

2014

MACC Non-Motorized Plan



**Macatawa Area Coordinating Council
301 Douglas Avenue,
Holland, MI 49424**

<u>Table of Contents</u>	<u>Page</u>
ACKNOWLEDGEMENTS	v
RESOLUTION OF APPROVAL	vii
INTRODUCTION	ix
EXECUTIVE SUMMARY	xii
CHAPTER 1 – Vision, Goals and Objectives	1
CHAPTER 2 – Existing Bicycle and Pedestrian Transportation Network	5
Bicycle and Pedestrian Access	5
Map of Existing Non-Motorized Access – Regional	6
CHAPTER 3 – Regional Connectors	7
Existing Regional Connectors	7
West Michigan Road and Trail Bicycle Guide	7
U.S. Bicycle Route System	9
Future Regional Connectors	11
Maps of Proposed Future Corridors	
Future Regional Connectors	11
Future Regional Connectors – Southern MACC Area	13
Macatawa River Greenway	14
Future Regional Connectors – Northern MACC Area	15
Proposed Improvements to Regional Non-Motorized Network	16
Transit Linkages	16
New Bike and Bus Resource Guide	16
Other Planning Efforts	16
City of Holland	16
Regional Bicycle Access Improvements	16
Public Comments	17

CHAPTER 4 – Safety	19
Analysis of Pedestrian/Bicycle Collision Data	19
Average Daily Traffic	21
Railroads and Freeways	22
CHAPTER 5 – Design Considerations	25
On-Road and Off-Road Facilities	26
Site Design	29
Walkability	31
Complete Streets	31
Components of Bike Boulevards	34
Considerations for Projects Located Within MDOT Right-of-Way	35
CHAPTER 6 – Public Participation	36
MACC Public Participation Plan	36
Non-Motorized Planning Newsletter	36
Other Public Input Opportunities	37
CHAPTER 7 – Community Awareness	40
Education - Rules of the Road to inform motorists, pedestrians, and bicyclists	40
Promotion – Benefits to the community and regional economy	42
Census Commute Trends	42
Real Estate Preferences	42
Tourism Destination	43
Creating Active Living Communities	44

Lake Michigan Trails	44
Bike Share Program	45
Green Commute Options	45
Air Quality Benefits of Non-Motorized Transportation	46
Outreach – Social media, online tools, and community resources	48
CHAPTER 8 – Project Costs and Funding	50
Future Shared Use Paths	50
Future Paved Shoulders / Bike Lanes	51

Maps and Figures

1. MACC Metropolitan Planning Area	ix
2. MACC Non-Motorized Network	5
3. Existing Non-Motorized Access – Regional	6
4. Regional Connectors	8
5. U.S. Bicycle Route 35	9
6. U.S. Bicycle Route 35 – Revised	10
7. Future Regional Connectors	11
8. Future Regional Connectors – Southern MACC Area	13
9. Macatawa River Greenway	14
10. Future Regional Connectors – Northern MACC Area	15
11. Map of Existing Non-Motorized Network And Proposed Improvements	18
12. Pedestrian/Bicycle Collision Data 2004-2012	19
13. On-Road and Off-Road Design Considerations	26
14. Facility Types and Roadway Considerations	27
15. Cul-de-Sac and Interconnected Streets	29
16. Road Diet Example	33
17. Components of Bike Boulevards	34
18. Accident Rates for Various Bicycle Facilities	41
19. Averted Vehicle Miles of Travel	47

APPENDIX

Setting and Context within the Macatawa Area

[Historic View of Non-Motorized Facility Development](#)

[Profiles for Cities of Holland and Zeeland](#)

[Profiles for Allegan County Townships](#)

[Profiles for Ottawa County Townships](#)

Community Involvement

[Non-Motorized Plan – Public Input Meetings](#)

Fact Sheets: Rules of the Road

Where Must a Bicyclist Ride and a Pedestrian Walk?

Road Etiquette

Additional Resources

Bibliography and Resources

Recommendations for Data Collection

Glossary of Terms

Compact Map - Foldable biking and walking map which highlights regional routes for non-motorized access within the Macatawa area

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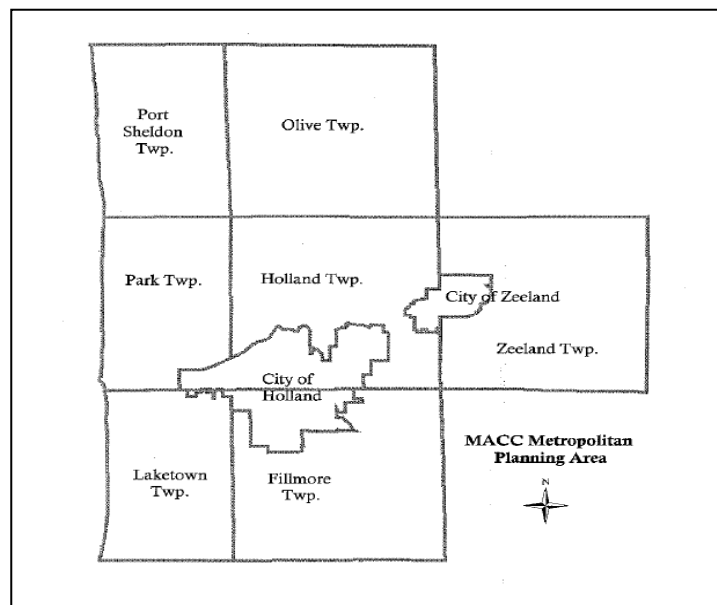
Introduction

The Macatawa Area Coordinating Council (MACC) was formed in 1988 out of recognition of the need for greater cooperation among units of government in the Holland/Zeeland area. The MACC's membership currently includes:

- City of Holland
- City of Zeeland
- Port Sheldon Township
- Olive Township
- Park Township
- Holland Charter Township
- Zeeland Charter Township
- Fillmore Township
- Laketown Township
- Ottawa County Board of Commissioners
- Allegan County Board of Commissioners
- Ottawa County Road Commission
- Allegan County Road Commission
- Michigan Department of Transportation
- Macatawa Area Express Transportation Authority (MAX)

As a result of the 1990 Census, the Holland/Zeeland area was designated as an urbanized area with a population of greater than 50,000. Federal law requires that metropolitan areas with an urbanized area population of greater than 50,000 establish a metropolitan planning organization (MPO). The MPO ensures that the area has a continuing, cooperative, and comprehensive transportation planning process. The MACC was designated as the MPO for the Holland/Zeeland area in 1993. The MACC's planning process covers the area within its metropolitan planning area (MPA). The current MPA is approximately 200 square miles.

Figure 1: MACC Metropolitan Planning Area



What is the purpose of a Non-Motorized Plan and what does our community have to gain from this effort?

The region's transportation planning process requires that local units of government work to design a transportation system which is comprehensive, coordinated, and improves mobility for all persons. In the MACC Area, we have a Long Range Transportation Plan that guides future transportation investments. A Non-Motorized Plan will focus on non-motorized elements of this transportation system that make it possible for people to safely walk and bike. As we worked to develop this Non-Motorized Plan, we identified goals and objectives to meet the needs of residents, employees, and visitors. Once implemented, the Plan will make it easier to design projects that integrate multiple modes of transportation and minimize motorized/non-motorized conflicts ... making our community safer and more accessible.

A regional plan which identifies the existing bicycle and pedestrian transportation network and proposes regional connectors will help to coordinate future investments in order to increase safety; provide access to employment, residential areas, public facilities; and serve those who do not own cars or have other transportation barriers. Providing connections to fixed route transit service within the Macatawa Area Express (MAX) Transportation Authority service area also makes it possible for residents, employees, and visitors to travel longer distances and take advantage of bike racks which are equipped to carry two or more bicycles on each MAX bus.

Although the choice to invest in non-motorized facilities can be perceived as a secondary priority, national surface transportation legislation¹ requires that the transportation system accommodate the needs of motorized and non-motorized users. The MACC included a non-motorized element within the regional transportation plan², which illustrates existing non-motorized facilities and commits to developing a comprehensive non-motorized network for the region. The regional plan acknowledges that mobility can be improved by considering multiple modes of transportation such as walking, bicycling, and public transportation. An objective of the plan is to consider these alternative modes of transportation when implementing street and highway improvements.

Creating a connected network of bicycle and pedestrian facilities to provide opportunities for safe and efficient travel through the MACC area is a vision which promotes energy conservation, improves quality of life, and supports economic vitality. Connecting local and regional non-motorized facilities will provide people with increased travel opportunities. As people consider walking and bicycling to destinations, they will become less reliant on automobile travel. Conserving fuel and reducing pollutants that are emitted into the air will help the region to comply with air quality standards, while also helping to reduce traffic congestion and improve health.

Adding non-motorized connections to the transportation system and implementing strategies such as intersection modifications, route signage, and education programs will help to improve

¹ (Moving Ahead for Progress in the 21st Century or "MAP-21")

² 2035 Long Range Transportation Plan (LRTP), approved February of 2011

safety for pedestrians and bicyclists. The MACC Policy Committee requested that the Non-motorized Plan visually identify locations where safety issues exist. The Plan includes a variety of strategies to modify intersections, improve visibility of pedestrians and bicyclists, and to promote greater awareness of traffic safety laws. As the non-motorized network provides safe and efficient access to employment, education, medical/essential services, shopping, and recreational opportunities, this will improve the quality of life for those who live and work in the region.

A Regional Non-Motorized Plan will help to allocate resources to non-motorized projects which support economic vitality. The *2035 Long Range Transportation Plan* specifies that “planning efforts must recognize funding availability when designing the system, ensure the best allocation of those resources and promote the development of a system that is an economic asset to the region”³. Establishing a list of regional and local non-motorized projects with estimated costs for implementation will assist local governments to prioritize and coordinate future investments.

Conclusion:

What does the Macatawa Area Coordinating Council (MACC) have to gain from this effort? Identifying improvements to the existing non-motorized network and coordinating future investments to enhance regional connections will help to implement this vision of an integrated network of bicycle and pedestrian facilities. A regional plan which outlines strategies to enhance safety and which creates non-motorized travel options will benefit the Macatawa area by assisting residents and employees to conserve energy, improve their health, and invest in transportation improvements that are cost-effective and maximize long term benefits for the community. Lastly, the development of a Regional Non-Motorized Plan will also serve as an educational tool to guide those who live and work in the Macatawa area, as well as visitors. This educational component of the Plan will inform motorists, pedestrians, and bicyclists of the “Rules of the Road” while also identifying regional routes and connections to safely travel from one destination to another.

³ 2035 Long Range Transportation Plan (LRTP), approved February 2011 (Chapter 2, page 7)

Executive Summary

This section is designed as a booklet, which summarizes the entire plan and graphically illustrates the following elements of the Non-Motorized Plan:

- **Vision, Goals, and Objectives**
- **Existing Network**
- **Regional Connectors**
- **Future Routes and Facilities**
- **Safety**
- **Design Considerations**
- **Public Participation**
- **Community Awareness**
- **Project Costs & Funding**

This booklet will be made available to MACC Members, local agencies, organizations, and businesses listed in Chapter 7, Community Awareness. Please see page 58. A digital copy of this booklet will be distributed through social media and online tools, in addition to the MACC website.

Chapter 1 – Vision, Goals, and Objectives

“In September, 1973 the Ottawa County Board of Commissioners passed a resolution urging the Ottawa County Road Commission to set up a county-wide bicycle path master plan. In addition to that resolution, the Recreation Plan (1970) adopted by the Ottawa County Board of Commissioners, provides further impetus for bikeway development in Ottawa County”

(**Ottawa County Bikeway Study**, Prepared for the Board of Commissioners of Ottawa County By the Staff of the West Michigan Shoreline Regional Development Commission, December 1975).

Background

Planning for non-motorized transportation in this region began in the early 1970's. At that time, planners recognized that while bicycles would not replace the automobile as the prime form of transportation, “they nevertheless offer opportunities for better health, increased recreational opportunities, transportation options, and improvements in the environment”¹.

In 1975 a Bikeway Plan was prepared for the Ottawa County Board of Commissioners. The Plan acknowledged that bikeway planning was not simply a matter of constructing bikeways, but also should include safety education, regulation, and address the long term maintenance of facilities. The Plan also identified a basic problem that “few bikers observe the rules of the road as they are required to do by state law and few drivers accord bikers the same privileges for use of the road as they do other automobile drivers”. Decades later our region has an extensive network of on-road and off-road facilities, yet we continue to discuss these matters and evaluate how to move forward.

The MACC Non-Motorized Plan is a regional planning document, addressing safety education and recommending connections for efficient travel through the MACC Area. The Plan recognizes the importance of non-motorized transportation and acknowledges the extensive investment that has been made in the region. Chapter 1 presents a regional vision for the non-motorized transportation network and identifies goals and objectives that will be used to achieve this vision. Once implemented, performance measures will be used to re-evaluate progress of the MACC Non-Motorized Plan and will help to identify areas where improvement may be needed. This Plan will assist local governments to prioritize and coordinate future investments. As an element of the region's Long Range Transportation Plan, the MACC Non-Motorized Plan will be updated every 4 years.

¹ West Michigan Shoreline Regional Development Commission, **Ottawa County Bikeway Study**, December 1975

Developing a Vision for the Region

“I see an incredible opportunity in the Holland area to capitalize on our attention to energy efficiency and progressive energy policies, in a related way I see the same opportunity to distinguish ourselves – despite long winters- as a model community that supports non-motorized moving about our community. We are poised to be regional and national leaders in these areas with a fine groundwork of achievements in hand” (Philip L. Meyer, Director of Community and Neighborhood Services Department, City of Holland).

The interest of developing a non-motorized plan for the Macatawa area was expressed in the MACC 2030 Long Range Transportation Plan, adopted in April 2004. At that point, it was recognized that a significant non-motorized network already existed in the area and that a future non-motorized plan would “integrate the non-motorized plans of MACC members, as well as other organizations, and recommend a comprehensive bikeway network”.

During recent years, the 2007 and 2008 Traffic Safety Forums continued discussions regarding the non-motorized transportation network and various types of bicycle facilities to accommodate the needs of distinct types of bicyclists (advanced, basic/less confident adults, and children). The 2008 Traffic Safety Forum included an evaluation of the feasibility of bike lanes in the Macatawa area as well as strategies to develop a non-motorized plan with both off-road and on-road components.

In March of 2009, the MACC Policy Committee supported a staff proposal to develop a regional non-motorized plan. MACC staff began the planning process with a workshop and individual meetings with local units of government in order to understand needs and perspectives expressed by individual communities. This Non-Motorized Plan both recognizes and complements earlier efforts of MACC members to plan and implement non-motorized facilities.

In July of 2009, the MACC Policy Committee discussed an overall vision and goals for a regional non-motorized plan. In reviewing the proposed goals, it was suggested that consideration be given to market the non-motorized network within the MACC area and also as a destination for bicyclists from beyond this area.

Vision:

To create a connected network of bicycle and pedestrian facilities providing opportunities for safe and efficient travel through the MACC area.

Goals:

1. Provide residents with increased travel opportunities
2. Increase safety for residents and employees who walk and/or bike
3. Connect existing and planned facilities (local and regional)
4. Assist in promoting pedestrian and bicycle “friendly” character of the region

The Plan was developed to acknowledge safety concerns and visually identify where safety issues exist. During the initial Policy Committee discussion, MACC staff was directed to address the importance of walkability and site design considerations. Highlighting Lake Shore Drive as a regional example, Policy Committee members requested that the Plan address on-road bike lanes as a next phase in the non-motorized network and identify future bike lanes to accommodate longer distance riders.

This planning effort began with the purpose of integrating the non-motorized plans of MACC members and recommending a comprehensive non-motorized network. The process of developing this regional Non-Motorized Plan involved cooperative effort from the 15 member organizations of the MACC (representing local units of government from seven townships, the cities of Holland and Zeeland, representatives of Allegan and Ottawa counties, road commissions, Macatawa Area Express Transportation Authority, and the Michigan Department of Transportation), input from interested residents, businesses and organizations, and support from the Federal Highway Administration.

Input received through a series of public meetings during the fall of 2009, and during the update of the 2035 Long Range Transportation Plan in February 2011, confirmed the need to identify improvements to the existing non-motorized network and coordinate future investments which enhance regional connections. MACC staff created a Non-Motorized Working Group, inviting 14 stakeholder organizations with interests in pedestrian and bicycle safety. The Working Group helped to identify gaps in the regional transportation system and recommended a network of Regional Connectors to provide continuous bicycle and pedestrian access.

The need for improved education and public outreach also became evident as MACC staff began speaking with local units of government, individuals, and community organizations. Green Commute Week was launched by the Macatawa Area Coordinating Council, as a program to encourage alternative transportation. This annual event has encouraged more than 30 employers and 4 high schools to promote walking and bicycling to work (as well as carpools and public transportation). The Green Commute Week program has also provided an educational component to inform motorists, pedestrians and bicyclists of the “rules of the road”.

Community education is clearly needed in order to implement a multimodal transportation system which ensures safety and security of all users. Many of the public comments submitted on the draft Non-Motorized Plan recommended that this educational element be strengthened. The regional plan clearly will have a significant role in this effort and the MACC is committed to promote bicycle safety training & community education.

Goals and Objectives

Recognizing the regional vision and four primary goals defined by the MACC Policy Committee, the Non-Motorized Plan establishes the following objectives for implementation:

Goal 1 - Provide Residents with Increased Travel Opportunities

- a) **Objective:** Identify existing network of non-motorized facilities and routes through a regional map
- b) **Objective:** Provide brochure or executive summary of regional Non-Motorized Plan to inform residents of existing network of non-motorized facilities and routes as well as future improvements
- c) **Objective:** Develop model site design guidelines and site plan review checklist to provide pedestrian and bicycle circulation within new residential developments and access to surrounding properties
- d) **Objective:** Continue to add 3 or more miles of non-motorized facilities annually

Goal 2 - Increase Safety for Residents and Employees Who Walk and/or Bike

- a) **Objective:** Identify dwelling units within $\frac{1}{4}$ mile of major shopping locations to evaluate ease of access or lack of access
- b) **Objective:** Identify locations within the region with highest collisions involving pedestrians and bicyclists
- c) **Objective:** Minimize traffic crashes and motorized/non-motorized conflicts through roadway and site design strategies
- d) **Objective:** Recognizing the fact that prudent behavior of pedestrians, bicyclists, and vehicle drivers - as well as compliance with and enforcement of traffic safety laws - are necessary components of a safe transportation system, safety education programs will be developed

Goal 3 - Connect Existing and Planned Facilities (Local and Regional)

- a) **Objective:** Identify gaps in the regional non-motorized transportation network and recommend improvements
- b) **Objective:** Identify railroads, freeways and other detractors/barriers to regional connectivity
- c) **Objective:** Provide map of proposed regional connectors to provide connectivity and long distance travel for non-motorized users

- d) **Objective:** Designate on-street bicycle routes and identify short-term strategies to ensure an integrated and continuous non-motorized network through the region.
- e) **Objective:** Using cost estimates for improvements to existing facilities and for the construction of proposed projects, coordinate with MACC members to identify funding strategies to build and maintain proposed infrastructure
- f) **Objective:** Identify pedestrian detractors through an inventory of major rail and freeway crossings

Goal 4 - Assist in Promoting Pedestrian and Bicycle “Friendly” Character of the Region

- a) **Objective:** Market the MACC area as a destination for bicyclists with the assistance of the Holland Convention and Visitor’s Bureau, Michigan West Coast Chamber of Commerce, local businesses, regional trail organizations, and other organizations
- b) **Objective:** Coordinate with local governments, state agencies and other organizations to implement and promote the non-motorized network within the MACC area through site planning, bicycle parking, route signs, maps, and promotional materials
- c) **Objective:** Install a region-wide set of directional signs to inform visitors to the Macatawa area of existing facilities and routes in order to easily navigate from one part of the region to another
- d) **Objective:** Continue to encourage public participation in the development and implementation of plans and policies that impact pedestrians and bicyclists
- e) **Objective:** Coordinate with local citizens’ advisory groups to inform of policies, programs and facility improvements that will enhance and promote bicycle and walking
- f) **Objective:** Continue voluntary employee commute programs, such as Green Commute Week, that encourage and support bicycling and walking options
- g) **Objective:** Designate and map bike racks and safe parking sites within the MACC Area
- h) **Objective:** Continue to install convenient bicycle storage and parking to encourage biking for shorter trips and provide bicycle linkages to public transportation in order to travel further distances
- i) **Objective:** Develop and conduct public awareness campaigns promoting bicycling and walking as a means of achieving sustainability goals, improving air quality, reducing traffic congestion, improving personal health and wellness, and enhancing the quality of life

- j) **Objective:** Participate in programs such as the League of American Bicyclists - **Bicycle Friendly Community** program, and provide technical assistance to MACC Area businesses applying for recognition for bicycle friendly initiatives on a regional, state, great lakes and national level
- k) **Objective:** Develop recommended incentives for Non-motorized and multi-modal transportation

The Macatawa Area Coordinating Council will work to implement the specific objectives established in this Non-Motorized Plan. The regional vision and goals of the Plan will also be incorporated within the 2040 Long Range Transportation Plan, which is to be completed in early 2015.

