

KALAMAZOO CHARTER TOWNSHIP
**NON-MOTORIZED TRANSPORTATION
MASTER PLAN**



Adopted: December 8, 2014

Prepared by:
VIRIDIS Design Group



Prepared for:
Kalamazoo Charter Township



ACKNOWLEDGEMENTS

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Steve Stepek – Kalamazoo Area Transportation Study
Toni Thompson – Friends of the Kalamazoo River Valley Trail
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INTRODUCTION

The Charter Township of Kalamazoo understands the growing need and responsibility to provide non-motorized options that allow its residents the ability to safely walk or bicycle to more places. The Township also recognizes that non-motorized systems are a wonderful community asset due to the many benefits including: recreation, alternative transportation, increased mental and physical well-being, pollution reduction, conservation of natural resources, increase in property values, and improved quality of life. This Master Plan represents a strong commitment by the Township to improve the non-motorized system to make it easier for residents to walk or bicycle throughout the Township. The Township has developed this Master Plan to include both in-road and off-road non-motorized facilities in order to promote linkages between schools, businesses, services, parks, natural resources, and cultural and historic landmarks to each other as well as to adjacent communities. This document is intended to help the Charter Township of Kalamazoo become a leader in high quality non-motorized transportation and contribute to making the Township a desirable place to live and work.

PURPOSE OF THE MASTER PLAN

The purpose of this plan is to articulate a vision for non-motorized transportation in the Township. The plan provides a long term vision for a Township-wide non-motorized system that includes both in-road and off-road non-motorized facilities that will provide safe, enjoyable, and convenient connections throughout the Township. The plans within this document are intended to illustrate potential non-motorized connections throughout the Township that are suitable to all types of non-motorized users.

The plan is intended to serve as a guide to communicate the goals for non-motorized transportation planning, funding, design, and construction into the future. The plan is implementation oriented and utilizes community and stakeholder involvement and input. The plan is also intended to serve as a foundation for future grant applications, funding requests, and coordination with State and County road projects.

The document that follows identifies the benefits of non-motorized transportation; reviews existing local and regional systems including points of interest within the community such as schools, parks, and recreational areas; maps illustrating the proposed locations for non-motorized facilities; design considerations and, an implementation strategy including estimates of probable costs and potential funding strategies.

BENEFITS OF NON-MOTORIZED SYSTEMS

A comprehensive non-motorized system can provide many benefits that can strengthen the well-being of the community while providing opportunities to improve economic and environmental conditions. Non-motorized systems promote healthier communities and increased recreational opportunities by providing connections to schools, parks, businesses, downtowns, and shopping centers. Non-motorized systems can also boost local economies by attracting visitors and increasing property values. These systems can also lessen environmental impacts associated with automobiles by: providing alternate transportation opportunities; reducing the traffic burden on the community; lessening vehicle congestion; and decreasing fossil fuel emissions. The following describes these benefits in more detail.

Recreation

As communities grow, through population increases and economic growth, the demand for recreational facilities tends to increase. The Kalamazoo area is home to many wonderful recreational points of interest such as natural and historic areas, parks, and trails. However, users mostly rely on the automobile to access these facilities because a safe, non-motorized connection does not exist. Non-motorized systems can improve recreation opportunities by linking downtown and residential core areas with local and regional parks, shopping centers, and schools. Non-motorized facilities accommodate a wide range of active recreational interests, such as bicyclists, walkers, runners, hikers, in-line skaters, skate boarders, push scooters, and cross-country skiers. By providing access to parks and natural resource areas, non-motorized systems also encourage passive recreation endeavors such as fishing, picnicking, camping, hiking, and outdoor education. By connecting Kalamazoo Township with adjacent Townships, the City of Kalamazoo, and with recreational areas, non-motorized systems can improve the quality of life for the residents of the Kalamazoo community.

Environmental

Non-motorized systems promote the concept of reducing water, air, and noise pollution by reducing the number of vehicles on the road and shifting local trips to bicycling and walking. By reducing dependence on the use of fossil fuel, non-motorized systems can improve air and water quality and have a positive impact on climate change. Connections through greenway corridors can also help conserve natural features and protect sensitive ecological systems by minimizing the likelihood of intense development of these areas. Investment in the community's non-motorized network is an investment in the health and integrity of the community's natural resources.

Alternative Transportation

Walking or bicycling as a mode of transportation can be difficult and often dangerous in many areas of the Township. As a result short trips that could easily be made by bicycle or foot are often made by car, which contributes to traffic congestion, increased fuel costs, and wear and tear to roadways. In addition, there is a population of individuals (including children, some seniors, and those with disabilities) that do not have access to a vehicle and therefore are forced to walk in unsafe conditions within roads or alongside roads. Providing alternative modes of transportation reduces dependence on vehicles and makes walking and bicycling a safer more enjoyable transportation option. In addition, providing safe non-motorized facilities improves access for those with disabilities, provides safe connections to metro and school bus stops, and provides viable transportation alternatives for those who do not have access to a vehicle.

Physical and Mental Well-Being

The recreation opportunities created by non-motorized systems can contribute to improved physical and mental well-being by providing immediate access to destination-based corridors that are safe and enjoyable. The presence of non-motorized systems can eliminate structural and motivational barriers to more active lifestyles, increase social interaction, and enhance physical and mental well-being. It has been well documented that increased physical activity, such as walking, running, or bicycling can reduce the risk of several health problems. These facilities can also serve as gathering points for community clubs and social groups such as running and bicycling clubs, walk-to-work days, and charity races. By making physical activity safer and easier, non-motorized systems can reinforce the culture and acceptability of active communities and can

help spread awareness about the importance of regular exercise. In addition to physical health benefits, non-motorized systems may also provide other advantages, such as improved mental outlook, enhanced well-being, increased sense of self-reliance, improved social relationships, and a greater sense of independence and freedom.

Economic Development

As communities look for ways to help boost the local economy, many identify the implementation of non-motorized systems to help complement these efforts. Access to non-motorized systems has proven successful at contributing to increased property values, increased business, attracting tourism, and lowering health costs.

The access provided by non-motorized systems is widely regarded as an attractive component of a community. Such systems can provide places for children to recreate, access to natural features, and reduce automobile reliance. These characteristics are often sought by potential homebuyers, and are often touted as key selling points by real estate agents. Non-motorized systems provide a unique amenity that can enhance the character and economic vitality of nearby properties.

Attracting visitors and stimulating economic activity are central to Michigan's economic development objectives. Local and regional non-motorized systems can increase the circulation of people and money within and between communities. Pathways that link regional communities can transform ordinary communities into destinations. Coupled with unique natural features such as lakes, rivers, and parks, these destinations become even more desirable for prospective visitors. Local communities, in turn, benefit by providing equipment, refreshments, and lodging to trail users.

PLANNING CONTEXT

The citizens of the greater Kalamazoo area have supported the development of non-motorized facilities as evidenced by the success of the Kalamazoo River Valley Trail, and the many local running and bicycle clubs. Non-motorized transportation systems are considered tremendous community assets that expand recreation opportunities, support alternative transportation, and promote healthier communities. Non-motorized networks can also attract visitors and increase property values, thereby boosting local and regional economies. These benefits can improve overall quality of life, while fostering greater economic and environmental sustainability. This section of the plan examines State, County, and local programs, which promote and support non-motorized transportation facility planning and development.

ACTIVE COMMUNITY PROGRAMS

There are a number of organizations and programs promoting pedestrian and bicycle friendly communities at the State, County, and local level that have come together to create incentives, and facilitate non-motorized transportation planning, education, and development opportunities in Kalamazoo Township.

Bicycle Friendly Communities Campaign

Bicycle Friendly Communities (BFC) offers awards of national recognition for communities that provide safe and plentiful bikeways, access to safe and convenient bike parking, and encourage “share the road” programs for non-cyclists. The program is a tool for states, communities, businesses, and universities to make bicycling a real transportation and recreation option for all people. The BFC program is helping transform the way communities evaluate quality of life by assessing investment in bicycling promotion, education programs, infrastructure, and policy. There are currently 303 Bicycle Friendly Communities in 48 states. Recognized Michigan communities include: Ann Arbor, Houghton, Marquette, Grand Rapids, Lansing, Midland, Portage, and Traverse City.

Promoting Active Communities

The Promoting Active Communities (PAC) program is an online assessment and award system sponsored by the Michigan Department of Community Health, the Governor’s Council on Physical Fitness, Sports, and Health, Michigan State University, and the Prevention Research Center of Michigan. The Promoting Active Communities (PAC) Program is part of a state initiative on physical activity to help Michigan communities make changes to their policies, promotion strategies, and the physical design of their communities to make it easier for community residents to be physically active.

The PAC assessment is a self-assessment tool that enables communities to examine their policies, programs, and built environments. The assessment, which requires teamwork between community leaders and citizens, generates ideas for community improvements. Upon completion, every community is eligible to earn one of five award levels from the Governor's Council and Michigan Department of Community Health, based on their assessment score.

Bike Friendly Kalamazoo

Bike Friendly Kalamazoo (BFK) is a network of volunteers who are passionately working towards making the greater Kalamazoo area more bicycle friendly. Volunteers are delegates representing stakeholders from local transportation planning and engineering agencies, elected officials, law enforcement, business, charitable and philanthropic organizations, education, parks and recreation, healthcare, and employers, in addition to the areas leading bike clubs, shops, teams, and less formal riding groups. BFK provides many educational and safety resources as well as information regarding bicycle routes, events, clubs, and general policies and guidelines.

Open Roads Bike Program

The Open Roads Bike Program is a Kalamazoo based youth development program, founded in 2009, that teaches social skills and bike mechanic skills to local youth. Open Roads provides an 8-week summer or after school program where youth gain hands-on bike mechanic skills while learning social skills that help them become successful in life.

RELATED PLANNING INITIATIVES

A number of related planning efforts exist within and around Kalamazoo Township that relate to or have an effect on the proposed non-motorized transportation system within the community.

Kalamazoo Township 2014 Land Use Master Plan Update

The Township undertook the required five-year review of the Master Plan. Proposed changes did not warrant a major overhaul of the original document and therefore the 2014 amendments were inserted within the current Master Plan Text. The update was adopted in September of 2014. Part of the update includes goals for non-motorized transportation planning.

Kalamazoo Township 5-year Parks and Recreation Plan

The Township is in the process of developing and adopting a 5-year Parks and Recreation Plan which will provide a road map for the development and implementation of improvements to park facilities in the Township. The Action Plan section of the plan makes recommendations for improvements and enhancement of the Township's parks and recreation facilities which includes provisions for non-motorized facility development and expansion.

2013 Citizen Engagement and Priority Survey

Randomly selected Kalamazoo Township residents (1500 registered voters) participated in a community survey that included a number of topics including Township services, government management, economic health, transportation, infrastructure, and recreational facilities. "Comments provided by survey respondents indicated there is a desire for increased levels of non-motorized services including expansion of the current network and maintenance of the existing facilities" (Charter Township of Kalamazoo Master Plan, September 2014).

2011 Southwest Michigan Non-Motorized Transportation Plan

The Michigan Department of Transportation (MDOT), Southwest Region has developed a Non-Motorized Transportation Investment Plan. The Plan focuses on the nine counties comprising MDOT's Southwest Regional jurisdiction, including: Allegan, Barry, Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph, and Branch Counties. Guided by community input, MDOT

developed nine non-motorized facility maps, one for each county in the Southwest Region. These maps identify existing and proposed non-motorized routes for each of the counties involved.

2035 Metropolitan Transportation Plan

In 2011 the Kalamazoo Area Transportation Study approved the 2035 Metropolitan Transportation Plan which includes roadway, public transportation, and non-motorized improvement projects for Kalamazoo County.

City of Kalamazoo 2000 Non-Motorized Transportation Plan

The City of Kalamazoo 2000 Non-Motorized Transportation Plan provides proposed recommendations for bicycle facilities, off road paths, and sidewalks within the City, many of which extend to the City/Township border.

Oshtemo Township 2012 Non-Motorized Transportation Plan Update

The Oshtemo Township 2012 Non-Motorized Plan Update provides recommendations on specific corridors of interest and outlines a framework for the identification of priority corridors in the Township. Several of these corridors also extend to the border of Kalamazoo Township.

