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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 Tunklines (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
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 miles)
  1. Miller Rd west of Sprinkle Rd – 2,185 ft (0.41 mi)
  2. Ravine Rd – 2,480 ft (0.46 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-feet 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
• Eastwood Wilson Park

**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 Ida Street
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 will be to review the final report and master plan, and take action via resolution to adopt the plan. At the time of this draft this meeting has not yet taken place.

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.
• Identify changes to existing policies, ordinances, regulations, and planning processes that will further non-motorized transportation.
• Ensure sidewalk and street standards comply with 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, 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 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.

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.
• Develop a maintenance plan.
• Evaluate ad 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.
- 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.
- 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.
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.

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.

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. King Hwy (M-96)
11. Lake St between Olmstead Rd and west Township limits
12. 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 an G Ave
2. Grand Prairie
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.

4. West Main St (M-43): Covert four lane traffic to three lane traffic (center turn lane) and add bike lanes.

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 Sprinkle 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

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 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. Lake St and Business Loop 94
4. Nichols Rd and West Main St

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.
KALAMAZOO TOWNSHIP
MASTER PLAN
TRANSPORTATION
NON-MOTORIZED

PLAN KEY

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- Implementation
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2. Proposed Fairway
3. Existing Bicycle Path
4. Proposed Bicycle Path
5. Existing Shared-Use Path
6. Proposed Shared-Use Path
7. Existing Bike Trail
8. Proposed Bike Trail
9. Existing Multi-Use Path
10. Proposed Multi-Use Path
11. Existing Sidewalk
12. Proposed Sidewalk
13. Existing Trail
14. Proposed Trail
15. Existing Path
16. Proposed Path
17. Existing Connector
18. Proposed Connector
19. Existing Pathway
20. Proposed Pathway
21. Existing Link
22. Proposed Link
23. Existing Greenway
24. Proposed Greenway
25. Existing Corridor
26. Proposed Corridor
27. Existing Corridor Path
28. Proposed Corridor Path
29. Existing Corridor Link
30. Proposed Corridor Link

Points of Interest

1. Kalamazoo Township
2. City of Kalamazoo
3. Comstock Park
4. Main St
5. Stadium Dr
6. Comstock Twp
7. Shaled Rd
8. Parment
9. Cooper Twp
10. Cooper Rd
11. Cooper Park
12. Cooper Cessna
13. Cooper Cessna
14. Cooper Cessna
15. Cooper Cessna

Non-Motorized Transportation Master Plan

Draft: 11.14.14
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.

<table>
<thead>
<tr>
<th>Corridor/Route</th>
<th>Type of Facility</th>
<th>Proposed improvements</th>
<th>Cost Estimate</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Road Improvements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drake Rd</strong></td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on east side of road</td>
<td>$50,000</td>
<td>High</td>
</tr>
<tr>
<td>Squires Dr to Ravine Rd</td>
<td></td>
<td>(2000’)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>West Main St</strong></td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$190,000</td>
<td>High</td>
</tr>
<tr>
<td>Nichols Rd to Sage St</td>
<td></td>
<td>(7600’)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Solon St</strong></td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$129,000</td>
<td>High</td>
</tr>
<tr>
<td>West Main St to Kalamazoo</td>
<td></td>
<td>(5160’)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corridor/Route</td>
<td>Type of Facility</td>
<td>Proposed improvements</td>
<td>Cost Estimate</td>
<td>Priority</td>
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<tr>
<td>---------------</td>
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</tr>
<tr>
<td>Kendall Ave</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of the road to fill in gaps</td>
<td>$60,875 (2435’)</td>
<td>High</td>
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<tr>
<td>Grand Prairie Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$120,750 (4830’)</td>
<td>High</td>
</tr>
<tr>
<td>Grand Prairie Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on north side of road</td>
<td>$64,750 (2590’)</td>
<td>High</td>
</tr>
<tr>
<td>Ravine Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$327,750 (13110’)</td>
<td>Medium</td>
</tr>
<tr>
<td>Nichols Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$350,000 (14000’)</td>
<td>High</td>
</tr>
<tr>
<td>Douglas Ave</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$341,500 (13660’)</td>
<td>Low</td>
</tr>
<tr>
<td>Alamo Ave</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of the road to fill in gaps</td>
<td>$112,925 (4520’)</td>
<td>High</td>
</tr>
<tr>
<td>Nazareth Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$240,000 (9600’)</td>
<td>High</td>
</tr>
<tr>
<td>Olmstead Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$280,000 (11,200’)</td>
<td>High</td>
</tr>
<tr>
<td>Lake St</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of the road to fill in gaps</td>
<td>$138,750 (5550’)</td>
<td>High</td>
</tr>
<tr>
<td>Miller Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$65,000 (2600’)</td>
<td>Low</td>
</tr>
<tr>
<td>Sunnyside Dr</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$110,000 (4400’)</td>
<td>High</td>
</tr>
<tr>
<td>Barney Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$188,700 (7845’)</td>
<td>Low</td>
</tr>
<tr>
<td>Mosel Rd</td>
<td>Sidewalks</td>
<td>Construct new 5’ sidewalk on both sides of road</td>
<td>$175,900 (7036’)</td>
<td>Low</td>
</tr>
</tbody>
</table>

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.
### 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.