Chapter 2 – Existing Bicycle and Pedestrian Transportation Network

Bicycle and Pedestrian Access

What travel options exist for someone who would like to use bicycle and pedestrian facilities in the region? Located along the coast of Lake Michigan, the Macatawa area has an extensive network of shared use paths, traditional sidewalks, trails, bike routes along paved road shoulders, and bike lanes. This non-motorized network is used by those who live and work within the region, as well as visitors. The network accommodates a variety of needs, including fitness and recreation, commuting to work or school, and long-distance travel.

Shared Use Paths

With over 190 miles of shared use paths providing pedestrian and bicycle access, separated from the roadway, a person wishing to travel along this non-motorized network can travel from Saugatuck to Holland, and continue north - under the River Avenue Bridge, or east toward Zeeland - over the Adams Street Bridge. Both structures provide separate non-motorized access for pedestrians and bicyclists. Lakeshore Drive provides shared use path access along Lake Michigan, to Port Sheldon Township, and north to Grand Haven. Traveling through Laketown, Park, Port Sheldon, Holland, and Zeeland Townships, a person can choose multiple routes, as these communities have invested in an interconnected system of shared use paths.

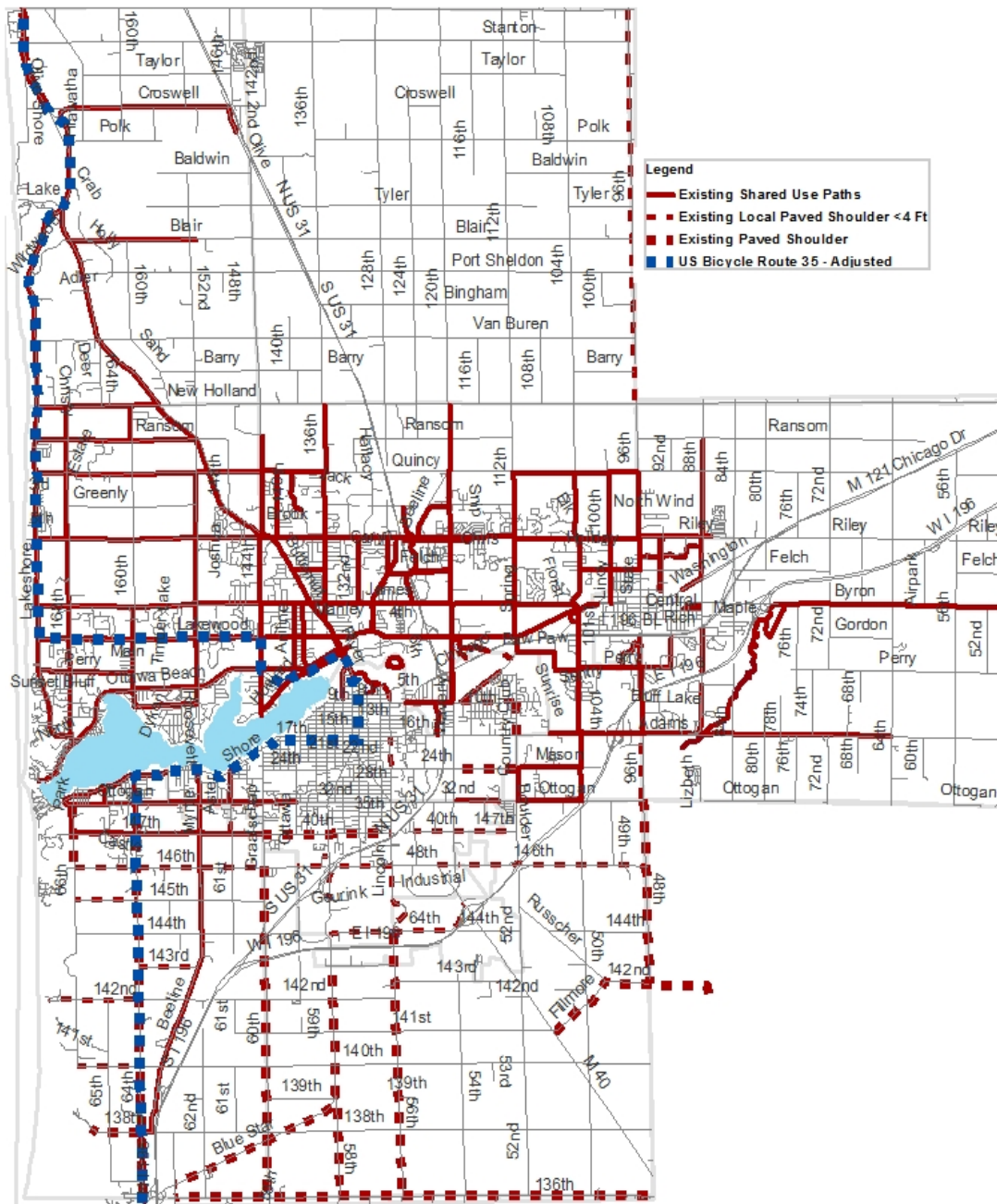
Paved Shoulders

Paved shoulders throughout Laketown and Fillmore Townships, in northern Allegan County, and in portions of Ottawa County provide on-road bicycling access. 70 miles of paved shoulders along roadways in the Macatawa area accommodate snow removal equipment, extend the service life of roadways, provide safety benefits to motorists, as well as accommodate on-road cycling. Paved shoulders which are at least 4 feet wide offer opportunities for cyclists to safely maneuver on the roadway and decrease conflicts with motor vehicles.

Figure 2: MACC NON-MOTORIZED NETWORK

UNIT OF GOVERNMENT	SHARED USE PATHS	SIDEWALK	PAVED SHOULDERS OR BIKE LANES
Laketown Twp	10.5 miles		21 miles
Fillmore Twp		1 mile	24 miles
City of Holland	16 miles	207 miles	3.5 miles
City of Zeeland	10.5 miles	28 miles	
Zeeland Twp	17 miles		7.3 miles
Holland Twp	68 miles		1 mile
Park Twp	52 miles		3.5 miles
Port Sheldon Twp	17 miles		3.5 miles
Olive Twp			6 miles
TOTAL	191 miles	236 miles	69.8 miles

Figure 3: EXISTING NON-MOTORIZED ACCESS - REGIONAL



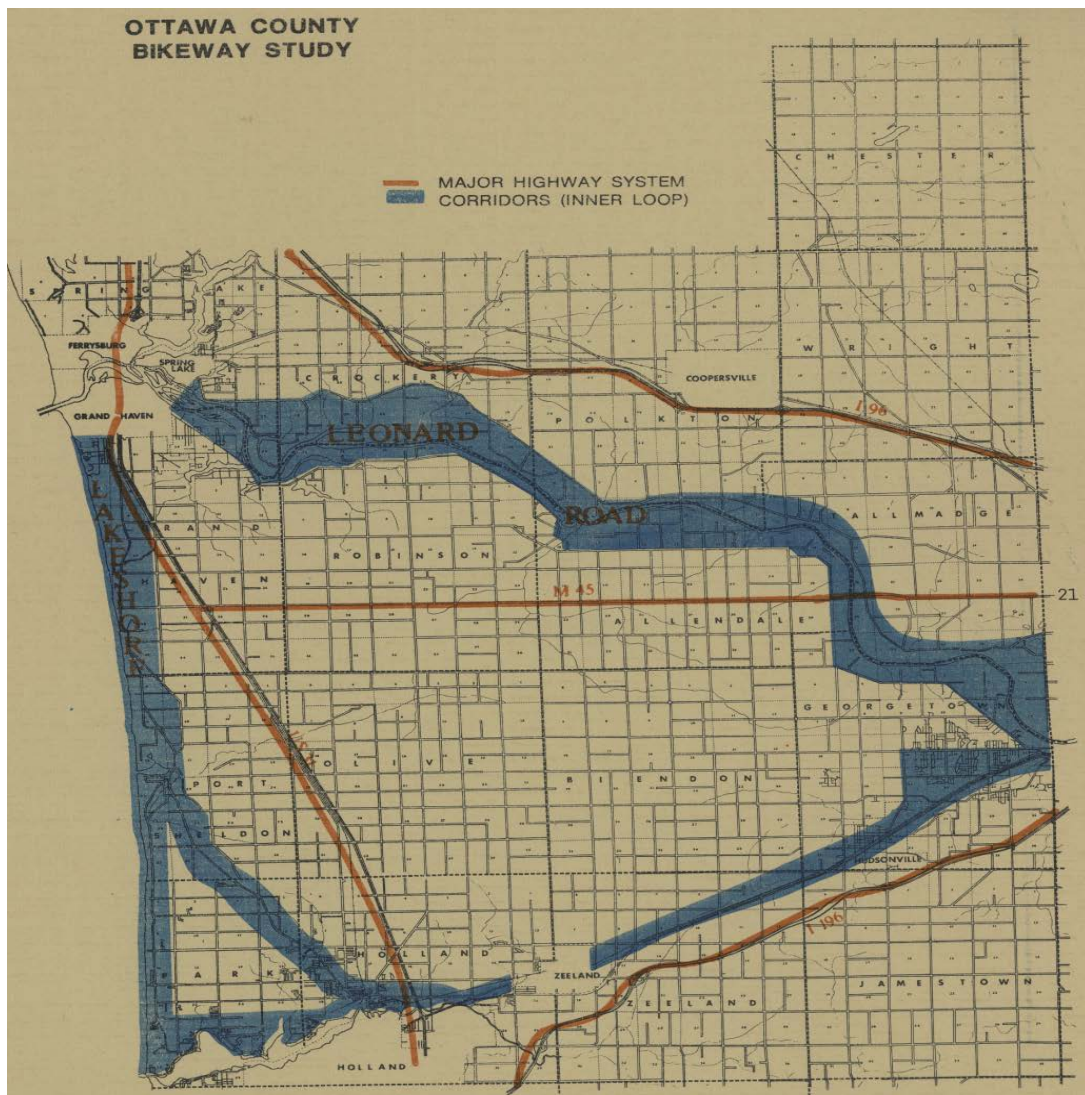
0 2.25 4.5 9 Miles

C:\GIS\GIS\Transportation\NMP Map Sept 2014
E. Hoekwater

Chapter 3 – Regional Connectors

Existing Regional Connectors

An inventory was prepared by MACC staff identifying shared use paths, bike routes along paved road shoulders, and bike lanes within the region. Though no distinction was given to distinguish routes which serve regional trips or which are used primarily for local purposes, Lakeshore Drive is commonly recognized as a route which serves bicyclists riding from Holland to Grand Haven – on the roadway, as well as on shared use paths.

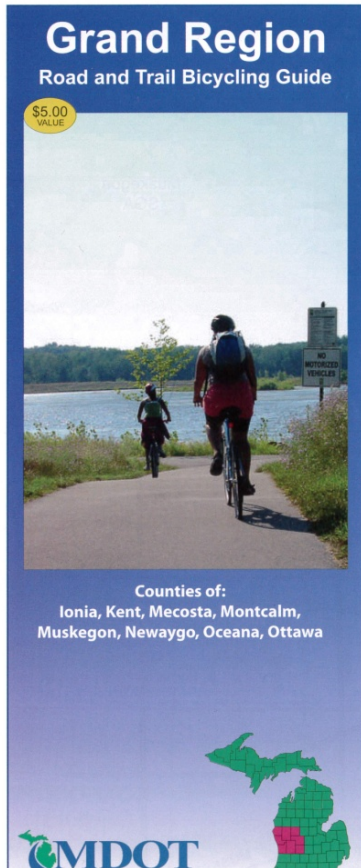


1975 Map of Regional Bike Corridors

This map illustrates regional corridors that were first proposed in 1975. These corridors include Lakeshore Drive, Ottawa Beach Road, and River Avenue/Butternut Drive in the MACC Area.

Lakewood Boulevard and M-121 (Chicago Drive) were also identified as connector routes to continue from Holland Charter Township to Georgetown Township and eventually to Leonard Road (along the Grand River) -creating an integrated county-wide network. Many of these routes still serve a regional purpose today and they are identified as Regional Connectors in Figure 4.

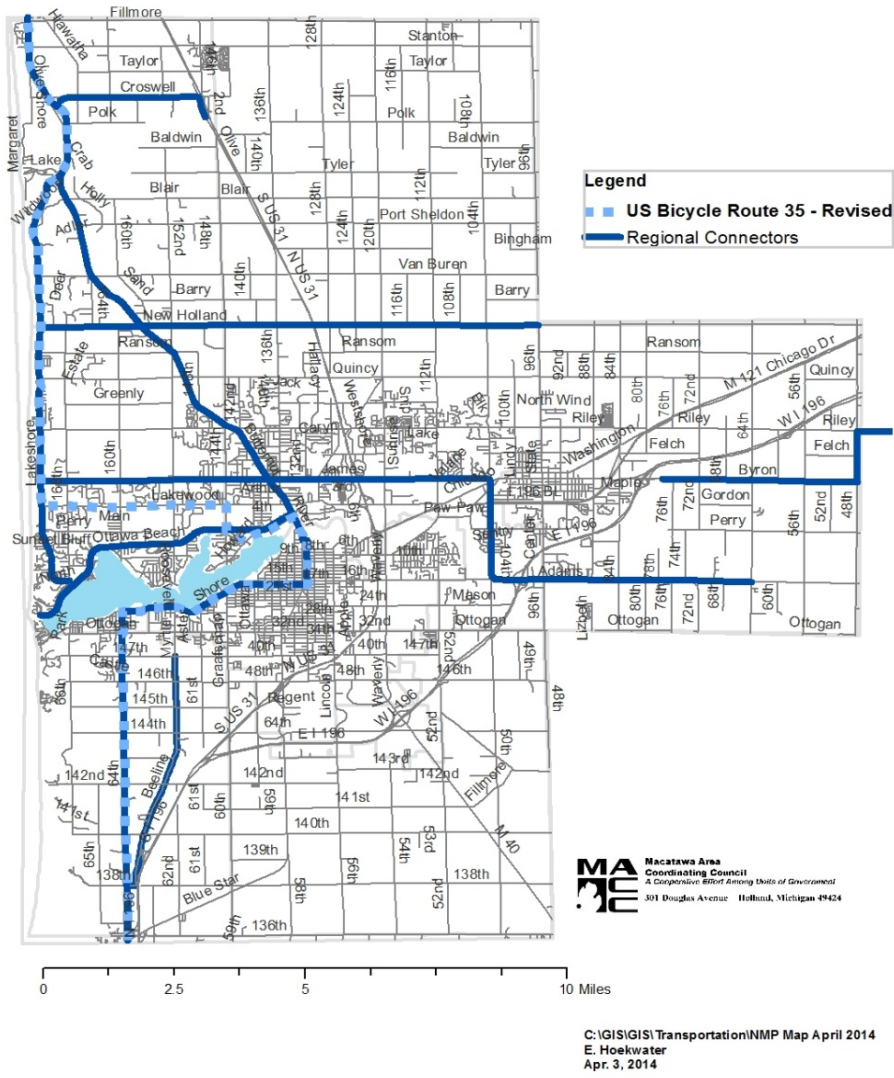
WEST MICHIGAN ROAD AND TRAIL BICYCLE GUIDE



The Michigan Department of Transportation worked with the West Michigan Regional Planning Commission and the West Michigan Shoreline Regional Development Commission to complete a West Michigan **Road and Trail Bicycle Guide** for the Grand Region. The guide classifies regional shared use paths as well as local paths/connector routes. Within the MACC area, existing shared use paths and paved shoulders are identified. The Grand Region Road and Trail Bicycle Map, printed by MDOT in 2010, highlights Lakeshore Drive as a regional route. Other routes which are also designated as regional shared use paths include Ottawa Beach Road/Douglas Avenue (Lakeshore Drive to River Avenue), Butternut/River Avenue (River Avenue Bridge to Lakeshore Drive), and James Street (Lakeshore Drive to 104th Avenue). Two larger projects completed in 2010, also serving as regional connectors, include the Croswell Street multi-use path (from Lakeshore Drive to West Olive Road in Port Sheldon Township); and the North-South Connector shared use path (between Blue Star Highway and 147th Avenue in Laketown Township).

The 2011 construction of the Fred Meijer Kenowa Trail is a major addition to the regional non-motorized network, providing access from the Kent trail system to the Macatawa region and Lake Michigan lakeshore. At the western end, the trail connects to existing shared use facilities at 96th Avenue and Adams Street, continues east to 84th Avenue, through the Upper Macatawa Natural Area, and continues along Byron Road to 48th Avenue, Riley Street, 24th Avenue, Greenly Street, 8th Avenue, and onto Kenowa Avenue, near the Kent trail system.

Figure 4 - Regional Connectors



A network of **Regional Connectors** have been identified as preferred routes for advanced cyclists in the region (See Figure 4). It is recommended that each of these bike routes include Share-the-Road signs to alert motorists as well as way-finding signs for identification as part of the regional network. An on-street route originally proposed for Quincy is not recommended at this time due to travel speed and limited visibility. As there have been extensive investments in shared use paths on Quincy, Quincy shared use paths are more attractive to the basic cyclist and it would be more efficient to designate the New Holland roadway as a through-route for the advanced cyclists traveling further distances. Input from members of the Macatawa Cycling Club confirms that people feel more comfortable riding on New Holland and thus recommend that the East-West route be moved north to New Holland.