Kalamazoo Metro Transit ADA Compliance Inventory 2014

This report is an analysis of 751 Metro Transit bus stops and shelters to determine if they are compliant with ADA guidelines. The report indicates that 7% of the bus stops are compliant.

EXISTING FRAMEWORK

There are many factors that have been considered in studying the current conditions within and around Kalamazoo Township. Each of these elements is critical in developing a long-term non-motorized plan that is logical, safe, and can be implemented.

Utilizing aerial photographs and County GIS data, a base map of existing conditions was generated for the Township and adjacent municipalities, as a foundation for future non-motorized transportation planning. Local points of interest such as parks, schools, and places of worship were mapped in relation to the Township boundaries. Existing conditions information also included an understanding of primary regional points of interest outside of the Township limits within the adjacent municipalities including parks, cemeteries, trails, and other community assets. Providing connections to these destinations was a guiding principal throughout the development of the overall non-motorized vision.

The following includes a description of local and regional non-motorized systems; a description of the primary destinations within and in close proximity to Kalamazoo Township; a description of the existing system within the Township; and other related conditions that affect the location of proposed connections.

REGIONAL NON-MOTORIZED SYSTEMS

To assist with the development of the non-motorized vision for Kalamazoo Township, it is important to review and analyze how the area fits into the bigger picture of regional non-motorized systems.

North Country National Scenic Trail

The North Country National Scenic Trail (NST) consists of 1700 miles of certified segments and links scenic, natural, recreational, historic, and cultural areas in seven northern tier states: New York, Pennsylvania, Ohio, Michigan, Wisconsin, Minnesota, and North Dakota. The eastern end is at New York's Crown Point State Historic Site on the shore of Lake Champlain and the western end is at Lake Sakakawea State Park in west central North Dakota where it joins the route of the Lewis & Clark National Historic Trail. In between it meanders through the states including Michigan where it uses a stretch of the Battle Creek Linear trail and travels north to the shores of the Great Lakes. When completed, the North Country Trail will be the longest in the U.S. traversing more than 4,000 miles.

Kal-Haven Trail

The Kal-Haven Trail is a 34-mile crushed limestone path that traverses along a former railroad bed between Kalamazoo and South Haven. Sections of this trail also have equestrian trails that run adjacent to the main trail.

Kalamazoo River Valley Trail

The Friends of the Kalamazoo River Valley Trailway (KRVT) was formed to plan a 35-mile linear park, linking several destinations throughout the Kalamazoo River Valley. The Kalamazoo River Valley Trailway is also part of a larger initiative to restore the ecological integrity of the Kalamazoo River and the industrial remnants, or "brown fields," along its banks. Currently,

approximately 17 miles of the trail has been constructed. Portions of the trail traverses through Kalamazoo Township and serves as a major point of interest for the Township to connect to.

Battle Creek Linear Park

The Linear Park contains 17 miles of paved path, including four loops, interpretive signage, and a number of amenities. Accessible from several parking and non-motorized pathways, the Linear Park provides picnicking, playground, and fishing opportunities for people of all ages and abilities.

City of Portage Bikeway System

The City of Portage bikeway system is an extensive system that includes approximately 55 miles of bikeways around the Portage area. The system includes 17.5 miles of off-road trails and 38.5 miles of bicycle lanes.

EXISTING CONDITIONS

In developing a proposed non-motorized system, a number of existing conditions, both within the Township and within the adjacent Municipalities, were considered including existing roads, sidewalks, public transit, path networks, parks, schools, and other local and regional points of interest.

Existing Road Network

The road system in Kalamazoo Township has two to seven lanes of traffic and provides multimodal transportation for passenger vehicles, busses, freight vehicles, bicyclists, and pedestrians. The Kalamazoo County Road Commission has jurisdiction over all of the county roads and classifies roadways according to a hierarchical functional system which helps determine whether a road is eligible for federal aid. The road classifications include: State Trunklines (MDOT jurisdiction), County Primary, and County Local. These road classifications also coordinate with the Kalamazoo Area Transportation Study County Street Network Plan classification, where State Trunklines and County Primary roads are considered Federal Aid Roads.

- State Trunklines include state highways and business loops that provide connections over long distances between cities and townships. Roads within this classification include Business Loop 94, Business Loop 131, M-96 (King Hwy), and M-43 (Gull Rd and West Main St)
- County Primary roads provide connections from residential and rural areas to urban core areas, state trunklines, and other local hubs. Roads within this classification include: Grand Prairie Rd, Nichols Rd, Solon St, Kendall Ave, Alamo Ave, Ravine Rd, Barney Rd, Mosel Ave, Douglas Ave, N Westnedge Ave, Burdick St (south of Mosel Ave), Pitcher St (south of Mosel Ave), Brook Dr, Nazareth Rd, E Main St, Sprinkle Rd, E G Ave, East Michigan Ave, Lake St, and Olmstead Rd.
- County Local roads provide access to residential neighborhoods and include all other roads not listed above within the Township.

The Kalamazoo County Road Commission is also using the Pavement Surface Evaluation Rating System (PASER) to assess and manage road conditions. This employs a systematic approach to maximizing the life of the road system by making periodic investments in road maintenance and reducing the need for road reconstruction. The PASER rating scale ranges from 1 – 10 with 1

representing a failed condition and a 10 representing new pavement. Each road in the Township has been assigned a PASER rating number. A high percentage of the roads in the Township have been rated between a 2 and a 5 which corresponds to poor to fair. This could be a helpful tool in prioritizing non-motorized facilities as new facilities can “piggy back” with road paving projects.

Existing Public Transit Facilities

Kalamazoo Township is served by the City of Kalamazoo Department of Transportation Metro Transit through a joint operating agreement with the Kalamazoo County transportation Authority. There are 8 bus routes that traverse through the Township which include routes along the following: East Main St, Mosel Ave to Parchment, Alamo Ave to Drake Rd, Gull Rd, Lake St to Comstock, West Main St, Westnedge/Douglas loop, and Solon St/Kendall Ave loop. All of these bus routes have a number of bus stops that Township residents walk to.

Existing Non-Motorized Facilities

Currently, the Township has a limited system of defined existing non-motorized systems.

- Existing marked 4-ft wide bike lane: Approximately 4,665 ft (0.88 mi)
 1. Miller Rd west of Sprinkle Rd – 2,185 ft (0.41 mi)
 2. Ravine Rd- 2,480 ft (0.46 mi)
- Existing shared use lane or “Sharrow”
 1. Gull Road between Riverview Dr and Sprinkle Rd – 15,000 ft (2.84 mi)
- Existing 10-ft wide off-road shared use path: Approximately 28,244 ft (5.35 mi)
 1. North side of West Main St, west of Nichols Rd – 3,917 ft (0.74 mi)
 2. Kalamazoo River Valley Trail – 24,327 ft (4.6 mi)
- Existing sidewalks: Approximately 64.35 miles
 1. There are many sidewalks in the Township that are in disrepair or are not at least 5-foot wide.
 2. There are many areas within residential neighborhoods where there are no sidewalks, gaps in the sidewalks, or sidewalks lacking barrier free access to intersections.

There are a number of roadways within the Township where a paved shoulder exists that is wide enough to be considered a bicycle lane but is not marked. Many of these routes are currently used by bicyclists as commuter routes.

- Existing paved shoulder: Approximately 46,513 ft (8.8 miles)
 1. Douglas Ave (Township limits to Edison St) – 7,200 ft
 2. Ravine Rd – 9,560 ft
 3. Nichols Rd (West Main to Ravine) – 6,528 ft
 4. Solon St – 2,574 ft
 5. Kendall Ave – 2,340 ft
 6. Mosel Ave (East of Westnedge) – 5,142 ft
 7. King Hwy – 6,069 ft
 8. East Michigan Ave – 7,100 ft

Existing Non-Motorized Facilities Adjacent to the Township

There are a number of non-motorized facilities located near and/or adjacent to the Township.

- Spring Valley Park is a 185-acre park located in the City of Kalamazoo (adjacent to the Township) between Mt Olivet Rd and Gull Rd. that contains a non-motorized path that traverses the park between Brook Dr. and Riverview Dr.
- Bow in the Clouds is a 60 acre nature preserve located in the City of Kalamazoo (adjacent to the Township) along Nazareth Rd that contains recreational paths including 1,000 feet of boardwalk.
- Drake Road has recently had non-motorized facilities installed including paved shoulders, sidewalks on both sides of the road from Grand Prairie Rd to West H Ave, and an off-road shared-use path on the west side of the road between West H Ave and Ravine Road.
- Kalamazoo River Valley Trail traverses through portions of the Township and continues on to the north to Cooper Township, west to Oshtemo Township, and east to Comstock Township.
- Douglas Avenue just south of the Township limits to Ravine Rd contains approximately ¼ mile of marked bike lanes on both sides of the road. This section connects to the KRVT.
- Gull Road Trail is a 10-foot wide non-motorized path that traverses between Sprinkle Rd and the Village of Richland to the east.

Kalamazoo Township Parks

The Township park system includes 7 mostly undeveloped mini-park sites. All of the park facilities are considered primary destinations in terms of making non-motorized connections. The following parks exist in the Township:

- Stroud Park
- Ryanbrandt Park
- Jenks and Grand Pre Park
- Lakewood Park
- Scheid Park
- Academy and Grand Park
- Wilson Recreational area in Eastwood

Other Park facilities outside of the Township

There are a number of City and County park facilities located adjacent to and in close proximity to the Township that are used by Township residents and would be considered important destinations to connect to. These park facilities include:

- Kalamazoo County Expo Center
- Markin Glen County Park
- Kindleberger Park (Parchment)
- Bow in the Clouds Nature Preserve
- Spring Valley Park
- Dickinson Field
- Versluis Park
- Fairmount Park
- W. Douglas Park
- Frays Park

- Verberg Park
- Rose Park
- Mayors Riverfront Park

Schools

Kalamazoo Township is served by Kalamazoo, Comstock and Parchment Public Schools. School facilities provide many recreational opportunities to the community and are also considered primary destinations in terms of making non-motorized connections. The following is a list of school facilities in the Township:

- Kalamazoo Central High School
- Compass High School
- Hillside Junior High School
- Indian Prairie Elementary
- Spring Valley Elementary
- Northeastern Elementary
- Lakewood Elementary
- Northwood School
- Barclay Hills Education Center

Points of Interest

The Kalamazoo area contains many recreational, social, historical, and cultural points of interest that should be considered when developing a non-motorized system. The following points of interest were identified as potential destination connections with the non-motorized system due to their use by the community:

- Kalamazoo Township Hall
- Borgess Hospital
- Borgess Athletic Facility
- KPEP
- County Jail
- County Expo Center
- Western Michigan University
- Kalamazoo College
- Davenport University
- Eastwood House of Recovery
- Henderson Castle
- Eastwood Plaza
- West Main Mall
- Grand Prairie Golf Course
- Riverside Cemetery
- Mt Olivet Cemetery
- Mountain Home Cemetery
- Eastwood Fire Station and Community Room
- Lakewood Fire Station and Community Room
- Northwood Fire Station and Community Room

- Westwood Fire Station and Community Room
- Kalamazoo River Valley Trail (KRVT)
- Eastwood Branch of the Kalamazoo Public Library
- Kalamazoo Metro Bus Station
- Neighborhood commercial areas such as West Main Hill, Nichols / Ravine, and Lake St.