<table>
<thead>
<tr>
<th>Corridor/Route</th>
<th>Type of Facility</th>
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<th>Cost Estimate</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Nichols Rd</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$343,600</td>
<td>Medium</td>
</tr>
<tr>
<td>Grand Prairie to G Ave</td>
<td></td>
<td></td>
<td>(8590’)</td>
<td></td>
</tr>
<tr>
<td><strong>Grand Prairie Rd</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$240,000</td>
<td>Low</td>
</tr>
<tr>
<td>Nichols Rd to Drake Rd</td>
<td></td>
<td></td>
<td>(6000’)</td>
<td></td>
</tr>
<tr>
<td><strong>Squires Dr</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$100,000</td>
<td>High</td>
</tr>
<tr>
<td>Ravine Rd to Drake Rd</td>
<td></td>
<td></td>
<td>(2500’)</td>
<td></td>
</tr>
<tr>
<td><strong>Ravine Ave</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$170,800</td>
<td>Low</td>
</tr>
<tr>
<td>KRVT Gap</td>
<td></td>
<td></td>
<td>(4270’)</td>
<td></td>
</tr>
<tr>
<td><strong>Gull Rd</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$255,000</td>
<td>Medium</td>
</tr>
<tr>
<td>To Kalamazoo</td>
<td></td>
<td>Widen sidewalk to 10’ shared-use pathway</td>
<td>(10,200’)</td>
<td></td>
</tr>
<tr>
<td><strong>Brook Dr</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$122,400</td>
<td>High</td>
</tr>
<tr>
<td>Gull Rd to Spring Valley Park</td>
<td></td>
<td></td>
<td>(3060’)</td>
<td></td>
</tr>
<tr>
<td><strong>Nazareth Rd</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$93,720</td>
<td>High</td>
</tr>
<tr>
<td>East Main St to Kenilworth Ave</td>
<td></td>
<td></td>
<td>(2343’)</td>
<td></td>
</tr>
<tr>
<td><strong>Off Road Path</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway including railroad crossing</td>
<td>TBD (4024’)</td>
<td>Low</td>
</tr>
<tr>
<td>End of Nazareth Rd south to KRVT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Olmstead Rd</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$234,600</td>
<td>Medium</td>
</tr>
<tr>
<td>Miller Rd to Lake St</td>
<td></td>
<td></td>
<td>(5865’)</td>
<td></td>
</tr>
<tr>
<td><strong>Off Road Path</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway including bridge over river</td>
<td>TBD (1170’)</td>
<td>Low</td>
</tr>
<tr>
<td>From Lake St North to KRVT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Off Road Path</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$46,000</td>
<td>High</td>
</tr>
<tr>
<td>Township property at King Hwy</td>
<td></td>
<td></td>
<td>(1150’)</td>
<td></td>
</tr>
<tr>
<td>north to East Michigan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Business Loop 94</strong></td>
<td>Shared-Use pathway</td>
<td>Construct 10’ asphalt shared-use pathway</td>
<td>$90,000</td>
<td>High</td>
</tr>
<tr>
<td>Lake St to King Hwy</td>
<td></td>
<td></td>
<td>(1800’)</td>
<td></td>
</tr>
<tr>
<td>Corridor/Route</td>
<td>Type of Facility</td>
<td>Proposed improvements</td>
<td>Cost Estimate</td>
<td>Priority</td>
</tr>
<tr>
<td>---------------</td>
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</tr>
<tr>
<td>King Hwy (M-96) Comstock to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td>$86,775 (6675')</td>
<td>Low</td>
</tr>
<tr>
<td>Lake St Olmstead to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td>$47,880 (3990')</td>
<td>High</td>
</tr>
<tr>
<td>Sprinkle Rd Miller Rd to King Hwy</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td>$88,800 (7400')</td>
<td>Low</td>
</tr>
<tr>
<td>Edison St</td>
<td>Road Diet</td>
<td>Narrow lanes to 10-u’ and add bike lanes with markings and signs</td>
<td>$31,200 (2600')</td>
<td>Low</td>
</tr>
<tr>
<td>Douglas Ave Church to Kalamazoo</td>
<td>Road Diet</td>
<td>Narrow lanes to 10-u’ and add bike lanes with markings and signs</td>
<td>$46,260 (3855')</td>
<td>High</td>
</tr>
<tr>
<td>East Main St</td>
<td>Road Diet</td>
<td>Convert 4 lanes to 3 lanes and add bike lanes with markings and signs</td>
<td>TBD</td>
<td>High</td>
</tr>
<tr>
<td>West Street</td>
<td>Road Diet</td>
<td>Convert 4 lanes to 3 lanes and add bike lanes with markings and signs</td>
<td>TBD</td>
<td>High</td>
</tr>
<tr>
<td>Gayle Ave East Main St to Charles Ave</td>
<td>Bicycle Boulevard</td>
<td>Provide pavement markings and signage</td>
<td>$25,200 (2520')</td>
<td>Medium</td>
</tr>
<tr>
<td>Charles Ave to Nazareth Ave</td>
<td>Bicycle Boulevard</td>
<td>Provide pavement markings and signage</td>
<td>$56,730 (5673')</td>
<td>Medium</td>
</tr>
<tr>
<td>Canterbury Ave to West Main St</td>
<td>Bicycle Boulevard</td>
<td>Provide pavement markings and signage</td>
<td>$132,830 (13283')</td>
<td>High</td>
</tr>
<tr>
<td>Hillsdale Ave to Ferndale Ave</td>
<td>Shared Use Lane</td>
<td>Provide pavement markings</td>
<td>$20,075 (4015')</td>
<td>Medium</td>