U.S. BICYCLE ROUTE SYSTEM

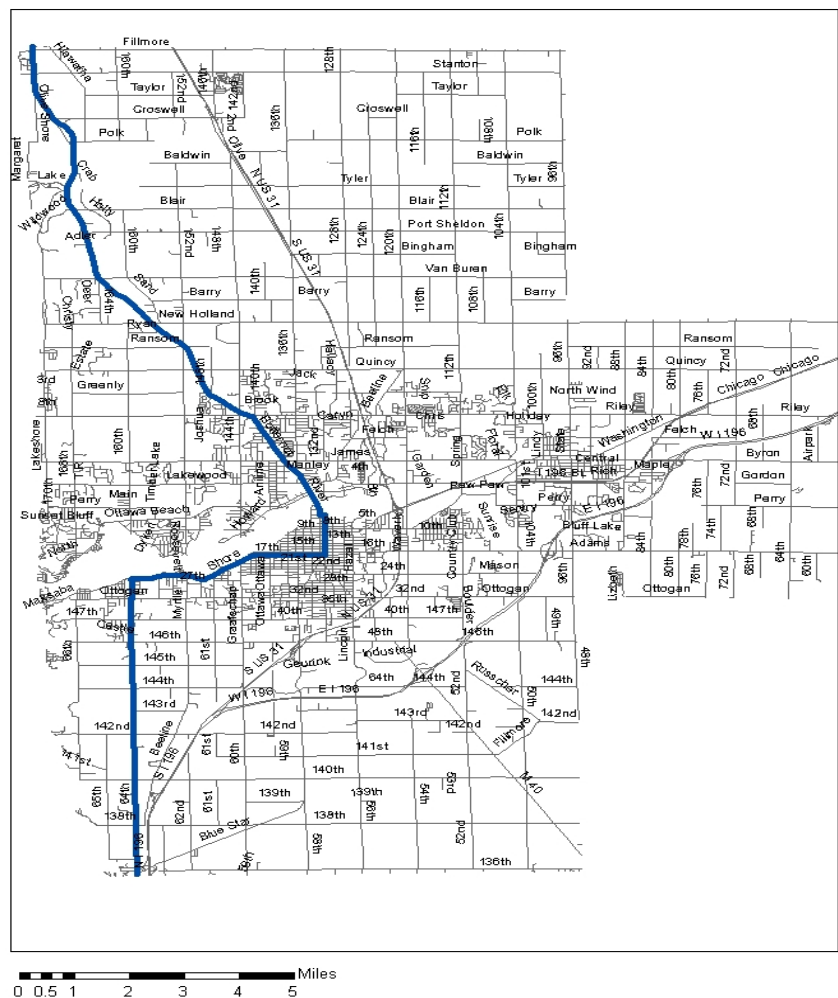
Adventure Cycling Association and several other organizations worked with the American Association of State Highway Transportation Officials (AASHTO) to develop a [U.S. Bicycle Route System](#). With staff support from Adventure Cycling Association, [AASHTO's](#) Task Force on U.S. Bicycle Routes developed a corridor-level plan and designation scheme for the system. Within Michigan, a US Bicycle Route 35 Corridor Committee has worked to designate a proposed route. This committee agreed that the Michigan segment of US Bicycle Route 35 “will stretch from New Buffalo on the Michigan/Indiana line north along the Lake Michigan coastline, crossing the Straits of Mackinac to Sault Ste Marie in the Upper Peninsula. Along the way this scenic route will pass through lively and fun beach, harbor and tourist towns, and tranquil farmlands and forests”.²

In May of 2010, the MACC Policy Committee agreed with the recommended route designation through the region. The proposed route is approximately 23.5 miles and includes the following road segments, beginning in Laketown Township:

Figure 5

- (Laketown Township)
North on 64th Street
- (Park Township)
North on S. 160th Avenue
- (City of Holland)
East on South Shore Drive to W. 17th Street
- (City of Holland)
North on Central Avenue to W. 3rd Street and onto the River Avenue Bridge
- (Holland Township)
North on River Avenue to Butternut
- (Port Sheldon Township)
North to Lake Shore Drive

US Bicycle Route 35



² USBR-35 Corridor Committee

On September 23, 2010 there was a public hearing/workshop hosted by the Macatawa Area Coordinating Council and the West Michigan Regional Planning Commission (WMRPC) to discuss US Bicycle Route 35 (USBR-35). The meeting provided the opportunity for people to learn about this bicycle route proposed along the coast of Lake Michigan. Michigan's section of USBR-35 is roughly 500 miles long and stretches from the Indiana border to Sault St. Marie.

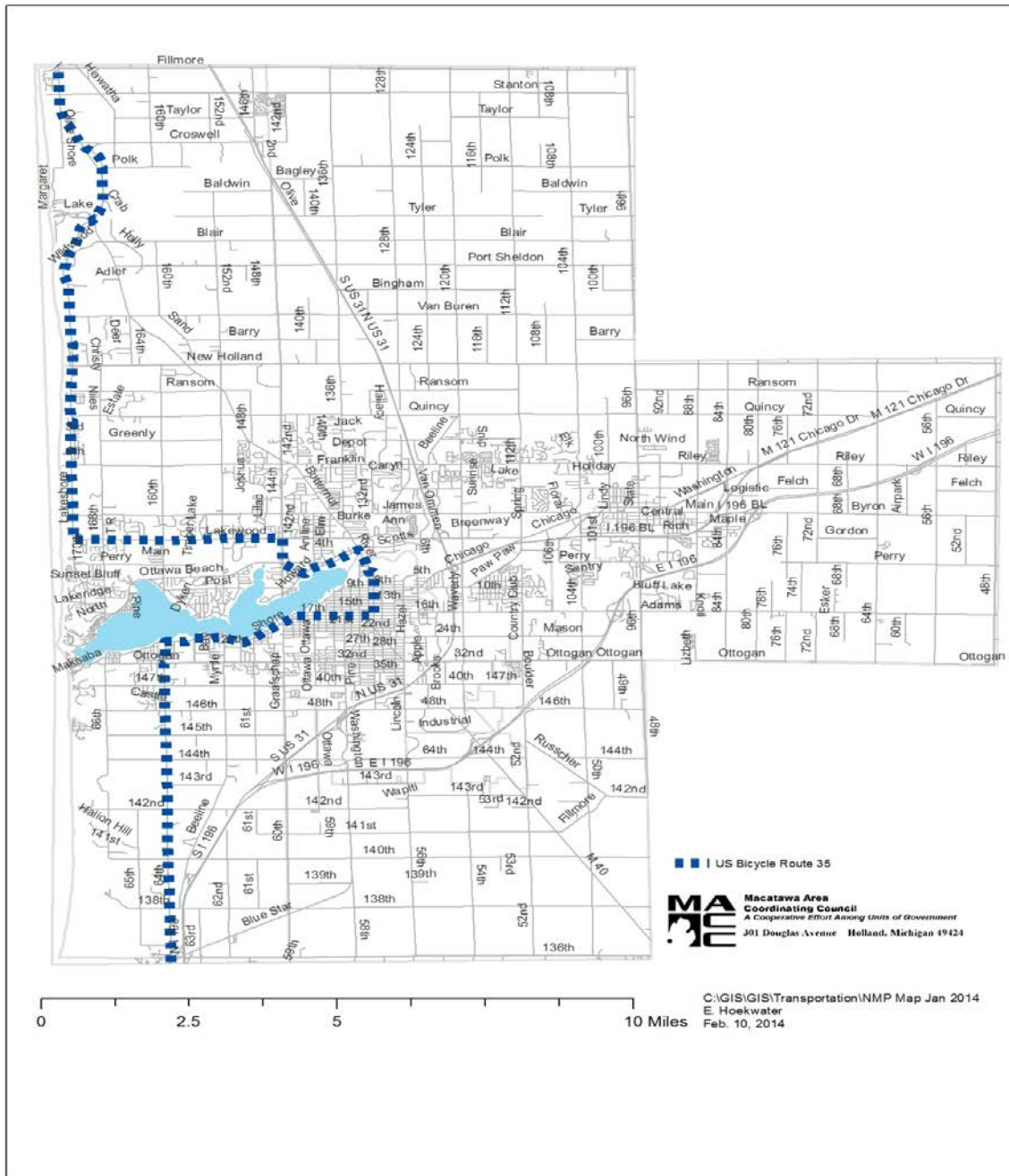
In May of 2012 the USBR-35 was officially approved by the American Association of State Highway and Traffic Officials. The bicycle route is intended for "experienced long distance touring bicyclists. It is not a trail, and no construction is proposed related to this route. It is meant to be a mapped recommendation as the best way to ride a bicycle long distance along the coast"³.

After reviewing data for traffic collisions within the region, MACC Staff recommends an alternate route from the River Avenue Bridge, east to Howard Ave – Pinecrest – 144th/Division Ave (in Holland Township), east on Lakewood Avenue (in Park Township), and northward on Lakeshore Drive (in Park and Port Sheldon Townships). A widened paved shoulder or bike lane is also recommended where feasible along the USBR-35 route to improve safety for on-street bicyclists. See proposed map, on the following page. Additional discussion on the realignment of this portion of USBR-35 is included in Chapter 4, page 27.

³ VandenBosch, Paul, Project Manager, City of South Haven, MI.

Figure 6

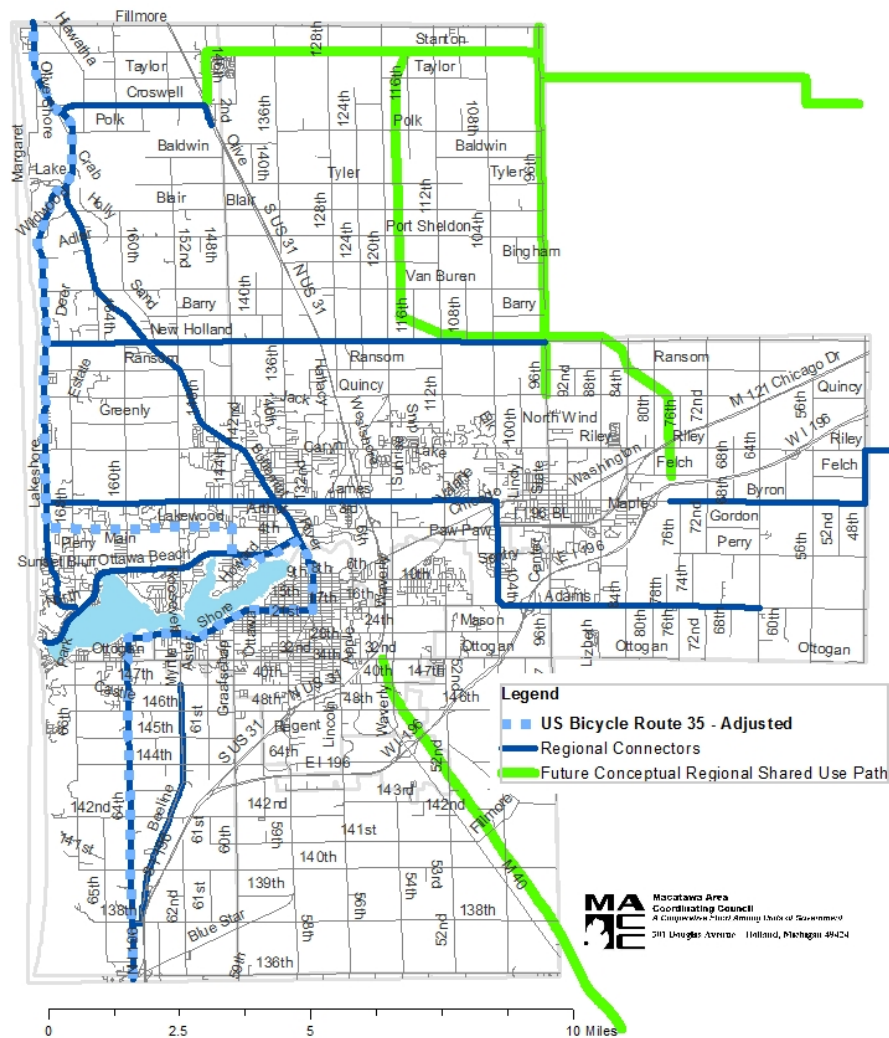
US Bicycle Route 35 - Revised



Future Regional Connectors

MACC Staff has worked to coordinate regional connections with our neighboring regions, the West Michigan Shoreline Regional Development Commission, in Muskegon; the Grand Valley Metropolitan Council, in Grand Rapids; and the Southwest Michigan Planning Commission, in Benton Harbor. In addition to the regional connection provided by the USBR-35 corridor and the Fred Meijer Kenowa Trail in Zeeland Township, future conceptual regional shared use paths (noted in green) have also been identified to connect with Robinson, Blendon, and Overisel Townships. Figures 7, 8, 9 & 10 highlight non-motorized projects which may offer these needed connections in the future.

Figure 7 - Future Regional Connectors



C:\GIS\GIS\Transportation\WMP Map Aug 2014
E. Hoekwater
Sept. 11, 2014

In order to accommodate future non-motorized access within the region, the MACC Non-Motorized Plan includes a category for future conceptual regional shared use paths. This category is unfunded and is simply a concept which could be possibly pursued in the future. Though having a project designated as a future conceptual regional shared use path does not obligate a community to allocate funds for the project, it may be beneficial to recognize a potential corridor in the MACC Non-Motorized Plan when seeking possible grant opportunities, at some point in the future.

South of the MACC Area, the Southwest Michigan Planning Commission developed a 9-County Non-Motorized Plan, which recognizes the regional significance of the USBR-35 corridor, as well as a corridor along M-40 (through Allegan, Cass, and Van Buren Counties). MACC Staff provided input during the development of the 9-County Plan and agreed to designate both of these corridors as high priority projects. The M-40 Corridor is identified as a Future Conceptual Regional Shared Use Path, in Figure 8.

The Southwest Michigan Planning Commission developed the following ranking for future corridors within the 9-County Plan:

Regionally Significant/High Priority:

- Lakeshore/US Bicycle Route 35 corridor (along the Lake Michigan shoreline)
- M-40 corridor (connecting Allegan, Cass, and Van Buren Counties). At the northern end of this corridor, the City of Holland will be constructing a shared use pathway from 40th Street to Industrial Avenue. This project will provide access to residential development and major employers along the M-40 corridor and improves safety for pedestrians and bicyclists crossing US-31 in Holland. An evaluation of a rails-to-trails opportunity along this M-40 corridor was a recommendation during the public review of the MACC Non-Motorized Plan. This corridor is identified as a future conceptual regional shared use path in Figure 8.

Medium Priority:

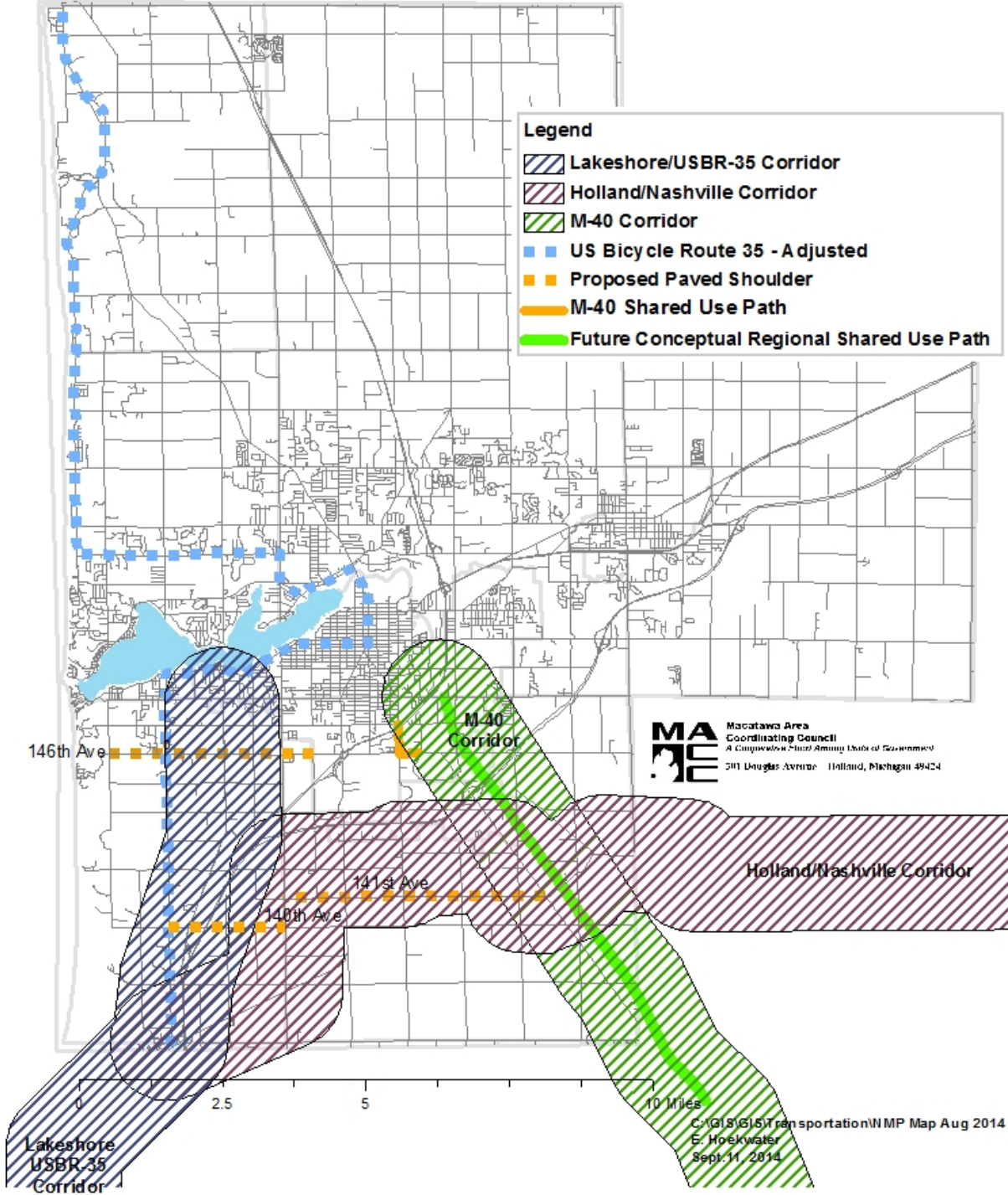
- Holland – Fennville route (designated as a medium priority route in Allegan County to the Kal Haven Trail)

Lower Priority:

- Holland – Nashville corridor (identified as a lower priority on-street route through Fillmore Township). Widened paved shoulders proposed along 140th and 141st Streets are noted in Figure 8 as dashed yellow lines. Within the MACC area, 141st Avenue would include widened paved shoulders to M-40 / Fillmore and would then follow 142nd Avenue in Allegan County and head east to Barry County to the Paul Henry Thornapple Trail.

Chapter 8 of this MACC Non-Motorized Plan includes cost estimates to construct future shared use paths and widened paved shoulders. The shared use project along the M-40 corridor, the widened paved shoulders along Lakeshore Drive, 140th and 141st Streets mentioned above, are included in Chapter 8.

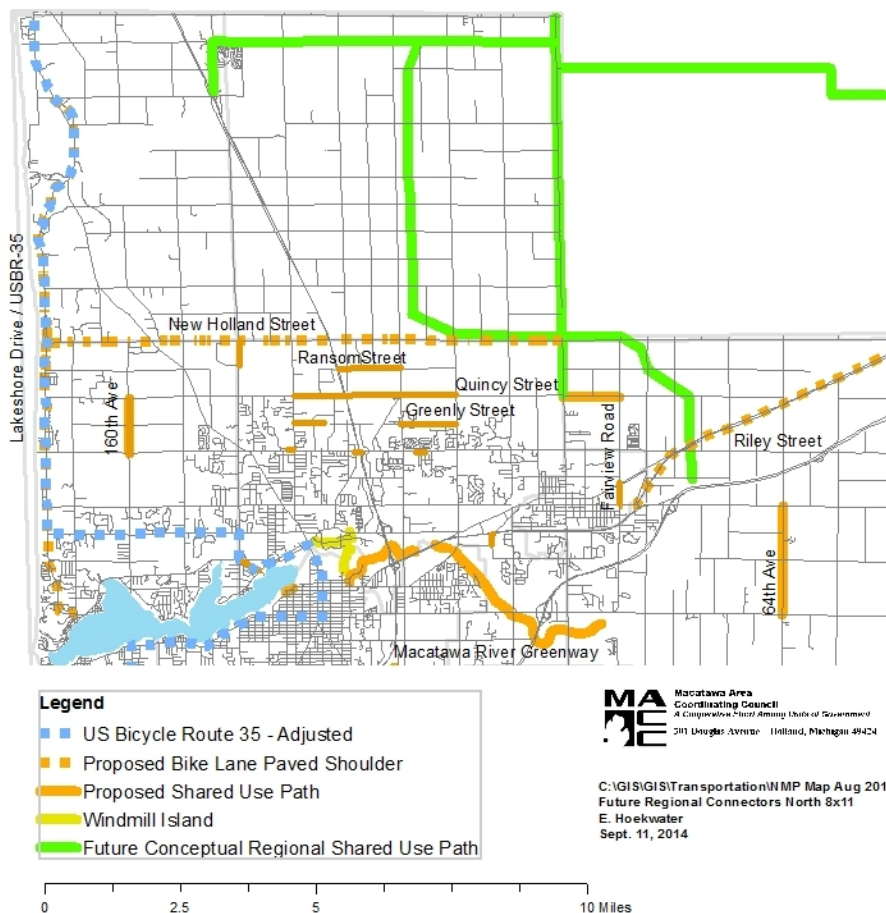
Figure 8 - Future Regional Connectors Southern MACC Area



Future Regional Connectors (continued)

Within the northern portion of the MACC Area, several shared use paths and widened paved shoulders / bike lanes are planned to provide connections to existing non-motorized facilities. The Ottawa County Department of Planning and Performance Improvement sponsored a Non-motorized Pathways Study and map⁴ which have been incorporated into this regional plan. Figure 9 illustrates future regional connectors, including USBR-35 along the lakeshore, an East-West route along New Holland Street, a paved shoulder along Chicago Drive, and shared use paths proposed along 160th Ave; Ransom Street; Quincy Street; Greenly Street; Riley Street; Fairview Road; and 64th Ave. Two additional projects planned within the northern portion of the MACC Area are the Macatawa River Greenway and non-motorized improvements at Windmill Island. Chapter 8 of this MACC Non-Motorized Plan includes cost estimates to construct many of these future shared use paths and widened paved shoulders.