PLAN KEY

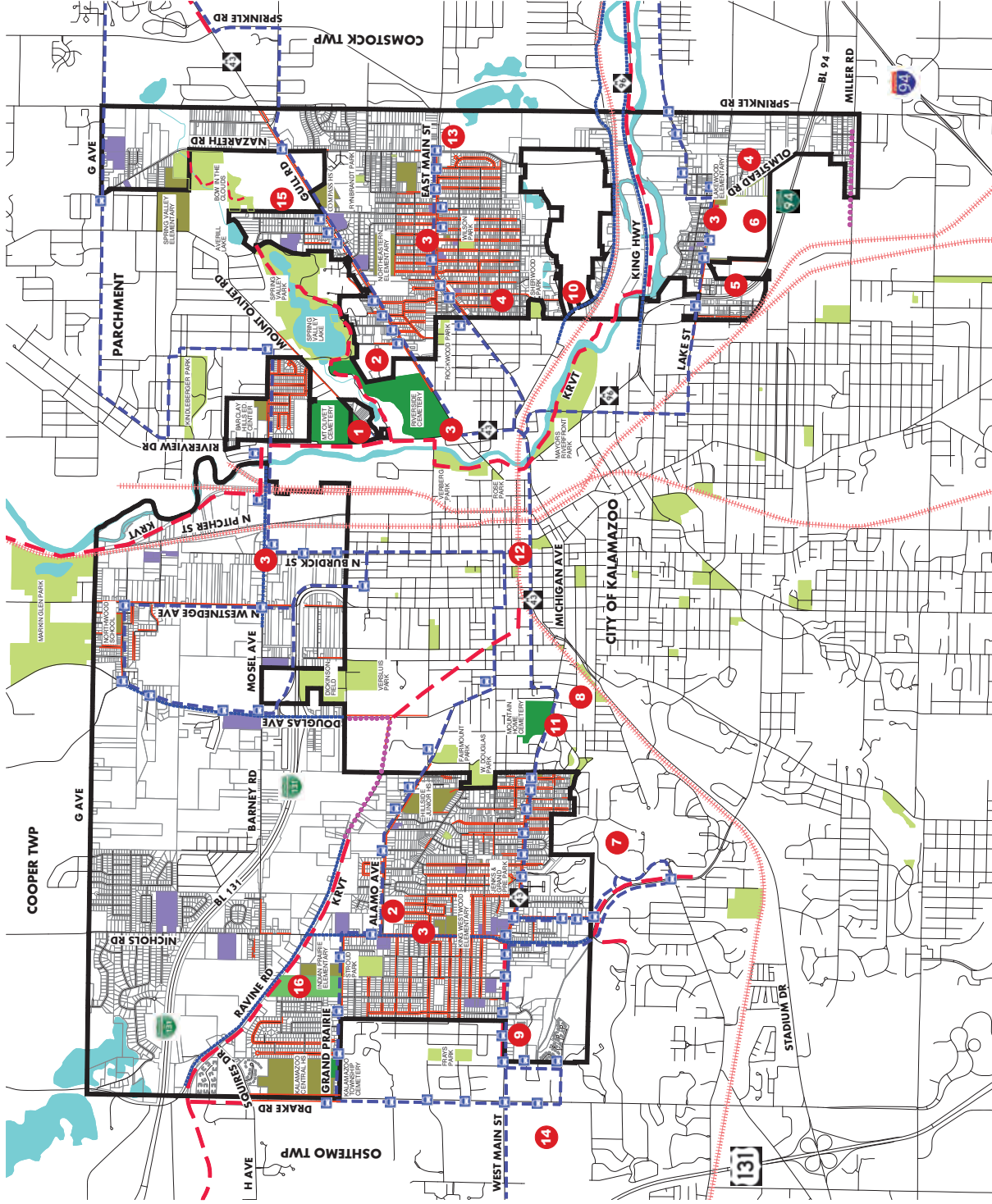
- TOWNSHIP BOUNDARY
- EXISTING SHARED USE PATH
- EXISTING BIKE LANE
- EXISTING PAVED SHOULDER (4')
- EXISTING SIDEWALKS
- EXISTING BUS ROUTE
- RAILROAD
- METRO BUS STOP
- PARK FACILITIES
- CEMETERY
- GOLF COURSE
- SCHOOL FACILITY
- PLACE OF WORSHIP

POINTS OF INTEREST

- 1 KALAMAZOO TOWNSHIP HALL
- 2 HOSPITAL
- 3 FIRE STATION / COMMUNITY ROOM
- 4 KPEP
- 5 COUNTY JAIL
- 6 COUNTY FAIRGROUNDS / EXPO CENTER
- 7 WESTERN MICHIGAN UNIVERSITY
- 8 KALAMAZOO COLLEGE
- 9 DAVENPORT UNIVERSITY
- 10 EASTWOOD HOUSE OF RECOVERY
- 11 HENDERSON CASTLE
- 12 DOWNTOWN BUS STATION
- 13 EASTWOOD PLAZA
- 14 WEST MAIN MALL
- 15 BORGESS ATHLETIC FACILITY
- 16 GRAND PRAIRIE GOLF COURSE

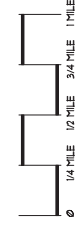
NON-MOTORIZED TRANSPORTATION MASTER PLAN

KALAMAZOO TOWNSHIP



12.08.14

TOWNSHIP INVENTORY PLAN



NON-MOTORIZED PLAN

Kalamazoo Township has developed this plan to be used as a guide for non-motorized system planning, funding, design, and construction into the future. The Non-Motorized Transportation Plan shown in this report represents a long-term vision for the development of non-motorized facilities. Additional work will need to follow this initial planning effort including further planning, public involvement, design, and implementation. This is a living document and it is anticipated that, over time and as additional information is collected, it is possible that the proposed locations for non-motorized trails could change due a number of issues such as funding, leadership changes, project priorities, public opinion, and land use. This master plan is a planning document that serves as a foundation and starting point for the development of non-motorized connections.

Understanding that this master plan is a foundation for Kalamazoo Township, a steering committee was organized to help guide its development. Utilizing available mapping information, the steering committee met a number of times to confirm the accuracy of the information, provide input as to proposed improvements, desirable connections, points of interest, and review public input. The Township also held public workshops to garner input and to assist in plan formulation for a potential non-motorized network, priority routes and corridor connections. The planning process culminated with the identification of a non-motorized network that traverses Kalamazoo Township providing connections to downtown Kalamazoo, Parchment, Comstock, Oshtemo, and Cooper Townships, schools, parks, institutions, neighborhoods, and higher education facilities.

PUBLIC INPUT PROCESS

During the development of the Non-Motorized Transportation Master Plan, two public input sessions and three steering committee meetings were held in order to better understand the desires, needs, and preferred routes of the community.

Steering Committee Meeting #1 – September 29, 2014

The first steering committee meeting was a brain-storming and information gathering meeting. Members of the committee were presented with maps of the community and asked to provide suggested points of interest for connections. In addition committee members were asked what they thought were important goals to achieve with the master plan. The group also discussed non-motorized facility types, safety issues, and areas of the Township that could be a high priority. Refer to the Appendix for the meeting notes from this meeting.

Public Input Session #1 – October 8, 2014

Approximately 30 people attended the public input session which was held at the Township hall in the evening. The purpose of the meeting was to raise the level of awareness of the Non-Motorized Master Plan; identify the benefits of non-motorized systems; discuss potential routes, connections, and points of interest; gather insight, ideas, concerns, and opinions; and finally, to gauge priority corridors, routes and connections. The attendees were broken up into four groups, one group for each of the four neighborhoods. Attendees were provided with post it notes, stickers, and markers, and were asked to first answer a series of scripted questions related to the neighborhood; and secondly they were asked to sketch their ideas on the maps. At the end of the

workshop each group was asked to present their thoughts and ideas. Refer to the Appendix for the meeting notes from this meeting.

Steering Committee Meeting #2 – October 27, 2014

The goal of the second steering committee meeting was to review and distill all of the feedback and ideas that were gathered at the public input meeting. The design team presented three maps, an Existing Inventory Plan which delineated all of the existing facilities in the Township; a Community Feedback Plan which delineated all of the proposed routes discussed at the public input meeting; and a Proposed Facilities Map which took the community feedback a step further by delineating suggested bike lanes, paved shoulders, and off-road facilities. The maps were presented to the committee and committee members were asked to provide feedback on the ideas they liked the most and the ideas that weren't as desirable. The main idea that came out of this meeting was to create a hierarchy system of trail types and logical phasing of priority connections. Refer to the Appendix for the meeting notes from this meeting.

Public Input Session #2 – November 5, 2014

Approximately 15 people attended the second public workshop which was held at the Northwood Fire Station/Community Room again in the evening. The purpose of the meeting was to continue to raise awareness of the Non-Motorized Master Plan; to review the conceptual non-motorized network; to discuss implementation strategies and design considerations; and finally, to gather input, comments, and concerns regarding the Master Plan concepts. The Existing Inventory Plan was presented for reference; the Community Feedback Plan was presented to provide a summary of the ideas discussed at the first public meeting; the In-Road Facilities plan was presented which delineated Bike lanes, bike routes, and shared use lanes; the Off-Road Facilities Plan was presented which delineated proposed locations for sidewalks and shared use paths; and lastly the Road Change Plan was presented which delineated what changes would need to be made to the existing roadways to provide the proposed bike facilities. Following the presentation the attendees were broken into two groups and each group was asked to review the plans and mark up comments and revisions. Plans, markers, post it notes, stickers and index cards were provided for participants to use. Refer to the Appendix for the meeting notes from this meeting.

Steering Committee Meeting #3 – November 17, 2014

The goal of the third and final steering committee meeting was to review the vision statement, goals and objectives, draft report, and proposed priorities. The design team presented the vision statement, goals and objectives, and corridor priorities and committee members were asked to provide feedback. Refer to the Appendix for the meeting notes from this meeting.

Township Work Session– November 24, 2014

The goal of this meeting was to meet with the Township Board of Trustees, Planning Commission, and Board of Zoning Appeals to review the draft report and master plan, suggest revisions, and discuss priorities.

Public Review Period– November 25, 2014 – December 8, 2014

There will be a dedicated two week period where the draft of the Master Plan will be available for public review and comment. A copy of the plan will be available at the Township Offices as well as the Township Website. The public is encouraged to review the draft plan and provide feedback.

Township Board of Trustees Public Hearing– December 8, 2014

The goal of this meeting is to review the final report and master plan, hear public input, and take action via resolution to adopt the plan.

GOALS AND OBJECTIVES

The Non-Motorized Transportation Plan for Kalamazoo Township articulates goals and objectives that are based on background information, existing conditions, public input, and steering committee input. They also consider current standards for the development of non-motorized facilities. The following vision, goals and objectives have been developed for this plan.

Vision Statement

Enhance the quality of life for Township residents by creating and maintaining a network of interconnected non-motorized transportation facilities that promotes and encourages safe and convenient opportunities for alternative modes of transportation throughout the Township.

Goals and Objectives

Goal 1 – Network Development

Develop a safe and interconnected non-motorized transportation system that allows the community to travel without a vehicle.

Objectives:

- Provide safe and convenient non-motorized connections to all key points of interest in the Township including schools, parks, commercial centers, community facilities, and residential neighborhoods and subdivisions.
- Provide sidewalks on both sides of all roads within the Township.
- Provide non-motorized connections from the four main Township neighborhoods to the Kalamazoo River Valley Trail.
- Provide non-motorized connections to all adjacent municipalities.
- Provide a well-defined separation of pedestrians, bicyclists, and vehicles on arterial and collector roads with the use of in-road and off-road facilities.
- Eliminate obstacles in the current transportation network.
- Design non-motorized facilities to AASHTO, ADA, and other appropriate standards.

Goal 2 – Policy

Incorporate non-motorized best practices and recommendations into all relevant Township ordinances, policies, and plans.

Objectives:

- Adopt the non-motorized plan and commit to updating it regularly.
- Identify changes to existing policies, ordinances, regulations, and planning processes that will further non-motorized transportation.
- Ensure sidewalk and street standards comply with appropriate standards, including AASHTO standards, to accommodate safe pedestrian, bicycle, barrier free, and vehicular uses.

- Encourage and provide a framework for coordination between the Township, Road Commission, City of Kalamazoo, MDOT, Western Michigan University, surrounding communities, and regional agencies to facilitate non-motorized connections.
- Establish a regular maintenance program for sidewalks, barrier free facilities, pathways, and bicycle facilities and revise ordinances accordingly.
- Ensure future transportation projects support KATS' Complete Streets Policy.
- Develop and implement a Township Complete Streets Policy and apply to road projects.

Goal 3 – Education

Increase awareness of the benefits of non-motorized transportation and provide information regarding safe integration of motorized and non-motorized modes of transportation.

Objectives:

- Promote the non-motorized transportation plan to the general public and encourage the use of non-motorized systems as an alternative mode of transportation.
- Develop strategies to educate the community on the benefits of non-motorized transportation.
- Develop strategies to educate motorists, cyclists, and pedestrians, to raise awareness on key safety issues and traffic laws related to integrated motorized and non-motorized travel.
- Support and encourage non-motorized transportation to all schools, including principles that embody the Safe Routes to School Program.
- Develop a branding strategy to establish the Township as a non-motorized friendly community.
- Promote public health and sustainability benefits of alternate transportation by becoming certified as a Bicycle Friendly Community.
- Promote bicycling, running, and walking activities, organizations, and websites on the Townships website and social media.
- Develop annual “safe riding” events such as bike rodeo's for children and/or “rules of the road” education programs. Consider partnering with other safety focused organizations such as Safe Kids or Open Roads.