</tr>
<tr>
<td>Mulhearn Ave to East Main St</td>
<td>Shared Use Lane</td>
<td>Provide pavement markings</td>
<td>$36,000 (7200')</td>
<td>Medium</td>
</tr>
<tr>
<td>Market St Olmstead Rd to Sprinkle Rd</td>
<td>Shared Use Lane</td>
<td>Provide pavement markings</td>
<td>$17,000 (3400')</td>
<td>Low</td>
</tr>
<tr>
<td>Sunnyside Dr Gull Rd to East Main St</td>
<td>Shared Use Lane</td>
<td>Provide pavement markings</td>
<td>$17,330 (3460')</td>
<td>High</td>
</tr>
<tr>
<td>Brook Dr Gull Rd to north</td>
<td>Shared Use Lane</td>
<td>Provide pavement markings</td>
<td>$15,375 (3050')</td>
<td>High</td>
</tr>
<tr>
<td>Mosel Ave Riverside Dr to Virginia Ave</td>
<td>Shared Use Lane</td>
<td>Provide pavement markings</td>
<td>$15,375 (3050')</td>
<td>Low</td>
</tr>
<tr>
<td>Virginia Ave Mosel Ave to Mt Olivet Rd</td>
<td>Shared Use Lane</td>
<td>Provide pavement markings</td>
<td>$3,700 (740)</td>
<td>Low</td>
</tr>
<tr>
<td>Corridor/Route</td>
<td>Type of Facility</td>
<td>Proposed improvements</td>
<td>Cost Estimate</td>
<td>Priority</td>
</tr>
<tr>
<td>--------------------------------------</td>
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</tr>
<tr>
<td><strong>Nichols Rd</strong>&lt;br&gt; Ravine Rd to G Ave</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$147,720</strong>&lt;br&gt;(7386’)</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Grand Prairie Ave</strong>&lt;br&gt; Nichols Rd to Drake Rd</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$119,400</strong>&lt;br&gt;(5970’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Alamo Ave</strong>&lt;br&gt; Nichols Rd to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$123,820</strong>&lt;br&gt;(6191’)</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Douglas Ave</strong>&lt;br&gt; Church and G Ave</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$91,640</strong>&lt;br&gt;(4582’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Barney Rd</strong>&lt;br&gt; Nichols Rd and Douglas</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$139,080</strong>&lt;br&gt;(6954’)</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Mosel Ave</strong>&lt;br&gt; Douglas Ave and Westnedge Ave</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$71,500</strong>&lt;br&gt;(3575’)</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Westnedge Ave</strong>&lt;br&gt; Mosel Ave to G Ave</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$110,600</strong>&lt;br&gt;(5530’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Pitcher St</strong>&lt;br&gt; Mosel Ave to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$52,860</strong>&lt;br&gt;(2642’)</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Mt Olivet Rd</strong>&lt;br&gt; Riverview Dr to Parchment</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$75,000</strong>&lt;br&gt;(3750’)</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Squires Rd</strong>&lt;br&gt; Ravine Rd to Drake Rd</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$50,000</strong>&lt;br&gt;(2500’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Nazareth Rd</strong>&lt;br&gt; Gull Rd and Kenilworth Ave</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$69,200</strong>&lt;br&gt;(3460’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Lake St</strong>&lt;br&gt; Olmstead Rd and Sprinkle Rd</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$60,340</strong>&lt;br&gt;(3017’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Humphrey St</strong>&lt;br&gt; East Main St to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Widen / pave existing shoulder and add pavement marking and signage</td>
<td><strong>$61,800</strong>&lt;br&gt;(3090’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Nichols Rd</strong>&lt;br&gt; West Main St to Ravine Ave</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td><strong>$80,400</strong>&lt;br&gt;(6700’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Solon Rd</strong>&lt;br&gt; South of West Main Rd</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td><strong>$30,720</strong>&lt;br&gt;(2560’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Kendall Rd</strong>&lt;br&gt; South of West Main Rd</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td><strong>$30,000</strong>&lt;br&gt;(2500’)</td>
<td>High</td>
</tr>
<tr>
<td><strong>Mosel Ave</strong>&lt;br&gt; Westnedge Ave to Riverview Dr</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td><strong>$61,656</strong>&lt;br&gt;(5138’)</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>N Burdick St</strong>&lt;br&gt; Mosel to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td><strong>$30,840</strong>&lt;br&gt;(2570’)</td>
<td>Low</td>
</tr>
</tbody>
</table>
## Corridor/Route

