added
- Improve pedestrian crossing at 12 Mile and Meadowbrook Road intersection
- Provide wayfinding signage to direct users from the M-5 Metro Trail to the I-275 Trail

2) Taft Road Corridor (See Figure 3.2C.)

Provide connection along Taft Road Corridor connecting to Northville to the south and Walled Lake to the north.

- Completion of the sidewalk/path system
- Addition of bike lanes along Taft Road by paving 5-6' wide shoulders and striping/signing
- Improve the following intersections to provide for safe crossings and room for bike lanes. Refer to section 5.4 Subdivision Entrances for more details.
    - Galaway Drive – Subdivision Intersection Design (Figure 5.4AB)
    - Princeton/Byrne – Mid-Block Crossing and Rectangular Rapid Flash Beacon
    - Dunbarton Dr – Subdivision Intersection Design (Figure 5.4AB)
    - White Pine Dr –Subdivision Compact Roundabout (Figure 5.4AD)
    - Addington Lane – Subdivision T-Intersection Design (Figure 5.4AC)
    - Novi High School Entrances – Subdivision T-Intersection Design (Figure 5.4AC)
    - Emerald Forest Blvd – Subdivision T-Intersection Design (Figure 5.4AC)
    - Between Jacob Drive and the entrances to Novi Woods Elementary, Meadows School, and Parkview Elementary – Subdivision T-Intersection Design (Figure 5.4AC)
- Construct 10' wide asphalt trail along Taft Road north of Grand River Avenue

- Construct 10' wide asphalt trail along south side of I-96 corridor, utilize the existing CSX underpass to get under I-96, cross over the CSX railroad, and continue the trail along the north side of I-96 along the ITC property connecting to Fountain Walk Drive
- Extend sidewalk south along Cabaret Drive to connect into proposed trail
- Provide on-street bike route on Cabaret Drive and Dixon Road
- Include a Pedestrian Hybrid Beacon (HAWK) at 12 Mile Road/Cabaret Drive Intersection
- Construct 10' wide asphalt trail through Lakeshore Park to connect to Lakeshore Drive (remain on high ground and avoid existing mountain bike trails as much as possible)
- Include wayfinding signage along route to direct users

Crossing I-96 at the Railroad tunnel may present some challenges. If that is the case evaluate providing a separate non-motorized crossing at Taft Road and the I-96 expressway.

3) 9 ½ Mile Neighborhood Greenway (See Figure 3.2C.)
Provide a connection that parallels 9 and 10 Mile Road along the local roadways using short connecting pathways through schools, parks and undeveloped open space.

- Include road crossing improvements where the proposed route crosses a collector or arterial street including:
    - Novi Road –Compact Roundabout (Figure 5.4AD)
    - Meadowbrook Road – Crossing Island
    - Taft Road - Compact Roundabout (Figure 5.4AD) (also included in Taft Road Corridor Project)
    - Beck Road - Subdivision T-Intersection Design (Figure 5.4AC)
- Provide crossing of railroad near Novi Ice Arena. If crossing is unattainable, provide alternate route on 10 Mile Road by completing sidewalk gaps and providing at-grade railroad crossing..
- Obtain easements and build short connector pathways (10' wide asphalt)
- Provide traffic calming techniques on local neighborhood streets
- Construct the south extension ITC Corridor Trail connecting 9 ½ Mile Neighborhood Greenway South to ITC Park and Maybury State Park
- Include wayfinding signage along route to direct users

4) Meadowbrook Road South of I-96
Provide connection along Meadowbrook Road Corridor.

- Completion of the sidewalk/path system
- Addition of bike lanes along Meadowbrook Road by paving 5-6' wide shoulders and striping/signing
- Improve the following intersections to provide for safe crossings and room for bike lanes. Refer to section 5.4 Subdivision Entrances for more details.
    - Chattman Drive - Subdivision T-Intersection Design (Figure 5.4AC)
- Marks Drive/Fawn Trail – Midblock Crossing Island between both streets

- Implement neighborhood connector route and include wayfinding signage along route to direct users

5) I-96 Corridor (See Figure 3.2C.)

Provide a connection that parallels the north side of the I-96 expressway and connectos Taft Road and Meadowbrook Road to the Regional Shopping Centers.

- Build trail along north side of I-96 Expressway utilizing MDOT and ITC property
- Provide trail crossing at Novi Road by improving existing intersection
- Work with the adjacent landowners to provide access from the trail to the shopping centers

Long-term:

- Provide trail crossing on Meadowbrook Road when sidewalk gaps along the west side of the road are complete

6) 11 Mile/Beck Road/Providence Park Hospital/ Wild Woods Park (See Figure 3.2C.)

11 Mile Road:

- Complete Sidewalk and Pathway Gaps along 11 Mile Road
- Provide Mid-block Crossings on 11 Mile Road where proposed neighborhood connector route intersection with 11 Mile Road
- Add Shared-use arrows on 11 Mile Road in the near-term until the shoulders are paved and bike lanes can be included

Beck Road:

- Complete Sidewalk and Pathway Gaps along roadway
- Provide Mid-block Crossings

Providence Park Hospital

- Obtain easements to construct pathway between Wixom Road and Beck Road

7) Wixom Road/Undeveloped Park (See Figure 3.2C.)

Wixom Road:

- Complete Sidewalk and Pathway Gaps along roadway
- Provide Mid-block Crossings

8) Beck Road/West 12 Mile Road/West Park Dr/Off-road Trail (See Figure 3.2C.)

Beck Road

- Complete Sidewalk and Pathway Gaps on west side of road
- Add sidewalks to both sides of I-96 overpass (see Figure 3.3C.)
- Improve road crossing at Beck Road and W 12 Mile

12 Mile Road

- Complete Sidewalk and Pathway Gaps along north side of W 12 Mile Road

W Park Dr Off-road Trail Extension

- Improve road crossing at West Park Drive and West Road
- Building 10' shared use path along city owned property north of West Road
- Provide bike route along Portside Drive to connect trail to South Pontiac Trail

9) Lakeshore Park/13 Mile Road (See Figure 3.2C.)

Lakeshore Park

- Add 10' shared use path through north side of Lakeshore Park paralleling South Lake Road

W 13 Mile Road Corridor

- Complete Sidewalk and Pathway Gaps
- Add Bike Lanes to West 13 Mile Road through road conversions and paving the shoulders

10) ITC Corridor– North Extension (See Figure 3.2C.)

- Obtain easement and construct off-road trail along ITC corridor
- Obtain easement to construct off-road trail along the west edge of Providence Park Hospital where ITC property stops
- Improve road crossing on Grand River Avenue
- Work with Wixom to continue trail extension northwest through the Beck Road/I-96 Interchange and over to Lyon Oaks Park (See Figure 3.3D.)