Goal 4 – Implementation

Develop strategies for implementation of the non-motorized plan.

Objectives:

- Identify and pursue appropriate funding mechanisms for implementation of non-motorized facilities.
- Build relationships between local units of government and regional agencies to share resources and foster multi-jurisdictional planning for regional connections.
- Obtain right-of-way, easements, and other private lands as they become available to allow for expansion of non-motorized facilities.
- Coordinate with the County Road Commission, MDOT, KATS, City of Kalamazoo, and adjacent Townships to incorporate non-motorized facilities in future road projects.
- Coordinate with developers to implement non-motorized facilities as part of larger developments within the Township.

- Coordinate with the MDNR for recreational path grant opportunities.
- Develop a maintenance plan.
- Evaluate and update the plan periodically, preferable when updating other Township planning documents.

TYPES OF NON-MOTORIZED FACILITIES

Non-motorized facilities and accommodations can take many forms and designs. During the development of the Master Plan, it became evident through field observations, steering committee comments, as well as public input that a variety of “types” of non-motorized facilities will likely be utilized to, over time, develop an interconnected network. The “types” of non-motorized systems planned within the Township have been broken into two categories, In-Road Facilities and Off-Road Facilities.

The following information provides guidance for typical non-motorized situations within the Township. These are intended as guidelines only, although they are based on standards established by the American Association of State Highway and Transportation Officials (AASHTO). There are a number of factors, including actual field conditions that often complicate the design and construction of non-motorized systems, especially in urban areas. Each of the potential non-motorized connections will require detailed analysis and design prior to construction in order to safely accommodate non-motorized transportation. All appropriate standards (outside of this document) that are required for construction should be referenced at the time of design.

In-Road Facilities

In-road facilities refer to bicycle accommodations being within the roadway area. This plan identifies and utilizes three types on in-road facilities: Bicycle lanes, Bicycle boulevards, and Shared-use lanes (sharrow).

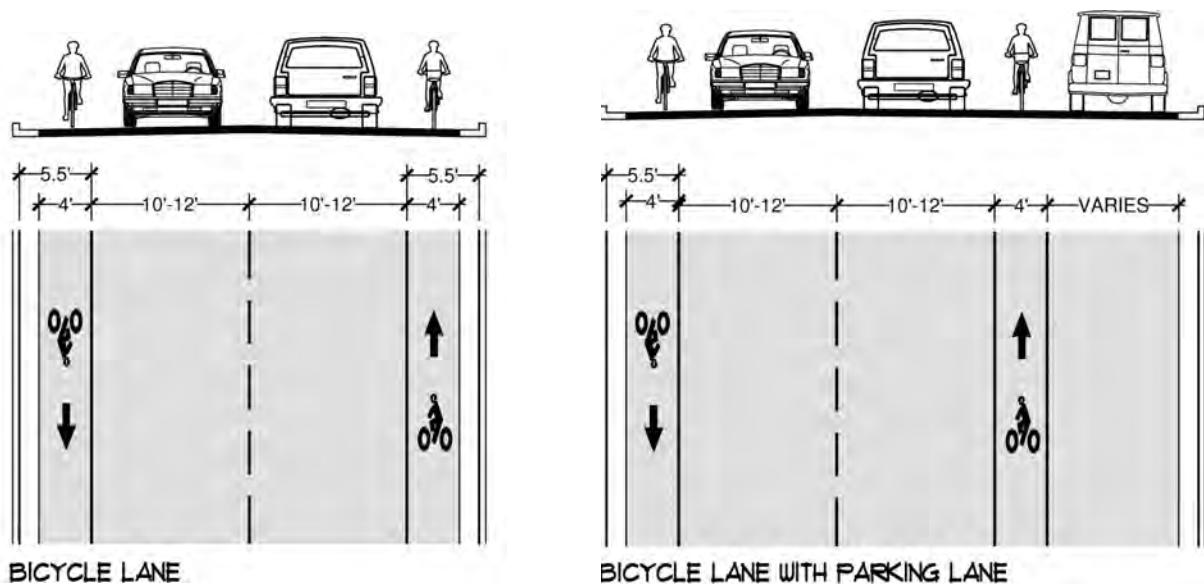
Bicycle Lanes

Bicycle lanes include designated lanes on roadways that incorporate striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Bicycle lanes are typically one way, 4 to 5 feet in width and are delineated by a six-inch stripe on the left-hand side of the lane, as well as in-pavement markings such as the symbol of a bicycle and arrow. They designate a space on the roadway exclusively for the use of bicyclists and typically include periodic signage along the route identifying the bike lane. Motor vehicles are not permitted to drive, park or stand in the bike lane. However, right turning vehicles can enter the bike lane at intersections to complete their turn. Where parking is permitted, bicycle lanes should always be placed between the parking lane and the motorized vehicle lane, and should have a lane width of 5-feet. An important consideration is the location of bicycle lanes at intersections. Guidance for pavement markings and signs at intersections is contained in the Michigan Manual on Uniform Traffic Control Devices (MMUTCD) Bicycle lanes offer the following benefits:

- Utilize existing pavement for the bike lane which minimizes construction costs.
- Reduce pedestrian/bicyclist conflicts by keeping bikes off sidewalks.
- Establish the correct position of bicyclists on the roadway.
- Provide bicyclists a separate safe space to travel at their own speed.
- Make motorists aware that bicyclists have a space on the road.

Bike lane markings can be used to define available road space specifically for bicyclists, and can increase a bicyclists' confidence in motorists not straying into their path of travel. Bike lane markings are also helpful to motorists as they would be less likely to swerve as they pass by a bicyclist. Per national AASHTO and MUTCD standards, the following includes design considerations for bike lanes:

- Bike lanes should be one-way facilities and carry bike traffic in the same direction as adjacent motor vehicle traffic.
- A bike lane should be delineated from the motor vehicle travel lanes with a 6-inch solid white line. An additional 4-inch solid white line can be placed between the parking lane and the bike lane. This second line will encourage parking closer to the curb, providing added separation from motor vehicles, and where parking turnover or usage is light, can discourage motorists from using the bike lane as a through travel lane.
- A minimum lane width of 5-feet measured from face of curb; or a minimum of 4-feet of rideable surface measured from the gutter pan edge. The measurement of "usable" width should not include the width of a gutter pan.
- Directional arrow markings should be placed on the pavement to indicate direction of travel with the flow of traffic. Other standard pavement markings include a white bicyclist symbol and the words "Bike Lane".
- Bike lane striping should not be installed across any pedestrian crosswalks, or railroad crossings, and, in most cases, should not continue through any street intersections.
- At signalized or stop-controlled intersections with right-turning motor vehicles, the solid bike lane striping to the approach should be replaced with a broken line with 2-foot dashes for a distance of 50-200-feet.
- If parking is permitted, the bike lane should be placed between the parking area and the travel lane and have a minimum width of 5 feet.
- If there is a bus stop or high right-turn volume, the 6-inch solid white line should be replaced with a broken line for the length of the bus stop.



- Bike lanes should be smoothly paved, and have adequate strength and stability to support vehicle loads without rutting. Rumble strips or raised pavement markers are not recommended unless there is a minimum clear path of 1 foot from the rumble strip to the traveled way, 4 feet from the rumble strip to the outside edge of paved shoulder, or 5 feet to adjacent guardrail, curb or other obstacle.
- At intersections a separate bike lane should be placed to the right of the right most through lane. Bike lanes should never be placed to the right of a right turn lane

Bicycle Boulevard

A segment of street, or series of contiguous street segments, that has been modified to accommodate through-bicycle traffic and minimize through-motor traffic. Bicycle boulevards are typically on streets with low daily volumes or speeds of less than 30 miles per hour. They discourage cut-through motor vehicle traffic and are designed to give priority to bicyclists as through-going traffic. Bicycle boulevards provide a safe alternative to busy car-filled streets and are welcoming to families, children, and novice cyclists. Bicycle boulevards may include the following design elements:

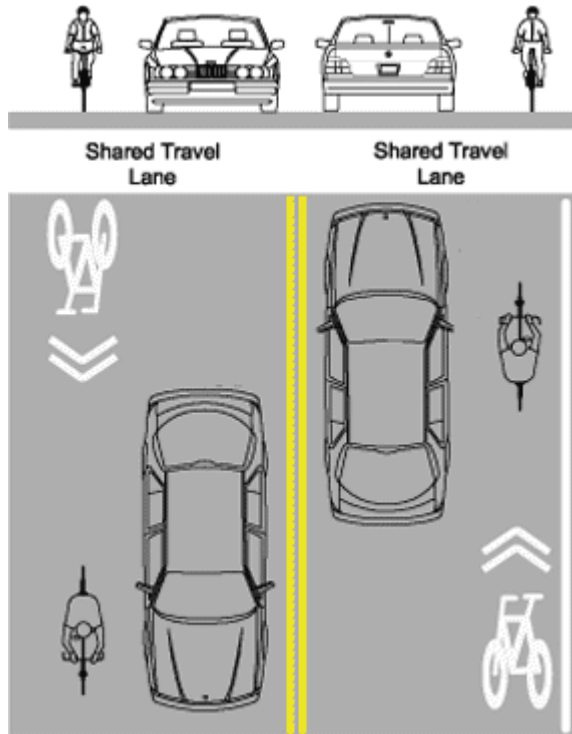
- Neighborhood traffic circles and mini roundabouts at minor intersections designed to slow vehicular traffic.
- Traffic diverters at minor intersections to reduce vehicular through traffic but permit bicycle traffic.
- Way-finding signage to guide bicyclists to key routes or points of interest
- Shared lane pavement markings.
- Median refuges wide enough for bicyclists to pass through.
- Crossing improvements including crossing beacon, traffic signal, loop detectors, or push buttons that do not require the bicyclist to dismount.
- In areas where on-street parking exists, provide curb extensions to allow approaching bicyclists an opportunity to pull past parked cars to get a better view.



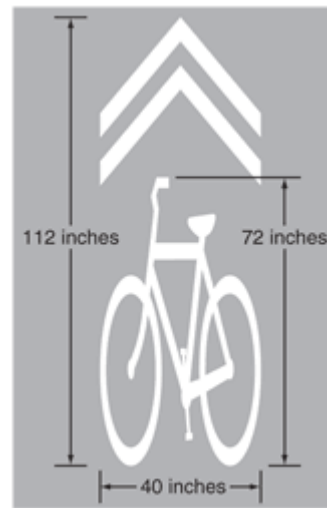
Traffic Diverter Example

Shared-Use Lane or “Sharrow”

A shared-use lane marking is a pavement marking symbol that assists bicyclists with lateral positioning in lanes too narrow for a motor vehicle and a bicycle to travel side by side within the same traffic lane. The sharrow markings are chevrons pointing in the direction of vehicle traffic to indicate where a bicyclist may ride. They provide a visual cue to vehicles that bicycles are expected in the roadway. They are typically on streets with low daily volumes or speeds of less than 30 miles per hour.



Sharrow Lane



Sharrow Marking

Off-Road Facilities

Off-road facilities are physically separated from motor vehicle traffic by open space or a greenway. The off-road facility may be within road right of way or it may be within an easement. Off-road facilities may follow a roadway or it may follow rail beds, waterways, greenway corridors, or utility easements. This plan utilizes two types of off-road facilities: sidewalks and shared-use paths.

Sidewalks

Sidewalks are for pedestrians and are located within the road right of way. They usually consist of concrete pavement and are separated from the road by a curb lawn or green space. New sidewalk construction must comply with ADA standards, be at least 5-feet wide, and include appropriate curb ramps and tactile warnings at intersections.