<table>
<thead>
<tr>
<th>Corridor/Route</th>
<th>Type of Facility</th>
<th>Proposed improvements</th>
<th>Cost Estimate</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nazareth Rd Gull Rd. to G Ave</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td>$76,800 (6400')</td>
<td>Medium</td>
</tr>
<tr>
<td>Wallace Rd King Hwy to East Main St</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td>$38,100 (3175')</td>
<td>Low</td>
</tr>
<tr>
<td>East Michigan Ave Comstock to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td>$90,000 (7500')</td>
<td>High</td>
</tr>
<tr>
<td>Ravine Rd Drake Rd to Kalamazoo</td>
<td>Bicycle Lane</td>
<td>Stripe bike lanes on existing pavement, provide pavement markings and signage</td>
<td>$150,600 (12550')</td>
<td>Medium</td>
</tr>
</tbody>
</table>

### 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 gravel shoulders 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.biketcha.org](http://www.biketcha.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](http://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.
MINUTES OF MEETING

October 3, 2014

PROJECT: Kalamazoo Township Non-Motorized Master Plan
MEETING DATE: September 29, 2014
VIRIDIS Project Number: 1448

PRESENT: See attached sign-in sheet

PURPOSE OF MEETING: Steering Committee Meeting #1 –Project Kick-off

1. Ron started the meeting by welcoming and thanking the group for attending and introduced John McCann.

2. Ron asked participants to introduce themselves and provide their name the organization they were representing.

3. It was determined that email communication would be acceptable to the group for future correspondence.

4. John M. provided a brief presentation to start the discussion which included the following:
   a. Overall project process includes the following:
      i. Steering Committee Meeting #1 – Project kick-off and discussion of preliminary ideas
      ii. Public Input Meeting #1 – Community feedback on wants and desires
      iii. Preparation of Preliminary Plan
      iv. Steering Committee Meeting #2 – Review and comment on Prelim. Plan
      v. Public Input Meeting #2 – Community feedback on Prelim. Plan
      vi. Steering Committee Meeting #3 – Review feedback from public input meeting and finalize plan
      vii. Preparation of Final Master Plan
      viii. Presentation to Township Board
   b. Role of Public input includes the following:
      i. Two public meetings for input and comments
      ii. Two-week plan review opportunity
      iii. Township Board meeting
   c. Role of the Steering Committee
      i. Three meetings
      ii. Review concepts and provide feedback
      iii. Guide and support the project
      iv. Project champions – represent community
      v. Promote meetings to community
d. Types of Non-motorized Facilities: An MDOT publication on non-motorized terminology was provided to all attendees of the meeting.
   i. Need to consider pros and cons of sidewalks vs bike paths and bike lanes vs side paths, and related amenities.

e. A preliminary list of project goals include:
   i. Connections to local and regional points of interest
   ii. Connections to existing trails/sidewalk networks
   iii. High priority corridors
   iv. Environmental considerations
   v. Policy considerations
   vi. Maintenance
   vii. Available property
   viii. Easements
   ix. Funding mechanisms

5. The following items were discussed:

   a. Need to review and consider other regional plans such as the KATS master plan and the Southwest Michigan Planning Commission Non-Motorized Plan to ensure connectivity.

   b. Consider the distinction between pathways used for recreation vs. pathways used as a mode of transportation. Many Township residents cannot afford vehicular transportation and rely on walking and bicycling as their main mode of transportation. The consensus of the committee was that the plan should focus on transportation related improvements.

   c. Barrier free compliance is a critical component to providing safe walkways.

   d. Need to make sure all users are considered including children, those with disabilities, and strollers. It was mentioned that 50% of KRVT users are walkers.

   e. The following corridors and connections were determined to be important to study:
      i. Connections to all schools, parks, Universities
      ii. Connections to places of worship
      iii. Connections from multifamily housing and areas of higher population
      iv. Commercial centers
      v. Westwood neighborhood to the KRVT
      vi. Valleywood neighborhood to the KRVT
      vii. Nazareth Rd.
      viii. Douglas Ave.
      ix. Sunnyside Rd.
      x. Lakewood neighborhood to the KRVT and to the County Expo Center
      xi. Olmstead Rd to Business Loop-94
      xii. Riverview
      xiii. Westnedge
      xiv. Gull Rd.
      xv. East Main St.
      xvi. Senior housing areas
xvii. Adjacent Townships and municipalities

f. It was mentioned that there is a study available where all of the bus stops in the Township were mapped and studied. A copy of the report should be reviewed.

g. It was suggested that crash data be obtained to see where conflicts exist between cars/pedestrians/bicycles. Dr. Oh indicated that he could provide this information.

h. Policy considerations include:
   i. Complete Streets (KATS recently passed a policy on this)
   ii. Sidewalk improvement district
   iii. Safe Routes to School – need buy in from school district
   iv. Walkable communities
   v. Bikeway boulevards

i. Filling in sidewalk gaps should be considered.

j. Should consider obtaining traffic counts to see where high vehicular flow exists and what kind of pedestrian facilities exist in these areas.

k. Should review traffic counts for bus stops if the information is available.

l. There are many areas in the Township where pedestrians cannot get from neighborhoods to existing trails because there are no safe connections available. The Township Hall is an example of this as there is a non-motorized trail on the west side of the road, but no connection across the street to the Township Hall.

m. Many residents in the Eastwood neighborhood use transit and non-motorized systems to get to services and jobs. Many times they have to use the street due to lack of facilities. Typically kids will have to wait in the street for busses.

n. Need to consider safety for children in all of the Township neighborhoods.

o. When determining priorities, should target the low hanging fruit first such as signed bike lanes and paved shoulders, but also need to dream big and consider all possible trail connections.

p. When considering funding mechanisms, need to identify potential partners.

q. Paul Seldon indicated that many bicyclists prefer to be on the road by way of a widened shoulder or bike lane with signage.

r. For the public meeting consider having subarea maps of each neighborhood with points of interest highlighted.

6. The next step in the process will be the first public input session which is planned for Wednesday, October 8th at 6:00 pm at the Township Hall. The purpose of this meeting will be to obtain ideas from the community regarding non-motorized facilities.

7. The next Steering Committee meeting was set up for Monday, October 27th at 3:30 pm at the Township Hall.
These minutes are VIRIDIS Design Group’s interpretation of discussions and conclusions from the referenced meeting. Please contact our office within 5 business days if corrections need to be made.

Respectfully submitted,

VIRIDIS Design Group

[Signature]

John McCann, LLA, LEED AP
Senior Landscape Architect

cc: All attendees
MINUTES OF MEETING – FOR DISTRIBUTION

October 30, 2014

PROJECT: Kalamazoo Township Non-Motorized Master Plan
MEETING DATE: October 27, 2014
VIRIDIS Project Number: 1448

PRESENT: See attached sign-in sheet

PURPOSE OF MEETING: Steering Committee Meeting #2

1. The consultant indicated the primary goals for this meeting include discussing proposed network routes, corridor priorities in relation to road projects, and plan goals and objectives. In addition, it was mentioned that we want to think about the overall township system and not specific neighborhood details.