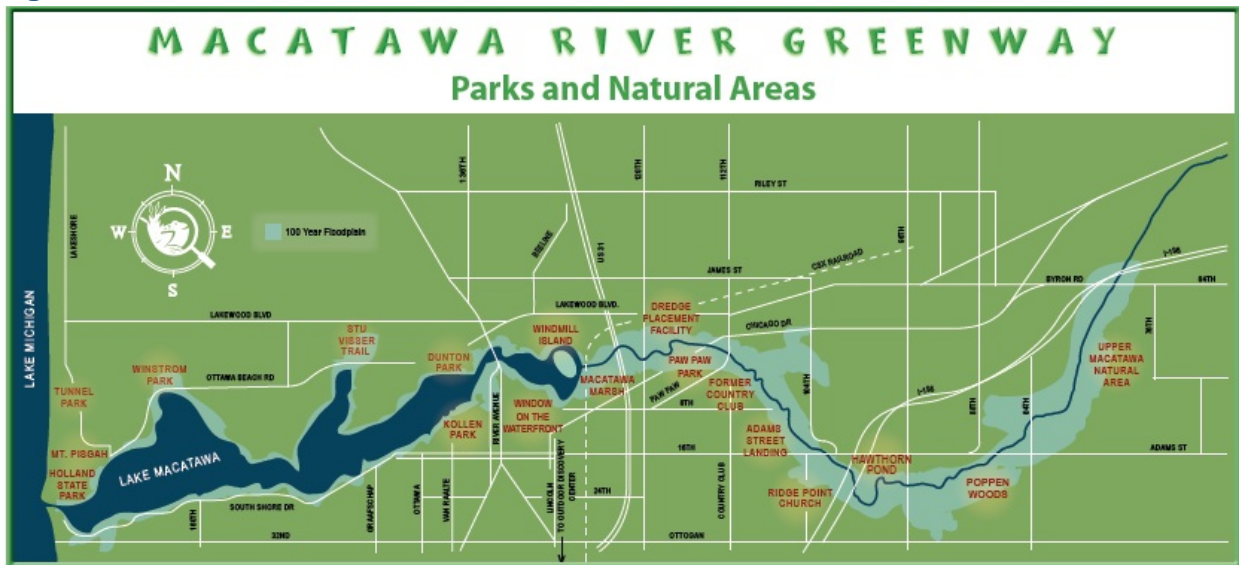
**Figure 9 - Future Regional Connectors
Northern MACC Area**



⁴ <http://miottawa.org/Departments/Planning/pdf/LandUseProjects/NMPS.pdf> (Corradino Group, Prein & Newhof, 2002).

Proposed shared use paths and paved shoulders are recommended to enhance connections between existing non-motorized routes. As mentioned on page 15, the planning of future routes must consider non-motorized travel to neighboring communities. Blendon Township, for example, identified a series of non-motorized pathways in its adopted Master Plan. Figure 9 shows these pathways extending east of Olive Township, in green. Future conceptual shared use paths identify opportunities to coordinate with neighboring communities in order to improve safety for pedestrians and bicyclists. Early coordination also facilitates the construction of separate pathways or bike lanes along the shoulder of roadways, in conjunction with other road improvements by the Ottawa County Road Commission. It is recommended that each of these routes eventually include Share-the-Road signs to alert motorists as well as way-finding signs for identification as part of the regional network.

Figure 10



Macatawa River Greenway

The 2011 Ottawa County Parks, Recreation and Open Space Plan focuses on “targeted projects to improve and link existing park lands”⁵ while also enhancing non-motorized transportation through regional trails and greenways. The vision to establish greenways along the Grand, Pigeon, and Macatawa Rivers is being accomplished by a cooperative effort involving many levels of government and non-profit partners.

⁵ Ottawa County Parks & Recreation, 2011 Parks, Recreation & Open Space Plan, (Chapter 1, page 2; Chapter 6, pages 89 – 92).

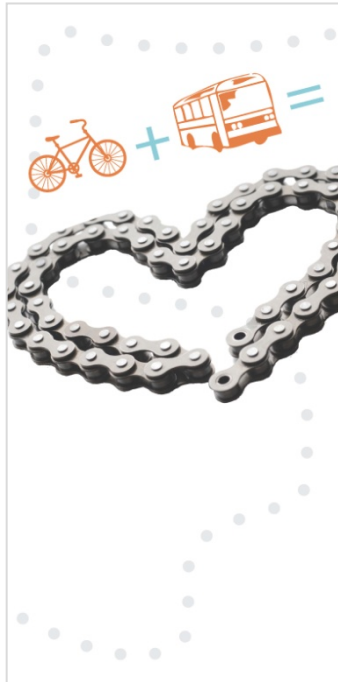
The Outdoor Discovery Center – Macatawa Greenway has been working with the Ottawa County Parks & Recreation Commission to complete a 10 mile corridor connecting Holland Township and the City of Holland, with Zeeland Township. Progress is being made to acquire land and get easements along this 10 mile corridor, with all but 2 miles secured. Connections with the newly constructed Fred Meijer Kenowa Trail and Upper Macatawa Natural Area to Lake Macatawa provide access to the shared use path on Adams Street and eventually link to an extension of the Macatawa Greenway Trail along the river to Holland. Though the original intent was to have the 10 mile corridor concentrated on open space, different scenarios have been evaluated to connect parcels along the corridor, including the use of existing shared use paths. The City of Holland Bicycle and Pedestrian Plan endorses the planning for and eventual construction of the Macatawa Greenway trail system. “In the City this network will stretch from the Macatawa Greenspace in the Northeast corner of the City west along the banks of the Macatawa River to Windmill Island, then continuing on through Window on the Waterfront Park to the River Avenue bridge. The build out of this trail system will also require that improvements be made to the non-motorized crossings of Chicago Drive that will allow for a safer feeder network to the Greenway trail from the Holland Heights neighborhood along Waverly Road. Additional non-motorized improvements will be needed to provide a safe Greenway trail crossing of Waverly Road”⁶.

Discussions are underway to secure funding for a 14 foot wide non-motorized bridge on Windmill Island, connecting the City of Holland to Holland Charter Township. A proposed Windmill Island Trail would include 10 foot wide connector trails to the existing non-motorized network. This project provides the opportunity to improve access for non-motorized users and also completes regional connections to the Macatawa Greenway. Additional information regarding this project is located in the Appendix.

⁶ Vanderploeg, Mark, Author of City of Holland Bicycle and Pedestrian Plan, 2006.

Proposed Improvements to Regional Non-motorized Network

Transit Linkages – MAX, the Macatawa Area Express Transportation Authority, has implemented a number of activities in order to improve linkages between pedestrians/bicyclists and the regional bus system. The Macatawa Area Express Transportation Authority equips each of its fixed route buses with an external rack which accommodates two bicycles. In order to increase mobility, MAX has used New Freedom funds to install bus shelters and concrete pads along bus routes. Allegan County Transportation (ACT) also provides transportation to riders carrying bikes.



New Bike and Bus Resource Guide

MAX has introduced a new map and brochure to get the most of cycling and bus riding in the greater Holland area. The guide has information about using the bus bike racks, parking your bike, following rules of the road, bike rentals, and finding attractions that are accessible by bus and bike.

The 23-mile corridor designated as US Bicycle Route 35 (USBR-35) provides access to numerous public transportation options. A bicyclist riding along USBR-35 thus has the option of connecting with four public transit routes (Routes 1, 2, 3, and 5) or riding to the Padnos Transportation Center and boarding a bus traveling one of 8 routes in the Holland-Zeeland area. The Padnos Transportation Center, located at 171 Lincoln Avenue also serves as the Amtrak station. Daily trains are at 8:20 am to Chicago Union Station and 9:21 pm to Grand Rapids, MI. Though Amtrak trains servicing Holland cannot accommodate bicycles at the current time, plans are underway to provide bike storage in the future.

Other Planning Efforts

City of Holland – A Bicycle and Pedestrian Transportation Plan, adopted in March of 2006, recommends that the City of Holland “consider bicycling, walking and other forms of non-motorized travel in the planning of all future new streets and sidewalks, neighborhood and commercial district planning, and park planning”. Roadway projects, such as 40th Street (from Washington to Lincoln Ave) and future improvements along Central Ave are two examples of how the City of Holland is implementing this recommendation, with paved shoulders as bike routes within the City of Holland. The City of Holland is working in partnership with Holland Charter Township to construct a non-motorized pathway and bridge to improve connections across the Macatawa River and connect with either Scotts Drive or Roost Avenue. This project is included in the City of Holland’s 2014 Comprehensive Parks and Recreation Master Plan

Update. A detailed plan and recommended actions are also identified in the “Final Report: A Vision Statement for the Future of DeZwaan Windmill and Windmill Island Gardens”.

Regional Bicycle Access Improvements - Recommendations for future on-road bicycle facilities were generated during several outreach opportunities. In 2008, the MACC sponsored a Traffic Safety Forum, which included an evaluation of roadways within portions of the Macatawa region, by John LaPlante, of TYLin, Chicago. Mr. LaPlante provided a list of observations and improvements to facilitate bicycle use within Holland Township, the City of Holland, and the City of Zeeland. Detailed recommendations are included in the Appendix.

Public Comments

Comments regarding pedestrian and bicycle access were received during a series of public meetings held in October and November of 2009, December of 2010, January-February 2011, as well as during the development of the 2040 Long Range Transportation Plan (June and July 2014 open house and May-July 2014 public comment period for the draft Non-Motorized Plan). Public comments were also received on the draft document of the MACC Non-Motorized Plan May – July 2014 and are included in the Appendix. Highlights of these comments are listed below:

Suggestions for Bike Lanes and Shared Use Paths

- Clearly mark bike lanes and shared use paths with signage and pavement markings to improve visibility
- Signage needed: Keep right; no motorized vehicles in bike lane; pass left
- Consider evaluating cost of re-striping existing roadways in Ottawa County to accommodate bike lanes up to 4 feet and reduce travel lanes to 11 feet
- Widened paved shoulder for US Bicycle Route 35
- Place priority of Macatawa Greenway Trail extension along river to Holland to connect with bike path along Adams, to Upper Macatawa Natural Area and to Fred Meijer Kenowa Trail
- If there is to be a pathway between the former Holland Country Club and Adams ... consider using the natural gas pipe line east of the river (it goes south-north). The line has a 20 ft wide area free of trees.
- Add bike lanes or paths along: Ottogan Street East of 96th Avenue to 84th Avenue and also 84th Avenue between Ottogan and Adams Street
- Add striped bike lanes along: Van Raalte, Central, Lincoln, Graafschap, and Ottawa
- Continue Van Raalte corridor planning to improve non-motorized access
- Improvements needed to the reduce conflict points on South Shore Drive (either through enhancements to shared use path or through bike lanes)
- Add a bike lane on Lakeshore Drive to connect with lane that continues to Grand Haven
- Connect downtown Holland to South Shore Drive and 32nd Street
- Connect Douglas Ave East to Lakewood
- Railroad tracks between Holland and Hamilton, would be an ideal connection, as well as old railroad path south of Hamilton to Allegan
- Add bike lanes or paved shoulder along Chicago Drive

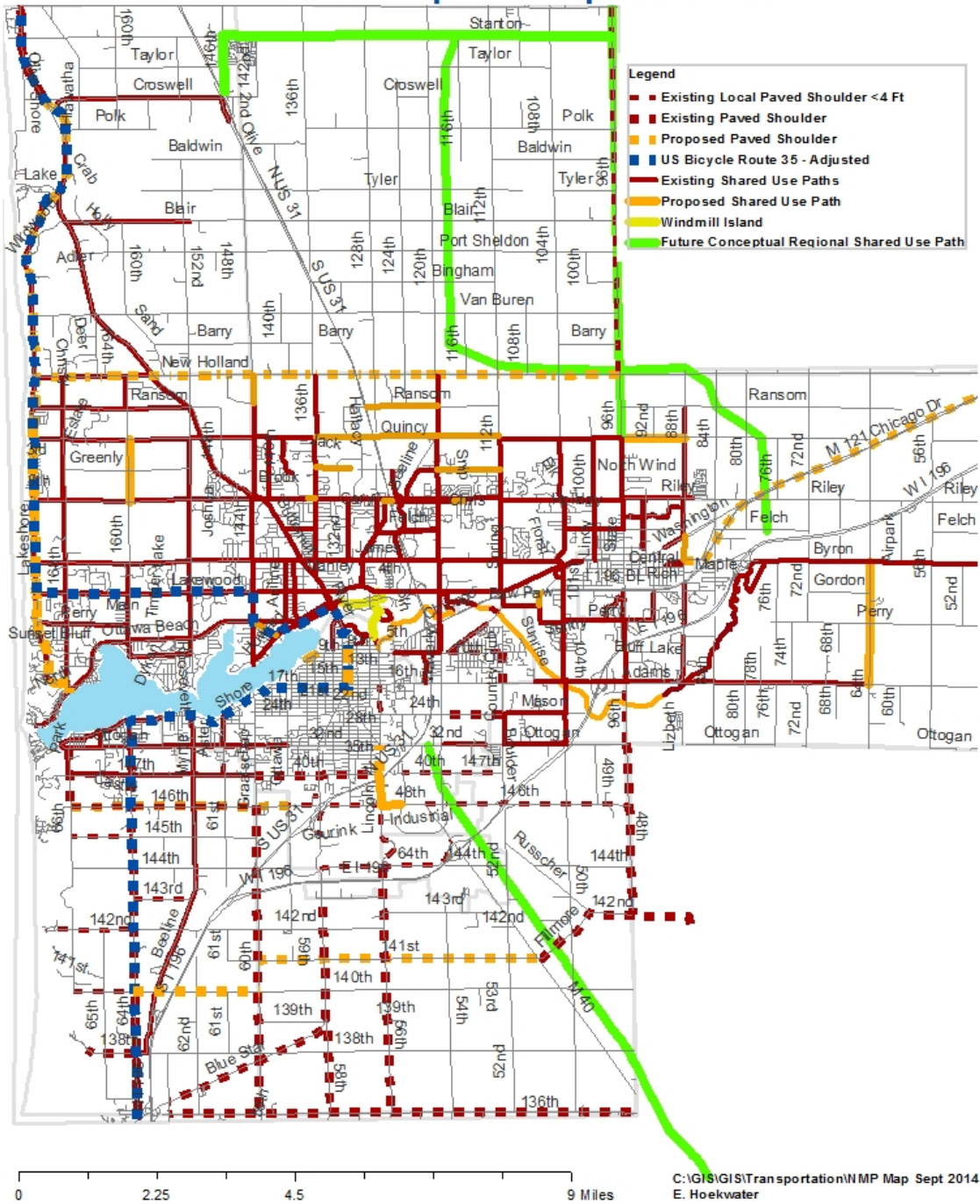
Suggestions for Non-Motorized Crossings

- Add non-motorized improvements to provide a safe crossing of Waverly Road and Chicago Drive
- Crossings over US-31 within the City of Holland need to be improved for non-motorized users
- Improve non-motorized crossing of US-31 at New-Holland, Riley Street, James Street, 8th Street, and 16th Street
- Consider options for non-motorized crossing at Stanton Street, Croswell Street, and at Quincy Street
- Construct Windmill Island Gardens Bridge connecting regional trails
- Add an alternate route for the US Bicycle Route 35 through Windmill Island
- Consider traffic circle at 21st Street/ State/ Central Avenue
- Improve non-motorized crossing at intersections of River / State and 17th, 18th – 19th Streets
- Improved non-motorized access on River Avenue/Butternut
- Improved crossings at Douglas Avenue, Lakewood Avenue, and over railroad tracks on River Avenue
- Improve non-motorized access to City of Holland from the west
- Improve pedestrian crossing from Baypoint and Waverly Meadows to Meijer on 16th Street

Suggestions for Sidewalks

- Improve maintenance of sidewalk system
- Add sidewalks on 8th/Chicago Drive to US 31 (on the south side)
- Add .4 mile sidewalk or shared use path along Graafschap Road in Fillmore Township

Figure 11: Map of Existing Non-Motorized Network and Proposed Improvements



Chapter 4 – Safety

Providing opportunities for safe and efficient travel through the MACC Area, is the vision of this regional Non-Motorized Plan. A primary goal of the Plan is to increase safety for residents and employees who walk and/or bike. Early in the process of developing the Non-Motorized Plan, members of the MACC Policy Committee requested that this Plan acknowledge safety concerns and visually identify where safety issues exist. To begin this task, we reviewed collision data provided by the Ottawa and Allegan County Sheriff's Offices, and the Michigan State Police. We prepared a list of locations which had the highest collisions involving pedestrians and bicyclists within the region. This provides a starting point from which to ask a series of questions.

- Where are the 10 locations within the region with the highest collisions involving pedestrians and bicyclists?
- Looking over a 10 year period, are there obvious factors which can be identified from collision reports?
- Are any of these locations especially high for either pedestrians or cyclists?
- What specifics do we know about these collisions?
- What other patterns can be determined?

Analysis of Pedestrian/Bicycle Collision Data

Between the years of 2004-2013, the highest number of collisions in the region, which involved pedestrians and bicyclists, occurred within Holland Township and the City of Holland. Narrowing this further, 10 locations were identified which had the highest vehicle collisions with pedestrians or bicyclists (see list below). Three locations which stand out as especially high for bicyclists in Holland Township are the intersections of Lakewood Boulevard and River Avenue; James Street and Beeline Road and Butternut Drive and James Street. These three locations experience heavy traffic volumes. The three locations within the City of Holland with the highest collisions involving bicyclists were E. 8th Street and Waverly Road; S. Washington Avenue and 40th Street; and West 7th Street and River Avenue.

Intersection	Pedestrians	Bicyclists	Injured	Fatalities	Total
Lakewood Blvd & River Ave	1	11	10	0	12
James St & Beeline Rd	0	11	7	0	11
E 8 th St & Waverly Rd	0	10	8	0	10
Butternut Dr & James St	1	7	7	0	9
W 40 th St & S. Washington Ave	2	7	8	0	9
W 7 th St & River Ave	0	7	7	0	8
Riley St & 120 th Ave	0	8	7	0	8
James St & 136 th Ave	2	6	5	0	8
Butternut Dr & Riley St	1	6	6	0	7
S US-31 & Riley St	0	7	5	1	7
Total:	7	80	70	1	89
Average per year:	1	8	7	0	9

Comparing this pedestrian/bicyclist collision data with total crashes, several of these locations were not among the list of highest vehicle crashes. Riley Street at Butternut Drive, for example, was not listed among the highest collision locations in the region, yet this location was on the list of highest pedestrian/bicyclist collisions. This raises the question of what factors contributed to these pedestrian/bicyclist collisions. Though we acknowledge, at this point, that these locations are of concern, we do not yet know specifics regarding these crashes. Was visibility or speed a contributing factor? What other issues contributed to these collisions?

In order to get a regional perspective, we looked at a summary of crash statistics for the MACC Area. Data available for the years 2004 to 2013 indicated that collisions involving bicyclists and motor vehicles occurred primarily on weekdays, during daylight hours (80%), and in dry conditions (88%). Most of the crashes involved motorists who failed to yield (64%). A summary of crash statistics involving pedestrians during this same time period illustrate similar characteristics: collisions were highest during weekdays, with 57% occurring during daylight hours, and in dry conditions (75%). Motorists failed to yield in more than 40% of the collisions.