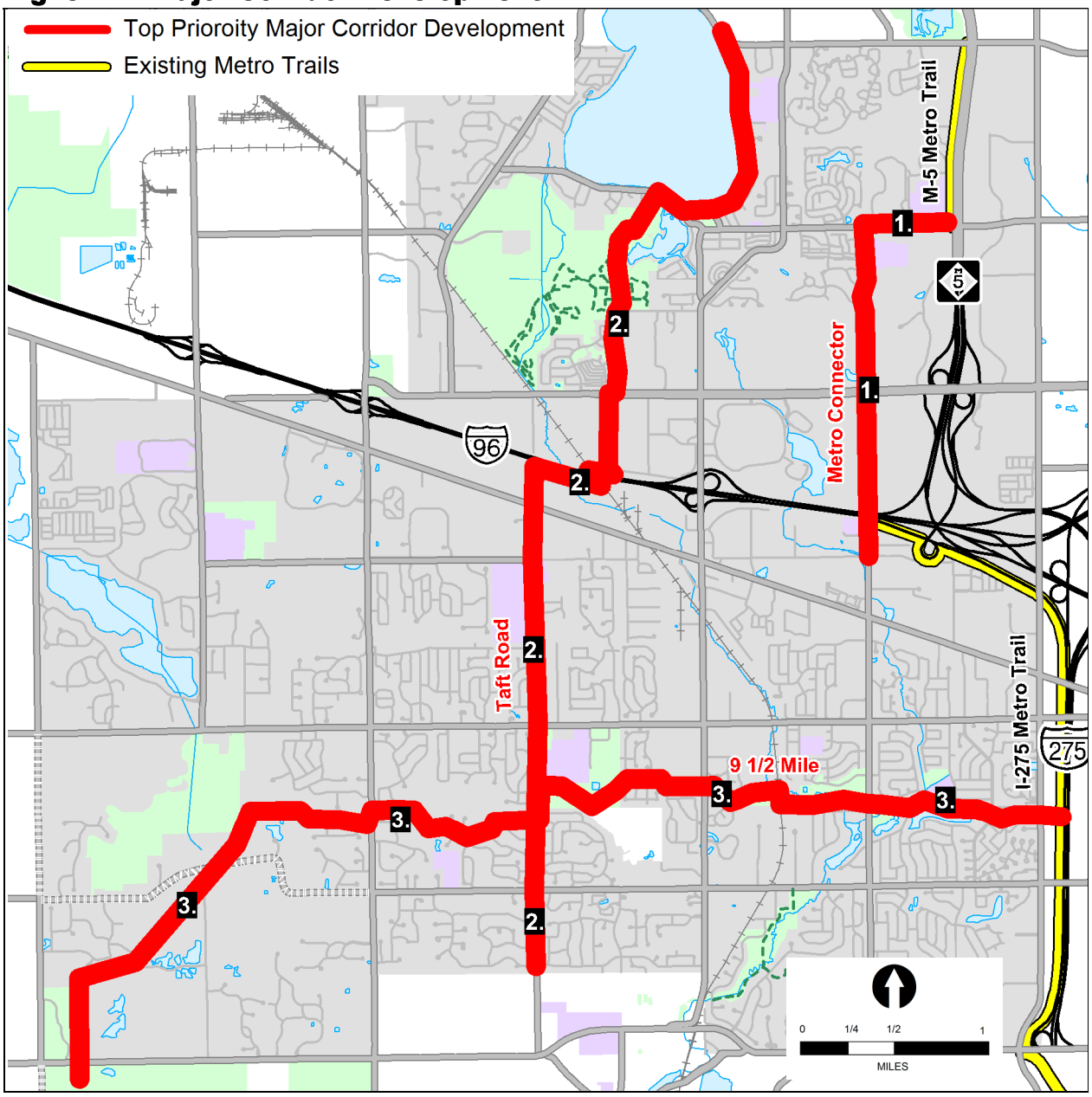
Major Corridor Development Cost Estimates

A number of projects were identified and categorized as a "Major Corridor Development". However, 3 are considered top priority projects (Figure 3.2D.) based on input during the planning process, connecting regional systems, and potential for outside funding assistance.

1. Metro Connector
2. Taft Road Corridor
3. 9 1/2 Mile Neighborhood Connector

The following describes the routes and proposed improvements in more detail and provides a planning level cost estimate. More detail of the planning level cost estimate can be found in the Appendix.

Fig. 3.2D. Major Corridor Development



Metro Connector

The Metro Connector is a high priority project to connect the existing 40+ mile I-275 Metro Trail and the existing M-5 Metro Trail. The proposed connector route is along Meadowbrook Road and 13 Mile Road.

TOTAL METRO CONNECTOR COST ESTIMATE = $886,000 in addition to the cost of easements

This is a good candidate project (or at least parts of it) for outside funding assistance. If a Transportation Enhancement grand application is submitted, a discussion should take place with MDOT regarding the options of concrete removal and replacement with new 10' wide asphalt (as estimated) versus adding additional concrete width to existing paths to meet AASHTO standard of 10' wide. Potential funding sources include the MDOT Enhancement Program, the MDNRE Trust Fund, and CMAQ.

Taft Road Corridor

The Taft Road Corridor project is intended to showcase a truly "complete street" within the City of Novi with considerable improvements made to more safely accommodate pedestrians and bicyclists as well as reduce vehicular travel speeds. The Taft Road Corridor has been identified as a "Bicycle/Pedestrian Focused Corridor" and has the potential to serve as a major north-south non-motorized route within the City as well as to Northville and Walled Lake.

TOTAL TAFT ROAD CORRIDOR COST ESTIMATE = $5.05 million in addition to the cost of easements

Due to size and cost, this project would most likely be implemented in phases. This is a good candidate project (or at least parts of it) for outside funding assistance. If grant funds are used, it's anticipated they would be used to construct particular segments of the proposed improvement such as the intersection improvements, the I-96/RR crossing, and/or the addition of bike lanes along Taft Road. The planning level cost estimate includes a $1 million allowance for the I-96/RR crossing. This area will require more detailed analysis and coordination with MDOT, ITC, and CSX before being able to develop a more accurate cost estimate. Potential funding sources for portions of the Taft Road Corridor improvements include MDOT Enhancement, Safe Routes to School, MDNRE Trust Fund, and CMAQ.

9 ½ Mile Neighborhood Connector

Providing a significant east-west non-motorized route between 9 Mile and 10 Mile Roads was discussed, refined, and moved up as a priority during the planning process. The route is desirable as it includes the potential to connect a number of parks, schools, neighborhoods, and undeveloped open space. Portions of the 9 ½ Mile Neighborhood Connector are proposed to follow existing residential streets, with traffic calming measures proposed. The route is also intriguing for its potential to serve as a demonstration of an urban greenway.

TOTAL 9 ½ MILE NEIGHBORHOOD CONNECTOR COST ESTIMATE = $4.97 million in addition to the cost of easements

Due to size and cost, this project would most likely be implemented in phases. This is a good candidate project (or at least parts of it) for outside funding assistance. If grant funds are used, it's anticipated they would be used to construct particular segments of the proposed improvement such as the ITC/Maybury connector or the traffic calming improvements. The planning level cost estimate includes a $500,000 allowance to cross the railroad including approach ramps to meet ADA requirements. The estimate also includes a $400,000 allowance to implement a variety of traffic calming techniques along the local residential streets and $150,000 allowance to develop a coordinated wayfinding system along the entire route. There is a considerable amount of boardwalk anticipated (over 4150 feet). This is a high cost item

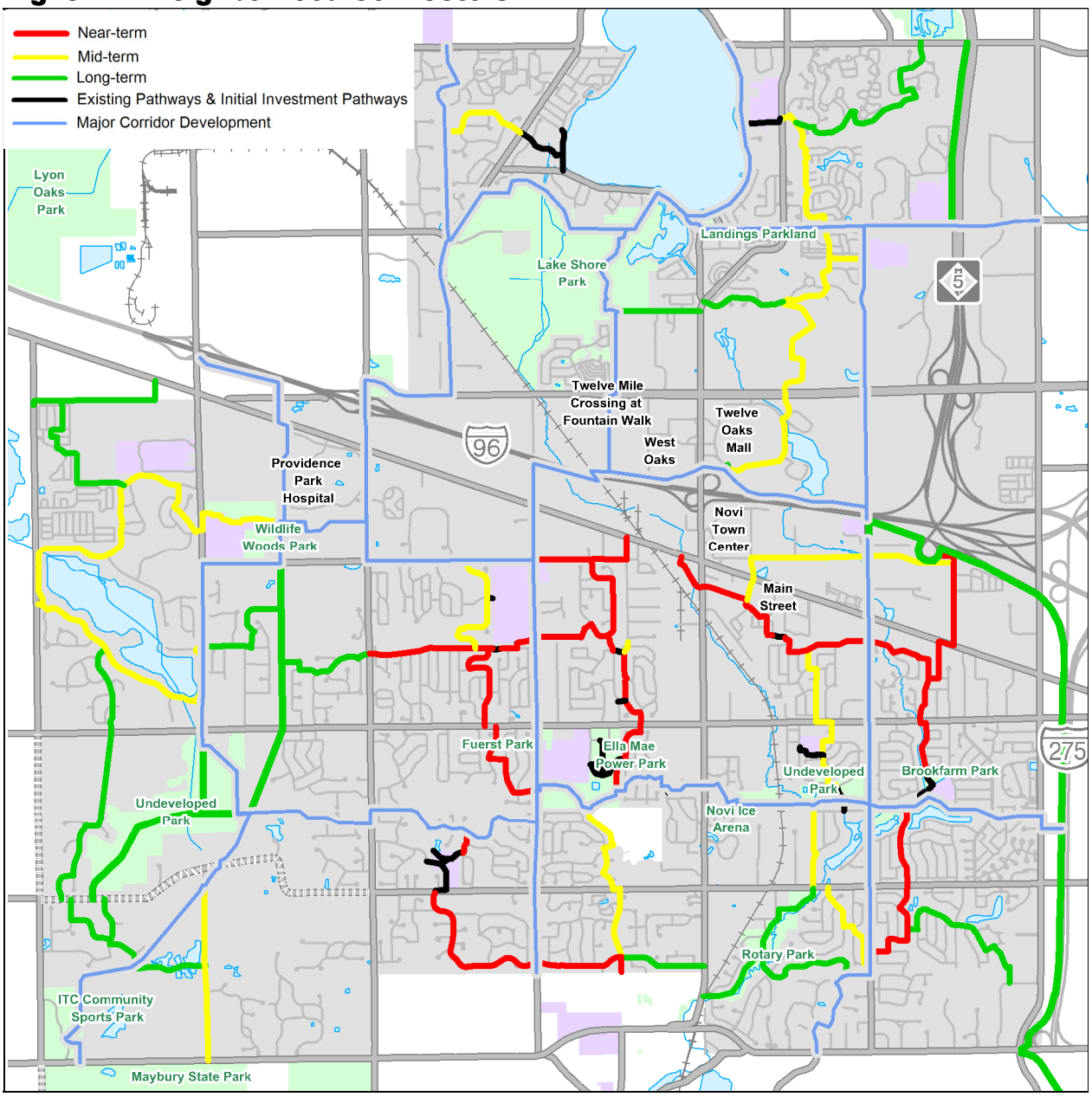
and has been estimated utilizing the City's standard 8' wide section. If grant funding is sought for this improvement, a 14' wide boardwalk will likely be required, increasing the overall cost. Potential funding sources for portions of the 9 ½ Mile Neighborhood Connector improvements include MDOT Enhancement, Safe Routes to School, MDNRE Trust Fund, and CMAQ.