2. The consultant presented three plans, the Existing Inventory Map, Community Feedback Map, and the Proposed Network Map.

3. The Existing Inventory Map delineates existing facilities within the Township including parks, schools, cemeteries, places of worship, golf courses, sidewalks, paved shoulders, bike lanes, shared use paths, bus routes, and bus stops. The inventory also identifies key points of interest within and adjacent to the Township. The group was asked to review the points of interest and provide feedback on additional points to add.

4. The Community Feedback Map graphically delineates non-motorized connections identified as desirable by the community, as well as suggested locations to connect to the KRVT, dangerous signalized intersections, and community hub locations. The consultant presented the plan and briefly discussed the key elements.

5. The Proposed Network Plan is a first draft delineation of a proposed overall township network based on community input, steering committee discussions, and VIRIDIS site investigation. The consultant presented the Proposed Network Plan which included proposed locations for bike lanes, paved shoulders, shared use paths, bicycle boulevards, and sidewalks.

6. Following the presentation of the plans, the committee was asked to provide feedback on the Proposed Network Plan including what the committee thinks about priorities. The following items were discussed:

   a. Clarification was asked as to why we are showing a bike lane on Ravine Ave when the KRVT exists along Ravine. It was mentioned that Ravine already has paved shoulders that could be easily converted to bike lanes and that this would provide an in-road facility for commuter bicyclists at a critical east west connection. It was
also added that for bicyclists, riding on the KRVT is actually more dangerous than the road because of all the driveways and potential vehicular conflicts.

b. There was a question about the connection at Squires. The consultant indicated this is provided to connect to the future paths that Oshtemo Township is working on for H Avenue and the Squires connection provides a link from H Ave. to Ravine.

c. It was suggested that Nazareth Rd, north of Gull Rd, should have bike lanes.

d. Concerns regarding speed limits and traffic calming was brought up. It was mentioned that those issues are beyond the scope of the plan and the Township has limited or no control over the speed limits.

e. It was suggested that the Township should consider educating the public on bike lanes and off-road paths. The education component should also include safety and rules of the road for bicyclists, pedestrians, and vehicles.

f. It was suggested that the “paved shoulder” sections be changed to bike lanes. It was also suggested that the paved shoulder category be removed.

g. It was suggested that existing and proposed non-motorized facilities from adjacent townships be shown on the map to help visualize where key connections should be made.

h. It was suggested that the bike lane shown on Nichols between Grand Prairie and Ravine be changed to a shared use path and be considered a high priority.

i. There was a question as to the feasibility of having a bike lane on a section of Nichols Rd where there are steep slopes. It was also questioned if the routes were field checked for feasibility. John indicated that the proposed routes were field checked for feasibility, but the section on Nichols in question can be reevaluated and alternative solutions can be developed to address this concern. It was suggested that one way to handle areas like this could be to use the designation of “bike route” and/or “shared use lanes” (sharrow). The definition and potential uses of these terms were described and it was suggested that these categories are incorporated into the plan.

j. It was suggested that a shared use path connection be shown along the south side of Ravine where the existing bike lane is to Douglas Ave., where there is an off road path gap in the KRVT.

k. There was a question regarding the two connections across the Kalamazoo River to the KRVT between the Lakewood and Eastwood neighborhoods at Nazareth and at Olmstead. The consultant indicated that these routes were based on potential opportunities for the Township to acquire land or easements.

l. There was a question about the proposed network plan and if it was solely based on the public feedback. The consultant indicated that a portion is based on the public feedback, and a portion is based on field investigation of logical connections.

m. The Nazareth Road corridor was discussed at length regarding the need for bike lanes versus off road paths and sidewalks. It was suggested that the off road
facilities should only be provided where people actually walk. It was determined that the section between Gull Rd and East Main would be a high priority for a shared use path and the section north of Gull Rd and South of East Main should be a bike lane.

n. The concern of snow plowing was briefly discussed regarding how to deal with bike lanes and sidewalks being snow covered. It was determined that this would be a policy item that the Township is currently working on addressing at the board level.

o. Regarding priorities, there was a suggestion to break the plan into the following sections, maintenance and repair of existing facilities, filling in gaps, and spreading from the hubs.

p. The Township, in conjunction with KATS and the Road Commission, will be undergoing a number of local road projects in the near future that will be funded by a road bond, and the Township would like to include non-motorized facilities and upgrades as part of the road projects. Therefore it would be ideal for the Non-Motorized Plan to indicate a priority list that can be consulted when an upcoming road project is initiated.

q. It was suggested that the non-motorized plan is prioritized and keyed to the PASER Ratings that have been developed for the roadway system in the Township.

r. It was also suggested that the plan priorities be based on usage, connectivity, funding, and safety.

7. Following the plan discussion, was a brief discussion regarding the draft goals and objectives. The following was discussed:

a. An alternate vision and mission statement was suggested and provided to John for consideration.

b. It was suggested that a goal could be added for incorporating the principles of the Bike Friendly Community initiative. In addition, consider including the walkability scoring program.

c. Consider revising objective four under goal 3, to say “following the principles of the Safe Routes to School Program”.

d. Consider mentioning “sustainability” or “improving the environment” to the vision statement.

e. Consider adding an objective under Goal #4 of revisiting the plan every so often to review and update.