Collision data available from www.michigantrafficcrashfacts.org also helped to provide additional information regarding the types of crashes that occurred in the MACC area during recent years. There were 100 crashes involving pedestrians from 2009 to 2012. During this time period, 33% of the collisions occurred in the roadway, 25% within the intersection, and 18% were at or near a driveway. The remaining 24% occurred in parking areas, curved roadways, or other locations. For bicyclists involved in crashes during this same time period, 46% of collisions occurred within an intersection and nearly 20% occurred near road intersections. Only 13.5% of bicycle collisions in recent years occurred in the roadway, and 15% occurred at or near driveways.

Where are pedestrian-motorist collisions happening?

- 33% in the roadway
- 25% in the intersection
- 24% in parking areas
- 18% at or near a driveway

Where are bicycle-motorist collisions happening?

- 13.5% in the roadway
- 46% in the intersection
- 20% near road intersections
- 15% at or near a driveway

As one of several **next steps** in this planning process, it is recommended that these locations be further evaluated. This list of collision locations is helpful to visually identify where safety issues exist, however, this is simply a starting point. We have started to discuss the pedestrian and bicyclist collision data with law enforcement officials in order to talk about safety concerns and identify possible strategies to improve safety for pedestrians and bicyclists.

Educating motorists, pedestrians, and bicyclists regarding rules of the road is an important objective in order to increase safety for residents and employees who walk and/or bike within the region. It is clear that River Avenue /Butternut Drive is a corridor which has an unusually high number of collisions involving bicyclists. This is a north-south corridor for people traveling between Holland Charter Township and the City of Holland. The corridor is also a major commercial area with many curb cuts for driveways and parking areas for restaurants and individual businesses. Designated as a US Bicycle Route, this corridor will continue to attract touring bicyclists heading toward Lake Macatawa and the Lake Michigan lakeshore (See pages 12 – 13 for additional information on USBR-35). It is recommended that an alternate route be considered for USBR-35. Safety education will be especially important to raise awareness and prevent collisions along the corridor (please see specific recommendations to increase community awareness and education regarding the rules of the road in Chapters 6 and 7).

Guidance for site design strategies, signage, and future network connections are also included within this regional Non-Motorized Plan (addressed in Chapter 5), in order to improve safety for pedestrians and bicyclists. Physical improvements along roadways and at intersections were strongly recommended during the public review of this regional Non-Motorized Plan. Public comments focused on future network connections through the Macatawa Greenway, Windmill Island Gardens, along the South Shore, and along the US Bicycle Route 35. There were also many recommendations to improve visibility at roadway intersections, driveways, and to improve bicycle and pedestrian crossings over US-31.

When planning future transportation infrastructure and improvement projects, engineers and planners shall strive to maintain connectivity through engineering and site planning strategies. Recently a committee of planners and engineers began working to improve non-motorized access along the US-31 corridor, within the MACC Area. Recognizing future plans to resurface the roadway in 2015 (from 8th to 32nd Street) and widen portions of US-31 in 2016 (Lakewood Boulevard to Quincy Street), the City of Holland, Holland Charter Township, the Macatawa Area Coordinating Council, and the Michigan Department of Transportation began looking at options to incorporate landscaped medians, enhanced lighting, and design improvements for pedestrians and bicyclists along the US-31 corridor. This local example of coordinated planning and engineering will accommodate future needs of motorists as well as pedestrians, and bicyclists.

Average Daily Traffic

The Macatawa Area Coordinating Council requests annual traffic counts for major roadways within both the Ottawa County and Allegan County portion of the region. This information is valuable to identify traffic volumes as well as average speeds of the vehicles traveling along the roadways. Traffic volumes can be used to select an appropriate bikeway to accommodate bicycle travel. The American Association of State Highway and Transportation Officials identified a variety of non-motorized facilities in the **Guide for the Development of Bicycle Facilities** (2012). A table of these facility types is located in Chapter 5 – Design Considerations.

In addition to traffic volumes and travel speeds which can make it challenging to cross a roadway on foot or by bicycle, there are many other factors which influence safety of pedestrians and bicyclists. Is there a clearly defined crosswalk and mid-crossing safety island? Is there adequate time to walk through a crossing? Is there adequate lighting at the crossing – to illuminate the roadway as well as the pedestrian or bicyclist? Detractors such as physical obstacles and the crossing of railroads and freeways are other safety considerations which impact non-motorized access. Though these factors impact safety for all pedestrians and bicyclists, they are a significant concern for children, elderly residents, and individuals with disabilities.



*Unsafe pedestrian crossing
(Credit: Dan Burden)*

On the following page is a list of pedestrian detractors which should be carefully considered within non-motorized corridors. This is a comprehensive list of major rail and freeway crossings in the MACC Area. An inventory of these crossings would include an identification of either a shared use path or sidewalk in relation to the street (north, south, east, and/or west side of street), and identification of a mid-crossing safety island and specific crossing zones. A similar

inventory for major bicycle route crossings would identify the presence of curb cuts, turning lanes, roadway widths, the presence of a paved shoulder or bike lane, and the intended use of the roadway (designated truck routes, for example). This information could be used to acknowledge conflicts with automobile or truck traffic and address safety for bicyclists along major on-street routes.

Pedestrian Detractors

Crossing US-31

- Fillmore St.
- Stanton St.
- Taylor St.
- Croswell St.
- Bagley St.
- Tyler St.
- Blair St.
- Port Sheldon St.
- 136th/Bingham St.
- Van Buren St.
- New Holland St.
- Ransom St.
- Quincy St.
- Greenly St.
- Riley St. (SU-N)
- Felch St. (SU-N,S)
- James St. (SU-N)
- Chicago Dr.
- 8th St. (S-N)
- 16th St. (S-N)
- 24th St. (S-N)
- 32nd St. (S-N)
- Lincoln Ave.
- Central Ave.

Crossing I-196 Business Loop (Chicago Drive)

- N Waverly Rd. (SU-W)
- 112th Ave. (SU-E)
- 106th Ave.
- 104th Ave.
- S State St. (S-W)
- 92nd Ave.
- S Fairview Rd. (S-W)/88th Ave. (SU-E)

Crossing I-196

- 60th Street (US-31/I-196)
- E. Ottogan St.
- Adams St. (Bridge-N)
- 96th Ave.

Railroad Crossings

- Taylor St. (East of 152nd)
- Crowell St. (East of W Olive Rd.)
- Bagley St. (east of W Olive Rd.)
- Tyler St. (East of W Olive Rd.)
- Blair St. (East of W Olive Rd.)
- Port Sheldon St. (East of 136 Ave)
- Bingham St. (East of 136 Ave)
- Van Buren St. (East of 136 Ave)
- New Holland St. (East of 136 Ave)
- Quincy St. (East of 136 Ave)
- Greenly St. (East of 136 Ave)
- Riley St. (East of 136 Ave)
- James St. (East of 136 Ave)
- E Lakewood Blvd (West of Beeline Rd)
- N 120th Ave (South of E Lakewood Blvd)
- E Lakewood Blvd (East of N 120th Ave)
- 112th Ave (South of James St.)
- James St. (East of 104th Ave)
- N Franklin St. (North of W Washington Ave)
- N Jefferson St. (North of W Washington Ave)
- N State St. (North of W Washington Ave)
- N Elm St. (North of E Washington Ave)
- N Centennial St. (North of E Washington Ave)
- N Fairview Rd (North of E Washington Ave)
- 80th Ave (North of Chicago Dr)
- 76th Ave (North of Chicago Dr)
- 72nd Ave (North of Chicago Dr)
- 64th Ave (North of Chicago Dr)
- S River Ave (Between 4th St. and 6th St.)
- Central Ave (At 5th St.)
- 6th St (Between Central Ave and College Ave)
- College Ave (Between 6th St. and 7th St.)
- Columbia Ave (Between 6th St. and 7th St.)
- E 8th St. (East of Lincoln Ave)
- E 8th St. (West of Fairbanks Ave)
- Fairbanks Ave (South of East 8th St.)
- Lincoln Ave (Between 8th and 9th)

- 9th St. (Between Columbia Ave and Lincoln Ave)
- 10th St. (Between Columbia Ave and Lincoln Ave)
- 11th St. (Between Columbia Ave and Lincoln Ave)
- 12th St. (Between Columbia Ave and Lincoln Ave)
- 13th St. (Between Columbia Ave and Lincoln Ave)
- 14th St. (Between Columbia Ave and Lincoln Ave)
- 15th St. (Between Columbia Ave and Lincoln Ave)
- 16th St. (Between Columbia Ave and Lincoln Ave)
- 17th St. (Between Columbia Ave and Lincoln Ave)
- 20th St. (Between Columbia Ave and Lincoln Ave)
- 24th St. (West of Lincoln Ave)
- 26th St. (East of Lincoln Ave)
- 32nd St. (East of Lincoln Ave)
- 48th St. (East of Lincoln Ave)
- E 64th St. (East of Lincoln Ave)
- 143rd Ave (East of Lincoln Ave)
- 141st Ave (East of 56th St.)
- 140th Ave (East of 56th St.)
- 140th Ave (East of 50th St.)
- 50th St. (North of 140th Ave)
- Fillmore Rd (East of Lincoln Rd)
- 52nd St. (South of 144th Ave)
- 144th Ave (West of 52nd St.)
- 146th Ave (East of 54th St.)
- 54th St./S Waverly Rd (Between E 40thSt. and E 146th Ave)
- E 40th St. (West of 54th St.)
- E 32nd St. (West of S Waverly Rd)
- E 24th St. (East of Century Ln)
- E 16th St. (East of Century Ln)

Next Steps

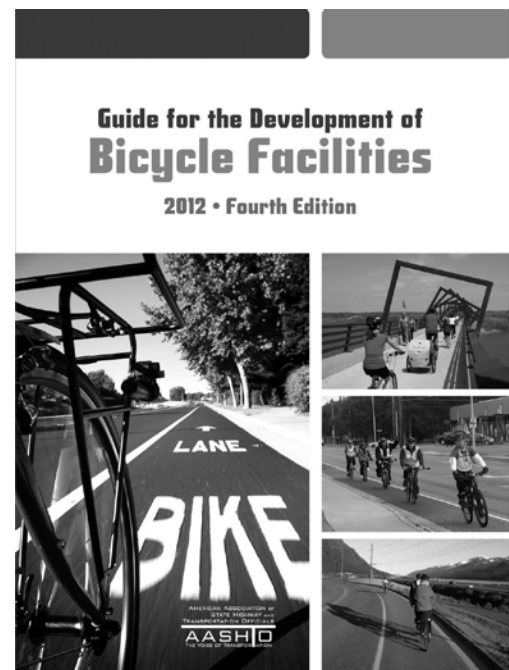
Once an inventory of these crossings has been completed, this information will be used to acknowledge potential conflicts with automobiles, truck traffic, or rail crossings. In order to increase safety for residents and employees who walk and/or bike, we will work with county and local government officials, and with the Michigan Department of Transportation to address safety for pedestrians and bicyclists along major routes. MACC staff can then work with local partners to find opportunities for improved roadway or site design strategies. Chapter 5, which follows, provides a variety of design considerations.

On-Road and Off-Road Facilities

The American Association of State Highway and Transportation Officials published the 4th Edition of the Guide for the Development of Bicycle Facilities in 2012. This guide was updated from the previous guide published in 1999. The guide provides guidance to designers and planners on how to accommodate bicycle travel and operations, and states that “All roads, streets and highways, except those where bicyclists are legally prohibited, should be designed and constructed under the assumption that they will be used by bicyclists”. The new guide offers information on “the physical infrastructure needed to support bicycling” and recognizes that “Facilities are only one of several elements essential to a community’s overall bicycle program. Bicycle safety education and training, encouraging bicycle use, and enforcing the rules of the road as they pertain to bicyclists and motorists should be combined with engineering measures to form a comprehensive approach to bicycle use” (Page 1-2, 2012 Guide to Bicycle Facilities, 4th Edition).

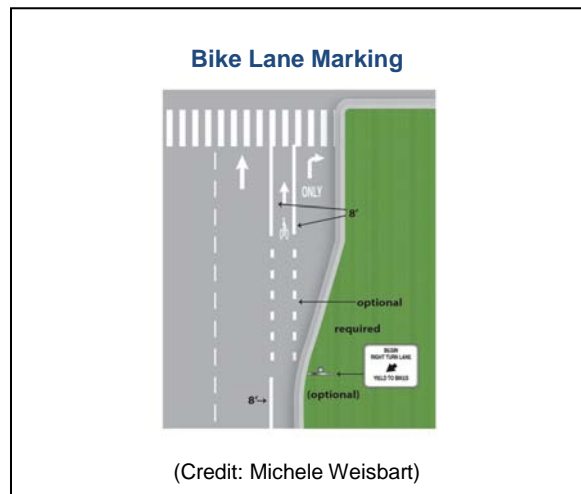
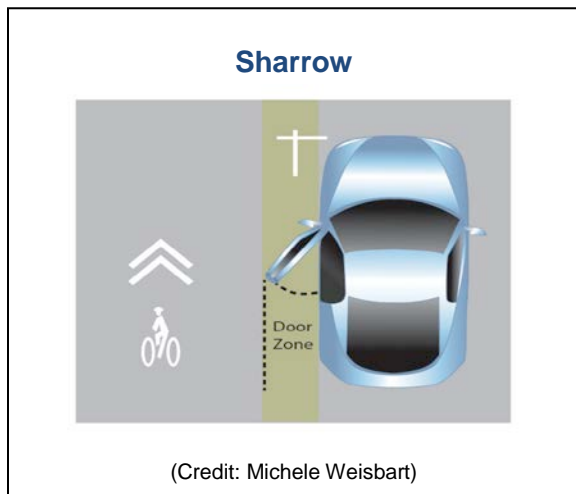
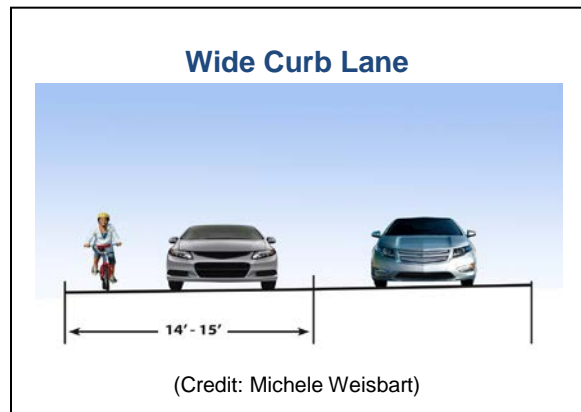
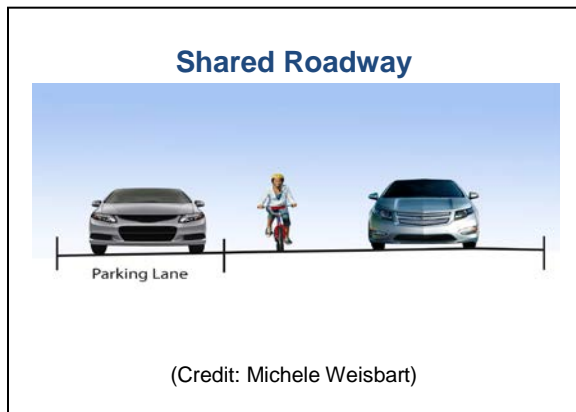
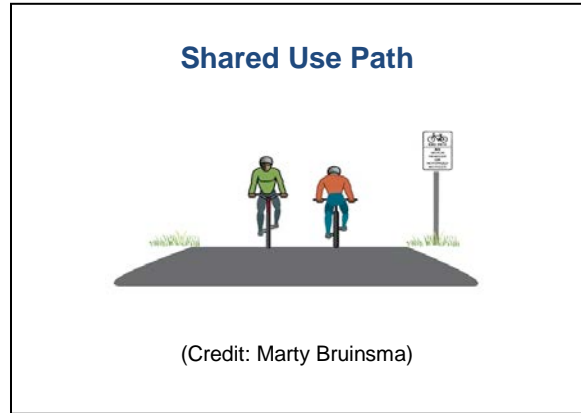
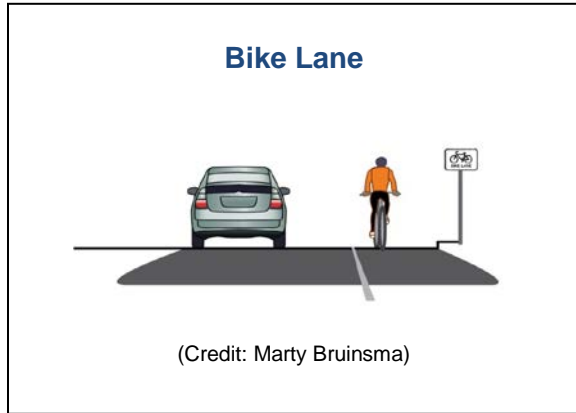
A regional bicycle network may include a variety of bikeways (roads, streets, paths or trails) which have been designated for bicycle travel. The design of **on-road facilities** may include a variety of techniques including shared lanes, paved shoulders, bicycle lanes, bicycle boulevards, and a variety of strategies to retrofit bicycle facilities on existing streets and highways. The design of **shared use paths** also known as multi-use paths or sidepaths adjacent to roadways, are most often intended for two-way travel along a physically separated pathway. The bikeway may either be located in the roadway right-of-way or may be separated by a barrier or by open space. They are intended to “supplement a system of on-road bike lanes, wide outside lanes, paved shoulders, and bike routes”. The 2012 Guide to Bicycle Facilities notes that shared use paths “may also be used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users” (Page 1-4, 2012 Guide to Bicycle Facilities, 4th Edition).

In the MACC region, the two most common bicycle facilities are paved shoulders and shared use paths. Chapters 2 and 3 of this Non-Motorized Plan provide more detail on the bikeways located within the seven townships (Laketown, Fillmore, Zeeland, Holland, Park, Port Sheldon, and Olive Townships) and within the City of Holland and the City of Zeeland. The illustrations on the following page help to identify a variety of on-road and off-road bikeways recommended for



implementation within the Draft Non-Motorized Plan. It is important to note that the type of bicycle facility that is selected by a community is dependent on specific conditions of a corridor, cost, and the ability of the users of the non-motorized transportation network.

Illustrations of On-Road and Off-Road Design Considerations



Below is a table produced by the American Association of State Highway and Transportation Officials (2012) which offers a variety of facility types as well as general considerations regarding the roadway.⁷

Type of Bikeway	Best Use	Motor Vehicle Design Speed	Traffic Volume	Classification or Intended Use	Other Considerations
Shared Lanes no special provision	Minor roads with low volumes, where bicyclists can share the road with no special provisions.	Speeds vary based on location (rural or urban)	Generally less than 1,000 vehicles per day.	Rural roads, or neighborhood or local streets.	Can provide an alternative to busier highways or streets.
Shared Lanes wide outside lanes	Major roads where bike lanes are not selected due to space constraints or other limitations.	Variable. Generally any road where the design speed is more than 25 mph.	Generally more than 3,000 vehicles per day.	Arterials and collectors intended for major motor vehicle traffic movements.	Explore opportunities to provide marked shared lanes, paved shoulder, or bike lanes for less confident bicyclists.
Marked Shared Lanes	Space constrained roads with narrow travel lanes, or road segments upon which bike lanes are not selected due to space constraints.	Variable. Use where the speed limit is 35 mph or less.	Variable. Useful where there is high turnover in on-street parking to prevent crashes with open car doors.	Collectors or minor arterials.	May be used in conjunction with wide outside lanes.
Paved Shoulders	Rural highways that connect town centers and other major attractors.	Variable. Typical posted rural highway speeds generally 40 to 55 mph.	Variable.	Rural roadways; inter-city highways.	Provides more shoulder width for roadway stability. Shoulder width should be dependent on characteristics of adjacent motor vehicle traffic (wider shoulders on higher-speed and / or higher volumes)
Bike lanes	Major roads that provide direct, convenient access to major land uses. Also can be used on collector roads and busy urban streets with slower speeds.	Generally, any road where the design speed is more than 25 mph.	Speed differential is generally a more important factor in the decision to provide bike lanes than traffic volumes.	Arterials and collectors intended for major motor vehicle traffic movements.	Where motor vehicles are allowed to park adjacent to bike lane, provide a bike lane of sufficient width to reduce probability of conflicts due to opening vehicle doors and objects in the road. Analyze intersections to reduce bicyclist/motor vehicle conflicts.