The following table summarizes the top 3 priority Major Corridor Development projects. The table includes the approximate length of the entire project, a planning level cost estimate, as well as potential funding sources. It should be noted that if the City seeks, for example, MDOT Enhancement funds to complete the Metro Connector project, it may not be as likely that the City would receive additional dollars for the other two projects. Estimates of the possible percentage of funds that the City may be able to seek and obtain for implementation has also been identified based on typical award amounts. In addition, with the City's recent award of MDNRE Trust Fund dollars for the Landings Park project, it may be a few years (2 or 3) before the City can be successful in approaching the Trust Fund again for additional projects. Like most funding sources, the Trust Fund like to geographically disperse their dollars. Typically, the Trust Fund looks for a community to finish and close out one Trust Fund project before applying for another. This is not a hard fast policy, but has been a historical pattern.

Fig 3.2E. Major Corridor Development Projects (Top 3) Summary

	Length	Planning Level Cost Estimate	Potential Funding Source(s)
Metro Connector	2.5 miles	$886,000	MDOT Enhancement (65%) City of Novi (35%)
Taft Road Corridor	8 miles	$5.03 M	MDOT Enhancement (8%) MDNRE Trust Fund (5%) CMAQ (5%) Safe Routes to School (1%) City of Novi (81%)
9 ½ Mile Neighborhood Connector	7 miles	$4.87 M	MDOT Enhancement (10%) MDNRE Trust Fund (6%) Safe Routes to School (1%) CMAQ (5%) City of Novi (78%)

Fig. 3.2F. Neighborhood Connectors



Neighborhood Connectors

Please note that neighborhood connectors are not just restricted to the routes highlighted above. If desired elements of neighborhood connectors are desired, they could be used elswhere in the city as a means to calm traffic, provide non-motorized links and enhance a streetscape.

Near-term Neighborhood Connectors

- Build short connector pathways through existing right-of-way and city owned property
- Provide wayfinding and signage along near-term routes
- Implement traffic calming elements along near-term routes
- Implement road crossing improvements where near-term neighborhood connector routes cross a major roadway

Mid-term Neighborhood Connectors

- Build short connector pathways through existing right-of-way city owned property
- Obtain easements to build short connector pathways through private owned property
- Provide wayfinding and signage along mid-term routes
- Implement traffic calming elements along mid-term routes
- Implement road crossing improvements where mid-term neighborhood connector routes cross a major roadway

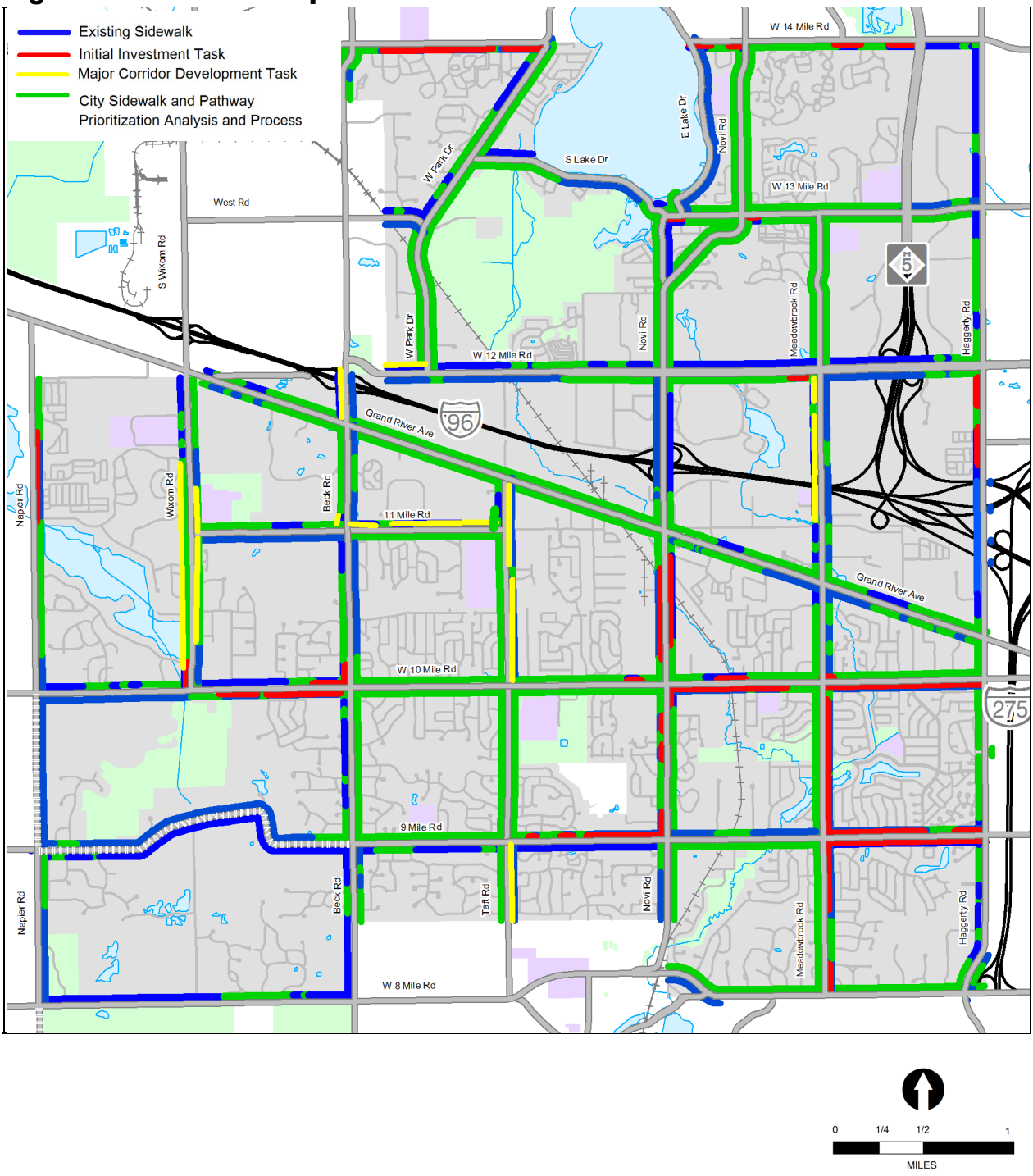
Long-term Neighborhood Connectors

- Obtain easements to build short connector pathways through private owned property
- Provide wayfinding and signage along long-term routes
- Implement traffic calming elements along long-term routes
- Implement road crossing improvements where long-term neighborhood connector routes cross a major roadway
- If there is enough demand consider paving the pathways through Rotary Park
- Build unpaved pathway along ITC corridor if allowable and eventually if there is demand consider paving the trail

Sidewalk/Roadside Pathway Gaps

Many of the sidewalk gaps are addressed through the Major Corridors task and the Initial Investments task. The remaining sidewalk gaps that are not addressed by other tasks should be put into the City of Novi's Sidewalk and Pathway Prioritization Analysis and Process to determine when they should be implemented.