8. The consultant mentioned the following upcoming meeting dates:

a. Next public meeting is Wednesday, November 5th at 6pm at the Northwood Fire Station /Community Room.

b. Draft of the plan/report will be provided to the Steering Committee for review on November 14th.
c. Next Steering Committee meeting is scheduled for Monday, November 17\textsuperscript{th} at 3:30pm at the Township Hall.

d. There will be a work session with the Township Board on Monday, November 24\textsuperscript{th}.

e. Plan adoption is scheduled for the Township Board meeting on Monday, December 8\textsuperscript{th}.

These minutes are VIRIDIS Design Group’s interpretation of discussions and conclusions from the referenced meeting. Please contact our office within 5 business days if corrections need to be made.

Respectfully submitted,

VIRIDIS Design Group

John McCann, LLA, LEED AP
Senior Landscape Architect

cc: All attendees
VIRIDIS

November 19, 2014
Kalamazoo Township Non-Motorized Master Plan

MINUTES OF MEETING – FOR DISTRIBUTION

November 19, 2014

PROJECT: Kalamazoo Township Non-Motorized Master Plan
MEETING DATE: November 17, 2014
VIRIDIS Project Number: 1448

PRESENT: See attached sign-in sheet

PURPOSE OF MEETING: Steering Committee Meeting #3

1. VIRIDIS started the meeting with a brief recap of the previous public meeting as well as where we are in the process

2. VIRIDIS indicated that the purpose of the meeting was for the Steering Committee to provide feedback on the mission/vision statement for the plan, the goals and objectives, proposed priorities, and the provided report.

3. VIRIDIS provided a power point presentation to review the following:
   a. The Vision/Mission statement was presented and the committee was asked to comment. The general consensus of the group was that the vision/mission statement as presented is acceptable.
   b. The Goals and objectives were presented and the group reviewed and discussed each goal. The general consensus of the group was that the goals and objectives fit within the scope of the vision/mission statement with the following revisions:
      1. Goal #1 remove “easy to implement”
      2. There was a discussion regarding the note to “add sidewalks on ALL roads”. It was determined to keep the language as is, as this is the ultimate goal.
      3. There was a question as to if designing to AASHTO standards was appropriate. It was mentioned that AASHTO is the most widely used standard for non-motorized facilities and therefore the appropriate standard. It was suggested that ADA standards and the phrase “and other appropriate standards” is added.
      4. Add the objective of becoming a Bicycle Friendly Community.
      5. Include references to barrier free requirements.
      6. Add DNR as a coordination partner
   c. VIRIDIS presented a slide with the report sections and asked if the committee wanted an explanation of each section. The committee decided that a description of the report was not necessary.
d. VIRIDIS presented the proposed priorities for sidewalks, bicycle facilities, and off-rad shared-use paths. The following was discussed:

1. The priority terminology should match the report (using high, medium, low vs 1, 2, 3)
2. Group the priorities by classification (List all the high priorities together etc.)
3. There was a discussion as to why a road diet project would be a lower priority that a paved shoulder project since a road diet is likely less costly. It was discussed that it is anticipated that a road diet would be a more challenging project to accomplish from a coordination and possibly political stand point.
4. Need to add to the report a section of who is responsible for amendments and updates. After a lengthy discussion, it was determined that the Township Board of Trustees would have this responsibility.

4. To conclude the meeting Ron gave a brief overview of the next steps in the process which includes:

a. There will be a work session with the Township Board on Monday, November 24th.
b. There will be two week public review period between November 24th and December 8th.
c. The plan will be consideration for adoption at the Township Board meeting on Monday, December 8th.
d. These minutes are VIRIDIS Design Group’s interpretation of discussions and conclusions from the referenced meeting. Please contact our office within 5 business days if corrections need to be made.

Respectfully submitted,

VIRIDIS Design Group

John McCann, LLA, LEED AP
Senior Landscape Architect
MINUTES OF MEETING

October 15, 2014

PROJECT: Kalamazoo Township Non-Motorized Master Plan
MEETING DATE: October 08, 2014
VIRIDIS Project Number: 1448
PRESENT: See attached sign-in sheet

PURPOSE OF MEETING: Public Input Meeting #1

1. Ron started the meeting by introducing the overall project as well as the design team.

2. John M. provided a brief presentation to start the discussion which included the following:

   a. Overall meeting objectives:
      i. Identify key points of interest
      ii. Prioritize non-motorized connections
      iii. Gain an understanding of non-motorized needs in the neighborhoods
      iv. Gather ideas, opinions, and concerns

   b. Role of Public input includes the following:
      i. Two public meetings for input and comments
      ii. Two-week plan review opportunity
      iii. Township Board meeting

   c. Overall Project process:
      i. Steering Committee Meeting #1
      ii. Public Input Meeting #1 – Community feedback on wants and desires
      iii. Preparation of Preliminary Plan
      iv. Steering Committee Meeting #2 – Review and comment on Prelim. Plan
      v. Public Input Meeting #2 – Community feedback on Prelim. Plan
      vi. Steering Committee Meeting #3 – Finalize plan
      vii. Preparation of Final Master Plan
      viii. Presentation to Township Board

   d. Purpose and goals of the Non-Motorized Plan:
      i. Develop a long term vision for non-motorized facilities
      ii. Develop a non-motorized network that links the community to services
      iii. Serve as a guide for implementation
      iv. Utilize community input
      v. Establish the Township as a non-motorized friendly community
e. A brief overview of non-motorized facilities:
   
i. On-road
   1. Bike lanes
   2. Bike boulevards
   3. Paved shoulders
   4. Shared use arrows

   ii. Off-road
   1. Sidewalk
   2. Shared use path
   3. Rail trail
   4. Nature trail
   5. Sidewalk