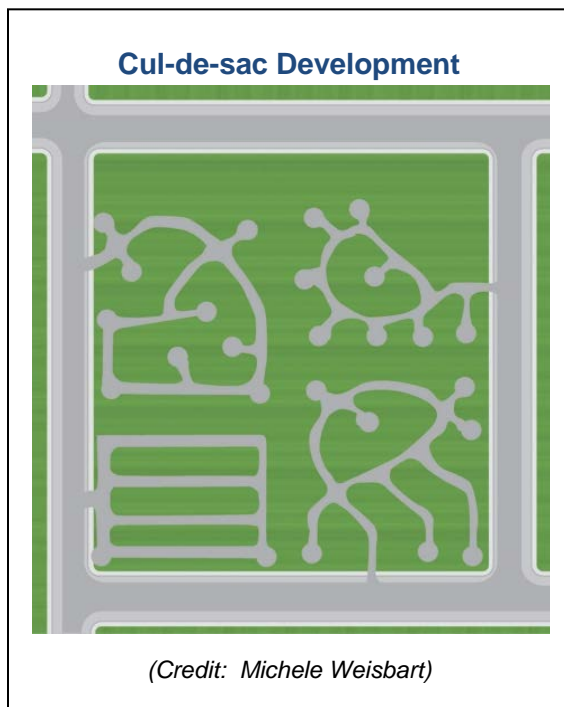
⁷ AASHTO American Association of State Highway and Transportation Officials, **Guide for the Development of Bicycle Facilities** (2012)

Bicycle Boulevards	Local roads with low volumes and speeds, offering an alternative to, but running parallel to major roads.	Use where speed differential between motorists and bicyclists is typically 15 mph or less. Generally posted limits of 25mph or less.	Generally less than 3,000 vehicles per day.	Residential roadways.	Typically only an option for gridded street networks.
Shared Use Path (independent)	Linear corridors in greenways, or along waterways, freeways, or active or abandoned rail lines, utility rights-of-way, unused ROW.	N/A	N/A	Separated path for non-motorized users intended to supplement network of on-road bike lanes, shared lanes, bicycle boulevards, and paved shoulders.	Design path with all users in mind, wide enough to accommodate expected usage. On-road alternatives may be desired for advanced riders.
Shared Use Path Adjacent to roadway AKA sidepath	Adjacent to roadway with no or very few intersections or driveways	Adjacent roadway has high-speed motor vehicle traffic	High motor vehicle volumes might discourage bicyclists from riding on the roadway.	Separated path for non-motorized users intended to supplement network of on-road bike lanes, shared lanes, bicycle boulevards, and paved shoulders. Not intended to substitute or replace on-road accommodations for bicyclists, unless bicycle use is prohibited.	Operational issues are associated with this facility type.

Site Design

How can a property be designed to be more easily accessible to pedestrians and bicyclists?

The site plan and development plan application process provides townships and municipalities with the opportunity to identify property lines and dimensions of proposed projects, while also evaluating non-motorized access within a site and to surrounding properties. When a developer submits a site plan for review by a local unit of government, the application process requires that property lines and zoning setbacks be defined, as well as the dimensions of existing and proposed structures on a property. During the site design phase of a construction project, a developer may also be asked to identify the relationship of the site to surrounding properties and in order to integrate non-motorized access to a work site and promote safety for those who walk or bike. Elements to be considered include development density and orientation, as well as existing and proposed drives, sidewalks, curb openings, parking areas, loading and unloading areas, recreational areas, and common use areas. Other elements which impact how easily a person can walk or bike to a site are elevation of existing and proposed abutting streets, alleys, and easements; landscaping and vegetation; storm water drainage; and the location, height and type of fences and walls.



Local units of government can work with developers to install bicycle parking and other amenities, such as benches and lighting; provide sidewalk connections; or provide easements for shared use paths. For residential developments, a summary of the type and density of dwelling units is often requested, as well as the proposed market to be served. Having identified the relationship of the site to surrounding properties, a Planning Department or Planning Commission may evaluate the site plan with consideration given to the number of vehicles anticipated with the development and pedestrian access and circulation. A developer may be asked to provide a traffic impact study and evaluate the impact on public services (schools, police and fire protection, and utilities).

The Association of Pedestrian and Bicycle Professionals (APBP) published a summary of bicycle parking guidelines in 2010, which address site planning. Site planning requirements for bicycle parking depend on whether a use is to be short-term or long-term. “Short-term parking usually consists of bicycle racks located on the sidewalk or street in front of a building or destination. The site planning focus is on convenience, utility, and the attempt to improve security for the rack and the parked bicycle”. “Long-term parking uses a wider variety of fixture types and site plan layouts. It includes racks in cages and bicycle rooms, as well as lockers located in a variety of different settings, indoors and outdoors”. According to APBP, “recommended bicycle parking policies or codes should:



- Specify number of bicycle spaces by land use
- Require long-term parking for all workplaces, transit stations and multi-unit residential
- Require adequate short-term parking for other land uses
- Provide site planning requirements
- Provide rack and locker design requirements.

The Pedestrian and Bicycle Information Center (PBIC) offers a list of 8 basic considerations for bicycle parking. These considerations include:

1. Planning – to ensure that bicycle parking is “visible, accessible, easy to use, convenient, and plentiful”.
2. Identify high-demand locations where racks can be sited and installed appropriately.
3. Choose the type of rack which supports the frame of the bicycle (not just one wheel) and can be useable by a wide variety of sizes and types of bicycle.
4. Provide short-term parking (two hours or less, such as for shopping, for visiting an office building, park, or government service center)
5. Provide long-term parking (all day, or overnight, or for an even longer duration)
6. Covered bicycle parking – to protect the bike from rain, snow and other elements
7. Bicycle parking signs – to inform bicyclists of parking areas
8. Amount of parking – a minimum level of bicycle parking for different building types and land uses



Walkability

Walkability is a term that involves building and design techniques that make a community more “pedestrian friendly”. Buildings oriented to the street, rather than a large parking lot, creates a more comfortable environment for a pedestrian. Similarly, a business district with sidewalks lined with shops and cafes is far more appealing for people to walk. Having a mix of active spaces- such as a park or community meeting space and different land uses- residential, an outdoor café or a grocery store can work together to bring activity to a neighborhood. The site design requirements referenced earlier in this chapter provide communities the opportunity to guide development which is easily reached on foot and by bicycle. The location of parking lots or structures can help or hinder walkability. When placed behind a building or underground, parking serves the purpose of vehicle storage. It is not the focal point of a development. Other design details which emphasize the human scale of a development are signage and carefully located entrances that are convenient.

Earlier the relationship of a site to surrounding properties was mentioned on page 34, as part of a site design review. Whether pedestrians have continuous pedestrian access and can easily navigate from one development to another are important questions. This involves coordinated planning, good signs for visitors to follow, and barrier-free walking environments. Public comments on the MACC Non-Motorized Plan acknowledged the importance of walkability and accessible bicycling options for people as they age, and for the quality of life for people with disabilities.

What is a walkability audit? A walkability audit is an unbiased examination/evaluation of the walking environment. The general purpose of an audit is to identify concerns for pedestrians related to the safety, access, comfort, and convenience of the walking environment. As mentioned in Chapter 4, traffic volumes and travel speeds can make it challenging to cross a roadway on foot or by bicycle. Detractors such as physical obstacles, lack of lighting, and the crossing of railroads and freeways are other factors which influence safety of pedestrians and bicyclists. The Michigan Department of Transportation sponsors walkability audits in multiple communities each year. These audits are designed for city engineers, planners, residents and others”. The outcome is to determine the degree to which each location is walkable and provide ideas to improve conditions for pedestrians.



www.ci.zeeland.mi.us/thezeel'sphotos

The City of Zeeland had an audit in April 2014 with participation from city staff and members of the Zeeland Planning Commission, local business representatives, the Disability Network/Lakeshore, and the Michigan Department of Transportation. The audit offered the opportunity to “identify factors that contribute to walkability including transportation infrastructure such as sidewalks, crosswalks, school zones and intersections, as well as land uses such as downtown areas, parks, schools, and residential areas”⁸.

⁸ Michigan Department of Transportation, Walkability Review invitation for the City of Zeeland, March 2014.



www.ci.zeeland.mi.us

A new splash pad constructed in 2014 brought many families to downtown Zeeland...many with strollers, walking, and riding bikes along Main Street. Accommodating these modes of travel and keeping the downtown vibrant are two desires expressed during the walkability audit. Other design recommendations from the April 2014 walking audit discussion are listed below:

- Develop a Non-Motorized Plan
- Address congestion at schools
- Educate people to showcase walking/biking opportunities in the community
- Improve safety at intersections
- Improve crossings at BL-196
- Provide sidewalks on both sides of streets
- Provide connectivity through the City of Zeeland and to neighboring townships
- Ensure accessibility for all abilities
- Work with neighboring townships to provide non-motorized connectivity
- Develop more shared use paths and install signage for bikes and walkers
- Maintain walkable surfaces that are level, well marked, and have clear signage
- Continue to provide amenities that make it easy for people to walk or bike: bike parking, signs, benches, lighting, and mid-block crossings
- Improve the rail crossing at Centennial and enhance this location as a gateway into downtown Zeeland

A list of audit tools and resources is available on the Pedestrian and Bicycle Information Center (PBIC) website, <http://www.walkinginfo.org/problems/audits.cfm>

Complete Streets

What exactly is a “Complete Street”? Public Act 135 of 2010 defines complete streets as: “...roadways planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle.” Legal users include motorists and trucks, transit, rail, pedestrians, and bicyclists. The Michigan Complete Streets Coalition has worked since 2009 to “promote statewide Complete Streets policy and support local communities’ initiatives”⁹. The Michigan Complete Streets Coalition works with the Michigan Department of Community Health to offer a complete streets training program and technical assistance to communities interested in adopting Complete Streets policies. Within the MACC area, the City of Holland unanimously passed a Complete Streets Resolution in April of 2011. The City of Zeeland also created a Complete Streets Steering Committee to define what would be needed to adopt a Complete Streets policy. A Complete Streets study was conducted by the Planning Commission and passed a resolution to adopt a Complete Streets policy in March 2013.

Two acts signed into law in August of 2010 establish that Complete Streets be encouraged in the transportation planning and design process. Public Act 135 amends the Public Act 51 of 1951, governing expenditure of state transportation funding. Public Act 134 amended the Michigan Planning Enabling Act to broaden the definition of transportation systems. As a result of these laws, the State Transportation Commission (STC) was assigned the task of adopting a complete streets policy by August of 2012. This policy provides guidance for road construction or reconstruction promoting complete streets and considers the varying needs of local context, functional class, project costs, mobility needs of all legal users, of all ages and abilities.¹⁰

A Complete Streets Advisory Council was appointed by the Governor and has worked to educate and advise agencies on the development, implementation, and coordination of complete streets policies. After completing a Complete Streets Advisory Council report in December of 2011, a final presentation was given to the State Transportation Commission (STC) in May of 2012, and the STC approved a Complete Streets policy on July 26, 2012. The Michigan Department of Transportation (MDOT) “will develop or revise procedures and guidelines needed to implement this policy” by December 31, 2013. Please see Appendix for copy of the Complete Streets policy and one-page brochure published by MDOT.

This State effort to implement Complete Streets involves the engagement of local, state, and federal transportation agencies and tribal governments. Local agencies voluntarily consider whether to adopt a complete streets resolution, policy, or ordinance under PA 134 or PA 135. Planning documents must then be evaluated and may result in the update of a community Master/Comprehensive Plan; Non-Motorized Plan; Land Use Plan; and Transportation Plan. In order to improve coordination among units of government, it is important to also evaluate the State Transportation Improvement Program (STIP), the most recent MACC Transportation Improvement Program (TIP), as well as individual Capital Improvement Programs (CIP) within each community and adjacent communities.

⁹ <http://michigancompletestreets.wordpress.com>

¹⁰ Michigan Department of Transportation, *Complete Streets: Making Connections*, 2011

Recognizing that community needs, and the context of the road and surrounding land uses vary, every complete streets application is unique. Potential elements of a complete street may include:

- Lane reductions
- Transit Lanes
- Bike Lanes
- Paved Shoulders
- Shared Use Paths
- Boulevards
- Pavement Markings
- Lighting
- Signage
- Traffic and Pedestrian Signals
- Streetscaping
- Sidewalks
- Barrier-free Ramps
- Mid-block Crossings
- Pedestrian Islands
- Curb Extensions
- Parking
- Bike Racks



What other factors can be incorporated to enhance “walkability” and accessibility?

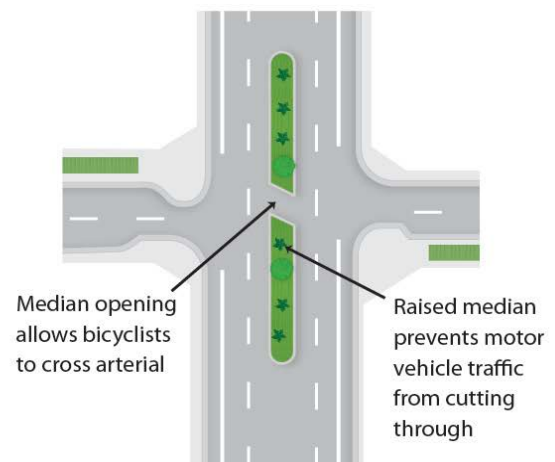
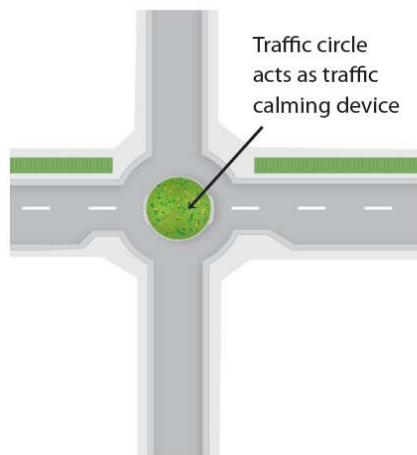
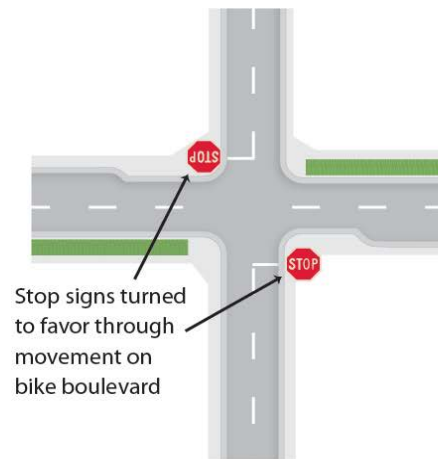
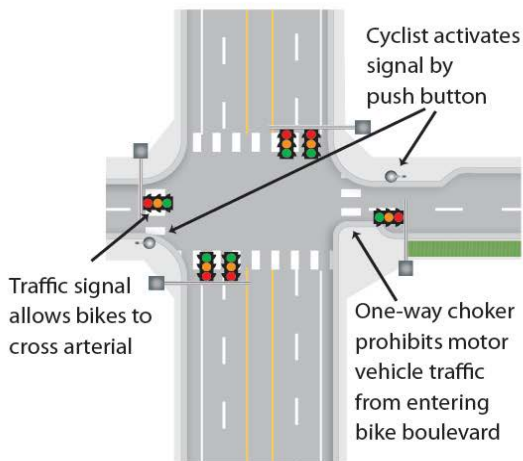
A concept included in the list above is the lane reduction or road diet. This concept is illustrated below.

Fitting in bicycle lanes with road diets (Credit: Michele Weisbart)



A second concept which has been used to deliberately slow vehicle traffic and promote bicycle travel is the bicycle boulevard. The bicycle boulevard is a roadway that has low traffic volumes and is located on routes serving primary travel corridors with major origins and destinations. Residential roadways with low vehicle volumes are good candidates for bicycle boulevards¹¹. Below are several illustrations of this concept.

Components of Bike Boulevards



(Credit: Michele Weisbart)

¹¹ <http://www.bicyclinginfo.org/faqs/answer.cfm?id=3976>

Considerations for projects located within MDOT right-of-way

As a non-motorized project moves forward, there are a number of considerations which must be addressed if the proposed project is located within the right-of-way owned by the Michigan Department of Transportation¹². The following issues are to be resolved before a permit will be issued for any project impacting the state trunkline:

- Identification of MDOT slopes, grades, retaining wall and other structures affected by trail routing options
- Wetland, floodplains, and streams impacted by the proposed crossings, and related permit issues
- Tree removals
- Impacts to threatened or endangered species
- Impacts to built and natural environment
- Required clearances over, under, and adjacent to MDOT facilities
- ADA issues for the trail user
- Safety and security issues for trail users
- Utility impacts
- Drainage impacts
- Traffic safety issues for both trail and highway traffic
- Federal approvals are needed for any work within limited access right-of-way
- Maintenance plans and associated funding commitments from agencies responsible for trail maintenance and future rehabilitation activities
- Impact on future plans for the highway corridor

¹² Steven M. Redmond – Grand Region Office and LeighAnn Mikesell – Muskegon TSC contributed to this list

Discussion on Design Considerations

This chapter offers examples of on-road and off-road bicycle facilities, with guidance for implementation by the American Association of State Highway and Transportation Officials. With regard to site design, there are a variety of elements that can be incorporated into the development review process that make it easier to accommodate bicyclists and pedestrians in a community and within an individual development. Communities in the MACC Area also may use a Complete Streets policy to place emphasis on multimodal transportation and consider the needs of all of the users of the transportation system.

Pavement markings for bike lanes, painted sharrows or bike symbols on the pavement, and signage are less costly design considerations that improve safety, improve visibility, and clearly designate where a motorist, bicyclist, and pedestrian is expected to be. As future transportation improvements are planned, communities have the opportunity to evaluate how roadway intersections can be best designed to include motorized and non-motorized traffic while eliminating conflict points for motorists, bicyclists, and pedestrians. Projects can be reviewed at the regional level -through the MACC Transportation Technical Committee; at the local level - through monthly Planning Commission and City Council/Township Board meetings; and at the individual level -by offering public input and communicating support of proposed projects.

The Chair of “Holland for a lifetime”, Charles Vander Broek acknowledged the importance of walkability and accessible biking for people as they age. During the public review of this Plan, it was also stated that “Non-motorized opportunities are also important for the quality of life for people with disabilities”. In order to provide a community where people can leave home and safely travel to their destinations, it will be important to consider the design of an individual site as well as connecting roadways and surrounding land uses. Non-motorized access within the MACC Area can be greatly improved when we consider the region as a whole and make every effort to provide safe connections between our homes, places of employment, and other destinations we choose to visit.

Creating this connected network of bicycle and pedestrian facilities to offer safe and efficient travel through the MACC Area is a vision that requires many partners. Chapters 6 & 7 include strategies to improve public outreach and education while working together to implement the goals and objectives of this Non-Motorized Plan.

MACC Public Participation Plan

This Non-Motorized Plan has been developed through a cooperative effort involving local units of government from seven townships, the cities of Holland and Zeeland, representatives of Allegan and Ottawa counties and road commissions, Macatawa Area Express Transportation Authority, and support from the Michigan Department of Transportation and Federal Highway Administration. The process of developing a regional Non-Motorized Plan also involved input from interested residents and businesses.

One of the four primary goals of this Non-motorized Transportation Plan is to “assist in promoting pedestrian and bicycle “friendly” character of the region.” To reach this goal, the MACC is pursuing ways to effectively exchange information with the public. Newspapers and radio are traditional forms of communication that have certainly been helpful to raise awareness in the community. Tools such as social media, internet surveys and videos, and creative ideas to work with young people are other methods the MACC is pursuing to improve communication. Below are objectives, under the fourth goal of the Non-Motorized Plan, that pertain to this chapter.