Fig. 3.2G. Sidewalk Gaps



Construction Integration

The costs to undertake some non-motorized projects independently of a road reconstruction project would be significant. Thus, in order to maximize the impact of finite resources, the long-term improvements are expected to be implemented as a road is completely reconstructed (not just resurfaced). In general, construction integration improvements:

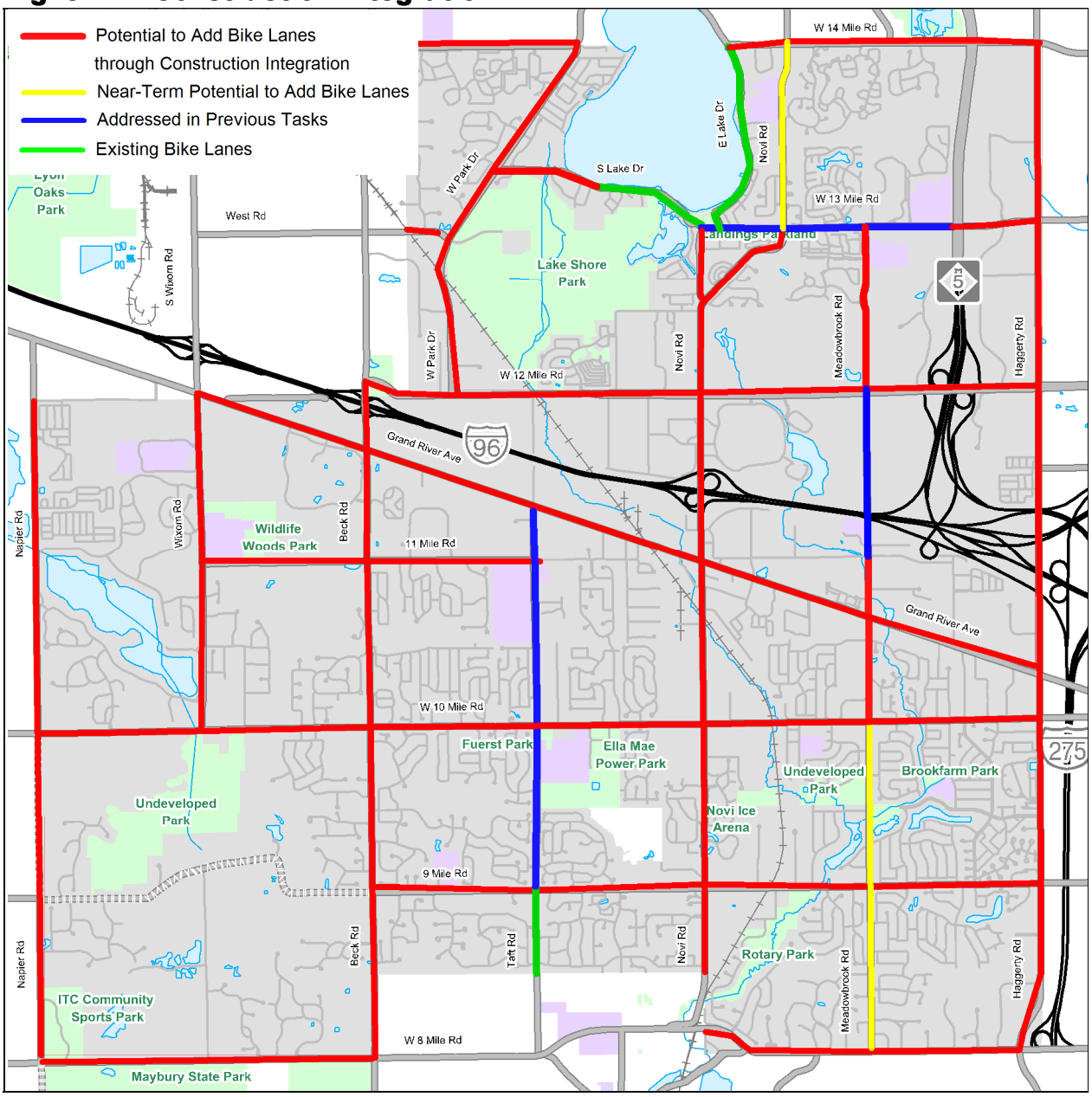
- Are generally implemented when a new road is built or an existing road is completely reconstructed. Reconstruction projects typically include new curb and gutter as well as storm water systems.
- Generally require that a road be widened to accommodate the minimal lane width requirements for all users and may require additional rights-of-way.
- Strive to meet the minimum desired widths for bike lanes, motor vehicle lanes, buffers, and sidewalks to the extent that it is practical given the project's context.

This report does not define the ideal long-term cross section for every primary road in the City. Rather it defines what improvements should be included and provides guidelines for a wide variety of road and right-of-way scenarios. Construction integration projects are very important; however they can be very capital intensive and should be prioritized after the initial investments are made. With the City's adoption of complete streets guidelines, is it assumed that bicycle and pedestrians improvements will be incorporated into all projects as a matter of course.

Construction integration tasks include:

- Add bike lanes along arterial and collector roads that were not addressed in the previous tasks. Many of the roads have potential to add a paved shoulder to obtain bike lanes, however, due to the fluctuation in the number of lanes at intersections and curbs that occur in numerous places along the roadway a simple paving of the shoulder may not be as simple as it seems and it may be more feasible to wait until the road is reconstructed to pave the shoulders and add bike lanes.
- Meadowbrook Road between W 10 Mile Road and W 8 Mile Road may be the best candidate to attempt a near-term bike lane conversion by paving the shoulder and narrowing the traffic lanes and improving the subdivision entrances similar to Taft Road.
- Novi Road between W 13 Mile Road and W 14 Mile may be a candidate for a near-term bike lane by converting it to a three lane road with a median where there are no turning movements.
- Add sidewalks and bike lanes to Novi Road/I-96 interchange(refer to Figure 3.3A for proposed improvements)
- Add bike lanes to Beck Road/I-96 interchange
- If CSX railroad becomes abandoned there may be potential to build a rail-trail along corridor.

Fig. 3.2H. Construction Integration



Potential Funding Sources

There are several potential funding sources to investigate as projects move toward implementation. Some projects have a higher likelihood of receiving outside funding assistance than others. Potential funding sources from outside entities change and evolve on a regular basis. Understanding available funding programs, their requirements and deadlines requires continuous monitoring. A few of the more common funding sources have been detailed here as a reference and resource. These are in addition to traditional funding methods such as the general fund, millages, bonds, Community Development Block Grants, etc.

MDOT Transportation Enhancement Program

Transportation Enhancement (TE) activities are federally funded, community-based projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic and environmental aspects of the transportation infrastructure. To be eligible, a project must fall into one of the 12 TE activities and relate to surface transportation. Activities that relate to the implementation of this Master Plan include:

- Provision of facilities for pedestrians and bicycles.
  Includes bike lane striping, wide paved shoulders, bike parking, bus racks, off-road trails, bike and pedestrian bridges and underpasses.
- Paved shoulders four or more feet wide
- Bike lanes
- Pedestrian crosswalks
- Shared use paths 10 feet wide or greater
- Path/trail user amenities
- Grade separations
- Bicycle parking facilities
- Bicycle accommodations on public transportation
- Provision of safety and educational activities for pedestrians and bicyclists
- Programs designed to encourage walking and bicycling by providing potential users with education and safety instruction through classes, pamphlets and signage
- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails).
- Acquiring railroad rights-of-way; planning, designing and constructing multi-use trails; developing rail-with-trail projects; purchasing unused railroad property for reuse.

A minimum 20% local match is required (although more match is preferred) for proposed projects and applications are accepted on an on-going basis.

Michigan Natural Resources Trust Fund

The MNRTF provides funding for both the purchase of land (or interests in land) for recreation or protection of land because of its environmental importance or scenic beauty and the appropriate development of land for public outdoor recreation use. Goals of the program are to: 1) protect Michigan's natural resources and provide for their access, public use and enjoyment; 2) provide public access to Michigan's water bodies, particularly the Great Lakes, and facilitate their recreation use; 3) meet regional, county and community needs for outdoor recreation opportunities; 4) improve the opportunities for outdoor recreation in Michigan's urban areas; and, 5) stimulate Michigan's economy through recreation-related tourism and community revitalization.

All proposals for grants must include a local match of at least 25% of the total project cost. There is no minimum or maximum for acquisition projects. For development projects, the minimum funding request is $15,000 and the maximum is $300,000. Applications are due in April and projects must meet the goals of the Novi Parks and Recreation Master Plan. In addition, with the City's recent award of MDNRE Trust

Fund dollars for the Landings Park project, it may be a few years (2 to 3) before the City can be successful in approaching the Trust Fund again for additional projects. This is due to the Trust Funds historical pattern of dispersing their dollars geographically.