Shared-Use Path

Shared-use paths are typically 8-12 feet wide and are normally two way facilities. AASHTO requirements suggest a 10-foot wide path, but 8-feet may be considered where usage is low and

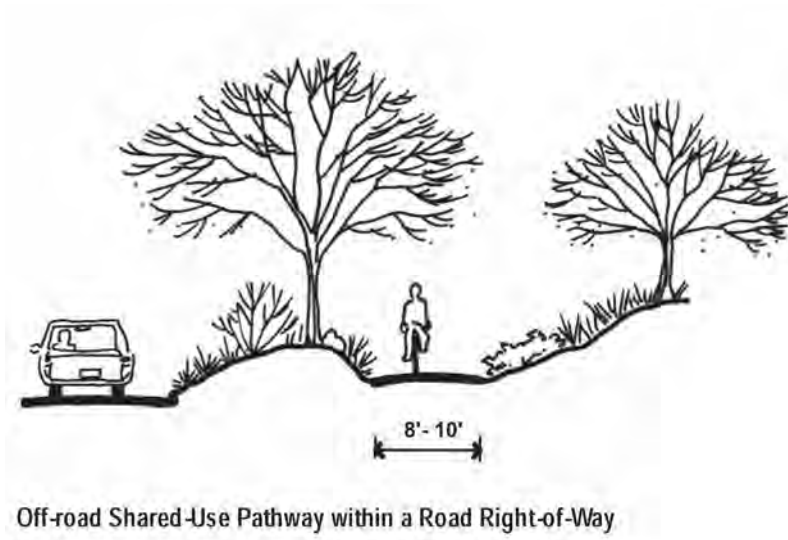
space is limited. Similarly, in areas where trail use is expected to be high, 12-feet may be considered a better suited width. A minimum 2-foot clear zone needs to be maintained along both sides of a pathway, with an 8-foot vertical clearance.

Off-road pathways may offer the following benefits:

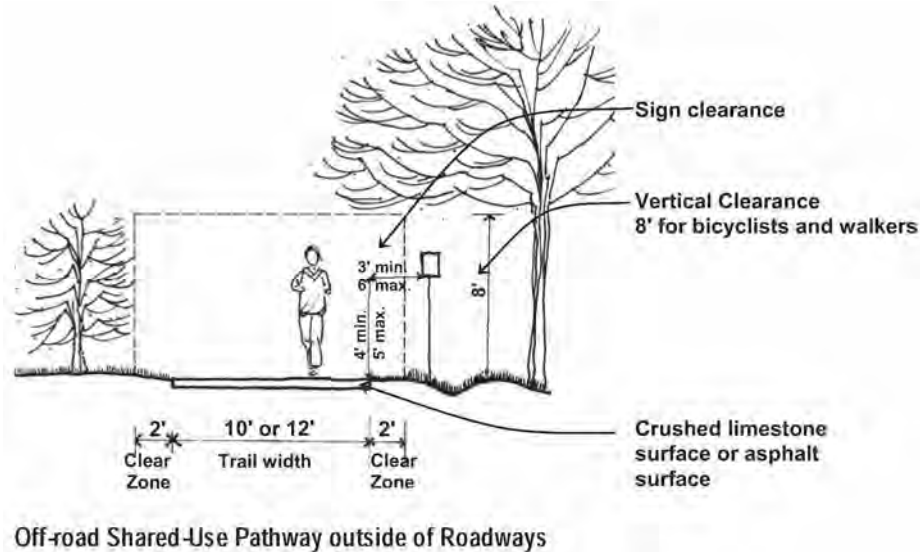
- Provide alternative linkages and connections through natural areas.
- Utilize existing utility or railroad right of way to reduce land acquisition or easement requirements.
- Provide recreation within natural settings.
- Ability to accommodate many recreational uses.
- Is considered an amenity when adjacent to businesses thus helping increase property values.
- Provides the ability to connect regionally between communities thus attracting tourism and helping boost local economies.

There are challenges with these types of facilities including, the need for easements and/or right of way, environmental challenges, site distance at intersections, and conflicts with infrastructure such as driveways, utilities, street crossings, and sidewalks. Care should be taken in the design of these facilities to ensure a safe and enjoyable route. When designing these facilities the following design criteria should be considered:

- Consider striping side paths and adding bicycle pavement markings to differentiate them from sidewalks.
- Provide ladder style crosswalks at all road intersections.
- Curb cuts at intersections should be the same width as the path.
- Paths should have a 125-foot minimum site distance, and 95-foot minimum curve radii.
- Cross slopes on paths shall not exceed 2 percent, and longitudinal slopes shall not exceed 5 percent if possible.
- Off-road paths should be separated from motorized traffic by a green space.
- If paths need to cross a railroad line, the path should cross at 90 degrees.



- Bollards or curb islands may need to be placed at the intersections of paths and roadways to prevent vehicles from driving on the path.
- Mid-block crossings with center medians are preferred to cross multi-lane roadways. It is also desirable to have a pedestrian activated signal at mid-block crossings.



OTHER CONSIDERATIONS

Other design items should be considered as part of the non-motorized plan including pavement markings and uniform signage.

Pavement Markings and Signage

In Michigan, mandatory uniform bicycle signs, their placement, and pavement markings are described in the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). Bicyclists are typically expected to abide by the same signs as motorists, although there are some signs that are designed specifically for bicycle use. In addition to the MMUTCD requirements, distinctive signs may be developed to denote specific or unique routes and increase the awareness of non-motorized facilities.

Bicycle lanes should be painted and marked with standard pavement symbols to inform bicyclists and motorists of the presence of the bicycle lane. The standard pavement symbols are a bicycle symbol and a directional arrow (white and reflectorized) (MMUTCD, 2005). They are placed at the beginning and ending points of bike lanes as well as at regular intervals of about 750 feet. Bike lane signs should be placed at about the same location of the pavement markings. There are three primary types of signs utilized along designated routes. They include:

- Route signs that help identify connecting non-motorized routes.
- Warning signs which advise non-motorized users and motorists of facilities and crossings such as “Bike Lane”, “Share the Road”, and “No Parking Bike Lane”.
- Regulatory signs which inform bicyclists of specific traffic laws and regulations such as “Stop” and “Bike Lane Ends”.

Consideration should also be given to placing directional signs and wayfinding maps along bicycle routes and at critical locations along pathways. These types of features can help improve the experience of the non-motorized user and help guide connections to points of interest.

Road Hazards

Since roads are generally designed without bicycle travel in mind, there are often ways they could be improved to safely accommodate bicycle travel and eliminate barriers. Some of the common hazards to safe bicycle travel include drainage grates and broken or uneven pavement conditions.

Drainage grate inlets and utility covers can cause problems for bicyclists and pedestrians, and should be kept out of bicyclists' expected path. Newly constructed or repaired inlets are required to have a bicycle-safe grate. Curb inlets should be used wherever possible to completely eliminate exposure of bicyclists to grate inlets. A temporary correction recommended by AASHTO involves welding steel cross straps perpendicular to the parallel bars to provide safe openings.

Pavement surface irregularities can also be dangerous to bicyclists. Pavement surfaces should be smooth and be free of irregularities such as gaps in longitudinal paving joints, potholes, and bumps. The presence of debris along curbs due to the failure of routinely sweeping pavement edges reduces the operating space for bicycles and can also create dangerous situations. On older pavements it may be necessary to fill joints, adjust utility covers or, in extreme cases, overlay the pavement to make it suitable for bicycling.

PROPOSED NON-MOTORIZED NETWORK

Developing a network of non-motorized facilities throughout Kalamazoo Township is essential to achieving the goals of this master plan. Development of in-road bicycle facilities, off-road shared-use paths, sidewalks, and roadway crossing improvements are needed in the Township for pedestrians and bicyclists to have the ability to safely get to major destinations and points of interest.

The non-motorized plan illustrates the proposed in-road and off-road non-motorized facilities that when implemented, will provide a convenient, and safe option to link schools, businesses, parks, lakes, and other points of interest to each other as well as to adjacent communities and resources.

As has been described, the Non-Motorized Transportation Master Plan represents a long-term vision and is intended to serve as a guide to non-motorized system planning, funding, design and construction into the future. Additional planning, public involvement, design and engineering efforts will need to follow this master planning effort.

In-road bicycle facilities are proposed on all of the roads in the Township classified as a "Federal Aid Road" or "County Primary Road" as classified by Kalamazoo Area Transportation Study and the Kalamazoo County Road Commission. The following is a summary of roadway corridors that can be modified to accommodate the proposed bicycle facilities. The proposed facilities are recommendations to help accomplish implementation of the plan and should be viewed as a starting point for the development of bicycle facilities in the Township. They will require additional evaluation before implementation. Additional analysis including available space, traffic

considerations, and engineering will help determine optimum designs for each road segment.

The following road segments currently have a 4-ft paved shoulder and would require pavement markings and signage to create a bicycle lane:

1. Ravine Rd
2. Nichols Rd between West Main St and Ravine Rd
3. Solon St
4. Kendall Ave
5. Mosel Ave between Westnedge Ave and Riverview Dr.
6. N. Burdick St south of Mosel Ave
7. Nazareth Rd between Gull Rd and G Ave
8. Wallace Rd between King Hwy and East Main St
9. East Michigan Ave
10. Lake St between Olmstead Rd and west Township limits
11. Sprinkle Rd between Miller Rd and King Hwy

The following road segments currently have a narrow paved shoulder or gravel shoulder that could be paved, marked, and signed to provide a bicycle lane:

1. Nichols Rd between Ravine Rd and G Ave
2. Grand Prairie Rd
3. Squires Rd
4. Alamo Ave
5. Douglas Ave between the church property and G Ave
6. Barney Rd
7. Mosel Ave between Douglas Ave and Westnedge Ave
8. Westnedge Ave between Mosel Ave and G Ave
9. Pitcher St south of Mosel Ave
10. Mt Olivet Rd
11. Nazareth Rd between Gull Rd and Kenilworth Ave
12. Lake St between Olmstead and Sprinkle Rd
13. Humphrey St between East Main St and the west Township Limits

The following road segments are proposed to have a “road diet” where lanes are eliminated or narrowed to allow for bicycle lanes:

1. Edison St: Narrow lanes to 10-11 feet
2. Douglas Ave between the Church property south to the Township limits (and existing bike lane): Narrow lanes to 10-11 feet
3. East Main St: Covert four lane traffic to three lane traffic (center turn lane) and add bike lanes. Note that this project is on the Kalamazoo County Road Commission 5-year CIP plan.

The following road segments are proposed to be marked and signed as a bicycle boulevard:

1. Gayle Ave between East Main St and Charles Ave
2. Charles Ave from Wallace Ave to Arthur Ave; north to Kenilworth Ave; east to Nazareth Rd
3. Canterbury Ave from west Township limits to Mohawk St; south to Grace Rd; east to

Coolidge Ave; north to Athea St; east to Lacross St; east to Pinehurst Blvd; south to Kenwood St; east to Commonwealth Pl; south to Commonwealth Ave; east to Arlington St; south to West Main St

The following road segments are proposed to be marked as a shared use lane or “sharrow”:

1. Ferndale Ave
2. Hillsdale Ave
3. Market St from Olmstead to Sprinkle Rd
4. Sunnyside Dr from Gull Rd to East Main St
5. Mulhearn Ave from Nazareth Rd west to Baker Dr; south to Gertrude St; west to Stamford Ave; south to East Main St
6. Brook Dr
7. Mosel Ave between Riverview Dr and Virginia Ave
8. Virginia Ave south to Mt Olivet Rd

Sidewalk facilities (5-foot concrete) are proposed on all of the roads in the Township. This includes repair of existing sidewalks that are in poor condition, widening sidewalks that are currently not 5-feet wide, filling in gaps, providing sidewalks along roads where none exist, and providing barrier free accessibility to all roadway intersections. It is important to note that there are a number of corridors that include both proposed sidewalks and proposed shared-use paths. This is because although the shared-use path may be more desirable long-term, it is more likely that funding will be available for sidewalks first. The goal is for the sidewalks to be the near term desired facility and the shared-use path would be a long term goal if the right opportunity or funding mechanism became available.