- **Objective:** Market the MACC area as a destination for bicyclists with the assistance of the Holland Convention and Visitor’s Bureau, Michigan West Coast Chamber of Commerce, local businesses, regional trail organizations, and other organizations
- **Objective:** Coordinate with local governments, state agencies and other organizations to implement and promote the non-motorized network within the MACC area through site planning, bicycle parking, route signs, maps, and promotional materials
- **Objective:** Install a region-wide set of directional signs to inform visitors to the Macatawa area of existing facilities and routes in order to easily navigate from one part of the region to another
- **Objective:** Continue to encourage public participation in the development and implementation of plans and policies that impact pedestrians and bicyclists
- **Objective:** Coordinate with local citizens’ advisory groups to inform of policies, programs and facility improvements that will enhance and promote bicycle and walking
- **Objective:** Continue voluntary employee commute programs, such as Green Commute Week, that encourage and support bicycling and walking options
- **Objective:** Designate and map bike racks and safe parking sites within the MACC Area
- **Objective:** Continue to install convenient bicycle storage and parking to encourage biking for shorter trips and provide bicycle linkages to public transportation in order to travel further distances

- **Objective:** Develop and conduct public awareness campaigns promoting bicycling and walking as a means of achieving sustainability goals, improving air quality, reducing traffic congestion, improving personal health and wellness, and enhancing the quality of life
- **Objective:** Participate in programs such as the League of American Bicyclists - **Bicycle Friendly Community** program, and provide technical assistance to MACC Area businesses applying for recognition for bicycle friendly initiatives on a regional, state, great lakes and national level
- **Objective:** Develop recommended incentives for Non-motorized and multi-modal transportation

Non-Motorized Planning Newsletter

Annual newsletters highlight transportation investments within the MACC Area and inform the community of special projects, such as the annual Green Commute Week program.

Newsletters are posted to the MACC website and are also distributed to local units of government offices, as well as many employment locations in the Holland and Zeeland area.

Proposed Public Outreach and Education Strategies

Social Media

Thanks to the ever expanding internet and the invention of the smart phone, reaching people through multiple forms of media has never been faster or easier. Social media, which includes popular websites such as Facebook and Twitter, is among the most popular way that people communicate today. While the MACC is already utilizing these resources (Macatawa Watershed Project facebook page, Green Commute week Facebook page and Twitter account) there are still more opportunities.

The first step in the process of better utilizing social media is to create central Facebook and Twitter accounts for the MACC. These accounts will provide information on all MACC activities to the public and those who follow the MACC. Readers will receive updates on current and future projects, event and meeting information, as well as links to news stories related to MACC activities. These sites will not only allow the public to receive up-to-the-second news from the MACC, it will also allow the public to post thoughts and feedback, creating a discussion board environment. The MACC can then use the information it receives to better address non-motorized plans for the region.

Surveys and Videos

As a resident living in the Macatawa Area Coordinating Council region, what can I do to help improve the non-motorized network? Residents know the areas and routes they prefer to ride and can recommend improvements to the non-motorized network. It is important to create an outlet for the public to share their thoughts and concerns, so the MACC can best understand the needs of the community. As mentioned earlier, social media is a great way to

achieve this goal. Expanding on that strategy, the MACC could create a program that allows anyone with an internet connection to submit a YouTube video (60 seconds or less), documenting a concern they find while walking or bicycling in the region. The MACC could then create a data base of sites that may need improvement within the region. The City of Holland is now using a smart phone application, CitySourced App, which can be downloaded and used to report concerns about public safety, quality of life and environmental issues. This simple tool could be adapted by other local governments to address non-motorized issues throughout the region. Other mobile applications, Map-n-Tour, and GELO also offer navigational tools for the non-motorized transportation network and can be used to educate users and locate services close by.

Public online surveys are another way residents can provide feedback on the projects. The MACC has created a survey where the public can express what they find positive as well as where they think improvements can be made to the Non-Motorized Plan. Online surveys also allow residents to express which projects they feel are most beneficial to the non-motorized network. A similar video and survey program has already been implemented by the Bicycle Transportation Alliance in Portland, Oregon, as a part of their goal to build a “world-class bicycle network.” More information about the Bicycle Transportation Alliance and their current projects can be found on their website¹³.

Youth Education and Involvement

Public participation is vital in the process of building a pedestrian and bicycle “friendly” region. The most important members to the future of any given community are the youth. Therefore, the challenge becomes how to combine the two and encourage the younger people in our community to participate in the planning process. Input received during the public comment period for the draft Non-Motorized Plan clearly recommended bicycle safety classes for youth which could be offered through schools, local cycling clubs, trained cycling instructors, and as part of the driver education curriculum. In Michigan, Nathan's Law (HB5438) requires instruction in the Segment 1 driver education classes to include information about bicycle and motorcycle laws, awareness and safety.

The first steps in relation to this Non-Motorized Plan is to get young people to start thinking about bicycling and walking as a means of transportation. The easiest way to motivate the youth to get involved with non-motorized transportation is to provide them with a role model. Leading by example is a great way to “show them the ropes” and educate them on the rules of the road, where to ride, and road etiquette. Parents, teachers, and youth group leaders are examples of leaders that can make a difference in the community.

Another way to encourage young people to become a part of the planning process is to provide them with information on how they can get involved. It is important to start by looking at the places where young people spend most of their time. This list includes schools, after school

¹³ See Bicycle Transportation Alliance website: <http://btaoregon.org/get-involved/blueprint-for-a-world-class-network-take-the-survey/>

programs, and youth groups. The next step would be to find a way to provide planning information to each one of these sources. Creating a comprehensive packet detailing basic information would be an efficient way to ensure that each group is on the same page if there comes a time when they meet. Schools, after school programs, and youth groups would all be very similar in approach due to the fact that they are similar environments. One progressive strategy might be to work with different school districts in the area to develop planning curriculum in every day classes. A successful example of this idea already exists. The *Amherst and Clarence Youth Planning Project*¹⁴ was the recipient of the 2006 American Planning Association's Public Education Award. The project set out to create a planning curriculum that would involve students in the comprehensive planning process taking place in their own towns. This was a collaborative effort in which Amherst partnered with Clarence as well as 4 school districts and Buffalo State College. The *Amherst and Clarence Youth Planning Project* resulted in bringing needed civics and geographic instruction to future voters and residents¹⁵. This is just one strategy to incorporate youth and the planning process. A smaller scale technique may be to look at different clubs within the school and after school programs that are geared toward planning related activities. This might include political or public policy clubs, cycling clubs, cross country teams, Boys and Girls Club or any other relevant group. Once contact was established, the MACC could provide these groups with information on current projects, events, and other planning related activities happening in their community. The long term goal would be to create workshops where planners could guide activities and discussions, educating the youth on how the process works. There would also be opportunities for the students to express their ideas and visions for projects as well as the future of their community.

Public Comments

Public involvement is crucial to the success of the Non Motorized Plan. Using the methods mentioned above as well as others, the MACC aims to establish a dialog with the public on planning issues within the region. To accomplish this, forums must be created where the public can review and comment on plan drafts. These forums come in the form of social media (Facebook, Twitter, ect.), the Macatawa Area Coordinating Council website (www.the-MACC.org), surveys, emails, and public meetings. Locations will also be selected throughout the community where the public will be able to find



¹⁴ See *Amherst and Clarence Youth Planning Project (2003)*: <http://www.amherst.ny.us/pdf/complan/schools/finrpt/finrpt.pdf>

¹⁵ Town of Clarence, NY, Town of Amherst, NY. (2003). "Amherst and Clarence Youth Planning Project". Paul Scheidemann, quoted pp. 33. <http://www.amherst.ny.us/pdf/complan/schools/finrpt/finrpt.pdf>, retrieved January 14, 2013.

information in the form of flyers and brochures. These locations may include libraries, local municipal offices, park information boards, corporations and local businesses, bars, churches, clubs, council/trustee meetings, and community gatherings.

Once a network of information outlets has been established, the MACC will then be able to more efficiently involve the public in each stage of the planning process. The public will be notified when a draft document or other MACC activities are scheduled, through the sources mentioned above. Public comments can then be submitted during the comment period, using the different electronic forums and public meetings. Comments will be collected and analyzed as they are received. The MACC will review the comments and suggestions it receives and revise documents or materials as appropriate. Before any formal action is taken to adopt a plan or study, a public hearing will be held and comments will be summarized and forwarded to the Policy Committee for review. A copy of all comments will be filed and available for public review. Comments that request a formal response will be answered in a timely manner.

Advocacy and Community Involvement

Comments received during the public review of the MACC Non-Motorized Plan recognized the absence of a cycling advocacy group to help implement goals and objectives of the Plan. This same point was stated in the MDOT sponsored study, ***Community and Economic Benefits of Bicycling in Michigan***, released in August 2014. Other bicycling communities in Michigan have active cycling groups which have helped with promotion and outreach. Though local governments in the MACC Area have made significant investments in the non-motorized network, and the MACC has developed strong public-private partnerships through the Green Commute Week program, there has not been a formal advocacy group to help us to carry out some of our goals. It is timely to note that following the release of the draft Non-Motorized Plan and the MDOT study, a new advocacy group has formed.

The **Holland Area Cycle Coalition** is a local cycling advocacy group formed in September 2014. Joining together with a common cause, the goal of the group is to “make Holland, Michigan and the surrounding area safer for all types of cycling”. The group promotes “wider shoulders and bike lanes, better driver and cyclist education, informing the city and state officials, and integrating biking into the infrastructure and soul of these communities”.

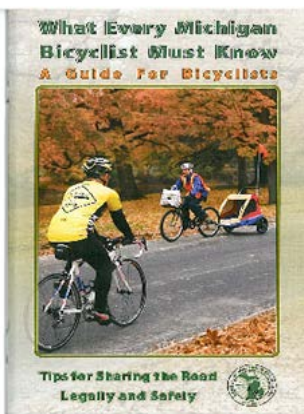
“Basically, we just want to ride our bikes, and make it so our neighbors and kids can do it, too”.

The group recognizes the economic benefits of bicycling in the Holland Area and plans to work with the MACC and other partners to communicate the findings of the MDOT sponsored study, ***Community and Economic Benefits of Bicycling in Michigan***. Additional opportunities to work together to promote safety education are offered in the following chapter, Community Awareness.

Chapter 7 – Community Awareness

Education – Rules of the Road

Bicycle safety classes for youth and adults offer the knowledge and training needed to ride on roads and to ride properly on shared use paths. Equally important, Nathan's Law (HB5438) requires instruction in the Segment 1 driver education classes to include information about bicycle laws, awareness and safety. Proper training and education is needed to clearly understand the rules of the road, to know when to yield the right-of-way, and to reduce collisions involving the motorist and pedestrian or bicyclist.



What Every Michigan Bicyclists Must Know: A Guide for Bicyclists¹⁶ is a helpful document which provides valuable information to share the road legally and safely. The booklet was prepared by the League of Michigan Bicyclists through a partnership with the Governor's Council on Physical Fitness, Michigan Department of Transportation and Michigan Department of Community Health. Free copies are available at local bike shops, the MACC office, and can be downloaded from the League of Michigan Bicyclists website (www.lmb.org). Below is a summary of the rules of the road, provided on pages 8 – 13, and Appendix A (Bikes and the Law, page 23 – 28).

Bicyclists' Rights and Responsibilities

"Bicyclists have all the same rights and responsibilities as the driver of any other vehicle and can be ticketed for violating Michigan traffic laws... More than half of all urban car-bike crashes are caused by one or more of the following behaviors:

Cyclists:

- Cycling against the direction of traffic
- Failure to yield when required
- Running a stop sign or red light
- Cycling at night without required lighting
- Riding into a street mid-block

Motorists:

- Failure to yield to a cyclist when required
- Unsafely passing a cyclist
- Right or left turn immediately in front of a cyclist
- Driving too fast for conditions
- Opening driver-side door into the path of a bicyclist

¹⁶ *What Every Michigan Bicyclists Must Know: A Guide for Bicyclists*, www.lmb.org

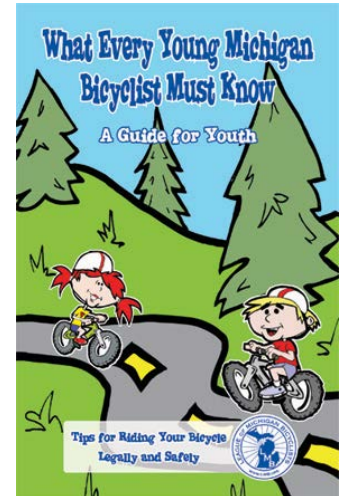


Bicyclists are to obey all stop signs and signals, and are to signal left and right turns, as well as signal stopping. In addition to knowing the rules of the road, it is also important to identify where it is most appropriate for a bicyclist to ride. **What Every Michigan Bicyclist Must Know: A Guide for Bicyclists** recommends that bicyclists ride in the right lane except when “avoiding road hazards, passing another vehicle, or preparing to make a left turn”. The guide also recommends that bicyclists “ride in the right wheel track of motor vehicles”. This improves visibility by the motorist, and also allows the bicyclist to “move away from traffic to avoid obstacles, open car doors, or crowding by another vehicle”.

Bicyclists may “claim the lane”, but are not to ride more than two abreast in the travel lane. Where motor-vehicle speeds exceed 45 miles per hour, it is also recommended that bicyclists “ride in bike lanes or on paved shoulders, except when avoiding road hazards, passing another vehicle or making a left turn”. Streets with bike lanes have been found to have the lowest collision rates for bicyclists. Shared use paths have lower crash rates, when compared to major and minor streets without bike lanes (Source: William Moritz). The table below illustrates that a person is 5 times more likely to be in a collision while riding a bicycle on a sidewalk, than on the street.

RELATIVE DANGER INDEX Of various types of facilities	
➤ Major Streets w/o bike lanes	1.28
➤ Minor Streets w/o bike lanes	1.04 *
➤ Streets with bike lanes	0.5
➤ Shared-use paths	0.67
➤ Sidewalks	5.32
(* = shared roadway)	
	1.00 = median
Source: William Moritz, U.W. - “Accident Rates for Various Bicycle Facilities” - based on 2374 riders, 4.4 million miles	

Children should cycle with an adult until they have confidence and skills to ride on their own. Younger kids (under the age of 9 or 10) may not have the skills to bicycle on the road. Though sidewalks and shared use paths are recommended for younger riders, they must be aware of driveways and intersections. The League of Michigan Bicyclists recently published a guide for youth, **What Every Young Michigan Bicyclist Must Know**, which is available for download: www.lmb.org. The League recommends that children ride on sidewalks as if they were on-road, as driveways and intersections are especially hazardous. Basic bicyclists and younger riders (over the age of 10), may prefer using bike lanes or shared use paths, and streets with less traffic. In order to ride on the road safely, they must recognize when it is safe to pull into a lane, change lanes, or turn in front of a motor vehicle¹⁷.



Chapter 4 of this Non-Motorized Plan provides a summary of collision data, demonstrating the need to be especially aware while crossing a bicycle at intersections (or crossing an intersection or roadway on foot). Many of the crashes in the MACC Area have involved motorists who failed to yield the right-of-way to a bike or pedestrian crossing at an intersection.

A series of RESOURCE SHEETS have been prepared and are available in the Appendix, which offer information for bicyclists, pedestrians, and motorists. **Rules of the Road** highlights key points from the League of Michigan Bicyclists guide and summarizes rights and responsibilities to share the road legally and safely. **Where Should I Ride?** Identifies non-motorized facilities and routes appropriate for various bicyclists: A (advanced), B (basic and slower-riding adults), and C (children). **Road Etiquette** provides information to aid motorists, bicyclists, and pedestrians to respect other users of the transportation system and improve awareness of each other. In addition, there is a list of frequently asked questions concerning bicycling and walking in the MACC Area. The purpose of these resources is to clarify some of the confusion about where a bicyclist should or should not ride and offer guidance to improve awareness and safety.

Local bike shops are also helpful resources, offering on-road training, bicycle maintenance classes, and group rides. Group rides include short routes for families and beginners, as well as longer routes for advanced cyclists. On-street training is also available from certified cycling instructors, through the League of American Bicyclists (www.bikeleague.org). The League of American Bicyclists also offers an online Smart Cycling program with videos, interactive components, and practical lessons. For more information about taking a Smart Cycling class or working with a League Cycling Instructor, you may email: Education@bikeleague.org.

¹⁷ Retrieved 12/6/12
from <http://www.bicyclinginfo.org/education/children-9to12.cfm>

Promotion

Census Commute Trends

Quantifying the number of people who use non-motorized transportation on a daily basis is challenging without a regular inventory of pedestrians and bicyclists in the region. Fortunately, the 2000 and 2010 Census data provides information regarding the daily work trip. This data helps to identify the commute patterns of those who are the age of 16 and older. A comparison of commute characteristics for workers within Allegan & Ottawa Counties, shows roughly 8 out of 10 people commuting alone by automobile. Commutes average between 15 – 20 minutes. In the interest of identifying the commute patterns of the remaining working population, we looked at 2010 figures provided by the U.S. Census Bureau.¹⁸ In Allegan County, we see approximately 2.1 % of workers walking or bicycling to work. Commutes recorded within Ottawa County show 2.9% of workers walking or bicycling. Comparing 2000 and 2010 results, these commutes have remained relatively constant in Allegan and Ottawa Counties. These commute characteristics are also consistent with trends throughout the State of Michigan.

Community and Economic Benefits of Bicycling

How is the regional Non-Motorized Plan expected to help the community and regional economy by promoting non-motorized transportation? The Non-Motorized Plan identifies connections to improve bicycle and pedestrian access within the region. The Plan also guides future infrastructure to increase safety and offer increased travel opportunities for residents and employees. These are top priorities for local governments as well as consumers who recognize that investments such as biking and walking facilities improve the character of a community, increase the desirability of a neighborhood, and provide transportation options that reduce travel costs.

The Michigan Department of Transportation sponsored a study of the Community and Economic Benefits of Bicycling, which highlights the financial and community value of bicycling in Michigan and in the MACC Area. Selected as one of five case studies, the City of Holland offers a unique perspective - both because of its strong manufacturing base and because it is also a tourism destination. The economic benefit of bicycling to Holland and to the surrounding MACC area is estimated to be \$6.4 million annually¹⁹. This includes \$1.1 million of household spending on bicycling related items; \$410,000 in bicycle related manufacturing; and \$557,000 in bicycle events and tourism. Additional benefits to the community include reduced absenteeism, benefitting the local economy by saving \$1.8 million, and avoiding health care costs of \$2.5 million each year.

A survey of City of Holland residents illustrated that 45% of residents place an annual value of at least \$100 on the ability to use bicycle infrastructure, 73% of residents rode a bicycle during

¹⁸ U.S. Bureau of Census, Census 2000 (Allegan and Ottawa Counties) and 2006-2010 American Community Survey

¹⁹ BBC Research & Consulting, *Community and Economic Benefits of Bicycling in Michigan*, August 2014.

the last year, and 10% of residents participated in a bicycling event or bicycle oriented vacation in Michigan. The average Holland household spent an annual amount of \$93 on bicycle-related equipment. This compares with the national average of \$90 per household²⁰.

Bicyclists were also surveyed as part of this study, revealing that 44% of bicyclists bike at least twice a week, and 31% of bicyclists commute by bicycle at least twice per week. It was also interesting to note that road bikes are the most common bicycle types in the Holland Area (43%), followed by mountain bikes (27%), cruiser bikes (10%), and other bicycle types (20%). Road bikes in other communities were also popular, averaging between 27 – 35%.

Comparing the results with the other four case study communities, Holland has the highest percentage of bicyclists who commute by bicycle at least twice a week (31% compared with between 18 – 28% in the other communities). The Holland area brings in retail revenue which is slightly higher than Grand Rapids and a higher percentage of Holland residents value bicycle infrastructure than do Grand Rapids residents. Total annual spending associated with bicycling events was lowest in Holland (\$557,000 compared with \$765,000 in Traverse City, and \$4.3 million in Grand Rapids).