Congestion Mitigation and Air Quality Improvement Program (CMAQ)
The CMAQ program was created to reduce congestion on local streets and improve air quality. Funds are available to urban communities designated as "non-attainment" areas for air quality. Pedestrian and bicycle projects are eligible for CMAQ funding where they can be shown to divert motor vehicle commuting traffic that would otherwise take place. CMAQ projects on roads must be on federal-aid eligible roads. There is typically a 20% local match requirement. SEMCOG issues a call for applications each year (typically spring) and distributes the funds after review. In 2011, there was approximately $17.4 million available in the SEMCOG region.

DALMAC Fund
Established in 1975 to promote bicycling in Michigan, the DALMAC Fund is administered by the Tri-County Bicycle Association and supported by proceeds from DALMAC. The DALMAC Fund supports safety and education programs, bicycle trail development, state-wide bicycle organizations, and route mapping projects. Applications must be submitted by March 1. They are reviewed by the DALMAC Fund Committee and approved by the Board. Grants are made by May of the year they were submitted. Applications can be found at www.biketcba.org. This is a relatively small grant program with a total of $70,000 in 2010.

KODAK American Greenways Awards
Kodak, The Conservation Fund, and the National Geographic Society, provide small grants to stimulate the planning and design of greenways in communities throughout America. Made possible by a grant from Eastman Kodak, the program also honors groups and individuals whose ingenuity and creativity foster the creation of greenways. The application period typically runs from March 1st through June 1st. Program goals are to: develop new, action-oriented greenways projects; assist grassroots greenway organizations; leverage additional money for conservation and greenway development; and, recognize and encourage greenway proponents and organizations. Maximum grant is $2,500. For more information go to www.conservationfund.org.

Safe Routes to School
The Safe Routes To School Program is a national movement to make it safe, convenient and fun for children to bicycle and walk to school. In Michigan, the program is sponsored by the Michigan Fitness Foundation and has gained momentum over the past few years. Examples of projects and programs eligible for funding include sidewalks, traffic calming, crossing improvements, bicycle and pedestrian facilities, public awareness campaigns, traffic education and enforcement, etc. Schools must be registered and develop a Walking Audit in order to be eligible to apply. SR2S funding is 100 percent federal; no match is required. Projects must be constructed within 2 miles of the school. Applications are received and reviewed quarterly. Typical funding is approximately $200,000 per school and does not cover engineering, administration or permits.
www.saferoutesmichigan.org

Bikes Belong
The Bikes Belong Coalition is sponsored by members of the American Bicycle Industry. Their mission is to put more people on bikes more often. The program funds projects in three categories: Facility, Education, and Capacity Building. Requests for funding can be up to $10,000 for projects such as bike paths, trails, lanes, parking, and transit, and safe routes to school. Applications are accepted via email three times per year (April, August and November). More information can be found at www.bikesbelong.org.

3.3 Specific Area Concept Plans

The following concept plans were prepared to show how some of the ideas of the Non-motorized Plan may be applied to specific areas. These concept plans should not be taken as completely developed designs. Rather, they are to illustrate a design idea. The areas shown will require separate design studies that may involve a more detailed investigation of the site conditions including public input and the development of alternatives and draft preliminary plans.

Crossing I-96

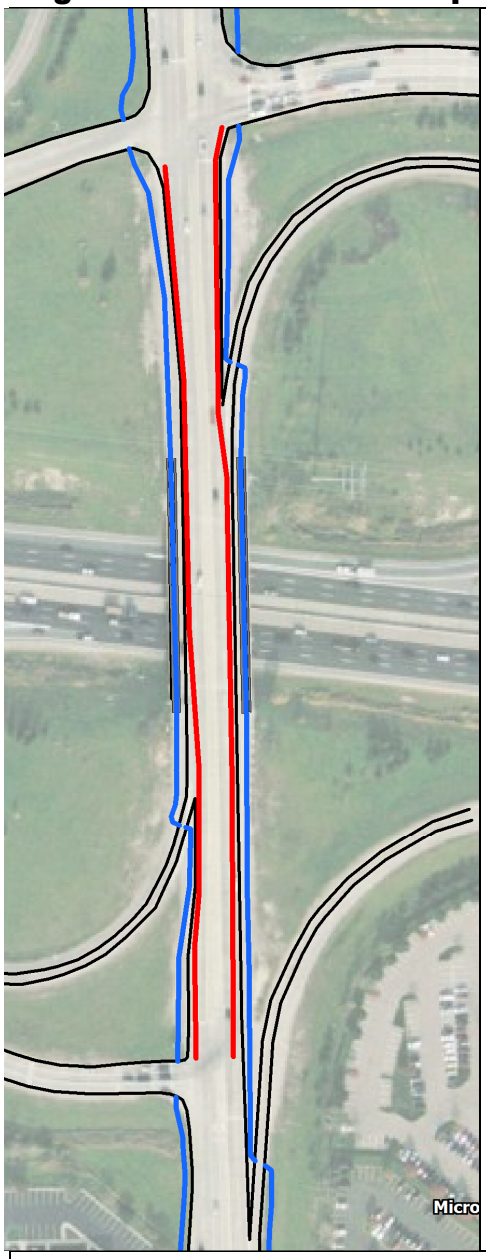
The I-96 expressway creates a significant barrier across the City with only one pedestrian crossing along Wixom Road which is outside of the City limits. Novi Road, Taft Road and Meadowbrook Road were identified as major areas of concern for pedestrians and bicyclist who want to cross the expressway and access commercial and recreational destinations on both sides of the expressway. Currently, Novi Road, Beck Road and Meadowbrook Road overpasses do not have any non-motorized facilities and Novi Road and Beck Road are difficult to cross as a pedestrian or bicyclist due to the heavy traffic and free-flowing ramps.

Free-flow ramps pose many dangers to bicyclists and pedestrians. Motor vehicle speeds are high and there are many merging operations taking place commanding the attention of motorists. The I-96 freeway interchanges were all recently rebuilt, so it may be a while until improvements are made at these crossings. When the interchanges are reconstructed, a general design principal, consistent with non-motorized travel, would be to bring all ramps perpendicular to the roadway to reduce speeds at crosswalk locations and establish more appropriate intersections for urban and suburban crossings.

The following illustrations demonstrate potential ways to retro-fit the existing expressway crossings to include non-motorized facilities. Please note that these illustrations were developed in coordination with the MDOT Novi Transportation Improvement Study:

- Fig. 3.3A. Novi Road Overpass
- Fig. 3.3B. Meadowbrook Road Overpass
- Fig. 3.3C. Beck Road Overpass
- Fig. 3.3D. Wixom Road Overpass
- Fig. 3.3E. CSX Underpass

Fig. 3.3A. Novi Road Overpass Retro-fit Cross Section



The Novi Road interchange is a daunting environment for bicyclists and pedestrians. But it is a key link between the City's major commercial centers and despite its lack of facilities, pedestrians and bicyclists still use the overpass.

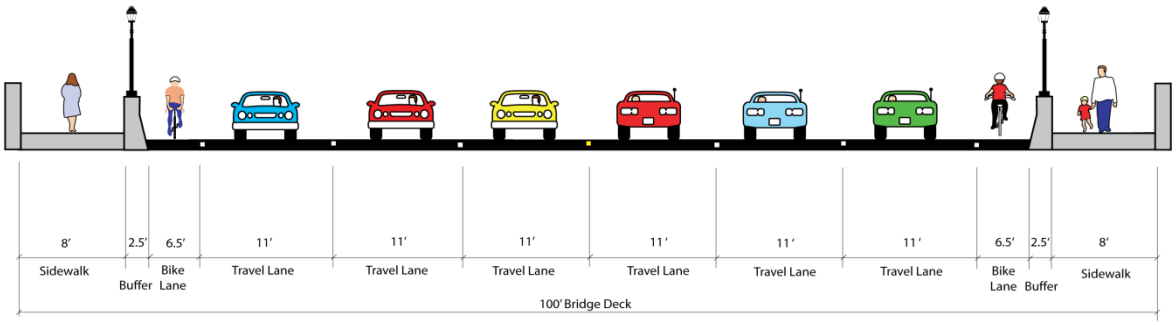
The bridge deck is 100' wide with a large recovery area on the outside and an unused center lane. This provided an opportunity to reallocate space on the bridge deck to accommodate bicycle and pedestrian facilities.