3. Group Exercise:
   
a. The attendees were broken into four groups by neighborhood. One group each for Westwood, Northwood, Eastwood, and Lakewood. Each group was provided with maps, markers, post-it notes, stickers, index cards, and were given a series of questions to provoke thoughts and ideas. Each group was asked to nominate a group leader to take notes and be the presenter. John suggested each group think big and reminded everyone that no idea is a bad idea and everyone should have an opportunity to provide feedback. The following questions were presented to each group to initiate the discussions:
   
i. What are important points of interest or destinations that should be connected by non-motorized paths?

   ii. What areas of the neighborhood do you feel is lacking safe non-motorized paths?

   iii. Where do you think it is most important to provide non-motorized connections to the KVRT (or other existing network)?

   iv. What are the three highest priority connections / corridors?

b. Each group spent approximately 45 minutes discussing the non-motorized needs for each neighborhood. Township officials and design team members went around to each group to help facilitate the discussion.

c. Following the group exercise, each group presented their ideas and thoughts. The design team took notes as each group presented their ideas.

d. The **Lakewood** group presented the following ideas:
   
i. Main points of interest to connect include the KVRT, KPEP, Jail, and the County Expo Center.

   ii. The area around the Jail/KPEP/Trailer Park/KPS bus stop (Olmstead Rd between Business Loop 94 and Lake St) is dangerous and lacking safe non-motorized paths.

   iii. Connections to KVRT could include:
      1. Lake St to BL-94 to King Hwy
      2. Through Georgia Pacific property on north side of river. Township owns a parcel in this area and considering the idea of obtaining an
easement from the parcel to East Michigan Ave (crossing the railroad). If an easement can be obtained then a connection can be made to the KVRT from East Michigan Ave.

3. North of Olmstead Rd/Lake St intersection through potential park property at former landfill site.

iv. Priorities include:
   1. Path along Nazareth from Eastwood south to KVRT (would require coordination with City of Kalamazoo and railroad crossing)
   2. Sidewalk along Sprinkle Rd between Miller and BL-94
   3. Sidewalks and bike lanes along Lake St.
   4. Sidewalks and paths along Olmstead between Lake St and Miller Rd.
   5. Connection to KVRT.
   6. Connection to Comstock.
   7. Sidewalks on north side of Expo Center.

e. The Eastwood group presented the following ideas:
   i. Main points of interest to connect to include the KVRT, Downtown Kalamazoo, and the “downtown” area of Eastwood which is the area around Harding’s, Library, Wilson Park, churches, community garden, and Fire Station/Community room (East Main and Gayle Rd).
   ii. Lacking safe routes to and around Gull Road and East Main St. as well as many residential areas that lack sidewalks.
   iii. The following was identified as priorities:
      1. Many existing sidewalks end in grass and do not connect to anything. Connecting these sidewalks and providing barrier free facilities is a priority.
      2. Provide connection to Veteran’s Park in downtown via East Main
      3. Bicycle boulevard to downtown along Charles Ave.
      4. Sidewalks along Nazareth and all other primary roads between Gull Rd and East Main.
      5. Connect “downtown” Eastwood to the north across Gull Rd to Spring Valley Park. Continue connection through the park to the KVRT at Riverview. As part of this connection, convert partial sidewalks along Brook Dr. to 8-foot wide paths.
      6. Connection through Bow in the Clouds to existing paths at Spring Valley Elementary.
      7. Coordinate with adjacent municipalities to connect to existing Township bike routes to paths outside the Township (i.e. connecting to Gull Rod path)

f. The Westwood group presented the following ideas:
   i. Main points of interest to connect to include all schools and parks, WMU, Drake Rd., and the KVRT.
   ii. Areas that are lacking connections include Nichols Rd, West Main St (south side), South Solon St, and Hillsdale Ave.
iii. Connection to KVRT at Nichols Rd.
iv. Priorities include:
   1. Sidewalks on all thru streets
   2. Sidewalks and bike lanes on Nichols
   3. Sidewalk on south side of West Main
   4. East/west bike Boulevard (to avoid West Main) along Canterbury/Mohawk/Grace/Althea/Wealthy/Lacrosse/Pinehurst/Kenwood/Comonwealth Place
   5. Connection to West Main business district
   6. Connection to Hilltop area
   7. Connection to roundabout at Arboretum
   8. Sidewalks on Hillsdale, Berkley, Grand Prairie, and Ravine

g. The **Northwood** group presented the following ideas:
i. Main points of interest to connect to include KVRT, parks, schools, Ravine Rd, existing subdivisions, and metro stops.
ii. The following items were identified as priorities:
   1. Shared use path along west side of Nichols Rd.
   2. Sidewalks and bike lane on east side of Nichols Rd.
   3. Connect to all metro bus stops with sidewalks.
   4. Connection to KVRT via G Ave. to the east with off-road sidepath and or in-road facilities.
   5. Bike lanes and sidewalks along Douglass St.
   6. Improve Ravine/Nichols intersection.
   7. Bike lanes and sidewalks between Nichols and KVRT along Mosel Ave.
   8. Connection to Hillsdale.
   9. Path through golf course to Grand Prairie.
   10. Sidewalks on south side of Ravine.
   11. Connection to Parchment.
   12. Connections to Westwood neighborhood.

4. The next step in the process will be the second steering committee meeting which is planned for Monday, October 27\textsuperscript{th} at 3:30 pm at the Township Hall. The purpose of this meeting will be to review concepts and goals for the plan.

5. Soon after the next Steering Committee meeting, the Township will have a second public input meeting to review concepts.
These minutes are VIRIDIS Design Group’s interpretation of discussions and conclusions from the referenced meeting. Please contact our office within 5 business days if corrections need to be made.