The plan proposes 10-ft wide off-road shared-use paths along key roadway corridors as delineated on the off-road plan. This includes the following segments:

1. G Ave between Nichols Rd and the KRVT
2. Nichols Rd between Grand Prairie Rd and G Ave
3. Grand Prairie Rd between Nichols Rd and Drake Rd
4. Squires Dr between Ravine Rd and Drake Rd/H Ave
5. Ravine Ave where the current gap in the KRVT exists
6. Gull Road
7. Brook Dr from Gull Rd to Spring Valley Park
8. Nazareth Rd from East Main St south to Kenilworth Ave
9. Extend path south from Nazareth to the KRVT, which would require easement and a railroad crossing
10. Olmstead Rd from Miller Rd north to Lake St
11. Extend the path from Lake St north to the KVRT, which would require easement and a river crossing
12. Path from Township owned property along King Hwy (former Georgia Pacific property)south to the KRVT and north to East Michigan Ave, which would require an easement and railroad crossing
13. Business Loop 94 between Lake St and the KRVT along King Hwy

The plan also includes provision of pedestrian safe crossings at the following intersections:

1. Olmstead Rd and Business Loop 94
2. Olmstead Rd and Lake St
3. Nichols Rd and Solon Rd at West Main St
4. Lake St and Sprinkle Rd
5. Gull Rd and Nazareth Rd
6. Mosel Ave and Douglas Ave
7. Grand Prairie Rd and Nichols Rd

In addition to the above recommendations, the plan suggests that crosswalk pavement markings and stop sign stop bar markings be added and/or remarked to all intersections that are lacking to help alert vehicles of the pedestrian crossing.

The enhancements and features at each crossing will be determined based on various factors including: crossing width, traffic volume, pedestrian and bicycle traffic volumes, sign lines, and barrier free accessibility.

PLAN KEY

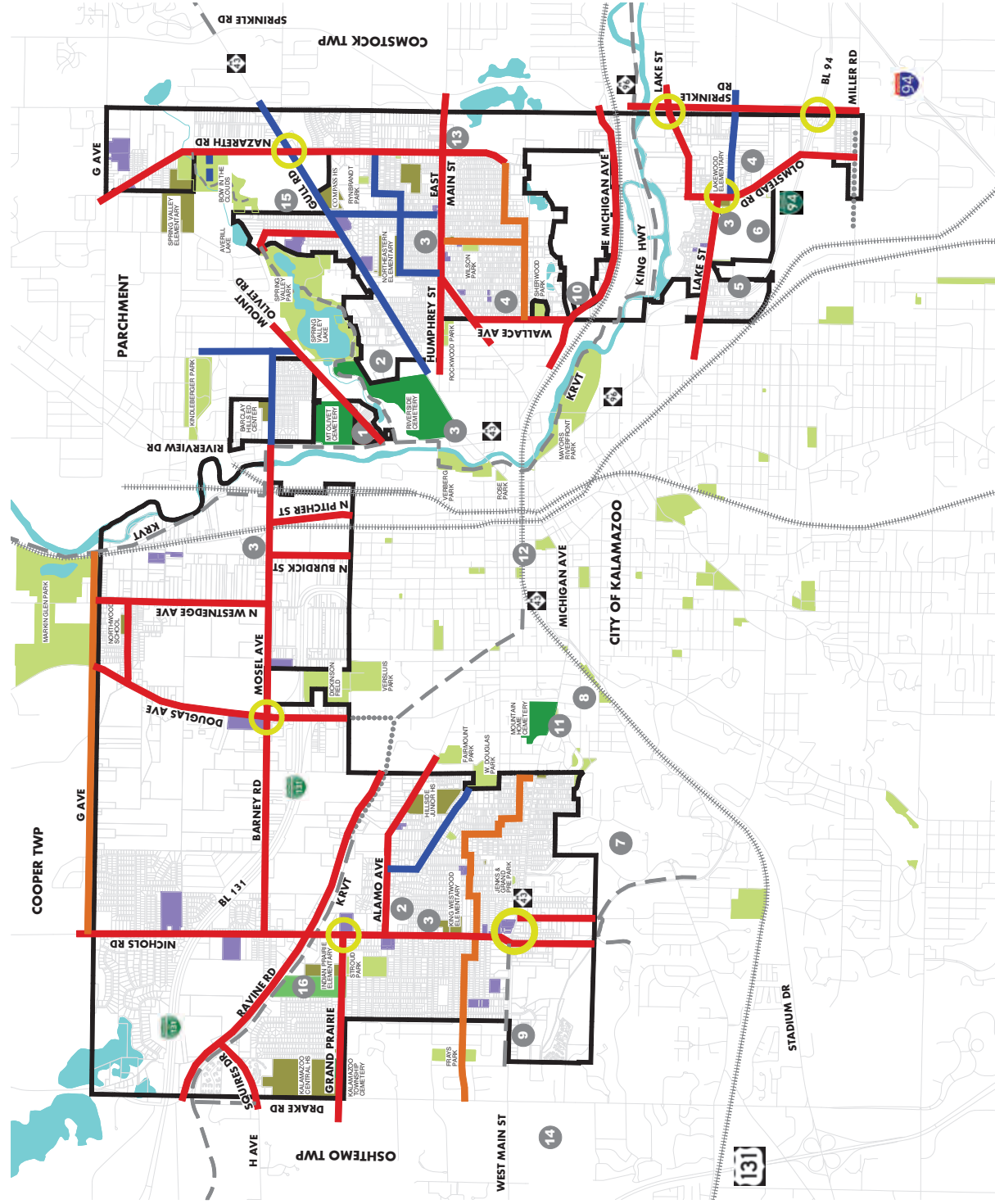
- TOWNSHIP BOUNDARY
- EXISTING SHARED USE PATH
- EXISTING BIKE LANE
- RAILROAD
- PARK FACILITIES
- CEMETERY
- GOLF COURSE
- SCHOOL FACILITY
- PLACE OF WORSHIP

POINTS OF INTEREST

- 1 KALAMAZOO TOWNSHIP HALL
- 2 HOSPITAL
- 3 FIRE STATION / COMMUNITY ROOM
- 4 KREP
- 5 COUNTY JAIL
- 6 COUNTY FAIRGROUNDS / EXPO CENTER
- 7 WESTERN MICHIGAN UNIVERSITY
- 8 KALAMAZOO COLLEGE
- 9 DAVENPORT UNIVERSITY
- 10 EASTWOOD HOUSE OF RECOVERY
- 11 HENDERSON CASTLE
- 12 DOWNTOWN BUS STATION
- 13 EASTWOOD PLAZA
- 14 WEST MAIN MALL
- 15 BORGESS ATHLETIC FACILITY
- 16 GRAND PRAIRIE GOLF COURSE

PROPOSED IN-ROAD BICYCLE FACILITIES:

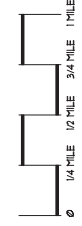
- PROPOSED BICYCLE LANE
- PROPOSED BICYCLE BOULEVARD
- PROPOSED SHARED-USE ARROW
- INTERSECTION IMPROVEMENTS



NON-MOTORIZED TRANSPORTATION MASTER PLAN KALAMAZOO TOWNSHIP

12.08.14

IN-ROAD BIKE FACILITIES PLAN



Charter Township of Kalamazoo

VIRIDIS Design Group Kalamazoo • Grand Rapids

PLAN KEY

- TOWNSHIP BOUNDARY
- EXISTING SHARED USE PATH
- EXISTING BIKE LANE
- EXISTING SIDEWALKS
- EXISTING BUS ROUTE
- RAILROAD
- METRO BUS STOP
- PARK FACILITIES
- CEMETERY
- GOLF COURSE
- SCHOOL FACILITY
- PLACE OF WORSHIP

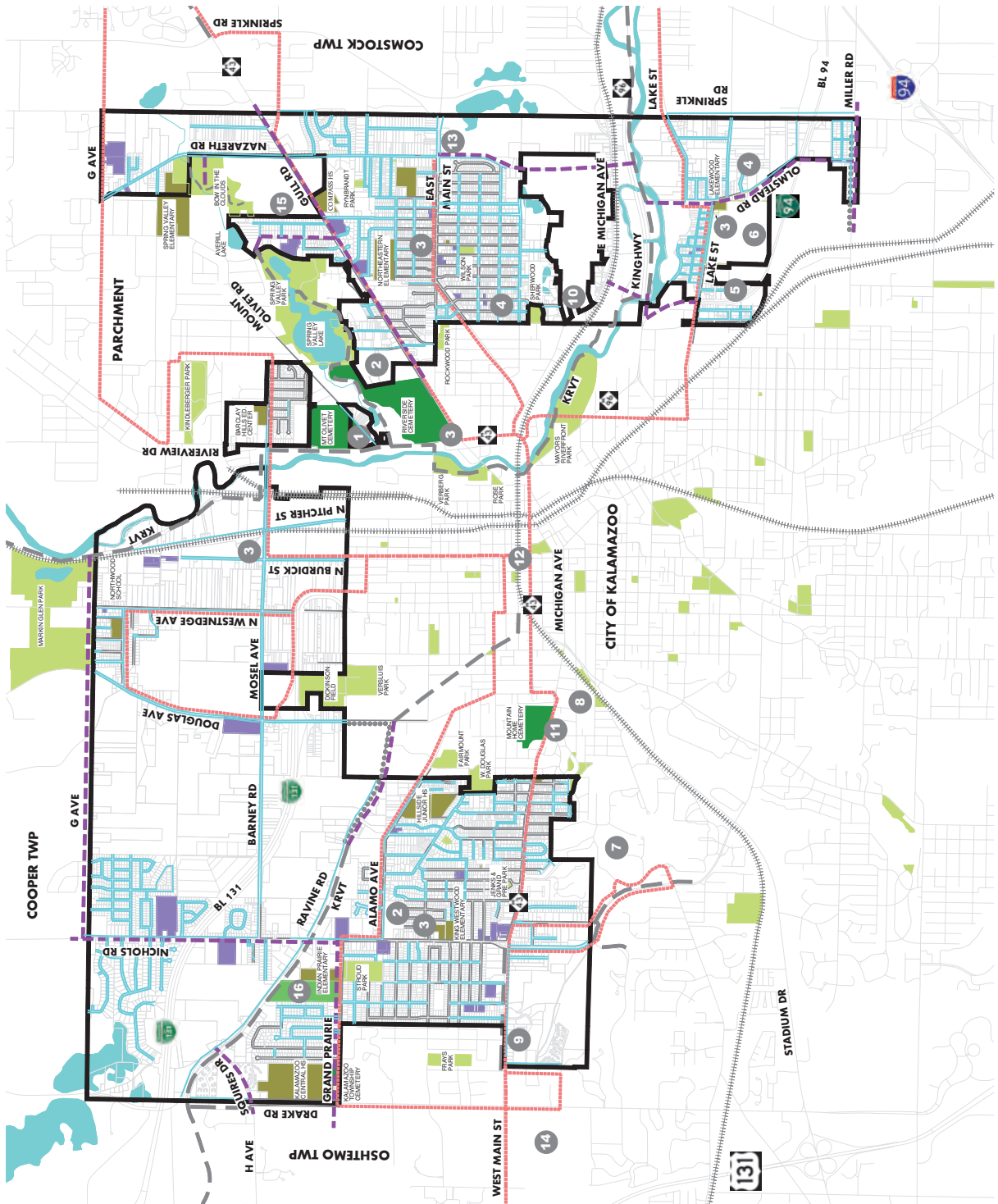
POINTS OF INTEREST

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- 3** FIRE STATION / COMMUNITY ROOM
- 4** KREP
- 5** COUNTY JAIL
- 6** COUNTY FAIRGROUNDS / EXPO CENTER
- 7** WESTERN MICHIGAN UNIVERSITY
- 8** KALAMAZOO COLLEGE
- 9** DAVENPORT UNIVERSITY
- 10** EASTWOOD HOUSE OF RECOVERY
- 11** HENDERSON CASTLE
- 12** DOWNTOWN BUS STATION
- 13** EASTWOOD PLAZA
- 14** WEST MAIN HALL
- 15** BORGESS ATHLETIC FACILITY
- 16** GRAND PRAIRIE GOLF COURSE

PROPOSED OFF-ROAD FACILITIES:

- PROPOSED SHARED USE PATH
- PROPOSED SIDEWALKS

NON-MOTORIZED TRANSPORTATION MASTER PLAN KALAMAZOO TOWNSHIP



12.08.14

OFF-ROAD FACILITIES PLAN



PLAN KEY

- TOWNSHIP BOUNDARY
- EXISTING SHARED USE PATH
- EXISTING BIKE LANE
- RAILROAD
- PARK FACILITIES
- CEMETERY
- GOLF COURSE
- SCHOOL FACILITY
- PLACE OF WORSHIP