The following list describes basic improvements that could be made to improve bicycle and pedestrians facilities on the bridge:

- Add sidewalk to bridge deck by removing center median and reducing the travel lanes to 11' wide. Please note that due to the existing grade some earthwork would be required to build the sidewalks approaching the bridge deck.
- Until bike lanes can be implemented north and south of the bridge deck on Novi Road provide a 6.5' paved shoulder and allow bicycles to cross the bridge as a pedestrian using the sidewalk.
- Provide high visibility crosswalks at all free-flowing ramps by using the rectangular rapid flash beacon with an advanced warning flash beacon.
- In the future, when the interchange is reconstructed, bring all ramps perpendicular to the roadway to provide a safer crossing environment for pedestrians and bicyclists.

Sidewalk
Paved Shoulders

Potential Cross Section:



The City should consider going beyond providing just basic accommodations for bicyclists and pedestrians. The Novi Road interchange is a gateway to the city. It is a major connection between two regional shopping centers and one of the first things (and sometimes the only thing) many people experience when visiting the City of Novi.

Currently the interchange is utilitarian in nature. However, there is potential to enhance the interchange to create a signature corridor that reflects the character of the city and provides a memorable first impression of the community while simultaneously addressing important bicycle and pedestrian safety concerns.

Many communities have created landmark bridges that are an important part of their identity. Numerous improvements have been completed or are underway on Novi Road north and south of the interchange. Upgrading the bridge would establish a hallmark corridor through the heart of the city that also bears the city's name.

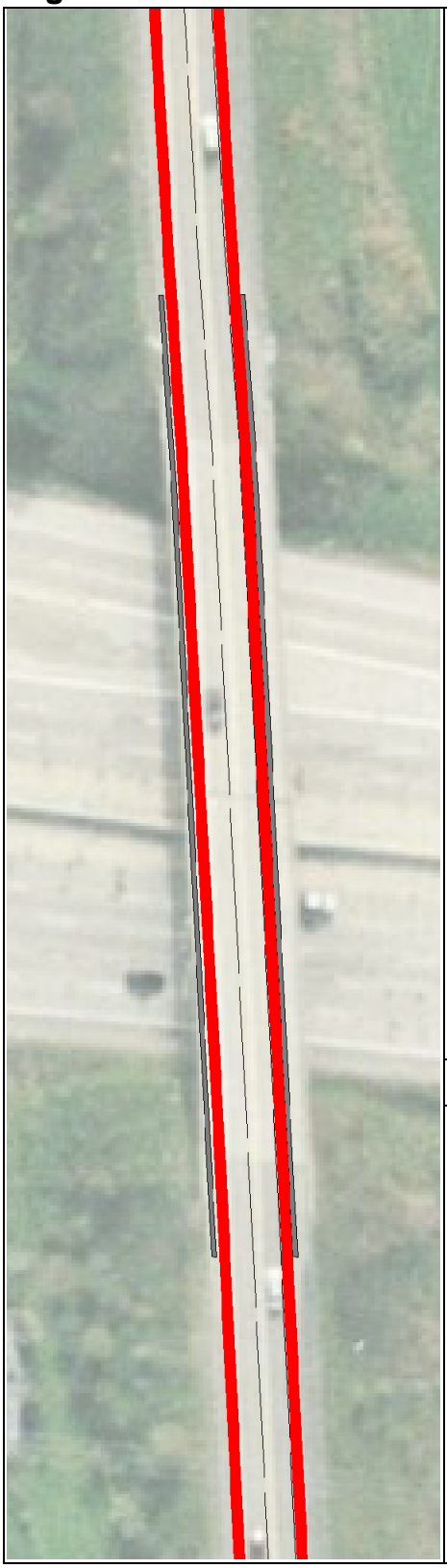


Wabasha Street Bridge in St. Paul Minneapolis



Existing conditions for the Novi Street overpass

Fig. 3.3B. Meadowbrook Road Overpass Retro-fit Cross Section



Meadowbrook Road provides the best opportunity to add bicycle facilities to an existing crossing of I-96. Beck Road and Novi road are interchanges and Haggerty Road is comprised of multiple bridges. It also provides a connection between the I-275 Metro Trail and the M-5 Metro Trail.

The following list describes basic improvements that could be made to improve bicycle and pedestrian facilities on the bridge:

- Add 9' bike lanes to both side of the road by paving the shoulder and reducing the travel lanes to 11' wide. The wide paved shoulder will also allow room for pedestrians walking against the flow of traffic over the bridge.
- Provide a crossing island on Meadowbrook just north of Bridge Street by utilizing the existing center turn lane.
- Since Meadowbrook Road provides both a regional trail connection and an everyday commuter connection, when the overpass is reconstructed, there should be a 6' bike lane on both sides of the road and a 10' shared use path should be constructed on the west side of the road..

Bike Lanes



Potential Cross Section:

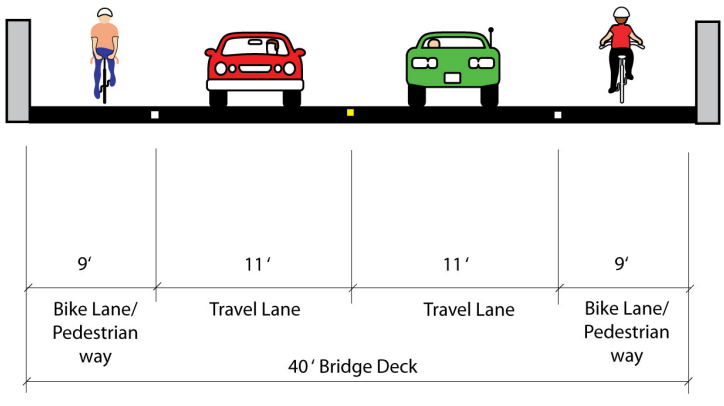
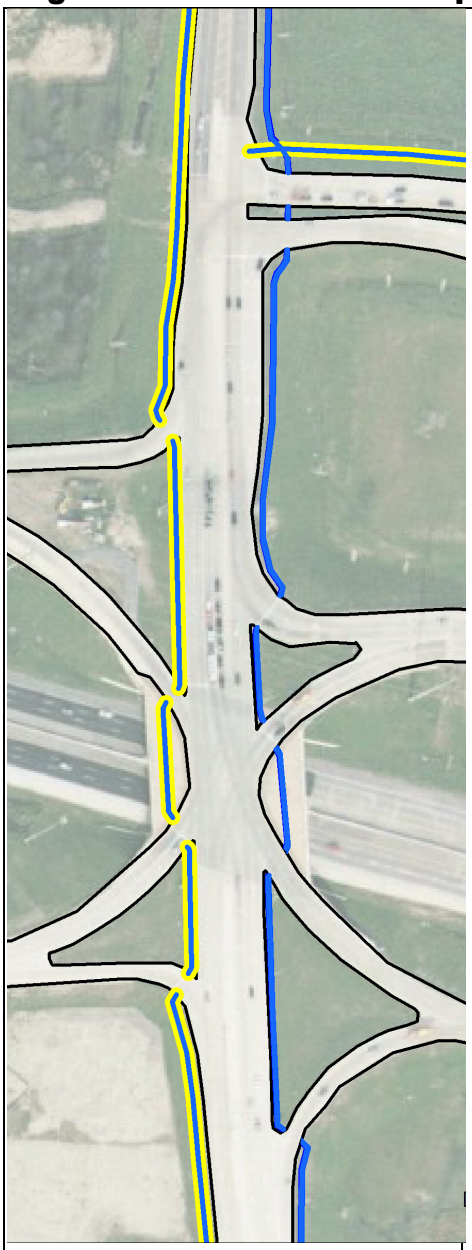


Fig. 3.3C. Beck Road Overpass Retro-fit Cross Section



Beck Road was reconstructed in 2005 into a Single Point Urban Interchange and has no bicycle or pedestrian facilities.