Real Estate Preferences

Two surveys completed in 2010 and 2011 shed light on the high value of non-motorized transportation with regard to real estate choices and local government policies. In 2010 the International City/County Management Association conducted a survey of sustainability policies and programs, finding the economy, the environment, and energy conservation to be at the top of the priority list for local governments. Asked about transportation improvements that communities implemented in the last 5 years, more than 60% added biking and walking trails, and 54% require sidewalks in new development. Other actions communities took to enhance non-motorized transportation were to expand dedicated bike lanes on streets (34%), add bike parking facilities (27%) and widen sidewalks (24%)²¹.

A second survey for the National Association of Realtors explored characteristics American consumers look for in a community. Living in a walkable community with a mix of houses, shops and businesses and a short commute to jobs is the ideal for most Americans. Among the top characteristics people consider important are the location of the neighborhood (88%) and having sidewalks and places to take walks (77%). Given the choice of living in a location with more space and a lengthy commute, 59% would rather choose to live in a smaller house with a commute time resembling Allegan & Ottawa County ... of 20 minutes or less.

The economy has a substantial impact on consumers' attitudes toward communities and housing. Sharing the concern that local government leaders have for the economy, attracting

²⁰ BBC Research & Consulting, ***Community and Economic Benefits of Bicycling in Michigan***, August 2014 – reference to Outdoor Industry Association survey, 2012

²¹ International City/County Management Association. (2010). Local Government Sustainability Policies and Programs. Retrieved 11/3/2011 from <http://icma.org>

businesses and creating jobs, this survey found that Americans prefer to stay within budget rather than stretch their budgets (59%)²².

Tourism Destination

When discussing the overall vision and goals for a regional Non-Motorized Plan, the MACC Policy Committee recognized that bicycling is important for the community's tourism industry. In reviewing the proposed goals, it was suggested that consideration be given to market the non-motorized network to residents within the MACC area and also as a destination for bicyclists from beyond this area.

The region is a favorite destination for thousands of visitors each year who enjoy leisurely bike rides and walks along Lake Macatawa, downtown Holland and Zeeland, and along Lake Michigan. The Holland Convention and Visitors Bureau works with other members of the Ottawa County Tourism Council to promote bicycling along the lakeshore. The Holland and Grand Haven BIKE brochure and map encourage visitors to enjoy the community on two wheels and take part in a number of biking events scheduled through the region (weekly rides led by the Macatawa Cycling Club as well as local bike shops: Cross Country Cycle, Lakeshore Cycle and Fitness, Rock 'n' Road Cycle, and Velo City Cycles). The area also benefits from tourism attracted through a number of annual bicycle tours such as the Annual Holland 100 Bicycle Tour, the Lakeshore Harvest Country Bike Tour, Bike MS Great Lakes Breakaway, Coast Guard Festival Bicycle Tour, Shoreline West Bicycle Tour, the Michigan Trails and Greenways Alliance - Michigander Bicycle Tour, Grand Haven Triathlon, and Canadian Century Rides. Bike races such as the Tulip Time Festival - King's Day Criterium and the Zeeland Criterium have also brought in bike racers and observers to the cities of Holland and Zeeland in recent years.

The Pure Michigan campaign promotes bicycling in the greater Holland area (www.michigan.org/biking), and includes an interactive map to locate attractions and activities.



The Pure Michigan website also identifies multi-county regional maps produced by the Michigan Department of Transportation and partners (www.michigan.gov/mdot). The Grand Region and Southwest Region bike maps (shown left) highlight on-street routes as well as regional and local multi-use paths in Ottawa and Allegan County portions of the Macatawa area. Other helpful resources to locate multi-use trails and on-street routes is the

Michigan Trails Finder, an interactive map produced by the Michigan Trails and Greenways Alliance (michigantrails.org), and the **Guide to West Michigan's Multi-Use Trail Network**, developed by the West Michigan Trails & Greenways Coalition (www.westmichigantrails.com).

Creating Active Living Communities in Michigan

Promoting Active Communities (PAC) Program is a tool which helps community residents to increase physical activity by examining daily routines. Created by the Michigan Department of Community Health (MDCH), the Michigan Governor's Council on Physical Fitness, Health and Sports, the Prevention Research Center of Michigan, and Michigan State University, the PAC is

²² Belden Russonello & Stewart, Inc. (2011) Community Preference Survey: What Americans are looking for when deciding where to live. Retrieved 11/3/2011 from www.brspoll.com

part of a state initiative that includes a web-based self-assessment tool to “examine policies, programs, and built environments” (www.mihealthtools.org/communities). Completing the assessment is a powerful tool to identify gaps and future needs for non-motorized projects. A team of community leaders and citizens work together to complete the assessment and identify areas for improvement. Based on the assessment score, a community may be eligible to earn an award from the Governor's Council and MDCH. Local examples include the communities of Holland Charter Township and the City of Holland – which received assistance from the Ottawa County Health Department. Since 2000, 141 Michigan communities in 57 counties have completed the PAC assessment.²³

[Design Guidelines for Active Michigan Communities](#) is a guidebook that offers assistance to complete the PAC assessment. A connected transportation network with a variety of modes to travel and shorter distances between destinations is identified as one of the design essentials for active living. Chapters 3-5 offer design guidelines for pedestrians (sidewalks, street crossings, traffic calming), and for bicyclists (on the roadway or trail). Additional information regarding the Active Communities Inventory may be found at www.mihealthtools.org, which includes a map of communities which have completed the assessment and a PDF copy of the Design Guidelines for Active Michigan Communities.

Lake Michigan Trails

On November 8-9, 2012, a multi-state consortium was created with the goal of establishing tri-modal trails along Lake Michigan which accommodate 3 modes of travel: kayaking, bicycling, and hiking. The Lake Michigan Trails Partnership formed a steering committee and is working to market a series of trails through Michigan, Indiana, Illinois, and Wisconsin. This consortium includes support from the Michigan Department of Environmental Quality (Coastal Zone Management Division); the Office of the Great Lakes, the Michigan Economic Development Corporation - Travel Michigan; the West Michigan Tourist Association; the Michigan Department of Transportation; the Lake Michigan Water Trail Association; the National Parks Service; the Adventure Cycling Association; convention and visitors bureaus; local, county, and regional government organizations; Western Michigan University; and private sector representatives. Recognizing the economic development potential of such a series of trails, the Lake Michigan Trails Partnership will be building upon the foundation of Lake Michigan "Circle Tour" designation and promote the experience of the largest fresh-water coast in the world.

The multi-state consortium has renamed its effort to focus on the entire Great Lakes system. A follow-up conference in May 2014 sets the stage for more discussions on partnerships and promotion of the trimodal trails: kayaking, bicycling, and hiking along the Great Lakes. Additional information is available at www.lmwt.org.

²³ <http://www.michiganfitness.org/promoting-active-communities>

Bike Share Program

Bike sharing is another approach to promote the use of bicycles for short trips. A self-serve bike station can be established as a location where people can pick up a bicycle and return it after travel is completed.



Bike Sharing in the United States: State of the Practice and Guide to Implementation, is a helpful resource available through the Pedestrian and Bicycle Information Center²⁴. A pilot program for the Macatawa area could provide automobile congestion relief and reduce parking demand during especially busy events, such as Tulip Time. Bike sharing would also accommodate visitors relying on the Amtrak Pere Marquette passenger rail line as well as the transit services of the Macatawa Area Express Transportation Authority.

Denver B-cycle (Denver, CO)

Green Commute Options

Green Commute Week is an annual event sponsored by the Macatawa Area Coordinating Council which promotes alternative transportation, such as walking, bicycling, ridesharing, and taking public transit. The program began in 2008 as an effort to raise awareness. Designed to encourage the use of alternative transportation, the Green Commute program has encourage residents and employees to try a new mode of transportation for one week. Employees from more than 30 employment locations have participated during the week. On average, a participant commuted 3 out of the 6 days, traveled 44 miles, and saved about \$8 of gas money during commute week. Collectively, this effort resulted in a daily savings of \$8,629 in fuel costs, approximately 48,066 of vehicle miles, and prevented more than 1,629 lbs of CO2 emissions. The program continues to gain support from local employers within the Macatawa Area and is helping to increase the use of alternative modes of transportation in the region.



Other initiatives to encourage employees to commute to work include the installation of bike racks / lockers, showers, and the establishment of a Commute Challenge among local employers. Information about this program is available on the Green Commute page of the MACC website: <http://www.the-macc.org/green-commute/>

²⁴ Toole Design Group and the Pedestrian and Bicycle Information Center. (2012). *Bike Sharing in the United States: State of the Practice and Guide to Implementation*. Retrieved 9/26/2012 from <http://www.bicyclinginfo.org/promote/bikeshare.cfm?/bikeshare>

Green Commute Week was established following the examples of Traverse City, Jackson, and Ann Arbor, Michigan. There is now an active Smart Commute Network of communities which was fostered by the Michigan Governor's Council on Physical Fitness (mismartcommute.org). For more on promoting bicycle use, see [Strategies to Promote Bicycling \(bicyclinginfo.org/promote/strategies\)](http://bicyclinginfo.org/promote/strategies).

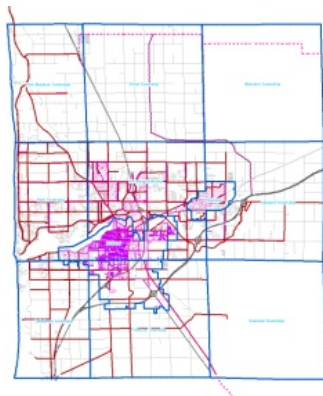
Air Quality Benefits of Non-Motorized Transportation

The Macatawa Area Coordinating Council is a member of the West Michigan Clean Air Coalition and is working with businesses and partner organizations to reduce vehicle emissions through public awareness of Clean Air Action Days and events such as Green Commute Week. With a total of 25 Clean Air Action Days called in 2012, the Macatawa Area is working to encourage alternative transportation for the purpose of reducing vehicle emissions.

In an effort to plan for the future, the Macatawa Area Coordinating Council has started a conversation about the way our region will look and function in the next 25 years. MACC staff worked with a consultant, Placeways LLC, to collect master plans from local communities, to identify land uses, and to compare zoning densities across the region. Three alternative scenarios were then created – each with unique priorities and “indicators” that measure the impacts of the different development patterns:

- Continuing Current Trends
- Conservation Priorities
- Alternative Transportation

A model was then used to allocate new residential and employment growth to areas identified to be most desirable. The Michigan Department of Transportation also helped to analyze traffic impacts of each of the scenarios. Having a regional network of non-motorized facilities and fixed



Alternative Transportation Scenario

route service areas has clear benefits. The Alternative Transportation Scenario, which focuses development in areas currently served by non-motorized facilities and transit service would have the lowest increase in vehicle miles traveled (VMT) and fewer congested miles on the highway network. This type of development pattern is expected to have minimal impact on the natural environment and would contribute the least amount of vehicle emissions.

By encouraging people in the Macatawa Area to consider walking and use a bicycle for short trips, we can confidently establish the goal to minimize the daily 422,000 miles of added vehicle miles of travel and vehicle emissions that are anticipated by the year 2040. Calculating the daily savings of vehicle miles traveled (VMT), which is estimated to be 110,791 miles per day with

this scenario, we can identify potential air quality impacts. Below is a listing of daily pollutants that would be removed from the air:

Hydrocarbons– 332 pounds or 150.6 kg
 PM10 – 1.2 pounds or .5 kg
 PM2.5 – 1.19 pounds or .5 kg
 NOx – 232 pounds or 105.2 kg
 CO – 3,028 pounds or 1,373.8 kg
 CO2 – 90,129 pounds or 40,881 kg

You might be wondering how much CO and CO2 would be removed with this future development scenario. What would this look like? To give an easy illustration, imagine the equivalent weight of a 2012 Prius. One Prius weighs approximately 3,028 pounds or 1.5 tons per day. So, each day, we could expect to remove the weight of one car of CO and 30 cars (45 tons/day) of CO2 region wide.

Applications for the Macatawa Area

Automobiles are a major source of greenhouse gas emissions and are responsible for about 20% in the United States. Each gallon of gas burned produces 19.4 pounds of CO2, which is roughly one pound per mile driven²⁵. Having calculations of over 48,000 reduced vehicle miles during Green Commute Week events, we can use daily savings of 2002 miles per day to estimate the amount of pollutants that were prevented. This information can also be used to look ahead and estimate the pollutants that we can potentially reduce through efforts to use alternative transportation.

Averted Vehicle Miles of Travel - Average Daily Green Commute

Pollutant	Conversion	Equation	Amount
Hydrocarbons	1.36	Daily mileage reduction multiplied by 1.36 grams per reduced mile	6 pounds/day
PM₁₀	0.0052	Daily mileage reduction multiplied by 0.0052 grams per reduced mile	0.02 pounds/day
PM_{2.5}	0.0049	Daily mileage reduction multiplied by 0.0049 grams per reduced mile	0.02 pounds/day
NO_x	0.95	Daily mileage reduction multiplied by 0.95 grams per reduced mile	4.19 pounds/day
CO	12.4	Daily mileage reduction multiplied by 12.4 grams per reduced mile	54.75 pounds/day
CO₂	369	Daily mileage reduction multiplied by 369 grams per reduced mile	1,629.27 pounds/day

²⁵ Federal Highway Administration and U.S. Department of Transportation Volpe National Transportation Systems Center, Report to the U.S. Congress on the Outcomes of the Non-motorized Transportation Pilot Program SAFETEA-LU Section 1807, April 2012

Outreach - Helping the community to become aware of the Non-Motorized Plan and learn of benefits of non-motorized transportation



Help shape our region's transportation system

The Macatawa Area Coordinating Council is completing a regional bicycle and pedestrian plan . . . and soon will begin a long range transportation plan for the year 2040. We would like your input on the regional transportation system.

Please complete a short transportation survey and enter a drawing to receive one of 4 - \$25 gift cards. Survey results will be posted to the MACC website: www.the-macc.org

Tell us your views on transportation priorities...

- Preserving existing roadways
- Prioritizing investments
- Integrating multiple modes
- Increasing passenger rail
- Improving traffic safety
- Reducing crashes
- Expanding transit service
- Connecting shared use paths & on-street bike routes

During the development of the MACC Non-Motorized Plan, a community survey was used to seek public input on non-motorized transportation priorities. Survey results are also used to offer direction in the region's Long Range Transportation Plan (the 2040 LRTP) to be completed in 2015.

Transportation Plan Survey:

<http://www.the-macc.org/transportation/long-range-plan/>

During the development of this Non-Motorized Plan, MACC staff presented highlights to individuals and community groups. Local newspapers (The Holland Sentinel and MLive) and radio stations (WHTC-1450AM, JQ99 FM, and ThePledge 1260AM) also provided opportunities to inform people of the regional planning effort and helped to seek public input. As one of the strongest recommendations received during the public comment period of this plan was to seek new ways to improve outreach and educate motorists, pedestrians, and bicyclists about safety and rules of the road, the Macatawa Area Coordinating Council is exploring a variety of tools and resources to accomplish this important goal.

Social Media and Online Tools

The Macatawa Area Coordinating Council (MACC) uses social media (Facebook and Twitter) to inform the greater community of updates to the Green Commute Week program and to the Macatawa Watershed Project. Newsletters are also produced by MACC staff (both in paper form and distributed by mail, as well as through e-newsletters) and distributed to interested individuals and organizations. The agency web page, www.the-macc.org is regularly updated to inform the public of scheduled meetings and also provides summaries of committee actions and discussions. The Macatawa Area Coordinating Council will work with transportation stakeholders and local partners to improve public outreach and education. Below are a list of

suggested methods to expand public awareness of the Non-Motorized Plan and reinforce objectives regarding education and promotion:

Social Media

- Facebook
- Twitter
- Google+
- YouTube or Vimeo

Community Resources

Local and State Government

- Ottawa County Parks and Recreation
- Pure Michigan
- Macatawa Area Coordinating Council website
- MACC Member websites

Local Agencies, Organizations, and Businesses

- Holland Visitors Bureau
- West Coast Chamber of Commerce
- Macatawa Cycling Club, Holland Area Cycling Coalition and other regional bike clubs and associations
- Local Bicycle Shops: Cross Country Cycles, Lakeshore Cycle & Fitness, Rock 'N' Road Cycles, West Michigan Bicycle and Fitness, Velo City Cycles, Main Street Bicycle Company of Zeeland
- Gazelle Sports
- MVP Athletic Club
- Endurance Fitness
- Hope College
- Beachside Bike Rental
- Tulip Cycling
- Lake Michigan Trails / Lake Michigan Water Trails (LMWT)
- Disability Network / Lakeshore
- TV, radio and print media for Grand Rapids and West Michigan

Chapter 8 – Project Costs and Funding

MACC Proposed Future Costs

Cost Element – What will it cost to implement future non-motorized corridors and recommended safety improvements? The estimated cost to construct future shared use paths and to add paved shoulders along strategic routes within the MACC area is listed below. Estimates for shared use paths are approximately \$213,343 per mile and assume a 10 foot pathway, separated from the roadway. Paved shoulder estimates are \$142,570 per mile and include a 4 foot extension of the existing roadway on both sides of the road. Bike lane estimates include a 5 foot extension of the existing roadway and are estimated to cost approximately \$175,525 per mile. Please note that the costs below are general estimates which will be revised once final engineering is completed and bid lettings are scheduled for each project.

Future Shared Use Paths

Location	Project Limits	Length	Cost Estimate
Park Township	160 th Avenue (James St – Quincy St)	2 miles	\$ 503,000
Holland Township	Quincy Street (120 th – 136 th Ave)	2 miles	\$700,000
City of Holland	M-40 Pathway (40 th St – Industrial Ave)	.8 mile	\$ 360,000
City of Holland	8 th Street (Washington Ave to Van Raalte)	0.19 mile	\$275,000
Zeeland Township	64 th Avenue (Adams St – Byron Rd)	2 miles	\$ 503,000
Zeeland Township	Quincy Street (88 th to 96 th Ave)	1 mile	\$375,000
City of Zeeland	Fairview Road (Main St – E. Washington Ave)	.5 mile	\$ 170,000
*City of Holland/Fillmore Township	CSX Railroad – Chesapeake and Ohio Corridor (E. 32 nd St to 136 th Ave)		
*Blendon Township	Taylor (96 th to 56 th Ave to Bauer Rd)		
*Olive / Blendon / Holland / Zeeland Townships	96 th Ave (Fillmore St to Quincy St)		
Total			8.49 miles \$ 2,886,000

Note: projects noted with () asterisk will be included in narrative regarding future considerations – but are not included in cost estimate at this time. It is also important to note that costs may differ based on factors such as project location, utilities, topography, and other unforeseen circumstances.

Future Paved Shoulders / Bike Lanes

Location	Project Limits	Length	Cost Estimate
Park Township	Lakeshore Drive (168 th Ave to New Holland)	5.2 miles	\$ 741,364
Port Sheldon Township	Lakeshore Drive (New Holland to Croswell St)	4.88 miles	\$ 695,741
Port Sheldon / Park Townships	New Holland Street (Lakeshore Drive to 144 th Ave)	3.5 miles	\$ 498,995
Holland / Olive Townships	New Holland Street (144 th Ave to 96 th Ave)	6 miles	\$ 855,420
Fillmore Township	141st Ave (60 th Street to M-40)	4.5 miles	\$ 641,565
City of Holland	Lincoln Ave (US-31 to 32 nd St)	.5 mile	\$210,000
City of Holland	Central Avenue	.75 mile	\$131,643
City of Holland	48 th St / 146 th Ave (60 th Street to Ottawa)	.5 mile	\$ 71,285
Laketown Township / City of Holland	146 th Ave (66 th – Ottawa)	3.5 miles	\$498,995
Laketown Township	140 th Ave (64 th to 60 th Street)	2 miles	\$ 285,140
*Olive Township	104 th / Taylor (Stanton to Polk to 104 th , South to Quincy)		
*Olive / Blendon Townships	Port Sheldon Road (104 th to 96 th) and onto 48 th		

Total 31.33 miles \$ 4,630,148

Source: Jeff Mitchell, Van Buren County Road Commission, (Southwest Michigan Planning Commission, Non-Motorized Plan). Estimated construction costs have been prepared for proposed projects identified in Figures 8, 10, and 11. Estimates were reviewed by road agencies in the MACC Area and were found to be consistent with local costs.