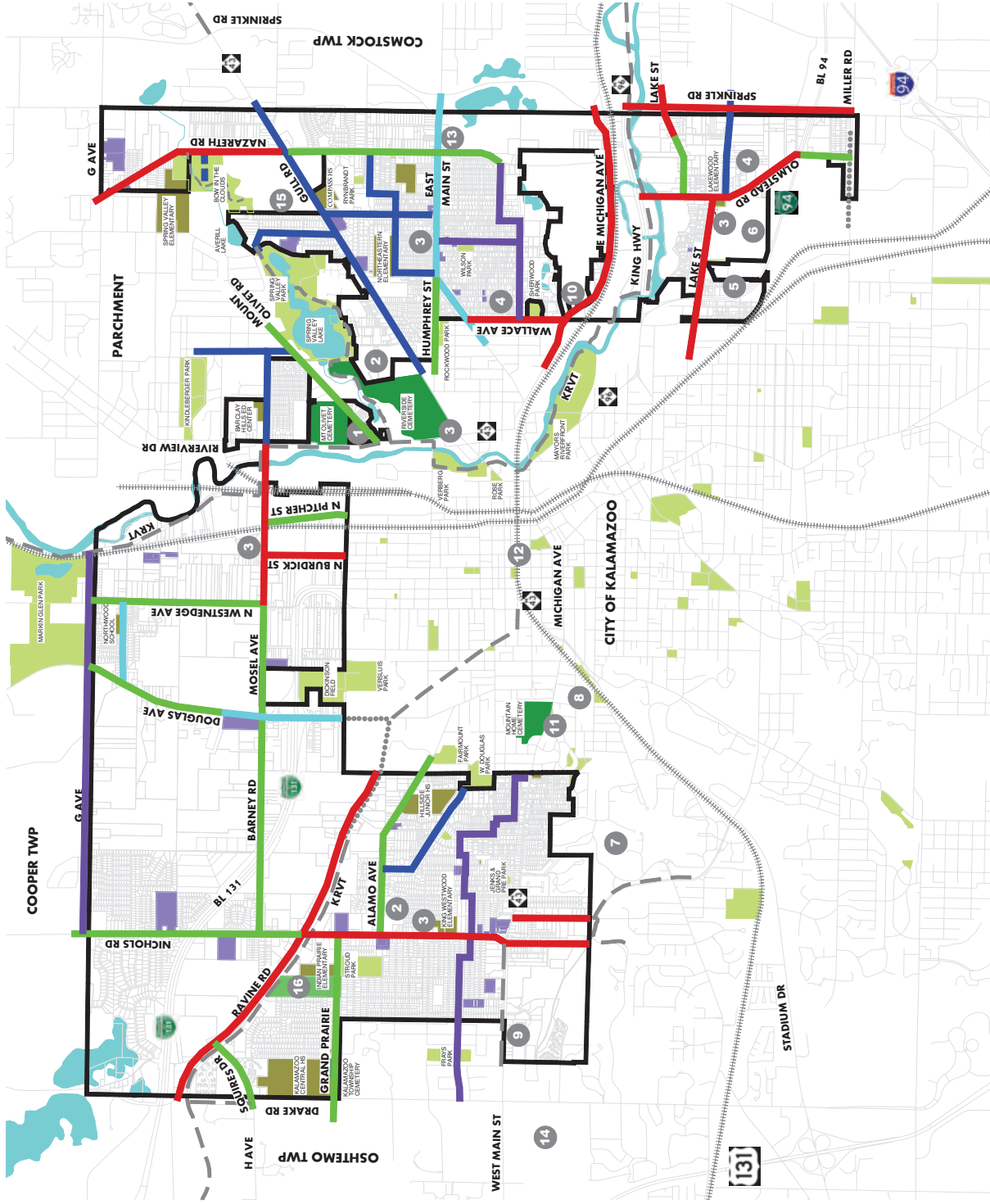
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- 10 EASTWOOD HOUSE OF RECOVERY
- 11 HENDERSON CASTLE
- 12 DOWNTOWN BUS STATION
- 13 EASTWOOD PLAZA
- 14 WEST MAIN MALL
- 15 BORGESS ATHLETIC FACILITY
- 16 GRAND PRAIRIE GOLF COURSE

PROPOSED ROAD CHANGES FOR BIKE LANES:

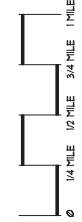
- STRIPE/SIGN EXISTING PAVEMENT
- WIDEN AND/OR PAVE EXISTING SHOULDERS
- BICYCLE BOULEVARD ROUTE
- ROAD DIET ROUTE
- SHARED USE ARROWS

NON-MOTORIZED TRANSPORTATION MASTER PLAN KALAMAZOO TOWNSHIP



12.08.14

IN-ROAD IMPROVEMENT PLAN



IMPLEMENTATION

This section of the report describes the actions that will work toward implementation of the proposed non-motorized system as well as highlight Kalamazoo Township as a non-motorized friendly community. It is possible that over time the particulars and details of this plan, the proposed corridors, and the types of systems may change due to timing of other projects, funding opportunities, public opinion, etc. Because of this fact, this section of the Master Plan in particular should be reviewed and updated on a regular basis as priorities shift, segments are implemented, and funding opportunities and sources change. This section includes a list of specific projects with suggested improvements, priorities and strategies for implementation.

IMPLEMENTATION SCHEDULE

The tables below list individual projects along with specific tasks to be accomplished. In addition a high, medium, or low priority has been assigned to each project. Although implementation will be dependent on a variety of factors, such as project timing, funding opportunities, MPO or County road projects, and private development, priorities were based on anticipated use levels, feedback from public and steering committee meetings and desired connectivity.

Sidewalks: the Township’s ultimate goal is to provide sidewalks on all roads within the Township, however due to the quantity and cost, the completion of this goal is long term. Therefore not every sidewalk project will be listed in the tables below. The general hierarchy of sidewalk priorities are as follows:

1. High Priority: Replace, fill in gaps, and install new sidewalks and curb ramps on primary roads that connect neighborhoods to important points of interest.
2. Medium Priority: Replace, fill in gaps, and install new sidewalks and curb ramps within densely populated residential neighborhoods where there is a high population of residents that do not have a vehicle to provide connections to points of interest.
3. Low Priority: install new sidewalks and curb ramps in less dense neighborhoods and subdivisions that have wide streets that are sufficient for walking.

The sidewalk projects that are listed in the tables below are determined to be critical high priority connections. The remaining sidewalks within the Township are planned to be installed as funding opportunities or new road projects base on the priority criteria listed above.

Corridor/Route	Type of Facility	Proposed improvements	Cost Estimate	Priority
Drake Rd Squires Dr to Ravine Rd	Sidewalks	Construct new 5’ sidewalk on east side of road	\$50,000 (2000’)	High
West Main St Nichols Rd to Sage St	Sidewalks	Construct new 5’ sidewalk on south side of road	\$190,000 (7600’)	High
Solon St West Main St to Kalamazoo Twp limits	Sidewalks	Construct new 5’ sidewalk on both sides of road	\$129,000 (5160’)	High
Kendall Ave West Main St to Kalamazoo Twp limits	Sidewalks	Construct new 5’ sidewalk on both sides of the road to fill in gaps	\$60,875 (2435’)	High

Sidewalk priorities continued:

Corridor/Route	Type of Facility	Proposed improvements	Cost Estimate	Priority
Nichols Rd Alamo Ave to G Ave	Sidewalks	Construct new 5' sidewalk on both sides of road	\$350,000 (14000')	High
Grand Prairie Rd Drake Rd to Stone Mill St	Sidewalks	Construct new 5' sidewalk on both sides of road	\$120,750 (4830')	High
Grand Prairie Rd Stone Mill St to Nichols Rd	Sidewalks	Construct new 5' sidewalk on north side of road	\$64,750 (2590')	High
Sunnyside Dr Gull Rd to Gertrude St	Sidewalks	Construct new 5' sidewalk on both sides of road	\$110,000 (4400')	High
Dartmouth St Hillsdale Rd to Commonwealth St	Sidewalks	Construct new 5' sidewalk on both sides of the road to fill in gaps	\$95,500 (3820')	High
Berkley St Hillsdale Rd to W North St	Sidewalks	Construct new 5' sidewalk on both sides of the road to fill in gaps	\$45,250 (1810')	High
Alamo Ave Nichols Rd to Kalamazoo Township Limits	Sidewalks	Construct new 5' sidewalk on both sides of the road to fill in gaps	\$112,925 (4520')	High
Nazareth Rd Gull Rd to East Main St	Sidewalks	Construct new 5' sidewalk on both sides of road	\$240,000 (9600')	High
Olmstead Rd Miller Rd to Lake St	Sidewalks	Construct new 5' sidewalk on both sides of road	\$280,000 (11,200')	High
Lake St Olmstead Rd to Kalamazoo Twp Limits	Sidewalks	Construct new 5' sidewalk on both sides of the road to fill in gaps	\$138,750 (5550')	High
Ravine Rd Nichols Rd to Drake Rd	Sidewalks	Construct new 5' sidewalk on both sides of road	\$327,750 (13110')	High
Miller Rd Sprinkle Rd to Kalamazoo Township Limits	Sidewalks	Construct new 5' sidewalk on both sides of road	\$65,000 (2600')	High
Douglas Ave G Ave. to Kalamazoo Township Limits	Sidewalks	Construct new 5' sidewalk on both sides of road	\$341,500 (13660')	High
Barney Rd Nichols Rd to Douglas Ave	Sidewalks	Construct new 5' sidewalk on both sides of road	\$188,700 (7845')	High
Mosel Rd Douglas Ave to Westnedge Ave	Sidewalks	Construct new 5' sidewalk on both sides of road	\$175,900 (7036')	High

Shared-Use Path: The primary goal for shared-use paths is to implement them as funds and opportunities arise. The general hierarchy for shared-use path priorities are as follows:

1. High Priority: Connection to regional or adjacent community facilities, or points of interest.
2. Medium Priority: Replace sidewalks on primary roads that connect neighborhoods to recreational facilities and important points of interest.
3. Low Priority: Other opportunities that arise based on funding, project coordination, and development.

Corridor/Route	Type of Facility	Proposed improvements	Cost Estimate	Priority
Business Loop 94 Lake St to KRVT along King Hwy	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$90,000 (1800')	High
Brook Dr Gull Rd to Spring Valley Park	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$122,400 (3060')	High
Off Road Path Township property at King Hwy north to East Michigan Ave	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$46,000 (1150')	High
Squires Dr Ravine Rd to Drake Rd	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$100,000 (2500')	High
Nazareth Rd East Main St to Kenilworth Ave	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$93,720 (2343')	High
Gull Rd (M-43) East Kalamazoo Township Limits to west Kalamazoo Township limits	Shared-Use pathway	Widen sidewalk to 10' shared-use pathway	\$255,000 (10,200')	Medium
Olmstead Rd Miller Rd to Lake St	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$234,600 (5865')	Medium
Nichols Rd Grand Prairie Rd to G Ave	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$343,600 (8590')	Medium
Off Road Path End of Nazareth Rd south to KRVT	Shared-Use pathway	Construct 10' asphalt shared-use pathway including railroad crossing	TBD (4024')	Low
Grand Prairie Rd Nichols Rd to Drake Rd	Shared-Use pathway	Construct 10' asphalt shared-use pathway	\$240000 (6000')	Low
Off Road Path From Lake St north to KRVT	Shared-Use pathway	Construct 10' asphalt shared-use pathway including bridge over river	TBD (1170')	Low
Ravine Ave KRVT Gap on south side	Shared-Use pathway	Construct 10' asphalt shared-use pathway on south side of road	\$170,800 (4270')	Low

Bicycle facilities: The long term goal is to provide bicycle facilities along all “primary roads” or roads eligible for federal aid within the Township. The general hierarchy of bicycle facility priorities are as follows:

1. High Priority: Road corridors that only need markings and/or signage to achieve a bicycle lane, road corridors that are on the KCRC CIP plan, and roads that connect to existing adjacent facilities.
2. Medium Priority: Road corridors that need a widened or paved shoulder.
3. Low Priority: Road corridors that can be put on a road diet or allow for narrowed lanes.