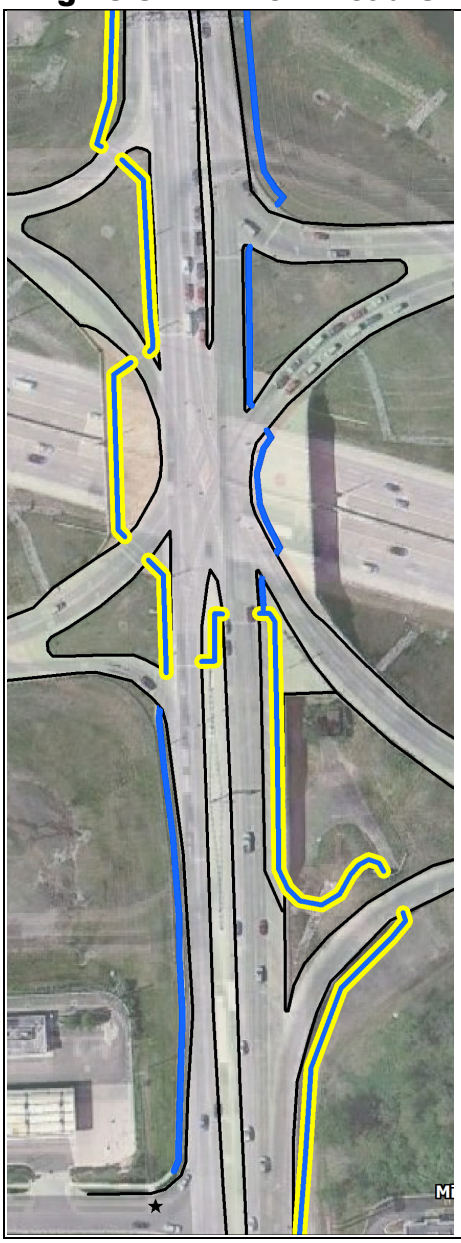
The following list describes basic improvements that could be made to improve bicycle and pedestrians facilities on the bridge:

- Add 10’ Shared use path to provide a regional trail connection on the west side of Beck Road. Please note that due to the existing grade some earthwork would be required to build the sidewalks approaching the bridge deck.
- Provide high visibility crosswalks at all free-flowing ramps by using the rectangular rapid flash beacon with an advanced warning flash beacon.
- The 10’ Shared use path will probably be the only non-motorized connection on this bridge for quite some time, as bike lanes are difficult to add to the existing geometry and it may be a while until there is sufficient demand for a sidewalk on the east side of the road.



Sidewalk
Regional Trail Connections

Fig. 3.3D. Wixom Road Overpass Retro-fit Cross Section



Wixom Road was reconstructed in 2007 into a Single Point Urban Interchange and has a 6' sidewalk on the west side. This is the only interchange that provides a pedestrian crossing over the freeway, however it is not in the City of Novi's jurisdiction.

The following list describes basic improvements that could be made to improve bicycle and pedestrians facilities on the bridge:

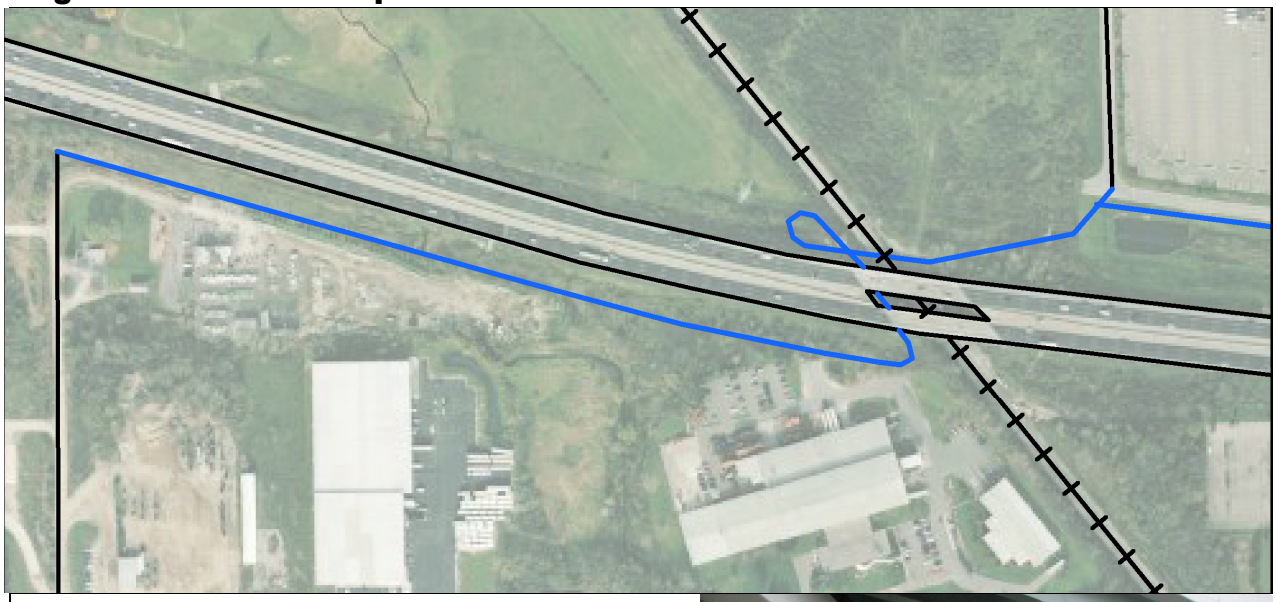
- Provide high visibility crosswalks on existing sidewalk at all free-flowing ramps by using the rectangular rapid flash beacon with an advanced warning flash beacon.
- When the regional trail connection is implemented utilize the existing tunnel under the I-96 east-bound on-ramp and ramp the pathway up to the bridge deck. Provide a road crossing across Wixom Road using the existing signals and median to link to the existing sidewalk. Then widen the existing sidewalk on the west side of the road to a 10' Shared use path where it provides a regional trail connection.

The recommendations for this overpass were developed from the I-96 Corridor Study.



Sidewalk
Regional Trail Connections

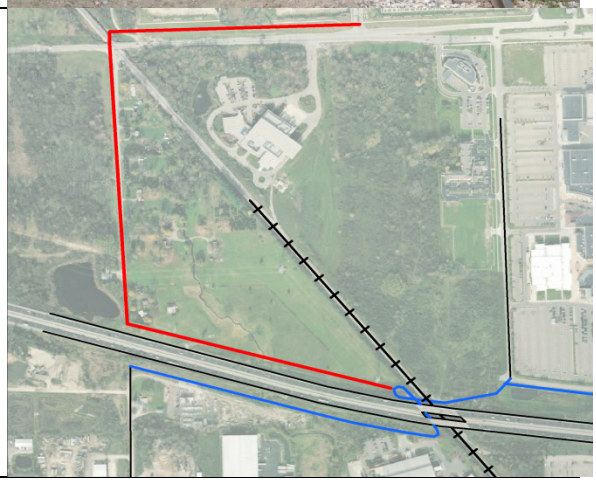
Fig. 3.3E. CSX Underpass Retro-fit



Utilize the existing CSX railroad underpass to build a trail along the west side of the railroad. By working with the existing bridge deck or building a separate facility, build a bridge over the railroad to provide a trail crossing to the east to connect to the regional shopping centers.



The alternative route to building a bridge over the railroad would be to take the trail to the west and connect to Taft Road, go north along Taft Road to 12 Mile Road and provide an at-grade railroad crossing along 12 Mile Road. At this point it may be worth exploring the option of building a separate non-motorized bridge over I-96 connecting Taft Road to avoid the CSX railroad altogether.