Respectfully submitted,

VIRIDIS Design Group

[Signature]

John McCann, LLA, LEED AP
Senior Landscape Architect

cc: Steering Committee
MINUTES OF MEETING – FOR DISTRIBUTION

November 12, 2014

PROJECT: Kalamazoo Township Non-Motorized Master Plan
MEETING DATE: November 05, 2014
VIRIDIS Project Number: 1448

PRESENT: See attached sign-in sheet

PURPOSE OF MEETING: Public Input Meeting #2 – Note this meeting was held at the Northwood Fire Station / Community Room

1. Ron started the meeting by briefly introducing the project and design team.

2. VIRIDIS briefly reviewed the meeting agenda and discussed the purpose of the meeting. VIRIDIS also briefly updated the group on the planning process and what has been accomplished thus far and where will go from here.

3. VIRIDIS presented the proposed plans which include the following:

   a. The Existing Inventory Map:
      i. The Inventory Map delineates existing facilities within the Township including parks, schools, cemeteries, places of worship, golf courses, sidewalks, paved shoulders, bike lanes, shared use paths, bus routes, and bus stops. The inventory also identifies key points of interest within and adjacent to the Township. The group was asked to review the points of interest and provide feedback on additional points to add.

   b. Community Input Map:
      i. The Community Feedback Map graphically delineates non-motorized connections identified as desirable by the community, as well as suggested locations to connect to the KRVT, dangerous signalized intersections, and community hub locations. This information is the result from feedback gathered at the first public meeting. VIRIDIS presented the plan and briefly discussed the key elements.

   c. In-Road Facilities Map:
      i. The In-Road Facilities Map is a first draft delineation of an overall Township network for in-road facilities.
      ii. The in-road facilities shown on the plan included bicycle lanes, bicycle routes, and shared use lanes or sharrows.
      iii. VIRIDIS presented the plan, discussed the proposed routes, and explained the definition of each facility.
d. Off-Road Facilities Map:
   i. The Off-Road Facilities Map is a draft delineation of an overall Township network for facilities outside of the road (separated by green space).
   ii. The off-facilities shown on the plan included proposed sidewalks and shared use paths.
   iii. VIRIDIS presented the plan and discussed the proposed routes.

e. Road Modification Plan:
   i. The Road Modification Plan delineates what would need to be changed on each roadway in order to achieve the desired bicycle facility. This plan goes with the In-Road Facility Plan.
   ii. The proposed road changes included the following:
      1. Pavement marking and signage for roads that already have a wide paved shoulder in order to create a bicycle lane.
      2. Adding a paved shoulder for roads that have a narrow or gravel shoulder to create a bicycle lane.
      3. Adding pavement markings and signage for roads marked as Bicycle Boulevards.
      4. Narrowing existing vehicular lanes in order to provide space for a bicycle lane (road diet).
      5. Adding pavement markings or signage to note a bicycle route or a shared lane (sharrow).
   iii. VIRIDIS presented the plan and discussed the different concepts.

4. Group Exercise:
   a. Following the presentation the attendees were broken into two groups and asked to review the proposed routes and provide feedback and comments. Each group was provided with large plans, markers, sticky pads, and colored dots. A design professional from VIRIDIS moderated each group. Each group discussed the plans for approximately 45 minutes and the group moderators recorded the feedback. The following items were noted:
      i. Need facilities in the housing development South of West Main south of Davenport University
      ii. Double check feasibility of facilities on Barney Rd, there was a safety concern in this area.
      iii. Discussion regarding connections to adjacent communities. It looks odd to have proposed routes ending at the Township limits and not connecting to anything. Suggest showing existing routes within adjacent municipalities.
      iv. There was a question as to whether anything should be shown other than sidewalks along West Main due to the unsafe conditions.
      v. The bike boulevard line delineation was confusing on the plans as it is shown as an in-road facility on one plan and a bike boulevard on the others. Need to clarify.
      vi. Olmstead Rd should be a priority for off road facilities either sidewalks or shared use path.
      vii. Include sidewalk connection on Drake Rd between Squires and Ravine Rd.
      viii. Questioned if the Road Commission would permit facilities on Sprinkle Rd.
ix. The bus route line work is confusing and should be adjusted to read better.

x. Consider showing the existing path in Spring Lake Park (in Kalamazoo).

xi. Consider intersection improvements at Sprinkle Rd.

xii. Consider not showing sharrows on high speed roads.

xiii. Consider not having a bike route along West Main due to traffic, but maybe bike lanes.

xiv. South segment of Douglas could be a candidate for a road diet.

xv. Consider off-road facilities on Sprinkle Rd.

xvi. Need facilities from Women’s KPEP to bus stop on East Main as well as intersection improvements.

xvii. Gull Road should have off-road facilities.

xviii. Consider changing the bike lane shown on Miller to off-road facility.

xix. Send drawings to Steve at KATS to coordinate with KATS plan.

5. The next step in the process will be the third steering committee meeting which is planned for Monday, November 17th at 3:30 pm at the Township Hall. The purpose of this meeting will be to review the draft report and discuss plan priorities.

6. The Township Trustees will then hold a work session with VIRIDIS to review the plan and report on Monday November, 24th.

These minutes are VIRIDIS Design Group’s interpretation of discussions and conclusions from the referenced meeting. Please contact our office within 5 business days if corrections need to be made.

Respectfully submitted,

VIRIDIS Design Group

John McCann, LLA, LEED AP
Senior Landscape Architect

cc: Steering Committee