Corridor/Route	Type of Facility	Proposed improvements	Cost Estimate	Priority
Lake St Olmstead to west Kalamazoo Twp Limits	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$47,880 (3990')	High
Lake St Olmstead Rd and Sprinkle Rd	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$60,340 (3017')	High
Kendall Rd South of West Main Rd	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$30,000 (2500')	High
Squires Rd Ravine Rd to Drake Rd	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$50,000 (2500')	High
Solon Rd South of West Main Rd	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$30,720 (2560')	High
Nazareth Rd Gull Rd and Kenilworth Ave	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$69,200 (3460')	High
East Michigan Ave East Kalamazoo Township limits to west Kalamazoo Township limits	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$90,000 (7500')	High
Nichols Rd West Main St to Ravine Ave	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$80,400 (6700')	High
Humphrey St East Main St to Kalamazoo	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$61,800 (3090')	High
Douglas Ave Church to Township Limits	Road Diet	Narrow lanes to 10-11' and add bike lanes with markings and signs	\$46,260 (3855')	High
East Main St Per KCRC CIP Plan	Road Diet	Convert 4 lanes to 3 lanes and add bike lanes with markings and signs	TBD	High
Sunnyside Dr Gull Rd to East Main St	Shared Use Lane	Provide pavement markings	\$17,330 (3460')	High
Brook Dr Gull Rd to Spring Valley	Shared Use Lane	Provide pavement markings	\$15,375 (3075')	High

Corridor/Route	Type of Facility	Proposed improvements	Cost Estimate	Priority
Westnedge Ave Mosel Ave to G Ave	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$110,600 (5530')	High
Douglas Ave Church and G Ave	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$91,640 (4582')	High
Grand Prairie Ave Nichols Rd to Drake Rd	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$119,400 (5970')	High
Canterbury Ave East Township limits to Mohawk St	Bicycle Boulevard	Provide pavement markings and signage	\$19,800 (1980')	High
Mohawk St Canterbury Ave to Grace Rd	Bicycle Boulevard	Provide pavement markings and signage	\$3,400 (340')	High
Grace Rd Mohawk St to Coolidge Ave	Bicycle Boulevard	Provide pavement markings and signage	\$19,630 (1963')	High
Coolidge Ave Grace Rd to Athea St	Bicycle Boulevard	Provide pavement markings and signage	\$2,410 (241')	High
Athea St Coolidge Ave to Lacross St	Bicycle Boulevard	Provide pavement markings and signage	\$14,710 (1471')	High
Lacross St Athea St to Pinehurst Blvd	Bicycle Boulevard	Provide pavement markings and signage	\$6,080 (608')	High
Pinehurst Blvd Lacross St to Kenwood St	Bicycle Boulevard	Provide pavement markings and signage	\$10,320 (1032')	High
Kenwood St Pinehurst Blvd to Commonwealth Pl	Bicycle Boulevard	Provide pavement markings and signage	\$5,270 (527')	High
Commonwealth Pl Kenwood St to Commonwealth Ave	Bicycle Boulevard	Provide pavement markings and signage	\$6,300 (630')	High
Commonwealth Ave Commonwealth Pl to Arlington St	Bicycle Boulevard	Provide pavement markings and signage	\$13,140 (1314')	High
Arlington St Commonwealth Ave to West Main St	Bicycle Boulevard	Provide pavement markings and signage	\$5,280 (528')	High
Gayle Ave East Main St to Charles Ave	Bicycle Boulevard	Provide pavement markings and signage	\$25,200 (2520')	Medium
Charles Ave Wallace Ave to Arthur Ave	Bicycle Boulevard	Provide pavement markings and signage	\$31,420 (3142')	Medium
Arthur Ave Charles Ave to Kenilworth Ave	Bicycle Boulevard	Provide pavement markings and signage	\$6,150 (615')	Medium
Kenilworth Ave Arthur Ave to Nazareth Rd	Bicycle Boulevard	Provide pavement markings and signage	\$18,360 (1836')	Medium
Nichols Rd Ravine Rd to G Ave	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$147,720 (7386')	Medium

Corridor/Route	Type of Facility	Proposed improvements	Cost Estimate	Priority
Alamo Ave Nichols Rd to east Township Limits	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$123,820 (6191')	Medium
Mosel Ave Westnedge Ave to Riverview Dr	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$61,656 (5138')	Medium
Nazareth Rd Gull Rd. to G Ave	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$76,800 (6400')	Medium
Ravine Rd Drake Rd to East Township Limits	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$150,600 (12550')	Medium
Hillsdale Ave Berkley St to Ferndale Ave	Shared Use Lane	Provide pavement markings	\$15,400 (3080)	Medium
Ferndale Ave Hillsdale Ave to Alamo Ave	Shared Use Lane	Provide pavement markings	\$4,450 (890')	Medium
Mulhearn Ave Nazareth Rd to Baker Dr	Shared Use Lane	Provide pavement markings	\$6,325 (1265')	Medium
Baker Dr Mulhearn Ave to Gertrude St	Shared Use Lane	Provide pavement markings	\$2,300 (460')	Medium
Gertrude St Baker Dr to Stamford Ave	Shared Use Lane	Provide pavement markings	\$12,500 (2500')	Medium
Stamford Ave Gertrude St to East Main St	Shared Use Lane	Provide pavement markings	\$6,250 (1250')	Medium
Barney Rd Nichols Rd and Douglas	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$139,080 (6954')	Low
Wallace Rd King Hwy to East Main St	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$38,100 (3175')	Low
Sprinkle Rd Miller Rd to King Hwy	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$88,800 (7400')	Low
Edison St	Road Diet	Narrow lanes to 10-11' and add bike lanes with markings and signs	\$31,200 (2600')	Low
Market St Olmstead Rd to Sprinkle Rd	Shared Use Lane	Provide pavement markings	\$17,000 (3400')	Low
N Burdick St Mosel to Township Limits	Bicycle Lane	Stripe bike lanes on existing pavement, provide pavement markings and signage	\$30,840 (2570')	Low
Pitcher St Mosel Ave to Twp limits	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$52,860 (2642')	Low
Mt Olivet Rd Riverview Dr to Parchment	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$75,000 (3750')	Low

Corridor/Route	Type of Facility	Proposed improvements	Cost Estimate	Priority
Mosel Ave Douglas Ave and Westnedge Ave	Bicycle Lane	Widen / pave existing shoulder and add pavement marking and signage	\$71,500 (3575')	Low
Mosel Ave Riverside Dr to Virginia Ave	Shared Use Lane	Provide pavement markings	\$15,375 (3050')	Low
Virginia Ave Mosel Ave to Mt Olivet Rd	Shared Use Lane	Provide pavement markings	\$3,700 (740)	Low

PRIORITY SELECTION CRITERIA

This Master Plan is a long term vision and will take time and funding to be fully realized. The criteria below has been developed in order to help determine how the priority of projects could be selected for implementation. Many of the routes and corridors may be implemented based on the timing of other road or development projects however; there are other factors and elements that should be considered when determining the selection of the initial implementation projects. Over time, as the non-motorized system expands, priority route selection criteria will likely change.

- Ease of implementation
 - Few design conflicts
 - Lower construction costs
 - No environmental challenges
 - Right of way or easement available
- Provides access to multiple destinations / points of interest / recreational activities
- Coincides with other road reconstruction, utility, or park construction projects
- Will improve and/or enhance unsafe areas
- Provide barrier free accessibility
- Provides connections to existing local and/or regional non-motorized facilities
- Includes connections to schools
- Provides alternate transportation modes
- Provides connections to other communities
- Provides connections to points of interest
- Degree of impact on vehicular traffic capacity
- Available funding sources

POTENTIAL FUNDING OPPORTUNITIES

Potential funding sources for non-motorized planning, design and construction change and evolve on a yearly basis. Understanding available funding programs, their requirements and deadlines requires continuous monitoring. A few of the more common funding sources have been detailed here as a reference and resource. These are in addition to traditional funding methods such as the general fund, millages, bonds, etc.

Michigan Natural Resources Trust Fund

The MNRTF provides financial assistance to local governments for land acquisition and the development of land for public outdoor recreation. Any individual, group, organization, or unit of government may submit a land acquisition proposal. However, only state and local units of government can submit development proposals. All proposals for grants must include a local match of at least 25% of the total project cost. An updated Parks and Recreation Master Plan must be on file with the MDNR prior to application. There is no minimum or maximum for acquisition projects. For development projects, the minimum funding request is \$15,000 and the maximum is \$300,000. Applications are due in April and August for acquisition projects and April for development projects.

Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) is a federal appropriation to the National Park Service who distributes funds to the Michigan Department of Natural Resources for land acquisition and development of outdoor recreation facilities. Due to limited funds within this program, the MDNR has focused funding on outdoor development projects. Applications are due in April and the LWCF program requires a 50% local match. The LWCF program utilizes the same application as the MNRTF program.

Transportation Alternatives Program (TAP)

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

- Pedestrian and bicycle facilities
- Preservation of abandoned railway corridors
- Pedestrian and bicycle safety and education activities

A minimum 20% local match is required for proposed projects and applications are accepted on an on-going basis. County Road Commissions, Cities, and Villages may apply for these funds. MDOT requires adherence to AASHTO Design Standards for Non-Motorized Facilities. This means that all paved paths must be a minimum of 10-feet wide with 2-foot unobstructed clear zone on each side of the trail.

Safe Routes to School

The Safe Routes to School (SR2S) program is Funded through the Transportation Alternatives Program and is a national movement to make it safe, convenient, and fun for children to bicycle and walk to school. Michigan's SR2S program will make schools eligible for transportation enhancement funds, providing for infrastructure improvements and education campaigns. Schools must be registered, attend a day-long training session, and develop a Walking Audit in order to be eligible to apply. SR2S funding is 100 percent federal; no match is required. Seventy percent of the funding must be used for infrastructure projects, 10 percent for non-infrastructure projects, and 20 percent for either.

Congestion Mitigation/Air Quality (CMAQ)

This funding is provided to areas that are not in compliance with air quality standards or are in a maintenance area for air quality nonattainment issues. Congestion Mitigation/Air Quality (CMAQ) projects are awarded competitively and jointly between MDOT and the Kalamazoo Area Transportation Authority (KATS). Applicants must demonstrate that they reduce emissions in order to be considered eligible for funding as determined by the Federal Highway Administration. Kalamazoo County CMAQ projects are prioritized by KATS.

State and Community Highway Safety (Highway Safety Project Grant)

Grants are available from the Office of Highway Safety Planning to provide a coordinated national highway safety program to reduce traffic crashes, deaths, injuries, and property damage. Grants are awarded to projects that demonstrate commitment to one of the nine national priority program areas including: alcohol and other drug countermeasures, police traffic services, occupant protection, traffic records, emergency medical services, motorcycle safety, pedestrian/bicycle safety, speed control, and roadway safety. Eligible applicants include states while eligible beneficiaries include political subdivisions, through the State Highway Safety Agencies. Highway Safety Plans must be submitted by September 1 each year.

Dalmac Fund

Established in 1975 to promote bicycling in Michigan, the DALMAC Fund is administered by the Tri-County Bicycle Association and supported by proceeds from DALMAC. The DALMAC Fund supports safety and education programs, bicycle trail development, state-wide bicycle organizations, and route mapping projects. Applications must be submitted between January 1st and March 15th. They are reviewed by the DALMAC Fund Committee and approved by the Board. Grants are made between June and August of the year they were submitted. Applications can be found at www.biketcba.org.

Kodak American Greenways Awards

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

Bikes Belong

The Bikes Belong Coalition is sponsored by members of the American Bicycle Industry. Their mission is to put more people on bikes more often. The program funds projects in three categories: Facility, education, and capacity building. Requests for funding can be up to \$10,000 for projects such as bike paths, trails, lanes, parking, and transit, and safe routes to school. Applications are reviewed on a quarterly basis. More information can be found at www.bikesbelong.org.

PLAN AMENDMENTS

It is recommended that the Non-Motorized Transportation Master Plan be reviewed and updated regularly in coordination with the Township's other planning documents as well as County and regional planning documents. The general accepted time frame for plan review is once every five years. When reviewing the plan the Township may want to reexamine the vision, goals, and priorities of the plan based on current trends, projects, and funding opportunities. The plan may also be considered when identifying potential future capital improvement projects within the Township in order to identify opportunities for implementation. The Township Board of Trustees is currently the plan reviewing body for the Township.