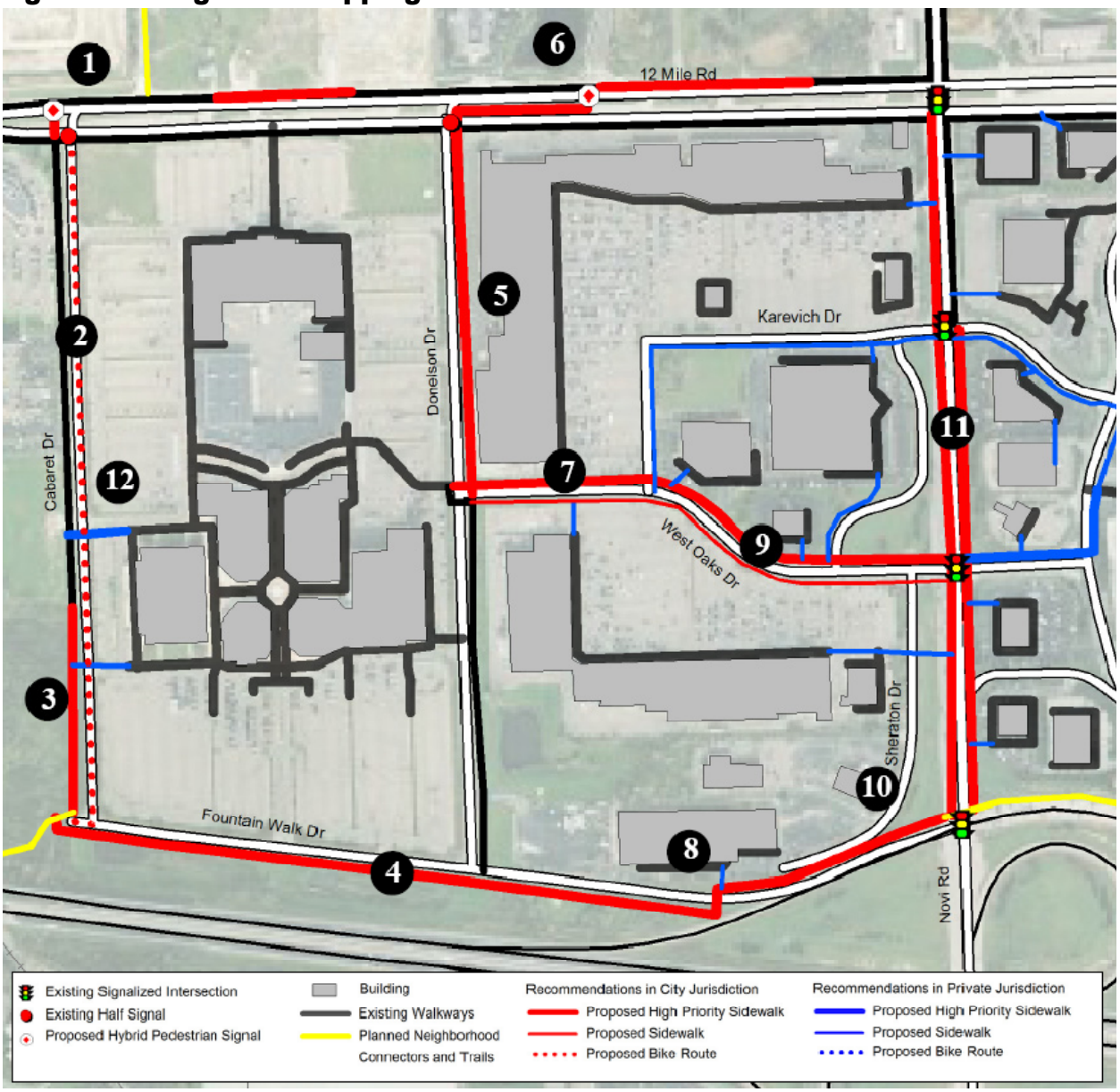
Regional Shopping Center

The regional shopping center is a major destination in the City of Novi and an area that many people refer to as "Downtown Novi". From a non-motorized standpoint it is important to make connections to this destination and to make connections within the shopping center. It is recommended that the private and public entities work together to try and make this area more bicycle and pedestrian friendly.

The following illustrations demonstrate potential ways to incorporate non-motorized facilities within the regional shopping center:

- Fig. 3.3D. Regional Shopping Center West of Novi Road
- Fig. 3.3E. Regional Shopping Center East of Novi Road

Fig. 3.3F. Regional Shopping Center West of Novi Road



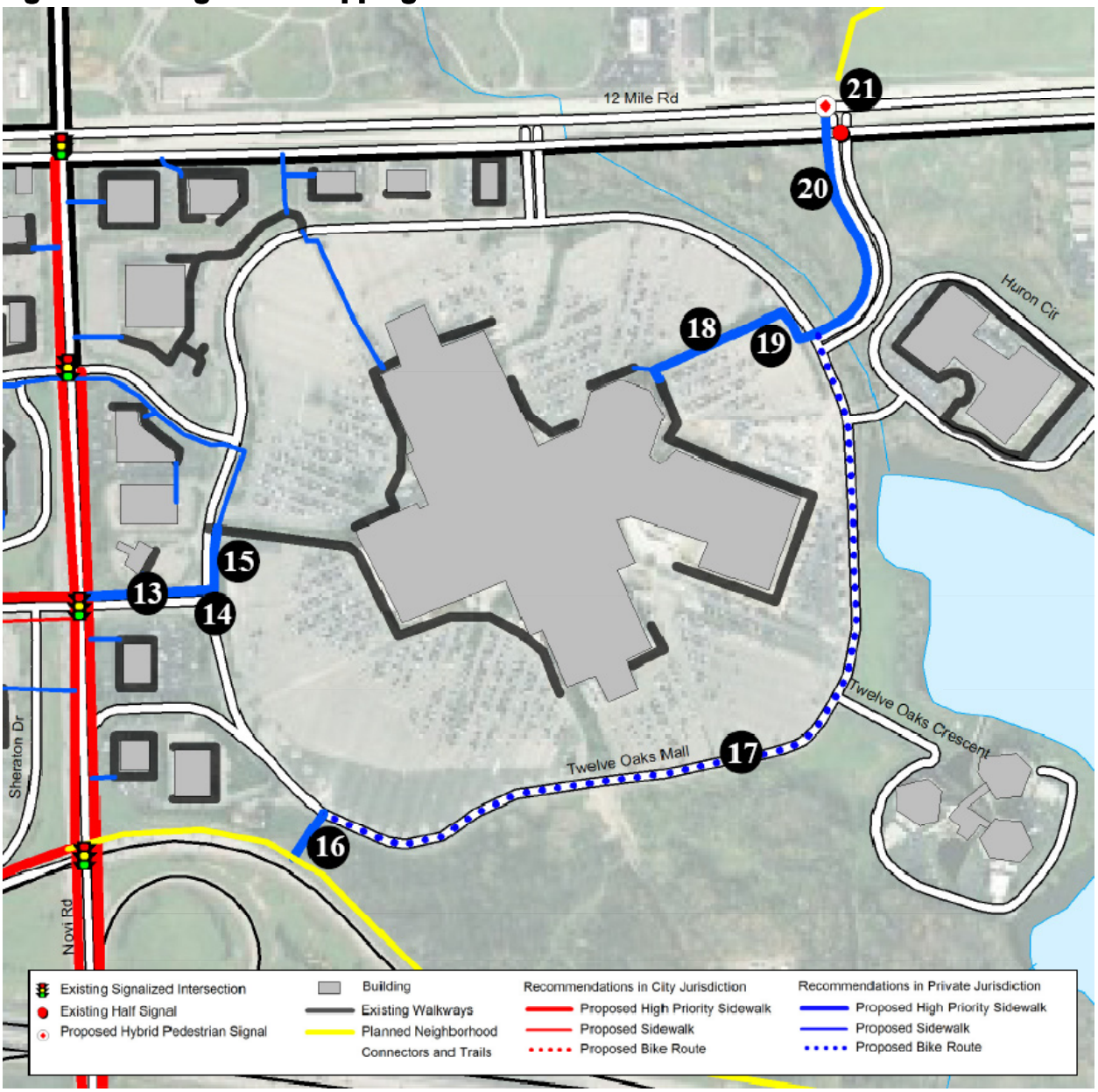
Recommendations for items in Public Jurisdiction:

1. Provide Pedestrian Crossing on 12 Mile by adding a Pedestrian Hybrid Beacon at Cabaret Dr
2. Implement on road bike route on Cabaret Dr
3. Extend 6’ pathway along the west side of Cabaret Dr down to Fountain Walk Dr
4. Build 10’ Shared Use Path along the south side of Fountain Walk Dr
5. Extend 6’ pathway along the east side of Donelson Dr between West Oaks Dr and 12 Mile Road
6. Provide Pedestrian Crossing on 12 Mile by adding a Pedestrian Hybrid Beacon at Carlton Way
7. Provide road crossing on West Oaks Dr
8. Provide road crossing on Fountain Walk Dr between Donelson Dr and Novi Road
9. Build 6’ sidewalk along north side of West Oaks Dr between Donelson Dr and Novi Road
10. Build 10’ Shared Use Path to north side of Fountain Walk over to Novi Road
11. Build Sidewalk along both sides of Novi Road

Recommendations for items in Private Jurisdiction:

12. Build 6’ sidewalk connecting Cabaret Dr to the Existing sidewalks

Fig. 3.3G. Regional Shopping Center East of Novi Road



Recommendations for items in Private Jurisdiction:

13. Build 6’ sidewalk along north side of road
14. Provide Pedestrian crossing at intersection
15. Build 6’ sidewalk along east side of road to connect to existing sidewalk
16. Build 10’ shared use path when trail along I-96 is built
17. Implement on road bike route along drive when I-96 trail connection is made
18. Build 6’ sidewalk
19. Provide pedestrian crossing at intersection
20. Build 6’ sidewalk along west side of road

Recommendations for items in Public Jurisdiction:

21. Provide Pedestrian Crossing on 12 Mile by adding a Pedestrian Hybrid Beacon when neighborhood connector pathway is implemented